

Examining the Postnatal Depression and Anxiety Screening and Management Practices of Maternal and Child Health Nurses in Victoria, Australia: A Multiphase Study

Noushin Arefadib

Bachelor of Psychology (Murdoch University, Australia)

Master of Human Rights (Curtin University, Australia)

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School of Nursing and Midwifery

La Trobe University

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Abstract

Background: Routine screening for postnatal depression and anxiety (PNDA) can increase rates of detection, referral, and service utilisation among women. In Victoria, Australia identifying women with PNDA and facilitating their access to supports is largely the responsibility of Maternal and Child Health Nurses (MCHNs). The aim of this thesis was to understand MCHNs' PNDA screening and management practices, and the factors which impacted these.

Methods: A multiphase design, comprising three sequential studies. Study One was a scoping review which examined the range and nature of primary research evidence on PNDA screening and management by MCHNs in community-settings. Study Two was a population-based cross-sectional survey which examined Victorian MCHNs' PNDA screening practices and the factors which impacted screening in line with the Australian Clinical Practice Guideline. Study Three comprised qualitative interviews with MCHNs to explore their experiences in greater detail.

Findings: In Study One (scoping review, n=22 studies) variations in MCHNs' PNDA screening practices were attributed to characteristics of the women (e.g. cultural background), nurse (e.g. lack of confidence) and systemic factors (e.g. limited training). Study Two (cross-sectional survey, n=239) revealed significant place-based disparities in MCHNs screening practices, with those practicing in communities with greater socio-economic advantage more likely to screen in line with the Australian Clinical Practice Guideline, compared to those who worked in disadvantaged communities. Findings from Study Three (qualitative interviews, n=12 MCHNs) confirmed the findings from Studies One and Two and additionally found the absence of a multidisciplinary approach, limited care pathways and an overall lack of uniformity in screening practices between MCHNs.

Conclusion: The complex system within which MCHNs operate presents barriers that can impede their ability to systematically identify and respond to women with PNDA. Such barriers have contributed to variations in MCHNs' PNDA screening and management practices and are likely to widen the gap in health outcomes between advantaged and disadvantaged women.

Statement of Authorship

Except where reference is made in the text of the thesis, this thesis contains no other material published elsewhere or extracted in whole or in part from a thesis submitted for the award of any other degree or diploma. No other person's work has been used without due acknowledgment in the main text of the thesis. This thesis has not been submitted for the award of any degree or diploma in any other tertiary institution.

All work in this thesis was undertaken by myself, under the guidance of my supervisors: Associate Professor Touran Shafiei, Senior Research Fellow, Judith Lumley Centre, La Trobe University; Associate Professor Amanda Cooklin, Judith Lumley Centre, La Trobe University; and Professor Jan Nicholson, Centre Director and Inaugural Roberta Holmes Professor, Judith Lumley Centre, La Trobe University.

This thesis is presented as a thesis with publications, consisting of four papers, for which I am the primary author. I have made a substantial contribution to all papers, including the development, design, piloting and finalising of data collection tools, data collection, analysis and translation and interpretation throughout the studies. Co-authors on the papers include my three supervisors; all have contributed to the overall study design, intellectual input, drafting and editing of manuscripts.

All research procedures reported in the thesis were approved by La Trobe Human Ethics Committee (HEC18512) on 23/01/2019, and the Department of Health and Human Services on 28/03/2019 (see Appendix 1 and 2, respectively).

Details of published papers included in this thesis are as follows:

Arefadib, N., Cooklin, A., Nicholson, J., & Shafiei, T. (2021). Postnatal depression and anxiety screening and management by maternal and child health nurses in community settings: A scoping review. *Midwifery*, 100, 103039. doi.org/10.1016/j.midw.2021.103039

Arefadib, N., Cooklin, A., Nicholson, J. M., & Shafiei, T. (2022). Disparities in postnatal depression and anxiety screening: Results from a cross-sectional survey of maternal and child health nurses in Victoria, Australia. *Sexual & Reproductive Healthcare*, 33, 100737. doi.org/10.1016/j.srhc.2022.100737

Arefadib, N., Cooklin, A., & Shafiei, T. (2022). Barriers and enablers to postpartum depression and anxiety screening: A qualitative study of Victorian maternal and child health nurses' practices. *Health & Social Care in the Community*, online first, 4 Aug 2022. doi.org/10.1111/hsc.13966

Arefadib, N., Shafiei, T., & Cooklin, A. (2022). Barriers and facilitators to supporting women with postnatal depression and anxiety: A qualitative study of maternal and child health nurses' experiences. *Journal of Clinical Nursing*, online first, 14 Feb 2022. doi.org/10.1111/jocn.16252
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Signed by Noushin Arefadib (6/02/2023)

Abbreviations

| | |
|----------------|--|
| ABS | Australian Bureau of Statistics |
| CALD | Culturally and Linguistically Diverse |
| DASS | Depression, Anxiety and Stress Scale |
| DSM-5 | Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition |
| EMCH | Enhanced Maternal and Child Health |
| EPDS | Edinburgh Postnatal Depression Scale |
| EPDS-3A | Edinburgh Postnatal Depression Scale-3A |
| FGM/C | Female Genital Mutilation/Cutting |
| GAD | General Anxiety Disorder |
| GAD-7 | Generalised Anxiety Disorder 7-Item Scale |
| GP | General Practitioner |
| KAS | Key Ages and Stages |
| KAP | Knowledge, Attitude, and Practice |
| K-10 | Kessler Psychological Distress 10-Item Scale |
| LGA | Local Government Area |
| MAV | Municipal Association of Victoria |
| MCH | Maternal and Child Health |
| MCHN | Maternal and Child Health Nurse |
| OCD | Obsessive Compulsive Disorder |
| PHQ-9 | Patient Health Questionnaire-9 |
| PTSD | Post-Traumatic Stress Disorder |
| PND | Postnatal Depression |
| PNA | Postnatal Anxiety |
| PNDA | Postnatal Depression and Anxiety |
| RCT | Randomised Controlled Trial |
| SEIFA | Socio-Economic Indexes for Areas |
| SEM | Socio-Ecological Model |
| UK | United Kingdom |
| UMCH | Universal Maternal and Child Health |

USA | United States of America

WHO | World Health Organisation

Dedication

Dedicated to Ariya and Lola. My heart and soul. My reasons for everything.

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I would like to acknowledge the unwavering support and encouragement of my amazing supervisors (AKA, my dream team), Associate Professor Touran Shafiei, Associate Professor Amanda Cooklin, and Professor Jan Nicholson. None of this would have been possible without your incredible capacity to remain so generous with your time, knowledge and wisdom throughout these past 4 years.

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Dissemination of study findings

Peer reviewed publications

Arefadib, N., Cooklin, A., Nicholson, J., & Shafiei, T. (2021). Postnatal depression and anxiety screening and management by maternal and child health nurses in community settings: A scoping review. *Midwifery*, 100, 103039. doi.org/10.1016/j.midw.2021.103039

Arefadib, N., Cooklin, A., Nicholson, J. M., & Shafiei, T. (2022). Disparities in postnatal depression and anxiety screening: Results from a cross sectional survey of Maternal and Child health nurses in Victoria, Australia. *Sexual & Reproductive Healthcare*, 33, 100737. doi.org/10.1016/j.srhc.2022.100737

Arefadib, N., Cooklin, A., & Shafiei, T. (2022). Barriers and enablers to postpartum depression and anxiety screening: A qualitative study of Victorian maternal and child health nurses' practices. *Health & Social Care in the Community*, online first, 4 Aug 2022. doi.org/10.1111/hsc.13966

Arefadib, N., Shafiei, T., & Cooklin, A. (2022). Barriers and facilitators to supporting women with postnatal depression and anxiety: A qualitative study of maternal and child health nurses' experiences. *Journal of Clinical Nursing*, online first, 14 Feb 2022. doi.org/10.1111/jocn.16252

Conference presentations (Poster)

Arefadib, N., Cooklin, A., & Shafiei, T. (2022). Screening for Postnatal Depression: How Maternal and Child Health Nurses Can Support Infant Mental Health. *Child & Adolescent Mental Health Conference*, March 2022, Gold Coast, Australia. (Appendix 3)

Preface

This thesis explores the Postnatal Depression and Anxiety (PNDA) screening and management practices of Victorian Maternal and Child Health Nurses (MCHNs). It includes four published papers which have been incorporated into the thesis along with framing chapters.

Chapter One provides a foundation for the research, presenting an overview of the existing evidence pertaining to PNDA screening and management, including evidence which pertains uniquely to MCHNs practicing within community settings.

Chapter Two provides a broad context to the thesis and introduces the topic of PNDA, including definitions, prevalence, risk factors, and impacts.

Chapter Three presents an overview of the literature as it relates to universal screening, including use of a validated screening tool and conducting a psychosocial assessment.

Chapter Four provides a synthesis on the range and nature of available interventions for the treatment of PNDA, as well as facilitators and barriers to help-seeking among women experiencing PNDA.

Chapter Five presents findings from Study One (scoping review), as published in *Midwifery* in September 2021. **Arefadib, N., Cooklin, A., Nicholson, J., & Shafiei, T. (2021).** Postnatal depression and anxiety screening and management by maternal and child health nurses in community settings: A scoping review. *Midwifery*, 100, 103039. doi.org/10.1016/j.midw.2021.103039

Chapter Six provides an outline of the context of Studies Two and Three, including discussion of existing Australian and Victorian government PNDA screening recommendations and the Victorian Maternal and Child Health service. The rationale for these studies as well as the research aims and questions are also provided.

Chapter Seven describes the conceptual and theoretical frameworks that guided Studies Two and Three, including the Knowledge, Attitude, and Practice (KAP) framework, and Socio-Ecological Framework (SEF), respectively. It also provides a rationale for why these were selected.

Chapter Eight describes the methods used to conduct Studies Two and Three, including study design, participants and the collection, management and analysis of quantitative and qualitative data.

Chapter Nine describes the findings from Study Two (cross-sectional survey), as published in *Sexual & Reproductive Healthcare* in September 2022. **Arefadib, N.**, Cooklin, A., Nicholson, J. M., & Shafiei, T. (2022). Disparities in postnatal depression and anxiety screening: Results from a cross-sectional survey of Maternal and Child health nurses in Victoria, Australia. *Sexual & Reproductive Healthcare*, 33, 100737. doi.org/10.1016/j.srhc.2022.100737.

Chapter Ten describes the findings from Study Three (qualitative interviews) which pertain only to MCHNs' screening practices, as published in *Health and Social Care in the Community* in August 2022. **Arefadib, N.**, Cooklin, A., & Shafiei, T. (2022). Barriers and enablers to postpartum depression and anxiety screening: A qualitative study of Victorian maternal and child health nurses' practices. *Health & Social Care in the Community*, 00:1–11. doi.org/10.1111/hsc.13966

Chapter Eleven describes findings from Study Three (qualitative interviews) which pertain only to MCHNs' management of women with PNDA following a 'positive' identification, as published in *Journal of Clinical Nursing* in February 2022. **Arefadib, N.**, Cooklin, A., & Shafiei, T. (2022). Barriers and facilitators to supporting women with postnatal depression and anxiety: A qualitative study of maternal and child health nurses' experiences. *Journal of Clinical Nursing*, online first, 14 Feb 2022. doi.org/10.1111/jocn.16252

Chapter Twelve provides an integrated summary of key findings from all three studies and discusses them in the context of the overall thesis aims and research questions, as well as the existing literature. It also outlines the contribution this research has made to the evidence regarding how MCHNs identify and support women experiencing PNDA and discusses the implications of the findings on future policy, practice, and research.

Chapter One: Introduction

Postnatal depression and/or anxiety (PNDA) is a prevalent public health issue (Shrivastava et al., 2015) which can manifest in various ways. These include feelings of sadness, losing interest in previously enjoyed activities, changes in appetite and sleep, fatigue, restlessness, feelings of guilt or worthlessness, difficulty concentrating and having suicidal thoughts. They may also include loss of interest in the baby or feeling disconnected from them, feeling intense anxiety surrounding the baby, perceiving oneself as an inadequate parent, and having fears of self-harm or harm to the baby (American Psychiatric Association, 2013). While much of the existing literature focuses on postnatal depression, women's experience may also be accompanied by extreme anxiety, highlighting the significant burden of comorbidity of postnatal depression and anxiety (American Psychiatric Association, 2013).

To facilitate the early identification of symptoms of PNDA and subsequent access to timely intervention 'universal' or population-based screening has long been utilised as a public health strategy to enhance population health (World Health Organization, 2020). Universal screening with a validated screening tool, such as the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987), is central to early detection and treatment of PNDA because it provides a standardised approach to identifying those who are likely to be experiencing PNDA from those who are not.

Research indicates that universal screening with a validated screening tool is largely acceptable to women and healthcare professionals in high-income countries (El-Den et al., 2015) and increases rates of detection, as well as referral and service utilisation by women (Reilly et al., 2020; Van der Zee-van den Berg et al., 2017; Waqas et al., 2022). Universal PNDA screening is also associated with improved maternal mental health outcomes, including a significant reduction in PNDA symptoms, as well as reduced parental stress (O'Connor et al., 2016; Waqas et al., 2022). When PNDA is not routinely asked about, and/or a standardised tool is not used for detection, over 50% of cases are missed (Anding et al., 2015; Buist, Bilszta, et al., 2006). Moreover, women who are not asked about their mental health are significantly less likely to pursue mental health supports (Reilly et al., 2014).

When women with PNDA are identified early and are supported to access evidence-based and woman-centred supports and interventions (e.g. peer support and cognitive behavioural therapy), they are likely to experience a significant decrease in their symptoms, resulting in improved long-term outcomes for themselves and their families (Dennis & Hodnett, 2007; Hadfield & Wittkowski, 2017; Lumley et al., 2004). Universal PNDA screening, using a validated tool, is therefore a

fundamental aspect of providing effective postnatal care to women and is recommended by the World Health Organisation (WHO) ((WHO, 2022), as well as in best practice guidelines in comparable high-income countries to Australia, such as Sweden (Wickberg et al., 2020) and the United States (American College of Obstetricians and Gynecologists Committee, 2018).

The Australian Clinical Practice Guideline (Austin et al., 2019) outline three important recommendations: 1) that the EPDS is administered to screen all new mothers at six to 12 weeks postpartum and readministered at least once more in the first postnatal year; 2) that a psychosocial risk assessment, designed as a series of questions intended to ascertain a woman's risk for PNDA (e.g. a history of depression and/or anxiety, family violence, and poor social or family support), is carried out in conjunction with the EPDS; and 3) that health workers facilitate women's access to appropriate intervention(s), once a 'positive' PNDA identification has been made (Austin et al., 2019).

Similar to other Australian states and territories, in Victoria, identifying women with PNDA symptoms, and facilitating their timely access to supports, is largely the responsibility of dual registered nurse/midwives known as Maternal and Child Health Nurses (MCHNs) (Department of Health and Human Services, 2019b). Victorian MCHNs offer free universal support to all mothers with children from birth to five years in the form of ten (or more if required) Key Ages and Stages (KAS) visits with a focus on prevention, early identification and intervention for a host of maternal and child health issues, including PNDA (Department of Health and Human Services, 2019b). With over 80% of all new mothers accessing the MCH service approximately seven times in the first 12 months postpartum (Department of Health and Human Services, 2019a), MCHNs are exceptionally well-placed to identify and support women with PNDA. The MCHN role is comparable to that of the Plunket nurse in New Zealand (Honey & Westbrooke, 2016), Public Health Nurse in Ireland and Norway (Glavin & Leahy-Warren, 2013) and Health Visitors in the United Kingdom (UK) (Lowenhoff et al., 2017). Throughout the thesis, the term 'MCHN' will be used to describe all nurses and midwives (discussed in the literature) whose role is comparable to that of Victorian MCHNs.

Separate to the Australian Clinical Practice Guideline (Austin et al., 2019), the Victorian MCH practice guidelines (Department of Health and Human Services, 2019b) recommend that MCHNs screen all mothers, by conducting a psychosocial assessment and administering the EPDS during the four-week KAS visit (approximately four weeks postpartum), and to support women to access appropriate interventions accordingly. However, data pertaining to the PNDA screening and management practices of Victorian MCHNs are not routinely collected (Highet & Purtell, 2012;

Moss et al., 2020). This means that there are considerable gaps in our understanding regarding whether (and to what extent) MCHNs screen in accordance with established guidelines and what systemic or individual factors influence MCHNs' screening practices. Similarly, our understanding of how MCHNs proceed following a 'positive' identification of PNDA remains limited. Anecdotal evidence presented to the Family and Community Development Committee's (the Committee) inquiry into perinatal services (Family and Community Development Committee, 2018) suggests that mothers perceive the MCH service as one which primarily focuses on the child and that their health concerns and risks are not always given adequate consideration. Moreover, evidence put forth to the Committee suggests that MCHNs can lack the skills to adequately screen for PNDA and hold challenging conversations with women regarding mental illness. Issues pertaining to inadequate referral pathways and lack of available mental health services were also presented to the Committee and identified as hindering MCHNs' ability to adequately support and respond to the needs of women with PNDA (Family and Community Development Committee, 2018) .

While evidence (beyond the anecdotal) regarding how Victorian MCHNs identify and manage women with PNDA, and what influences their practices, is limited, scoping and systematic reviews of international evidence (largely restricted to high and middle-income countries) suggests that many healthcare workers, including nurses, do not screen in ways which are consistent with recommended guidelines (Goldin Evans et al., 2015; Legere et al., 2017; Puspitasari et al., 2021). Reasons for this include the belief that screening is too time consuming (Higgins et al., 2018; Kang et al., 2019), expressed negativity towards screening tools (particularly the EPDS) (Chew-Graham et al., 2009; Jomeen et al., 2013), lack of confidence, and limited knowledge and training related to perinatal mental health and use of screening tools (Coates & Foureur, 2019; Noonan et al., 2018). Once PNDA symptoms are identified, international evidence suggests that MCHNs management of PNDA is influenced by the presence or absence of formal care pathways, availability and accessibility of services, continuity of care, and collaboration and cohesion among service providers (Alexandrou et al., 2018; Ashford et al., 2017; Borglin et al., 2015).

Identifying the screening practices of Victorian MCHNs and understanding the factors which influence them, is an imperative first step toward facilitating the conditions and supports that MCHNs need to effectively fulfill the important role of identifying and supporting mothers struggling with PNDA. Similarly, understanding the nuances of how MCHNs support the women whom they have identified, and the conditions which impact their caregiving capacity, is critical to the development of service delivery models that are evidence-based and designed to facilitate

optimal outcomes for women and their families. Moreover, it brings awareness to the professional needs of MCHNs in being able to effectively carry out their role, as identified by them.

The overarching aim of the research undertaken for this thesis was to generate this evidence by describing the PNDA screening and management practices of Victorian MCHNs and understanding the factors which influence them. To address the aim of this doctoral thesis I conducted three studies: (i) A scoping review of the PNDA screening and management practices of MCHNs in community settings; (ii) A population-based, cross-sectional study of all MCHNs in Victoria; and (iii) qualitative interviews with MCHNs.

The thesis is presented in the form of a thesis with publication. As such, some chapters include publications. The unique aim of each study is presented in detail in Chapter Eight (Methodology), and each corresponding manuscript.

The next chapter will provide a comprehensive synthesis of the existing literature pertaining to PNDA, focusing on key aspects such as its definition, prevalence, associated risk factors, and the extensive impacts it has on various aspects of individual and family outcomes. This will help to build a shared understanding of PNDA and provide context for why it is vital that this public health issue be detected and addressed in a timely manner.

Chapter Two: Postnatal depression and anxiety

This chapter introduces the topic of postnatal depression and anxiety (PNDA). It entails a detailed synthesis of the literature, as it relates to the definition of PNDA, its prevalence, risk factors, and wide-reaching impacts. Understanding these offers context for the wide-ranging effects of PNDA and why it is so important to the health and well-being of families and the larger community that it is detected and addressed.

The literature was identified through use of electronic databases including Cumulative Index of Nursing and Allied Health Literature (CINAHL), MEDLINE, and PsycINFO. Emphasis was placed on identifying systematic reviews and other higher quality study designs (e.g. randomised controlled trials) and peer reviewed studies that reflect the most credible and latest evidence.

Definition of postnatal depression and anxiety

The Diagnostic and Statistical Manual of Mental Disorders V (DSM-5) (American Psychiatric Association, 2013) defines postnatal depression (PND) as a major depressive episode with symptoms including: feelings of sadness, loss of interest in activities previously enjoyed, changes in appetite, changes to sleep, fatigue, increase in purposeless physical activity (e.g., inability to sit still), feeling guilty or worthless, difficulty focusing on tasks or making decisions, thoughts of suicide, absence of interest in the baby, not feeling bonded to the baby, or feeling extremely anxious about/around the baby, feeling like a bad parent, and fear of harming oneself or the baby (American Psychiatric Association, 2013). Women who experience PND typically experience several of these symptoms simultaneously, and symptoms and severity can change.

The DSM-5 criteria for postpartum mood disorders specifies onset during pregnancy or within four weeks postpartum (American Psychiatric Association, 2013). However, evidence indicates that onset can occur well after four weeks postpartum (Chaudron et al., 2001; Verreault et al., 2014; Woolhouse et al., 2012). For example, in an Australian cohort study, Woolhouse et al. (2012) found that most women reported onset of depressive symptoms in the second six months postpartum, while Chaudron et al. (2001) reported that 5.8% of mothers became clinically depressed between delivery and four months postpartum.

While postnatal anxiety (PNA) does not presently have diagnostic criteria within the DSM-5, it is typically characterised by the same symptoms as generalised anxiety disorder or obsessive-compulsive disorder (Pawluski et al., 2017). These may include extreme worry that cannot be managed, irritability, impairment in social or occupational functioning, restlessness, and muscle

tension (American Psychiatric Association, 2013). According to the DSM-5, PND is often accompanied with extreme anxiety, highlighting the significant comorbidity of postnatal depression and anxiety (American Psychiatric Association, 2013). A growing body of evidence supports this and shows that PND is often comorbid with PNA (Austin et al., 2010; Falah-Hassani et al., 2017; Farr et al., 2014; Pawluski et al., 2017; Ramakrishna et al., 2019), and that women who experience comorbid PNDA are more likely to experience greater symptom severity than those who experience either disorder alone (Farr et al., 2014; Ramakrishna et al., 2019). A synthesis of the evidence pertaining to the prevalence of PND, PNA, and comorbid PNDA follows.

Prevalence

It is important to begin this section by acknowledging that reported prevalence estimates for PNDA can differ according to time of data collection (e.g. early postpartum period, three or 12 months postpartum), method of data collection (e.g. what screening tool was used, if a diagnostic interview was completed, differences in cut-off scores), as well as use of point or period prevalence (Gavin et al., 2005; Leach et al., 2017; Mann et al., 2010). To that end, interpretation of prevalence data should be carried out with some caution. Moreover, PNDA typically refers to the experience of depression and anxiety in the first 12 months postpartum (Leach et al., 2017; Shorey et al., 2018). However, it should be noted that while the experience of PNDA beyond the first 12 months postpartum has not been as well researched, available studies indicate that PNDA can persist well beyond this point (Bryson et al., 2021; Putnick et al., 2020; Shorey et al., 2018; Woolhouse et al., 2015). Despite this, there is widespread consensus that PNDA is prevalent and a cause of disability among women worldwide (World Health Organisation, 2022b).

Postnatal depression

Globally, prevalence rates for PND vary greatly based on country, with greater prevalence in low- and middle-income countries (Coast et al., 2012; Dadi et al., 2020; Gelaye et al., 2016). In a systematic review of 203 studies in 42 countries, Norhayati et al. (2015) found that, based on the EPDS results, the prevalence of PND in high-income countries ranged from 3% – 26% in the first six months postpartum, and 6% – 29% in 12 months postpartum. Conversely, prevalence of PND (based on EPDS results) in low- and middle-income countries was notably higher- ranging from 8% – 38% in the first six months postpartum and 21% – 33% in 12 months postpartum (Norhayati et al., 2015). In a more recent systematic review and meta-regression of 79 studies reporting on the prevalence of perinatal depression, Woody et al. (2017), found that pooled prevalence of PND was significantly higher in low- and middle-income countries compared to high income countries

(18.7% vs. 9.5%, respectively). More recently, Hahn-Holbrook et al. (2018) conducted a systematic review and meta-analysis of 291 studies from 56 countries that reported the prevalence of PND using the EPDS and found a pooled global PND prevalence of 17.7%. Similarly, following a meta-analysis of 58 studies which reported on the prevalence of PND among healthy mothers without a history of depression, Shorey et al. (2018) found a pooled global PNDA prevalence of 17%, with greater prevalence in low-middle income countries, compared to high-income countries. Interestingly, meta-analysis on the type of assessment tool used in each included study (e.g. clinical interviews or self-report measure such as the EPDS) found no statistically significant difference between prevalence estimates based on method of assessment – prevalence estimates based on clinical interviews were 18%, while those based on self-reported measures were 19% (Shorey et al., 2018).

The prevalence of PND in Australia appears to be comparable to that of global pooled estimates. In an Australian population-based study, Brown and Lumley (2000) used the EPDS to assess the point prevalence of PND at six months postpartum in a sample of 1366 women. Results showed that 225 women had an EPDS score of 13 or higher, indicating the possibility of major depression – a point prevalence of nearly 17%. Similarly, in a population-based study involving 4366 Australian women, Yelland et al. (2010) found that at six months postpartum, 17.4% of women reported symptoms of ‘mild’ to ‘extremely severe’ PND. These findings were based on women’s responses to the Depression, Anxiety Stress Scales (DASS) (Lovibond & Lovibond, 1996) (a self-report tool designed to measure symptoms of depression and anxiety and stress) (Yelland et al., 2010). It should be highlighted that results from both studies (Brown & Lumley, 2000; Yelland et al., 2010) refer only to a point prevalence of PND at six months, versus a period prevalence (reported in earlier studies) that refers to the prevalence of PND at any point over the 12 month postpartum period.

Period prevalence estimates observed in the 2010 Australian National Infant Feeding Survey, conducted in 2010–11 (Australian Institute of Health and Welfare, 2012), showed that 1 in 5 women (20%) with children aged 0 to 24 months had received a diagnosis of depression at some point in their lives. Fifty per cent of these women (n = 56,000) reported that their diagnosis had been made during the period between pregnancy and 12 months postpartum. Of these women, just over 1 in 5 reported that the perinatal period (pregnancy to 12 months postpartum) was the first time they had ever been diagnosis with depression (Australian Institute of Health and Welfare, 2012). Similarly, in a prospective cohort study of nulliparous women, Woolhouse et al. (2012) assessed the prevalence of perinatal depression (i.e. from pregnancy to 12 months postpartum) and its association with intimate partner violence among 1305 Australian women.

Symptoms of depression were assessed using the EPDS, with results showing that 16% of women reported depressive symptoms (EPDS score ≥ 13) in the first 12 months postpartum, with over 50% first reporting depressive symptoms in the second six months postpartum (Woolhouse et al., 2012).

Postnatal anxiety

Anxiety disorders are among the most common of all psychiatric disorders, impacting between 3.8% and 25% of the general population (Remes et al., 2016). Women are up to 6.8 times more likely to experience an anxiety disorder than their male counterparts (Kessler et al., 2005; Somers et al., 2006). Despite this, studies into the prevalence of anxiety in the postnatal period remain limited (Farr et al., 2014; Goodman et al., 2016; Matthey et al., 2003). As stated previously, prevalence estimates can vary greatly depending on the study's sampling and assessment methodologies. However, estimates for PNA can also vary due to inconsistent characterisation/definitions of PNA across existing studies (Fawcett et al., 2019). For example, in their cohort study involving 1549 women, which examined the period prevalence of comorbid PNDA, Austin et al. (2010) defined women experiencing PNA as those diagnosed with General Anxiety Disorder (GAD), social phobia, agoraphobia, or panic disorder. However, in a cross-sectional study which examined the prevalence of PNA (as well as other psychiatric disorders) in a community sample of Spanish women ($n = 1453$), Navarro et al. (2008) characterised women experiencing PNA as those diagnosed with GAD, social phobia, agoraphobia, or panic disorder, as well as Post Traumatic Stress Disorder (PTSD), Obsessive Compulsive Disorder (OCD), or non-specified anxiety. To that end, authors of existing systematic reviews and meta-analyses report divergent aggregated prevalence estimates due to differences in the number as well as subsets of anxiety disorders included in their analysis- ranging between 4.7% and 33% for 'any anxiety disorder' in the first 12 months postpartum (Leach et al., 2017).

In a systematic review and meta-analysis of 58 studies which examined anxiety disorders among postpartum women across 12 different countries, Goodman et al. (2016) found that the prevalence of any reported anxiety disorder in the postnatal period (up to 12 months postpartum) ranged from 4% to 39%, with an overall pooled prevalence rate of 8.6%. However, Goodman et al. (2016) noted that their results should be viewed with caution given that their analysis was based on a small number of studies for each anxiety disorder (e.g. GAD, PTSD, OCD), with substantial variation between studies in reported prevalence estimates for 'any anxiety disorder' and specific disorders. Furthermore, the authors reported significant methodological inconsistencies across

study designs, time and method of assessment, analysis of potential confounders, and sample size (Goodman et al., 2016).

In a systematic review and meta-analysis of 102 studies from 34 countries, that examined the prevalence of antenatal and postnatal anxiety, Dennis et al. (2017) reported that the prevalence for 'anxiety symptoms' overall (at 1–24 weeks postpartum) was 15%, while the prevalence for 'any anxiety disorder' over the same period was 9.9%. When interpreting these results, the authors caution that most of the studies included in the review assessed PNA using self-reported instruments (e.g. EDPS), and not diagnostic clinical interviews for specific anxiety disorders, considered to be the gold-standard (Dennis et al., 2017). In an effort to address the methodological limitations of previous studies, Fawcett et al. (2019) conducted a multivariate meta-analysis of studies which reported the prevalence for each specific anxiety disorder (e.g. GAD, OCD, PTSD) in the first 12 months postpartum, using a structured diagnostic interview to diagnose anxiety disorder prospectively. The authors excluded studies which solely reported the total prevalence of concurrent anxiety disorders, without reporting individual prevalence estimates for each disorder. In doing so, Fawcett et al. (2019) found that the prevalence estimate for having at least one anxiety disorder in the first 12 months postpartum (or during pregnancy) was 20.7%. This prevalence estimate is 2.4 times greater than that reported in an earlier meta-analysis by Goodman et al. (2016) and 2.1 times greater than that reported by Dennis et al. (2017). Findings by Fawcett et al. (2019) also indicate that women who are diagnosed with an anxiety disorder in the postpartum period (up to 12 months) have a 50% likelihood of being diagnosed with an additional anxiety disorder, with GAD, social phobia, and specific phobia being the most common.

Australian research on the prevalence of postnatal anxiety is likewise less prevalent than research on postnatal depression. Moreover, as with studies conducted overseas, results from existing Australian studies (Ramakrishna et al., 2019; Yelland et al., 2010) are varied. In their population study involving 4366 women from Victoria and South Australia, Yelland et al. (2010) found that the point prevalence (at six months postpartum) for 'mild' to 'extremely severe' anxiety, as measured by the DASS, was 12.7%. More recently, Ramakrishna et al. (2019) utilised the State component of the State–Trait Anxiety Inventory (STAI) (Spielberger et al., 1983) (a validated 20 item screening instrument used to assess general anxiety) to measure present levels of postpartum anxiety in a community-based sample of 1070 Australian women who had given birth within the previous 12 months. Their results showed that 8.1% of women (n = 88) experienced PNA symptoms at up to 12 months postpartum.

Comorbid postnatal depression and anxiety

As previously stated, a growing body of evidence indicates that the prevalence of comorbid PNDA is very high (Falah-Hassani et al., 2017; Farr et al., 2014; Pawluski et al., 2017; Ramakrishna et al., 2019), impacting between 6.3% (Farr et al., 2014) and just over 13% (Falah-Hassani et al., 2017; Ramakrishna et al., 2019). In a meta-analysis of 66 studies, encompassing 162,120 women from 30 countries, Falah-Hassani et al. (2017) found the prevalence of comorbid anxiety and mild to severe depressive symptoms was 8.2%, between one and 24 weeks postpartum. The authors observed that prevalence rates did not vary based on country income, year of publication, and selection or attrition bias. More recently, in their community-based study of Australian postpartum women, Ramakrishna et al. (2019) reported that comorbid PNDA was experienced by 13.4% of women at up to 12 months postpartum. Additionally, the authors noted that comorbid PNDA was associated with increased symptom severity, a finding which was also observed by Farr et al. (2014).

Risk factors

Risk factors for onset of PNDA are multifactorial and often co-occurring. Risk factors can include a personal or family history of depression and/or anxiety, as well as a range of psychosocial factors (e.g. social isolation, family violence). Women belonging to certain cohorts (e.g. refugee and migrant women) are more likely to have greater exposure to concurrent psychosocial risk factors, which increase the likelihood of PNDA onset. This section will provide an overview of the evidence pertaining to risk factors for PND, PNA and comorbid PNDA.

Postnatal depression

Risk factors for PND have been widely examined, with results from meta-analyses, cohort and longitudinal studies suggesting that a history of depression and anxiety, including in the antenatal period (Grigoriadis et al., 2019; Ogbo et al., 2018), stressful life events, lack of partner support, limited social support, poor physical health, family and domestic violence, and unemployment can increase the likelihood of PND (Gheorghe et al., 2021; Ogbo et al., 2018; Underwood et al., 2016; Woolhouse et al., 2012; Zhao & Zhang, 2020). For example, in a review of longitudinal studies on depression during pregnancy and up to one year postpartum, Underwood et al. (2016) found that depression prior to and during pregnancy increased the risk of PND by up to seven times. Other known birth or pregnancy related risk factors for PND include preterm birth (de Paula Eduardo et al., 2019); young maternal age (Underwood et al., 2016); gestational diabetes; obesity; birth and infant-related factors (e.g. traumatic birthing experience, low birth weight of infant); multiple births; and poor postpartum sleep (Zhao & Zhang, 2020).

Evidence also indicates that Indigenous and migrant (including refugee and asylum seeker) women face a greater likelihood of developing PNDA given that 1) women belonging to these groups face challenges that are unique to them (e.g. language barriers and racial discrimination); and 2) they are more likely to experience multiple risk factors (outlined above) concurrently and over a prolonged period of time (Black et al., 2019; Brown et al., 2019; Falah-Hassani et al., 2015; Ogbo et al., 2019; Owais et al., 2019; Snow et al., 2021). In a systematic review and meta-analysis of 22 studies, Falah-Hassani et al. (2015) found that immigrant women were twice as likely to experience postpartum depressive symptoms than their non-immigrant counterparts. Low social support, minority ethnicity, low socio-economic status, lack of proficiency in host country language and refugee or asylum-seeking status all put migrant populations at increased risk of perinatal mental disorders (Falah-Hassani et al., 2015). Other established risk factors include being new to the host country, loss of family as a result of migration, fewer social connections and supports, poorer quality of relationship with partner, and perceived inadequate household income (Boyle et al., 2019; Falah-Hassani et al., 2015).

Risk factors unique to refugee and asylum seeking women include pre-migration trauma such as violence related to war, racial discrimination and gender-based violence (Boyle et al., 2019). In a Canadian study of refugee and asylum-seeking mothers, Stewart et al. (2008) found that, compared to their Canadian born counterparts, refugee and asylum-seeking women were up to five times more likely to experience PND. Comparative findings were reported in an Israeli study by Nakash et al. (2016) who found that 82% of the 38 asylum-seeking mothers satisfied the clinical threshold for PND, on the EPDS. However, data in this study were obtained solely through self-report measures, which can increase the likelihood of socially desirability and other forms of response bias. More recently, in a systematic review and meta-analysis of eight studies which examined perinatal mental health among refugee and asylum-seeking women, Giscombe et al. (2020) found that refugee and asylum-seeking mothers were significantly more likely to have a history of trauma, as well as increased risk factors (such as social isolation) which made them much more vulnerable to PND.

In a recent systematic review and meta-analysis of 26 studies which examined the prevalence of postnatal depression (and anxiety) among Indigenous women (from the first trimester of pregnancy up to 12 months postpartum), Owais et al. (2019) found that Indigenous identity was associated with significantly greater odds of PNDA. The authors noted that this was true for Indigenous women in studies from every country included in their review, including Australia, Canada, Taiwan, United States, and New Zealand. Owais et al. (2019) summarised the unique

social origins of risk factors for greater odds of PND in Indigenous communities, including colonisation, a collective history of forced displacement and dismantling of traditional family units (e.g., Stolen Generation), in addition to existing systematic oppression and racism, and greater incidents of intimate partner violence. Comparable findings were reported by Black et al. (2019), who following the systematic review of 12 studies, found that compared to their Caucasian counterparts, Indigenous women (from Australia, Canada, New Zealand, and the United States) faced 87% increased odds of experiencing PND. In a population-based study involving 344 mothers of Aboriginal and Torres Strait Islander babies born in South Australia, Weetra et al. (2016) found that nearly one in four women reported 'high' to 'very high' psychological distress in the first 12 months postpartum. Furthermore, 56% faced at least three social health issues while pregnant (including family violence), with one in two women who experienced violence during pregnancy reporting 'high' or 'very high' psychological stress postnatally. Similar findings were reported in a Western Australian study by Lima et al. (2019), who found that between 1997 and 2013, one in three Aboriginal children were delivered to women who had a hospital encounter for mental illness in the preceding five years, or the first postpartum year.

Women residing in rural, regional, or remote regions are especially at risk of experiencing social and geographical isolation, as well as reduced access to support services – all of which constitute risk factors for onset of PNDA (Bilszta et al., 2008; Family and Community Development Committee, 2018; Mollard et al., 2016; Villegas et al., 2011). In a systematic review of 19 studies reporting on the prevalence of PND among rural and urban women in developed and developing countries, Villegas et al. (2011) found that most studies reported higher rates of PND among women residing in rural areas, compared to rates of PND reported for the overall population of postpartum women. Specifically, PND occurred in 10% to 15% of postpartum women in the general population, and 23% to 57.8% among rural women, with higher prevalence for women residing in developing countries than those in developed countries (31.3% vs 21.5% respectively). The authors reported that the pooled prevalence of PND among women in rural areas was 27.0%. However, the authors note that these results should be interpreted with some caution due to the heterogeneity in the method of assessment for PND across studies, with only six studies employing a diagnostic assessment and other studies reporting the proportion of women who scored over a predetermined cut-off score on an inventory of depressive symptoms.

Finally, evidence suggests that, when compared to their heterosexual counterparts, same-sex attracted women are more likely to face additional risk factors such as social and personal discrimination, as well as limited legal and legislative supports, putting them at a higher risk of

experiencing PND (Khajehei et al., 2012; Shapiro et al., 2009). For example, in a cross-sectional study involving 52 lesbian mothers and 153 heterosexual mothers in the United States and 35 lesbian mothers and 42 heterosexual mothers in Canada, Shapiro et al. (2009) reported that lesbian mothers were at greater risk of depression than heterosexual mothers. However, the authors noted that sexual orientation did not account for the greater likelihood of depression among lesbians after childbirth, and that there were factors that may moderate the relationship between sexual orientation and the experience of depression among lesbian mothers, including legal and social issues such as discrimination and marginalised legal status. The authors noted that the rate of aversive mental health outcomes among lesbian mothers was lower in societies that better protected the legal rights of lesbian mothers (Shapiro, et al., 2009). It is important to note that overall, the unique needs and experiences of lesbian mothers is largely absent from the literature, including those studies which were reviewed for this thesis. As such, a deeper understanding of the mental health needs and experiences of lesbian parents, as well as the factors influencing their general well-being is required. Postnatal anxiety

Risk factors associated with PNA have not been as widely examined as those pertaining to PND (or comorbid PNDA) (Field, 2018; Goodman et al., 2016). In a systematic review and meta-analysis of 58 studies that addressed anxiety disorders in the postnatal period (up to 16 months), Goodman et al. (2016) identified 16 studies which reported on the risk factors associated with experiencing one or more anxiety disorders in the postnatal period. The authors found that risk factors varied widely based on the specific anxiety disorder(s) and specific risk factor(s) being assessed by each study. Despite this, Goodman et al. (2016) found that risk factors fell into five distinct categories: 1) demographic factors (i.e. younger maternal age, low educational attainment, and low income); 2) experiences during pregnancy and delivery (i.e. emergency caesarean section delivery, perceived lack of control during childbirth, history of multiple pregnancy losses); 3) history of trauma or mental illness (i.e. history of childhood abuse and neglect, anxiety or depression during pregnancy, history of depression and or anxiety prior to pregnancy, experience of interpersonal or intimate partner violence during the past year); 4) medical factors pertaining to mother and or infant (i.e. infant with medical complications upon delivery, hospital admission as a result of pregnancy complications); 5) Perceived lack of availability of support (i.e. perceived lack of support from partner and extended family) (Goodman et al., 2016). The review had some limitations which need to be considered when interpreting these results, including the small number of studies for each anxiety disorder, considerable heterogeneity across sample characteristics, postpartum time of assessment, and differences relating to which disorders were included in studies which assessed 'any anxiety disorder' (Goodman et al., 2016). Moreover, the review did not include any studies

which assessed GAD or phobias, which is significant in light of evidence from a recent systematic review and meta-analysis by Fawcett et al. (2019) indicating that GAD, social phobia, and specific phobia are the most prevalent anxiety disorders in the postnatal period.

In a narrative review of 73 studies published between 2010 and 2017, on the prevalence, predictors or effects of postnatal anxiety on infant development, Field (2018) found that the primary focus of most existing studies pertain to the prevalence, onset and course of postnatal anxiety, with few studies examining risk factors. Field (2018) observed that, risk factors for PNA identified in existing studies could be divided into four distinct categories, which largely parallel those identified by Goodman et al. (2016): demographic factors (i.e. young maternal age, higher educational attainment, and being employed); experiences of childbirth (i.e. delivering through a caesarean, fear associated with the birth and death during delivery, perceived lack of control in labour, poor confidence in healthcare staff, and premature delivery); perceived lack of availability of support (i.e. lack of family support, marital/family conflict, and poor social supports); and history of mental illness (i.e. depression and/or anxiety during pregnancy, difficulty describing emotions, maladaptive coping strategies such as denial and self-blame) (Field, 2018).

While the review by Field (2018) contributes to our understanding of the risk factors associated with PNA, there is an urgent need for more extensive research in this area. The review also has some limitations. For example, many of the included studies featured a small sample size and relied predominantly on self-reported scales to assess PNA (Field, 2018). Moreover, the author conducted the entire review, including the search and analysis, without input from a second or third reviewer, increasing the possibility of bias in analysis and reporting.

Comorbid depression and anxiety

According to research conducted within the general population, the risk factors for co-occurring depression and anxiety, as opposed to a single disorder, are multifaceted (Moscati et al., 2016; Ramakrishna et al., 2019). However, to date a surprisingly small number of studies have examined risk factors for comorbid PNDA (Falah-Hassani et al., 2016). In an Australian population-based study of 4366 postpartum women, comorbid PNDA was associated with young maternal age (i.e. under 25 years of age) and experiencing one or more forms of socio-economic disadvantage, including low income and low educational attainment (Yelland et al., 2010). In an American population-based study, Farr et al. (2014) examined the prevalence and risk factors for comorbid PNDA among 4451 women at three to nine months postpartum. Results of the study indicated that women who experienced multiple stressors (three or more) during pregnancy, smoked during

their pregnancy, had a preterm infant (≤ 27 weeks gestation), had infants who required hospital admission for two or more days, and delivered by caesarean were significantly more likely to experience comorbid PNDA. It is important to note that the authors did not examine other potential correlates such as social supports, history of mental illness, and mothers' sleep quality due to limited data (Farr et al., 2014).

In another population-based study involving 522 postpartum women in Canada, Falah-Hassani et al. (2016) found that risk factors for comorbid PNDA during the first eight weeks postpartum included history of psychiatric problems, multiparous parity, perceived stress and limited support, and childcare stress. The authors also noted that immigration within the last five years and perceived stress were also risk factors for comorbidity, while mothers' positive view regarding her ability to breastfeed effectively, positive self-esteem and partner support were associated with a reduced likelihood of comorbidity.

More recently, in a population-based study of 1070 Australian postpartum women, Ramakrishna et al. (2019) found that comorbid PNDA was associated with facing greater financial hardship (e.g. struggling to pay for basic needs such as housing and food), challenging life events, termination of breastfeeding, challenging infant temperament, and poor social and practical support. For example, women with comorbid PNDA were nearly five times more likely to report not receiving adequate support followed by women with PND only (3.3 times) and those with PNA only (1.8 times).

Impact of postnatal depression and anxiety

Evidence regarding the adverse, and potentially long-term, impacts of PNDA on women and the mother-child relationship (Ramakrishna et al., 2019; Slomian et al., 2019), their children (Goodman et al., 2016; Slomian et al., 2019; Stein et al., 2018), as well as partners (Egmoose et al., 2022; Ruffell et al., 2019; Wang et al., 2021) are well-established. The following sections provide a synthesis of the evidence relating to the impact of PNDA on each.

Impact on women and the quality of mother-child relationship

The impact of PND on women and the mother-child relationship has been studied widely. In a systematic review, Slomian et al. (2019) found that compared to mothers without PND, those with PND reported lower self-esteem, increased feelings of stress and anger, less anger control, and were overall less responsive. Moreover, PND was associated with reduced quality of life, more relationship difficulties, reduced mother-infant bonding, greater frequency of suicidal ideation and

risk-taking behaviours (e.g. illicit drug use and increased smoking and alcohol consumption). Slomian et al. (2019) further reported that mothers with PND were also less likely to engage with their infants, and that as depression severity increased, mothers positive affect decreased, as did responsiveness and general verbal content, while physical intrusiveness, punitive tone, and punitive discipline scores increased. Similar findings have been reported in studies which have examined the impacts of PNA (although these studies are not as prevalent). For example, in a prospective study of 261 mothers (≤ 6 -months postpartum), Fallon et al. (2021) found that higher levels of PNA was associated with bonding impairments across three subscales: impaired general bonding, rejection and anger, and infant-focused anxiety, over the first 6-months postpartum.

Myers and Johns (2018) have also identified evidence which suggests that PND can adversely impact lifelong and inter-generational relationship qualities. The authors used responses to a retrospective questionnaire to evaluate the effect of PND experienced by generation one on mother-child dyad ($n = 646$) relationship quality throughout the life course of the child (generation two) with whom it was associated, as well as on the relationship quality with grandchildren (generation three) from that child ($n = 197$). Results from this showed a significant association between PND and a decrease in the mother-child relationship quality into the offspring's adult years (Myers & Johns, 2018). The authors also noted that mother-child relationship quality decreased as PND symptom severity amplified (after controlling for individual effects and a range of other factors known to impact relationship quality). Moreover, PND was also negatively associated with the quality of grandmother-grandchild relationship (characterised by reduced emotional closeness) (Myers & Johns, 2018). It should be noted that the study's measure of the quality of the mother-child relationship was based solely on maternal self-reported feelings, which must be considered when interpreting these results.

While a significant majority of research focuses primarily on the impacts of PND (versus PNDA or PNA), existing evidence suggests that among women who experience comorbid PNDA, symptoms are likely to manifest with greater severity and persistence, than those experiencing either disorder independently (Farr et al., 2014; Ramakrishna et al., 2019). In an American population-based study of 4451 postpartum women, Farr et al. (2014) found that women experiencing comorbid PNDA symptoms had greater mean anxiety scores (mean = 7.5) than women with PNA symptoms alone (mean = 6.5) and greater mean depressive scores (mean = 11.6) than women with PND symptoms alone (mean 10.8). Women with comorbid PNDA are also at elevated risk of suicide (Sit et al., 2015; Tavares et al., 2012). For example, in an American study which examined suicidal ideations among 648 women diagnosed with PND using a Structured Clinical Interview for

DSM-IV, Sit et al. (2015) found that experiencing comorbid PNDA significantly increased the likelihood of frequent thoughts of self-harm and risk of suicide. Suicidal ideation was assessed by examining participants' responses to the EPDS item number 10 (i.e. "The thought of harming myself has occurred to me" – with the following response options: Yes, quite often; Sometimes; Hardly ever; and Never) (Cox et al., 1987). In Victoria, Australia, the Consultative Council on Obstetric and Paediatric Mortality and Morbidity (CCOPMM) reports on maternal deaths up to 12 months postpartum. According to their most recent report, suicide was the leading cause of direct and indirect maternal death, accounting for 12 deaths between 2016 and 2018 (Consultative Council on Obstetric and Paediatric Mortality and Morbidity, 2018). The number of women who died by suicide after 12 months postpartum are unknown.

Impact on child health and well-being

There is a substantial body of evidence highlighting the adverse impact of PNDA on child health and well-being outcomes (Farías-Antúnez et al., 2018; Goodman et al., 2016; Jacques et al., 2019). In a systematic review and meta-analysis of studies which examined the relationship between perinatal and infant hospitalisation and mortality in the first 12 months postpartum, Jacques et al. (2019) found that children of mothers with PND had 1.4 times higher risk of hospitalisation and 1.9 times greater risk of death before one year of age than those whose mothers did not have PND. It is important to highlight that findings from this review were based on a limited number of studies ($n < 10$), as well as variations between studies in terms of instruments and cut-off scores used to assess PND (Jacques et al., 2019). Children of depressed mothers are also more likely to be underweight and have impaired growth (Farías-Antúnez et al., 2018). In a meta-analysis of 193 studies, Goodman et al. (2011) identified a significant association between PND and children's internalising and externalising problems, as well as negative affect and general psychopathology. In a review of quantitative and qualitative studies, O'Hara and McCabe (2013) identified consistent evidence highlighting the significant association between PND and poor language and cognitive development throughout childhood.

Similar findings were reported by Oyetunji and Chandra (2020). In a systematic review of 74 studies which reported on the impact of PND on infant outcomes, they found that the experience of postnatal depression or anxiety were both associated with delayed cognitive development, language and communication skills, emotional development, gross and fine motor development, and infant sleep problems. They also reported a negative association between PND and likelihood and duration of breastfeeding, as well as mother-infant bonding. It should be noted that the

authors excluded studies which pertained to the impact of comorbid PNDA on infant outcomes, limiting the studies generalisability to infants of mothers with comorbid PNDA.

The impacts of PNA on child health and well-being have also been studied, although as previously stated, there is a sparsity in the number of studies with a specific focus on PNA or PNDA. However, existing evidence suggests that PNA adversely impacts infants' language and cognitive development (Field, 2018; Reck et al., 2018), sleep quality (Field, 2018; Ystrom et al., 2017), nutrition and breastfeeding (Fallon et al., 2016) and mother-infant bonding (Field, 2018). For example, in a longitudinal study involving 34 mothers with PNA, Reck et al. (2018) found that infants of mothers with anxiety produced significantly lower language scores than infants of 'healthy' mothers ($n = 47$). The authors also noted the significant impact of maternal anxious avoidance on poor infant language and cognitive development. These results must be interpreted in light of the study's small sample size and the majority of study participants' high levels of educational attainment, both of which may restrict the reliability and generalisability of the findings (Reck et al., 2018).

More recently Rogers et al. (2020) conducted a meta-analysis of 191 longitudinal studies that examined the relationship between maternal perinatal depression and anxiety (results pertaining to the prenatal and postnatal periods were reported separately) and numerous developmental outcomes in children / adolescents during the first 18 years of life. Results from the meta-analysis, which included a combined sample of 195,751 unique mother-child dyads from 191 studies, showed that PNDA in mothers is adversely associated with internalising and externalising behaviours, poor social-emotional development, poor emotional regulation, and inferior language and gross motor skills in offspring (during the first 18 years) (Rogers et al., 2020). The authors also found significant associations between comorbid PNDA and a range of adverse outcomes for children / adolescents, including complex social-emotional development from infancy through adolescence (with no sign of weakening with age), greater externalising and internalising behaviours and lower cognitive and language development. The authors caution that interpretation of the findings should take into account that the majority of studies included in the meta-analysis used self-report assessment of PNDA ($n = 159$) and child development ($n = 120$), noting that an excessive reliance on self-report measures can result in shared method variance and bias in accounts of child development. Finally, the authors note that although correlational associations were examined, the direction of causal relations remains uncertain, and the observed associations may be due to confounding variables (Rogers et al., 2020).

Impact on partners

Goodman (2004) conducted one of the first literature reviews of the prevalence of depression among men whose partners experienced PND and identified a 24% to 50% prevalence rate. Similar findings were reported by Schumacher et al. (2008) whose review of the literature on paternal postnatal depression, published between 1980 and 2007, identified a 50% correlation between maternal and paternal postnatal depression. In a meta-analysis of 43 studies involving 28,004 participants, Paulson and Bazemore (2010) found that approximately 10% of fathers were likely to experience depression in the first year postpartum and that there was a strong relationship between maternal PND and paternal depression. Furthermore, the authors found that elevated rates of paternal PND were reported between three to six months postpartum. However, Paulson and Bazemore (2010) note that these results must be considered in light of significant heterogeneity between studies in terms of methods for assessing and reporting paternal PND over different time periods, with most studies providing only a point prevalence. The authors highlight that most of the included studies had weak population-based sampling methods, increasing the risk in the review's overall results (Paulson & Bazemore, 2010).

Since then, a growing body of evidence has shed light on the adverse impact of maternal PNDA on (primarily male) partners (Ruffell et al, 2019; Ierardi et al 2019; O'Brien et al 2019). In a systematic review of 20 articles from six different countries, Ruffell et al (2019) found that such outcomes included: a poor experience of the transition to fatherhood, poor bonding with the infant, feelings of anxiety and solitude and an overall negative impact on the family unit. Fathers also expressed a breakdown of trust and communication between them and their partners, a sense that they had lost their partner, loss of intimacy, and feelings of increased responsibility (which for some fathers lead to depressive symptoms such as reduced enjoyment and a sense of hopelessness). Findings from recent qualitative studies (Ierardi et al., 2018; O'Brien et al., 2019) have added to this body of evidence. In a qualitative study of 10 men whose partners had received a PND diagnosis, Ierardi et al. (2018), found that feelings of fear, anxieties, adverse physical responses, as well as isolation, were frequently reported by men. Likewise, O'Brien et al. (2019) found that a diagnosis of PND impacted mothers, as well as fathers directly. Fathers expressed feeling great stress and struggling to adapt to their partners' PND. They also expressed feeling irritated at times by the additional support needs of their partner and a feeling of uncertainty regarding how best to support them. Given that these findings pertain mostly to male partners, there is an urgent need to explore the impacts of PNDA on female partners.

Summary

Postnatal depression and anxiety are significant global public health issues, which if left untreated, can adversely impact the long-term health and well-being of women, children, and families.

Comorbidity is common and can increase symptom severity, as well as other adverse outcomes, including risk of suicide. Risk factors for onset of PNDA are multifactorial and typically co-occurring. They include (but are not limited to), limited social and partner support, family and domestic violence, and a history of depression and/or anxiety.

Timely identification of women with PNDA symptoms is possible and central to ensuring that women can access appropriate treatment. The following chapter will describe how women experiencing PNDA can be identified through a process of universal screening and psychosocial assessment.

Chapter Three: Identification – screening and psychosocial assessment

In light of the evidence presented in the previous chapter regarding the prevalence and impact of PNDA, early identification through screening, followed by the provision of adequate supports, is imperative. This Chapter focuses on screening and identification of PNDA. According to the Australian Clinical Practice Guideline (Austin et al., 2019), the process of identifying women with PNDA symptoms includes two key steps: 1) screening all mothers for PNDA symptoms using a validated screening tool (typically the EPDS); and 2) conducting a psychosocial assessment with all mothers, thus providing the practitioner with a comprehensive understanding of any prior or existing risk factors that may increase her risk of experiencing PNDA (e.g. family violence, history of depression or/and anxiety, lack of social supports). This chapter provides an overview of the literature as it relates to these two key practices (i.e. screening and psychosocial assessment), including the evidence for and against undertaking each universally (i.e. with all mothers).

Screening

The WHO defines screening as a process of sorting which “operates like a sieve, separating the people who probably do have the condition from those who probably do not. Screening is never 100% accurate; it does not provide certainty but only a probability that a person is at risk (or risk-free) from the condition of interest” (World Health Organization, 2020, p. 3). Screening can be universal (population-based), in which all members of a target group (e.g., all postpartum women) are screened (unless they opt out), or targeted, in which only those with a recognised risk factor(s) for the condition are screened (e.g., postpartum women with a history of mental illness) (Berger et al., 2015). Screening has long been utilised as a public health approach to improve population health by facilitating the early identification of symptoms and subsequent access to early intervention (World Health Organization, 2020). However, universal PNDA screening has also been a topic of ongoing debate among health professionals and policymakers, who hold divergent views regarding the benefits, risks, cost, and ethics of screening (Austin, 2014; Buist et al., 2002; Chaudron et al., 2007; Reilly et al., 2020).

To help stakeholders make decisions regarding whether screening is a suitable and feasible option for improving public health, Wilson et al. (1968) identified ten key principles which must first be considered. These seminal principles, which pertain to a host of factors ranging from whether the condition constitutes a significant public health problem to the cost-benefit ratio of screening, have been used to inform screening policies across many disciplines (e.g. medicine and public

health) and areas of screening (e.g. perinatal, cancer, and infectious disease) (Smith, 2018). In 2018, Dobrow et al. completed a systematic review of published literature since 1968 to assess whether (and how) Wilson and Jungner’s principles had changed over time. Their findings resulted in an updated list of 12 principles which were then assessed and refined by 18 international screening experts. Their results are synthesised in Table 1 and include 12 consolidated principles, categorised as disease/condition, test/intervention, and program/system principles, which should be used to inform population-based screening decisions (Dobrow et al., 2018).

Table 1 Twelve principles of population-based screening

| Domain | Consolidated screening principles |
|------------------------------|--|
| Disease/condition principles | <p>1. Epidemiology of the disease/condition</p> <p>The epidemiology of the disease/condition must be sufficiently understood and pose a significant public health problem.</p> |
| | <p>2. Natural history of disease/condition</p> <p>The natural history of the disease/condition must be well understood, and a detectable preclinical phase must exist.</p> |
| | <p>3. Target population for screening</p> <p>The target population to be screened must be clearly defined.</p> |
| Test/intervention principles | <p>4. Screening test performance characteristics</p> <p>The screening tool must be validated and acceptable to the target population and possible to administer safely, affordably, and efficiently.</p> |
| | <p>5. Interpretation of screening test results</p> <p>Screening results must be easily interpretable and determinate (e.g., well-defined cut-off points) to allow identification of the screening participants who should (and should not) be offered post-screening care.</p> |
| | <p>6. Post-screening options</p> <p>Screening participants with positive screening test results must be provided with subsequent options (e.g. diagnostic testing, treatment or intervention, and follow-up care) that: will modify the natural progression for the disease/condition; is available, accessible and acceptable to those affected; and results in improved outcomes.</p> <p>The burden of testing on all participants must be understood and acceptable, and the impact of false-positive or false-negative results must be limited.</p> |

Program/system principles

7. Screening program infrastructure

Appropriate infrastructure (e.g., facilities, and test technology) that is suitable to the setting to allow for well-timed access to all components of the screening program, must be available.

8. Screening program coordination and integration

Screening must be coordinated with the broader healthcare system (including a formal pathway for informing, referring, and managing screening participants' treatment) to ensure continuity of care and prevent any screening participant from being overlooked.

9. Screening program acceptability and ethics

All components of the screening program must be acceptable to screening participant and health professionals, and all participants must be provided the opportunity to make an informed decision regarding their involvement.

10. Screening program benefits and harms

The anticipated benefits and harms (associated with screening) to participants and society must be understood, acceptable, and supported by scientific evidence.

11. Economic evaluation of screening program

A cost-benefit analysis of the screening program should be carried out and well understood.

12. Screening program quality and performance management

Goals must be clearly defined and measured/reviewed through a process of data collection, monitoring, evaluation and reporting.

While such principles are used globally to inform recommendations regarding universal PNDA screening, recommendations vary across countries. For example, universal screening in primary care settings with use of a validated screening tool, such as the EPDS, is recommended in countries like Australia (Austin et al., 2019), the United States (American College of Obstetricians and Gynecologists Committee, 2018; US Preventive Services Task Force, 2016), and Sweden (Wickberg et al., 2020). However, in Canada, the Task Force for Preventative Health Care (Joffres et al., 2013) does not recommend universal screening in primary care settings, while in the UK, the National Institute for Health and Care Excellence (2018)(NICE) recommends the use of the three Whooley questions (Whooley et al., 1997), if indicated. The following section provides a synthesis of the evidence for and against universal screening.

Arguments for and against universal screening

In many countries, including Australia, the postnatal period is characterised by frequent contact between women and healthcare professionals, providing ample opportunity to identify women with PNDA symptoms and/or risk factors early on (Austin, 2014). For example, in Victoria, over 80% of all new mothers see their MCHN at least seven times in the first 12 months postpartum (Department of Health and Human Services, 2019b), making this an opportune time for the identification of women with PNDA. Universal screening for PNDA with use of a validated tool is largely acceptable to women and health professionals (El-Den et al., 2015), improves rates of detection (Berger et al., 2015; Carroll et al., 2012; Reilly et al., 2020), professional responsiveness (Clevesy et al., 2019), rates of referral and service utilisation among women (Van der Zee-van den Berg et al., 2017) and is associated with improved maternal mental health outcomes (O'Connor et al., 2016). In a recent systematic review of the benefits and harms of depression screening for postpartum or pregnant women, O'Connor et al. (2016) found as much as 9% absolute risk reduction in depression prevalence at 3-5 months follow-up among women who were screened (with a validated tool), compared to those not screened routinely. Moreover, screening increased treatment response among postpartum women (O'Connor et al., 2016). More recently, Waqas et al. (2022) conducted a systematic review and meta-analysis of six studies involving 13,728 women from Hong Kong, the Netherlands, Norway, the UK, and the United States of America (USA), and found that women who underwent PNDA screening (typically with the EPDS) had significantly reduced PNDA symptoms compared to those who did not.

Such positive findings must, however, be viewed in the context of certain study limitations: they reflect a small number of studies, existing studies are not applicable to primary care settings across all countries, and many studies have a small sample size (O'Connor et al., 2016; Van der Zee-van den Berg et al., 2017). Additionally, while systematic reviews by O'Connor et al. (2016) and Van der Zee-van den Berg et al. (2017) reported statistically significant outcomes associated with universal PND screening, a systematic review by Thombs et al. (2014) found no evidence from any high-quality Randomised Controlled Trials (RCTs) to indicate that PNDA screening was beneficial to women. As a result, Thombs et al. (2014) argue that established guidelines recommending universal screening should be reassessed and that healthcare practitioners should instead be mindful of the possibility of PNDA and remain vigilant for indications and risk factors and enquire about depression (i.e. without a screening tool) where appropriate.

Another commonly cited argument against universal PNDA screening using a validated tool (e.g. the EPDS) is that screening tools are sometimes ineffective and carry the risk of "false-positive"

identification (i.e. incorrectly identifying someone as likely experiencing PNDA) (Hazell Raine et al., 2021; Matthey, 2010; Yelland et al., 2009). In their recent position paper, Hazell Raine et al. (2021) highlight the adverse impact that this can have on an individual, given the stigma associated with PNDA, as well as the cost of needless treatment. Additionally, they assert that identifying PNDA may result in the provision of pharmacological interventions, exposing newborns to unnecessary risk of potentially harmful medication administered to the mother and transmitted to the child via breastmilk, or that providing pharmacological therapies may discourage women from breastfeeding entirely. However, it should be noted that the authors did not offer any evidence to substantiate these claims.

Milgrom et al. (2011) argue that when it comes to identifying PNDA, effectiveness is not an “all or nothing” concept and ask what amount of screening effectiveness would be deemed sufficient to warrant universal screening, and whether it is possible to estimate this. Additionally, they assert that, while the possibility of adverse outcomes associated with a ‘false positive’ is a legitimate concern, the issue is not one of the screening tools itself, but rather one of inadequate training for health workers and insufficient framework for the screening tool’s application based on its understood limits of precision. To that end, Milgrom et al. (2011) maintain that “opting to abandon screening altogether, on the rationale that no close-to-perfect tool is available, may involve a risk akin to throwing the baby out with the bathwater” (Milgrom et al., 2011, p. 302). Moreover, the EPDS is not a diagnostic instrument, and a positive screen is indicative only of a greater than average likelihood of being found to be depressed at the time of the subsequent, diagnostic-stage assessment (i.e. diagnostic interviewing conducted by a qualified physician) (Austin et al., 2019).

Ultimately, a growing body of evidence refutes the assertion that healthcare workers should forego universal screening with a validated tool and that direct enquiry about PNDA should only be made once risks and symptoms have become apparent (Anding et al., 2015; Berger et al., 2015; Diaz & Plunkett, 2018; Jarvis et al., 2020; Puspitasari et al., 2021; Waqas et al., 2022). Compelling evidence indicates that targeted screening, screening without a validated tool, and relying predominantly on professional judgement can result in approximately half of women with PNDA remaining undetected (Anding et al., 2015; Berger et al., 2014; Carroll et al., 2012; Chaudron et al. 2004; Diaz & Plunkett, 2018; Jarvis et al., 2020). For example, in an American cross-sectional study involving 214 mothers (six months to three years postpartum), and 60 paediatric healthcare providers (including nurses), Heneghan et al. (2000), reported that when relying solely on their clinical judgment, providers failed to recognise 71% of women with severe depressive symptoms.

The authors used the Psychiatric Symptom Index (PSI) (Ilfeld Jr, 1976) (a self-administered questionnaire designed to identify the presence and severity of psychological distress in the last two weeks) to assess mother's depressive symptom, and found that while rates of recognition of maternal depressive symptoms were poor among all paediatric providers, recognition was particularly poor among paediatric nurses (Heneghan et al., 2000).

In a more recent American cohort study, Chaudron et al. (2004) found that the introduction of universal screening using the EPDS during well-child visits led to a statistically significant increase in PND detection rates throughout the first postpartum year (as defined by documentation of depressive symptoms at the time of the mother's visit) (Chaudron et al., 2004). Moreover, the authors report a significant increase in the number of referrals to mental health workers following the introduction of universal screening with the EPDS. Given that every woman referred for mental health services had an EPDS score of 10 or above, Chaudron et al. (2004) assert that this rise is likely attributable to use of the EPDS among practitioners. Similarly, in a quasi-experimental study involving 104 community-based midwives, Anding et al. (2015) found that when midwives relied solely on their professional judgement to identify PNDA symptoms, they missed 50% of women with severe PND. Similarly, in an American study of 209 postpartum women (up to six months), Jarvis et al. (2020) found that of the women who screened positive for PND, 58% had never been previously screened (including 7% who reported suicidal ideations). Moreover, the authors reported that screening, with use of the EPDS, was considered acceptable to a significant proportion (95%) of women. This finding is consistent with previous studies, including three large Australian studies which reported more than 80% maternal acceptance of the EPDS (Buist, Condon, et al., 2006; Gemmill et al., 2006; Matthey et al., 2005).

Finally, there is evidence to suggest that the significant economic burden associated with undetected and untreated PNDA is closely related to inconsistent screening practices among healthcare providers (Luca et al., 2020). In a recent American study, Luca et al. (2020) estimated that the cost of undetected and untreated PNDA for the 2017 birth (mother-child dyad) cohort – projected from conception to five years postpartum – was approximately \$14 billion USD. Similarly, in a UK study, Bauer et al. (2016) estimated that the lifetime cost of undetected and untreated PNDA was close to £100,000 per affected woman (the sum did not include cost associated with adverse child outcomes). Moreover, in an Australian study by PricewaterhouseCoopers (2014), the cost of untreated PNDA over a 20-year period, was estimated at approximately \$518 million AUD, for the 2012 birth cohort. To that end, in line with recommendations by the US Preventive Services Task Force (O'Connor et al., 2016), Luca et al.

(2020) emphasise the importance of universal PNDA screening and facilitating access to appropriate interventions, where indicated.

In a UK cost-effectiveness study of a universal PND screening trial, Morrell et al. (2009) found that screening, coupled with treatment, was cost-effective. Additionally, women who were identified and received treatment had fewer contacts with primary healthcare providers (e.g. GPs), as well as social services. Similarly, in a recent US study involving a hypothetical cohort of 1000 women, which assessed the cost-effectiveness of screening for (and treating) PND in primary care settings, Wilkinson et al. (2017) reported that compared to usual care (no universal screening and no support provision), screening and treating women for PND was cost-effective—resulting in an additional 21.43 quality-adjusted life years, as well as 29 remissions, accounting for an incremental cost-effectiveness ratio of \$13,857 per quality-adjusted life year gained and \$10,182 per remission.

Screening is supported by a range of standardised tools which have been specifically designed for identifying the potential presence of a particular condition or problem (Iragorri & Spackman, 2018). As previously stated, a growing body of evidence (Anding et al., 2015; Berger et al., 2014; Carroll et al., 2012; Chaudron et al., 2004; Diaz & Plunkett, 2018; Jarvis et al., 2020) indicates that when a validated tool is used to screen for PNDA, a significantly greater proportion of women with PNDA are identified than when no tool is used. The following section provides a brief summary of the most commonly used PNDA screening tools. A discussion of the EPDS (the most widely used PNDA screening tool), including its strengths and limitations, follows.

Screening instruments

Screening instruments use a series of validated self-report depression and/or anxiety symptom questions to identify women who may be experiencing PNDA (Austin et al., 2019). Most screening tools utilise a predefined cut-off value (a score) to indicate whether further diagnostic evaluation is required to determine the presence of PNDA (Levis et al., 2020). Screening tools are not diagnostic. In their recent systematic review to inform the Australian Clinical Practice Guideline, Austin et al. (2019) identified evidence on the effectiveness of five validated screening tools for postnatal depression:

1. The Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987)
2. The Patient Health Questionnaire-9 (PHQ-9) (Spitzer et al., 2000)
3. Shorter versions of the PHQ-9 (PHQ-2) (Kroenke et al., 2003)

4. The Whooley Questions (Whooley et al., 1997)
5. The Kessler Psychological Distress Scale 10 (K10) (Spies et al., 2009)

While there are presently no validated screening tools for postnatal anxiety, Austin et al. (2019) identified the following tools as having sufficient evidence for use in identifying PNA symptoms:

1. The full EPDS (Grigoriadis et al., 2011)
2. Items 3, 4 and 5 of the EPDS (EPDS-3A) (Simpson et al., 2014)
3. The Generalised Anxiety Disorder 7-Item Scale (GAD-7) (Simpson et al., 2014)
4. The Kessler Psychological Distress Scale (K-10) (Spies et al., 2009)
5. Depression, Anxiety and Stress Scale (DASS) (Lovibond & Lovibond, 1996)

Of all the above noted screening tools, Austin et al. (2019) reported that the EPDS was the only tool for which efficacy (characterised as having a positive effect on depressive symptoms, services referred to or utilised, and impact on women's mental health) was rated 'good' and had been validated in languages other than English. Given that both the Australian Clinical Practice Guideline (Austin et al., 2019) and the Victorian Maternal and Child Health Service Practice Guidelines (Department of Health and Human Services, 2019b) recommend using the EPDS to screen for PNDA, this section will focus exclusively on the EPDS related evidence.

The Edinburgh Postnatal Depression Scale (EPDS)

The EPDS (Appendix 4) is a 10-item self-complete questionnaire, used to identify symptoms of PNDA. While the original questionnaire was developed and validated in the English language, today the EPDS has been translated into over 30 languages, including but not limited to: Norwegian (Berle et al., 2003); Farsi (Mazhari & Nakhaee, 2007); Arabic (Ghubash et al., 1997); and eight regional languages across India (Russell et al., 2020). It is important to highlight, however, that many translated versions of the EPDS have lower reliability in low and middle-income countries. In a systematic review of 12 studies which examined the reliability and validity of the EPDS in low and middle-income countries, Shrestha et al. (2016) found that only one satisfied all criteria for culturally sensitive translations.

While the EPDS was originally developed to screen for possible postnatal depression (Cox & Holden, 2003), there is a growing body of evidence which indicates that it can effectively identify symptoms of postnatal anxiety, as well as depression (Matthey et al., 2013; Smith-Nielsen et al., 2021). To that end, the EPDS is the most frequently used PNDA screening tool worldwide (Levis et al., 2020) and is a critical component of national screening programmes in countries such as

Australia (Austin et al., 2019), the United States (US Preventive Services Task Force, 2016), Sweden (Wickberg et al., 2020), Denmark (Marti-Castaner et al., 2021), and Scotland (Scottish Government, 2015).

Using the EPDS, women who exceed a threshold score of 10 or higher (within clinical practice) and 12 or higher (within research studies) have a greater likelihood of being depressed (Cox et al., 1987; Stewart et al., 2003; Levis et al., 2020). In a systematic review and meta-analysis of 58 studies, Levis et al. (2020) observed that a cut-off of 13 or higher can be used to identify women with higher symptom levels, whilst a cut-off of 10 should be used to reduce false negatives and identify most women who are likely to satisfy diagnostic criteria. Ultimately, they concluded that an EPDS cut-off value of 11 or greater maximised combined sensitivity (i.e. the proportion of a population with a condition who are accurately identified / no false negatives) and specificity (i.e. the proportion of the population without a condition who are correctly identified / no false positives) - 81% and 88%, respectively (Lalkhen & McCluskey, 2008).

An established body of evidence indicates that screening for PNDA with the EPDS, is overall acceptable to women and healthcare professionals around the world (Brealey et al., 2010; El-Den et al., 2015; Rollans et al., 2013a). The evidence indicates high acceptability among vulnerable women, including those with elevated EPDS scores at the time of screening (Gemmill et al., 2006) and those experiencing family violence (Matthey et al., 2005), culturally and linguistically diverse (CALD) women (Matthey et al., 2005), and women with a history of mental illness (Kingston et al., 2015). In a systematic review of 15 studies conducted across a range of countries (including the UK, Australia, Scotland, France, and Canada), Brealey et al. (2010) concluded that women and health workers overall found screening with the EPDS to be acceptable. Similarly, in a systematic review of studies which examined the acceptability of PND screening among mothers and health workers, El-Den et al. (2015) reported that of the 12 studies that pertained specifically to the EPDS, all but one reported that the EPDS was an acceptable screening tool among healthcare professionals and women. In the sole study that found the EPDS to be unacceptable (Shakespeare et al., 2003), El-Den et al. (2015) note that this could be attributed to the setting in which the EPDS was administered, as all participants screened at home found screening acceptable, while all participants screened in a clinic found screening unacceptable. Both systematic reviews (El-Den et al., 2015; Brealey et al., 2010) draw attention to several important factors that are likely to influence healthcare workers' and women's impressions of acceptability of PNDA screening using the EPDS. These include:

- Setting of screening (i.e. physical location where the EPDS is administered)
- Method of administration (how the EPDS is introduced, if an interpreter is used)
- Interpersonal relationship between women and healthcare professionals
- Training of healthcare professionals for screening with the EPDS
- Cultural and/or linguistic differences (i.e. cultural perspectives around PNDA and open discussion around PNDA in various cultures)

The EPDS has not been validated for use with Indigenous Australian women (Kotz et al., 2021). In their recent systematic review, Kotz et al. (2021) found that despite the recognised elevated risk of PNDA among Indigenous Australian mothers, there was a significant gap in research examining the validity, reliability, and cultural safety of the EPDS among this cohort. Additionally, Kotz et al. (2021) found that while three adaptations of the EPDS had been developed for use with Indigenous Australian mothers (Campbell et al., 2008; Marley et al., 2017), all had been developed for use among women residing in remote Australian communities. Moreover, while there is some evidence (Austin et al 2019; Campbell et al., 2008) to indicate that translations of the EPDS identify a slightly elevated number of Indigenous women with PNDA symptoms than non-translated materials, Kotz et al. (2021) highlight the significance of broadening the scope of PNDA screening to include opportunities to understand Indigenous women's contextual needs in a family-centred and culturally secure manner. While the Australian Clinical Practice Guideline recommends use of the EPDS among Indigenous women (after considering language and “cultural appropriateness”), it cautions that the EPDS score may be influenced by factors such as distrust of institutional services and/or fear that identification of PNDA will result in adverse outcomes such as child removal by protective services (Austin et al., 2019).

Austin et al. (2019) note that cut-off scores for detecting probable PNDA among CALD women are typically lower than those used in the general postpartum population. Moreover, for some CALD women, their response to the EPDS items may be affected by cultural norms (e.g. attending postpartum appointments with a family member) or perceived stigma surrounding mental illness. While the Australian Clinical Practice Guideline recommends use of “appropriately translated versions of the EPDS with culturally relevant cut-off scores of the EPDS among CALD women” (Austin et al., 2019, p. 29), it does not provide any guidance regarding what constitutes a “culturally relevant cut-off score”, use of interpreters, how to proceed if someone is not literate in their birth language (and therefore cannot read/understand the translated EPDS), or in instances where a validated version of the EPDS in the woman’s first language is not available. Failure to address these critical issues is problematic and a clear oversight, given evidence which indicates

that such challenges are not uncommon among immigrant and refugee women (Playfair et al., 2017) and that even translated versions of the EPDS do not always translate conceptually (Playfair et al., 2017). Moreover, although the EPDS is designed as a self-completed questionnaire, this can be problematic for CALD women who may have little conceptual understanding of PNDA (Tobin et al., 2015).

Psychosocial assessment

As discussed in Chapter Two, a variety of psychosocial risk factors (e.g., family violence, lack of social support, a history of mental illness) can increase women's vulnerability to PNDA. Conducting a psychosocial assessment in conjunction with use of a screening tool (e.g. EPDS) to identify PNDA symptoms facilitates the identification of women's past and present experiences and circumstances which may adversely impact their postnatal mental health (Austin, 2014; Felice et al., 2018). Evidence from a recent systematic review by Felice et al (2018), indicates that conducting a psychosocial assessment as part of routine screening increases the likelihood of identifying risk factors for postnatal depression (Felice et al 2018). Moreover, enquiring about a woman's psychosocial well-being sends a message that her healthcare provider cares about her overall well-being and creates an opportunity to discuss issues which may be impacting overall family well-being (e.g., lack of supports) and can be addressed by a non-mental health trained service provider (Austin, 2014). The opportunity to provide psychosocial support interventions can also potentially avert the onset of PNDA (Snow et al 2021). Gaining a comprehensive understanding of the number and nature of existing risk factors is therefore critical to the provision of appropriate care pathways and is recommended as part of routine clinical practice by MCHNs in Australia (Austin et al., 2019) and endorsed by the International Marcé Society for Perinatal Mental Health¹ (Austin, 2014).

There is no evidence to suggest that employing a standardised tool to conduct a psychosocial assessment is any more or less effective than taking a less structured approach (e.g. a broad conversation around risk factors) (Austin, 2014; Austin et al., 2019). However, after completing a systematic review of tools with moderate to high quality evidence for identifying psychosocial risk factors for PNDA, Austin et al. (2019) recommend that if a decision is made to use a tool, the AnteNatal Risk Questionnaire (ANRQ) (Austin et al., 2013) should be administered. The ANRQ is a 13-item questionnaire which focuses on risk factors including : intimate partner relationship, social

¹ The Marce Society is an international, interdisciplinary organisation which supports research and knowledge translation pertaining to prenatal and postnatal mental health for mothers, fathers and infant.

support, recent stressful life events, history of mental illness, and quality of relationship with own mother in childhood. The tool is simple to administer and has high acceptability among women (Austin et al., 2019).

While there is no 'gold standard' for conducting psychosocial assessments, there is consensus among researchers and practitioners that in order for them to be beneficial, practitioners must receive adequate psychosocial assessment skills training (including use of assessment tools and conducting culturally appropriate and safe assessments), as well as regular clinical supervision from a qualified mental health expert (Austin, 2014; Austin et al., 2019).

Summary

Universal PNDA screening with a validated tool is acceptable among women and health professionals and can significantly increase rates of detection, referral, and service utilisation, as well as decrease PNDA symptoms. The EPDS is the most widely used PNDA screening tool worldwide and is an integral component of national screening programmes in countries such as Australia. Despite its origins as a screening tool for postnatal depression, evidence suggests that the EPDS can also be used to effectively identify symptoms of postnatal anxiety, and its use for the identification of PNDA symptoms is supported by the Australian Clinical Practice Guideline. In addition to use of a validated tool, effective PNDA screening requires the completion of a psychosocial assessment, intended to identify risk factors for increasing the likelihood of the onset of PNDA.

For screening to be meaningful, it is critical that identification of women with a 'positive' screen is followed by facilitation of access to appropriate and timely intervention (Family and Community Development Committee, 2018). The following chapter will discuss how PNDA can be effectively treated once it has been identified and how health workers can facilitate women's access to treatment.

Chapter Four: Facilitating help-seeking and access to support following a ‘positive’ screen

Screening serves as an initial step in identifying individuals at risk or those experiencing PNDA symptoms, but its true value lies in the actions taken afterward to address the identified needs. As emphasised previously, the effectiveness of the identification of PNDA relies heavily on the subsequent provision of timely and evidence-based supports and interventions. This chapter begins by providing an overview of the range and nature of interventions that have been evaluated and supported by the evidence as effective in treating PNDA, with particular focus on interventions that are preferred by women. This is followed by a synthesis of the literature on the facilitators and barriers to help-seeking among women experiencing PNDA.

Interventions for treating postnatal depression and anxiety

It is important to begin this section by acknowledging that to date, studies on the treatment of postnatal mental health issues have predominantly focused on postnatal depression, with lesser attention on postnatal anxiety (Dennis et al., 2017; Field, 2018; Lorenzo, 2022). However, effective treatments for anxiety, as well as comorbid PNDA do exist and are described below. To ensure clarity, I have explicitly stated if the below cited studies pertain specifically to the treatment of postnatal depression alone (PND), comorbid depression and anxiety (PNDA), or postnatal anxiety (PNA).

Pharmacological interventions

Antidepressant drugs are typically divided into three categories: Specific Serotonin Reuptake Inhibitors (SSRIs), Tricyclic antidepressants (TCAs), and Monoamine Oxidase Inhibitors (MAOIs) (Brown et al., 2021). As they are relatively well-tolerated and have an overall favourable reproductive safety profile, SSRIs are typically regarded as the first antidepressant choice and have been the most prescribed antidepressants for women during pregnancy and the postnatal period in the last decade (McAllister (Brown et al., 2021; McAllister-Williams et al., 2017).

In the most recent efficacy of antidepressants in treating PND, as well as comorbid PNDA, which included 11 RCTs (representing 1016 women) Brown et al. (2021) found that compared to placebo, SSRIs may be ‘slightly better’ in treating and reducing depressive (and anxiety) symptoms. However, the authors conclude that given the poor quality and limited nature of evidence, as well as inadequate evidence comparing antidepressants to other PNDA treatments, clinicians must refer to existing clinical guidelines (and consider other factors such as a woman’s symptom

severity and treatment preference) to facilitate an individualised treatment plan. Australian (Austin et al., 2019) and UK national perinatal guidelines recommend treatment for PNDA within a stepped-care model, with SSRIs as a first-line treatment only for women with moderate to severe PNDA (National Institute for Health and Care Excellence, 2014).

Despite the frequency with which SSRIs are prescribed to women with PNDA, evidence indicates that in general, postnatal (and pregnant) women prefer non-pharmacological interventions over medication, particularly given common concerns regarding the potentially adverse effects of antidepressants on their breastfeeding infant (Battle et al., 2013; Brown et al., 2021; Cuomo et al., 2018; Hadfield & Wittkowski, 2017).

Non-pharmacological interventions

The clinical effectiveness, as well as cost-effectiveness of a range of psychosocial and psychological interventions in treating PNDA is supported by an extensive body of evidence (Branquinho et al., 2021; Camacho & Shields, 2018; Dennis & Hodnett, 2007; Kariuki et al., 2021; Sockol, 2018; Stein et al., 2018; Zhao et al., 2021). These include (but are not limited to): Cognitive Behavioural Therapy (CBT) (Green et al., 2020; Lau et al., 2017; Loughnan et al., 2019); Interpersonal Psychotherapy (IP); psychodynamic therapy (Dennis et al., 2020; Sockol, 2018); peer support (Dennis et al., 2020; Dennis et al., 2009; Prevatt et al., 2018); and non-directive counselling (Dennis & Hodnett, 2007; Leis et al., 2009).

In a Cochrane systematic review of nine trials, involving 956 women, Dennis and Hodnett (2007) found that compared with standard care, psychosocial and psychological interventions for postnatal depression (e.g. peer support, psychodynamic therapy, non-directive counselling, and CBT) significantly reduced depressive symptomology, at least in the first 12 months post-treatment. More recently, in a meta-analysis that combined the results of 10 randomised controlled trials involving 1,324 depressed mothers, Stephens et al. (2016) found that psychological interventions resulted in a significant reduction of depressive and anxiety symptomatology and higher remission immediately after treatment completion and at six months follow-up. Significant improvements were also reported in spousal relationships, adjustment to parenting, as well as perceived social support. Similarly, in a trial involving 144 mothers with persistent PND, Stein et al. (2018) found that upon completion of treatment (11 home-based CBT sessions before child's first birthday, followed by two sessions in the second year postpartum) at least 80% of women no longer met the criteria for depression. Improvements were sustained at two-year follow-up with 85% remission rate. Additionally, the authors found that child

development outcomes at two-years postpartum were within normal range, suggesting that effectively treating postnatal depression can improve child well-being outcomes (Howard & Challacombe, 2018).

It is important to note that the majority of studies on the treatment of PNDA have been carried out in high-income Western nations such as the United States, Australia, and the United Kingdom (Howard & Khalifeh, 2020). However, several high-quality Randomised Controlled Trials (RCTs) have also been conducted in low and middle-income countries, including Pakistan (Rahman et al., 2008), India (Fuhr et al., 2019), as well as South Africa, Brazil, and Chile (Gajaria & Ravindran, 2018) indicating that CBT-based interventions can be effective and cost-effective for treating PNDA, when compared to standard care.

Despite extensive evidence demonstrating the efficacy of a range of interventions for successfully treating PNDA, an alarmingly low proportion of women seek professional support for their PNDA (Cacciola & Psouni, 2020; Fonseca et al., 2015; Henshaw et al., 2013; Holt et al., 2017). For example, in a cross-sectional study involving 656 Portuguese women, Fonseca et al. (2015) found that approximately 80% of women who screened positive for perinatal depressive disorders did not seek any professional supports. Similarly, in an Australian randomised controlled trial, Holt et al. (2017) found that 65% of women who screened positive for PND while receiving standard care, did not seek any form of treatment. The following section provides an overview of women's PNDA help-seeking behaviours, as well as common barriers and facilitators to help-seeking.

Help-seeking

Facilitating help-seeking is a critical component of the process of supporting women who screen 'positive' for PNDA. Systematic reviews indicate that women's help-seeking behaviours are influenced by similar factors around the world (Dennis & Chung-Lee, 2006; Hadfield & Wittkowski, 2017). These encompass structural factors (e.g. screening practices among health professionals, perceived availability of support options, and service accessibility); social factors (e.g. social stigma associated with mental illness and use of mental health services); personal factors (e.g. women's treatment preferences); and interpersonal factors which largely pertain to the provider-woman relationship (e.g. women feeling that they are not being judged by their health professional) (Dennis & Chung-Lee, 2006; Ford et al., 2019; Hadfield & Wittkowski, 2017; Jones, 2019; Millett et al., 2018). In a seminal systematic review of 40 qualitative studies, Dennis and Chung-Lee (2006) reported that a frequent impediment to help-seeking was women's difficulty in voicing their emotions, which was exacerbated by a perceived lack of acknowledgment and willingness to

respond to their requests for help from health professionals and family members. The authors identified a number of significant help-seeking barriers relating to health professionals, including inadequate assessments and poor knowledge of PNDA, a tendency to normalise PNDA symptoms, and a perceived poor quality of maternal-provider relationship, characterised by a lack of trust, health worker's reluctance to make time to listen, and a sense of being judged (Dennis & Chung-Lee, 2006). Finally, they noted that "For many mothers, the most desired treatment was simply having the opportunity to talk about their feelings with a sympathetic and empathetic listener...Specifically, women wanted: (a) to be given permission to talk in-depth about their feelings, including ambivalent and difficult feelings; and (b) to talk with a nonjudgmental person who would spend time listening to them, take them seriously, and understand and accept them for who they are..." (Dennis & Chung Lee, 2006, p. 326 - 327).

Women's perceived quality of relationship with their healthcare provider is also frequently cited in more recent studies as particularly important to women, and a determining factor in promoting or impeding PNDA help-seeking (Edge & MacKian, 2010; Finlayson et al., 2020; Ford et al., 2019; Hadfield & Wittkowski, 2017; Nagle & Farrelly, 2018). In a cross-sectional study involving 71 women in the UK who screened positive for PNDA, Ford et al. (2019) found that the most important influencing factor for symptom disclosure/help-seeking pertained to how women perceived the quality of their relationship with their health worker. Specifically, it was important to women that they felt listened to without judgment, respected, and that their health worker was empathic and compassionate. Similarly, in their systematic review of women's experiences in the UK, Megnin-Viggars et al. (2015) reported that women's access to postnatal mental health interventions were significantly hampered by the perception that their health provider was unwilling to listen or was dismissive of their experience. More recently, in their systematic review of 17 studies, representing the views of 585 women, Hadfield and Wittkowski (2017) found that many women were reluctant to seek help for PNDA because they believed (as a result of previous experiences) that they would not be taken seriously by their healthcare worker, with many maintaining that their feelings would be given adequate consideration only if health workers had concerns regarding risk of physical harm to them or their baby (Hadfield & Wittkowski, 2017). Evidence indicates that key health worker qualities which generate trusting relationships, and thereby promote PNDA help-seeking include: facilitating choice and control in all aspects of care, offering validation, a willingness to make time and communicate in an unrushed manner, offering continuity of care wherever possible, providing adequate information, including information about treatment options, and providing culturally appropriate care, where required (Button et al., 2017; Holt et al., 2017; Megnin-Viggars et al., 2015).

It is also critical to recognise that vulnerable and disadvantaged women (e.g., those who are CALD, Indigenous, or who live in rural/remote areas) are more likely to face unique and concurrent barriers to PNDA help-seeking, including (but not limited to) lack of culturally appropriate services, language barriers, cost, distance, limited transportation, and structural racism (Falah-Hassani et al., 2015; O'Mahony & Clark, 2018; Ogbo et al., 2018; Prady et al., 2021; Wright et al., 2018). In a recent study of the characteristics of mothers admitted to a mother-baby unit in Auckland, New Zealand, Wright et al. (2018) identified significant disparities in equity of access, with older, more educated, white women being admitted for PND, while Pacific Island and Asian women were only admitted if they had a diagnosis of schizophrenia or bipolar disorder. This was in contrast to the fact that Pacific Islander and Asian women had the greatest prevalence of PND in Auckland compared to the general population (Wright et al., 2018). Similarly, in a recent systematic review of six studies which examined the implementation of the PNDA detection and management strategies in the United Kingdom, Prady et al. (2021) reported that compared to their white counterparts, Asian women were less likely to receive PNDA treatment. They also found that cultural and language barriers, coupled by a reluctance among health workers to utilise interpreters, weakened the effectiveness of written resources and discussions regarding treatment. The authors further noted that approaches to care among health workers varied according to place, with health professionals practicing in more disadvantaged areas less likely to facilitate shared decision-making regarding treatment, and less likely to offer women PNDA treatment options (Prady et al., 2021).

Summary

A range of evidence-based interventions can be used to effectively treat PNDA and mitigate its associated negative outcomes. Despite this, an alarmingly low proportion of women seek PNDA treatment. Health professionals play a critical role in the timely identification of women experiencing PNDA and facilitating their access to interventions in a process of shared decision-making. In countries such as the United Kingdom (Lowenhoff et al., 2017), New Zealand (Honey & Westbrooke, 2016), Canada (Premji et al., 2019), and Australia (Department of Health and Human Services, 2019b), facilitating women's access to timely interventions and supports is largely assigned to community based midwives and/or nurses, who are often a woman's first point of healthcare support in the postnatal period. Despite their critical role, current PNDA screening and management practices among community-based nurses/midwives (referred to as maternal and child health nurses throughout this thesis) remain largely unknown. The following chapter will

present the range and nature of primary research evidence on PNDA screening and management by maternal and child health nurses within community settings.

Chapter Five: Current postnatal depression and anxiety screening and management practices among Maternal and Child Health Nurses

As a woman's typical first point of contact in the community after birth in Australia, MCHNs play a critical role in the timely identification of women experiencing PNDA and facilitating their access to interventions in a process of shared decision-making. Despite the important role they play, according to conclusions from the recent Family and Community Development Committee (2018), MCHNs' current PNDA screening and management strategies are unknown. While existing evidence supports our understanding of MCHNs' perceived role in identifying and managing 'perinatal mental health problems' (Noonan, Doody, et al., 2017; Noonan, Galvin, et al., 2017), as well as the barriers and facilitators to screening and management (Bayrampour et al., 2018; Viveiros & Darling, 2018), certain study limitations mean that existing evidence does not always reflect, and is therefore not applicable to, the Victorian context. Specifically, there is a lack of distinction between findings pertaining to MCHNs working within a community or hospital setting (Bayrampour et al, 2018; Viveiros & Darling, 2018) and results do not typically distinguish between screening and management in the prenatal and postnatal period (Noonan, Doody, et al., 2017; Noonan, Galvin, et al., 2017).

To address these limitations, I conducted a scoping review to identify and examine the range and nature of primary research evidence relating to the screening and management of PNDA by MCHNs within community setting (all nurses and midwives who offer maternal and child health community-based service). The scoping review included 23 articles, pertaining to 22 studies published between 2008 and 2019 (Arefadib et al., 2021). The scoping review, published in 'Midwifery', is included in this chapter. Finally, the chapter concludes by presenting and summarising research that was published following the completion of my scoping review (i.e. between August 2020 and September 2022).

Postnatal depression and anxiety screening and management by maternal and child health nurses in community settings: A scoping review

This scoping review examines the range and nature of primary research evidence on postnatal depression and anxiety screening and management by maternal and child health nurses within community settings.

Arefadib, N., Cooklin, A., Nicholson, J., & Shafiei, T. (2021). Postnatal depression and anxiety screening and management by maternal and child health nurses in community settings: A scoping review. *Midwifery*, 100, 103039. <https://doi.org/10.1016/j.midw.2021.103039>

Authors' contribution

| | |
|---|--|
| Nature and extent of candidate's contribution | 80% contribution by candidate: Conceptualization, literature review, methodology, data analysis, validation, interpretation of results, quality assessment, writing – original draft, writing – review & editing. |
| Nature and extent of co-authors contribution | 20% contribution by co-authors: Conceptualisation, data analysis, methodology, validation, reaching consensus where conflicts arose in screening, interpretation of results, quality assessment, writing – review & editing. |

Candidate signature:

Date: 26/2/2023

Principal supervisory signature

Date: 26/2/2023



Review Article

Postnatal depression and anxiety screening and management by maternal and child health nurses in community settings: A scoping review ^{☆,☆☆,★}



Noushin Arefadib^{*}, Amanda Cooklin, Jan Nicholson, Touran Shafiei

^a Judith Lumley Centre, School of Nursing and Midwifery, George Singer Building, La Trobe University, Bundoora, VIC 3086, Australia

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ABSTRACT

Objective: To examine the range and nature of primary research evidence on postnatal depression and anxiety screening and management by maternal and child health nurses within community settings.

Background: Maternal and child health nurses are well-placed to identify and support women at risk of, or experiencing, postnatal depression and anxiety- a prevalent public health issue which remains largely undetected.

Methods: Scoping methodology, guided by the Arksey and O'Malley (2005) framework, was used. The following electronic databases were searched in June 2019 and again in July 2020: Cumulative Index of Nursing and Allied Health Literature, MEDLINE, PsycINFO, and COCHRANE Library. Primary studies that were published in English, between 2008 and 2020, were included. PRISMA checklist and PRISMA flow diagram were used to adhere to best practice guidelines.

Results: Twenty-three articles, relating to 22 studies, met the inclusion criteria. Two principal themes were identified: 'screening for postnatal depression and anxiety' and 'factors that influence postnatal depression and anxiety management'. Subthemes in the former related to attitudes toward screening, routine screening practice, screening efficacy, and attitudes toward the Edinburgh Postnatal Depression Scale. Subthemes in the latter included availability of formal care pathways, referral options, knowledge and confidence, and multiagency collaboration.

Conclusions and relevance to clinical practice: While maternal and child health nurses value their role in identifying and supporting mothers at risk of postnatal depression and anxiety, certain individual and organisational factors contribute to a gap between best practice and clinical practice. Narrowing the gap between evidence and practice is unlikely without directly addressing these barriers. Gaps in maternal and child health nurses' knowledge, skills and confidence regarding effective screening and management of mothers experiencing, or at risk of, postnatal depression and anxiety, impacts the quality of care provided. Ongoing training and professional development which adequately addresses these gaps is required.

Introduction

Postnatal depression and/or anxiety (PNDA) is a leading public health issue (Shrivastava et al., 2015) which, if left untreated can have significant adverse consequences for mothers, infants, and families (Ruffell et al., 2019; Slomian et al., 2019). Prevalence estimates of postnatal depression (PND) range from 9% to 20% (Howard et al., 2014), and comorbidity rates of PND and postnatal anxiety (PNA) range from 6.3% to 29.2% (Farr et al., 2014).

When PNDA is not routinely asked about, over 50% of cases are missed (Buist and Bilszta, 2006) and only one in ten women who require

mental health care receive it (Bowen et al., 2012). Universal screening for PNDA can increase rates of referral and service utilization, and result in improved maternal mental health (Reilly et al., 2020). However, to achieve benefits, screening must be combined with systemic pathways for referral and implemented care plans (Family and Community Development Committee, 2018).

In the postnatal period, it is often midwives, or similar, who are a mother's first point of support in the community, making them well-placed to identify and support women at risk of, or experiencing, PNDA (Glavin and Leahy-Warren, 2013). Depending on which part of the world the service is set, a wide range of terms such as 'maternal and child health nurse' or 'health visitor' are used to describe nurses and midwives who offer primary care services, including screening and management

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^{*} Corresponding author.

E-mail address: n.arefadib@latrobe.edu.au (N. Arefadib).

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Table 1
Search terms and key words.

| Search terms | Key words |
|----------------------------------|--|
| Nursing and midwifery | Child health services, early intervention, maternal child health services, community health nursing, home health nursing, community mental health services, mental health services, perinatal care, postnatal care, maternal child nursing, midwifery, home visitor, pediatric nursing, and public health nursing. |
| Postnatal depression and anxiety | Postnatal depression, perinatal depression, postpartum depression, postnatal anxiety, perinatal anxiety, postpartum anxiety, and PND. |
| Screening | Mass screening, screen*, assess*, Edinburgh postnatal depression scale, EPDS, depression anxiety stress scale, DASS, national institute for health and care excellence, and NICE. |

of PNDA, to new mothers. Throughout this paper the term 'maternal and child health nurse' (MCHN) will be used to describe all nurses and midwives who offer this community-based service.

Despite their significant role, current PNDA screening and management practices among MCHNs remain largely unknown (Family and Community Development Committee, 2018). Existing reviews have contributed greatly to our understanding of MCHNs' perceived barriers to screening and management (Bayrampour et al., 2018; Viveiros and Darling, 2019), and their role and experience in the identification and management of 'perinatal mental health problems' (Noonan et al., 2017a, 2017b). However, these reviews have typically: been limited to MCHN practice in high income countries (Viveiros and Darling, 2019); do not distinguish findings between MCHNs working within a community or hospital setting (Bayrampour et al., 2018; Noonan et al., 2017b; Viveiros and Darling, 2019); have only included qualitative studies (Noonan et al., 2017a), focus on screening and management of mothers with 'mental health issues', which can include serious mental health problems such as psychosis; and overall have not distinguished findings between screening and management in the prenatal and postnatal period.

Gaining a better understanding of MCHNs screening and management practices, and the factors that contribute to them, will provide a valuable road map for future policy and practice strategies and guidelines. Given the identified gaps in the research and the general exploratory nature of the research question, scoping review methodology was used to identify and examine the range and nature of primary research evidence pertaining to the screening and management of PNDA by MCHNs within community settings.

Aim

To identify and examine the range and nature of primary research evidence pertaining to the screening and management of postnatal depression and/or anxiety by MCHNs within community settings.

Methods

The methodology for this scoping review was guided by the framework outlined by Arksey and O'Malley (2005) and Levac et al. (2010). The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) checklist (Tricco et al., 2018) and PRISMA flow diagram (Moher et al., 2009) were used to adhere to best practice guidelines for completing scoping reviews.

Identifying relevant studies

An initial search was carried out in June 2019 and updated in July 2020, in the following electronic databases: Cumulative Index of Nursing and Allied Health Literature (CINAHL), MEDLINE, PsycINFO, and COCHRANE Library. To ensure consistency, the same key words and search terms were used across all databases (Table 1).

Key words and search terms in each category were combined separately using the Boolean operator 'OR' and all 3 categories were com-

bined using the Boolean operator 'AND'. Primary studies in English only, published between 2008 and 2020 were included.

The specified search timelines (2008 - 2020) coincides with the introduction of the Australian Perinatal Mental Health National Action Plan in 2008, which aimed to address the need of a national, early screening/detection and intervention program for perinatal depression and anxiety.

References from all the full text documents were reviewed until no new relevant documents were found. Articles from gray literature were not included.

Study selection

The selection of articles utilised a systematic approach with PICO (Population, Intervention, Comparative intervention and Outcomes) underpinning the inclusion and exclusion criteria. This supported the title, abstract and full-text review process (Table 2).

Two researchers independently reviewed all titles, abstracts and full-text articles against inclusion/exclusion criteria. Conflicts were resolved by a third researcher. Articles which included MCHNs and other health-care providers were included if MCHNs formed most of the sample, or where there was a clear distinction of findings specific to MCHNs. Articles which related to the 'perinatal' period were excluded if findings did not distinguish between the postnatal and prenatal period.

Charting and analysing data

A data extraction table was created in an iterative process where the first author extracted the data into a table and the second and third authors reviewed the abstracted data thereafter (Table 3). A preliminary descriptive numerical summary of the data was undertaken, followed by thematic analysis, guided by Braun and Clarke's (2006) guide to thematic analysis.

Quality assessment

The quality of the included studies was assessed by the first author, using the Mixed Methods Appraisal Tool (MMAT) version 2018 (Hong et al., 2018). The second and third authors then randomly selected 5 articles each for quality appraisal to ensure coherence and consistency (Tables 4a, 4b, 4c,d).

Results

The searches yielded a total of 1616 articles. Four hundred and forty-one duplicates were removed. Reasons for exclusion at each stage and flow diagram of the sample selection described in Fig. 1. Twenty remaining articles were included for review. The reference lists of these articles were searched, yielding three additional articles. The July 17, 2020 search yielded zero additional articles.

Descriptive numerical summary

The 22 studies/ 23 articles (two articles were written about one study) were published between 2008 and 2019. The spread of the ar-

Table 2
PICO inclusion/exclusion criteria.

| | | |
|------------------------------------|--|--|
| Population | Inclusion Nurses and midwives practicing in a primary care/ community / well child setting. | Exclusion Nurses and midwives practicing in a hospital setting; any other healthcare professionals (e.g. Paediatrician or Obstetrician and Gynaecologist); and mothers, fathers and infants/children. |
| Intervention | Screening and management in the postnatal period only. Screening for and management of PNDA (or its risk factors) only. Management of PNDA risk factors (including systematic pathways to referrals and the provision of support to the at risk mother). | Screening and management in the prenatal or antenatal period. Screening for and management of any other mental health issues (e.g. psychosis or bipolar disorder) or validation of a new screening tool. Treatment for PNDA (e.g. treatment interventions such as group therapy, cognitive behavior therapy, or peer support). Interventions to improve PNDA screening and management practices (e.g. the use of computerised prompters). |
| Comparative intervention outcomes: | None. centered on outcomes relating to the identified population (including knowledge, attitude, confidence and practice in pnda screening and management). | centered on outcomes relating to the mother, father, child/infant or community. |

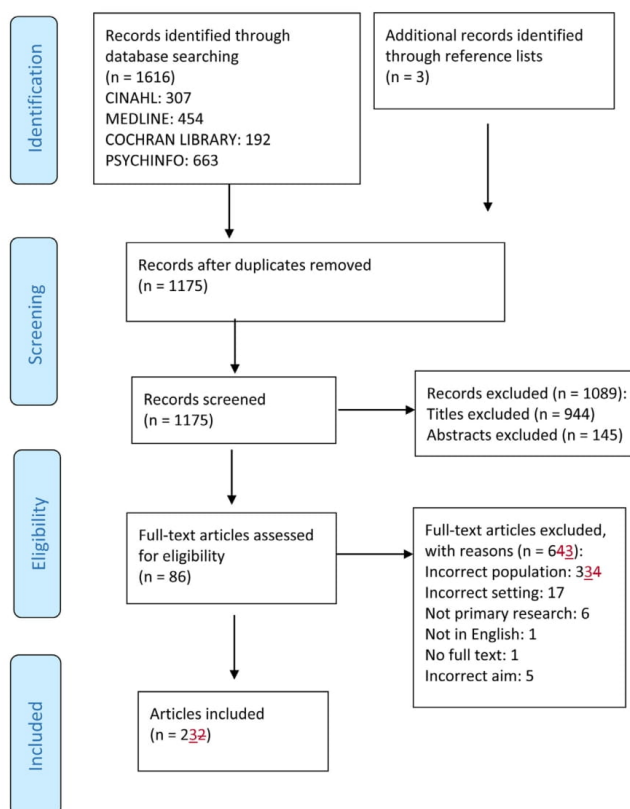


Fig. 1. PRISMA flow diagram.

ticles per year was mostly even, typically one to three articles per year, with a maximum of four articles in 2009 and 2017 and none in 2014, 2016 and 2018. The most frequent study setting was the United Kingdom (n = 6), followed by the United States (n = 3). Qualitative methodology was the most common study design, applied in 15 studies, fol-

lowed by quantitative descriptive (n = 4), mixed methods (n = 2), and non-randomised quasi-experimental (n = 1). A significant majority of the included studies pertained to the assessment and/or management of PND (n = 17), followed by PNDA (n = 4), and PNA (n = 1).

Table 3
Summary of included studies.

| Author(s), Year & Country | Study objective | Study design, data collection method & analytical approach | Sample description & size | Focus | Outcomes relevant to study aim |
|----------------------------------|---|--|---|--|---|
| Alexandrou et al. (2018); Cyprus | To explore health visitors' perceptions on their role in assessing, managing, and supporting mothers with postpartum depression (PPD) | - Qualitative study - Semi-structured interviews - Qualitative content analysis | Health visitors employed in a community Maternity and Child Clinic (n = 10) | Postpartum depression (PPD) | Health visitors stressed the importance of protocols, evidence-based care and preventive interventions, and the need for further education |
| Almond & Lathlean (2011); UK | To investigate equity in the provision of a public health nursing postnatal depression service | - Qualitative case study - Documentary analysis, observations and interviews - Thematic content analysis | Health visitors visiting postnatal women (n = 16) | Postnatal depression (PND) | The organisational policy to create equitable postnatal depression services, failed to address the needs of a diverse population. While health visitors received specialised training, the training had not equipped them with knowledge and skills to assess and treat women in minority ethnic groups |
| Anding et al. (2015); Germany | To investigate midwife detection of mothers with elevated psychological distress, and the provision of information and referrals to other professionals by midwives | - Non-randomised quasi-experimental - Questionnaire - Pearson's χ^2 tests | Midwives offering postpartum care in the community (n = 104) | Postnatal depression and anxiety (PNDA) | When relying only on their professional judgment, midwives failed to identify 50% of mothers experiencing significant postnatal depressive symptoms. Midwives were more likely to refer mothers with high-psychological distress to additional support services |
| Ashford et al. (2017); UK | To explore HVs' views on supporting women with postpartum anxiety, and their views on available interventions for postpartum anxiety | - Qualitative study - Semi-structured interviews - Thematic content analysis | Health visitors (n = 13) | Postpartum anxiety (PPA) | Challenges with screening for PPA and the lack of perinatal mental health training, especially regarding PPA, was highlighted. A lack of good perinatal mental health services in general and specifically for anxiety was also identified |
| Baldwin & Griffiths (2009); UK | To determine whether Specialist Community Public Health Nurses assess known risk factors for postnatal depression in South Asian mothers | - Mixed methods - Semi-structured interviews and audits of records - Thematic content analysis | Specialist Community Public Health Nurses (n = 8) | PND | Nurses assessed general risk factors for PND and some culture-specific factors. Nurses felt unable to undertake effective assessments of South Asian mothers due to lack of understanding of South Asian culture |
| Ben-David et al. (2017); USA | To examine the role of nurse's clinical judgment in the uptake of the Edinburgh Postpartum Depression Scale | - Qualitative study - Semi-structured interviews - Thematic analysis | Nurses in a home visitation program. Sample size not specified | PPD | Respecting the nurses' field experience and clinical judgment was the key to the process of adoption of an evidence-based tool |
| Bina et al. (2019); Israel | To examine the perceived preparedness to screen women for PPD symptoms, conduct an initial intervention and refer women, as well as factors associated with this perceived preparedness | - Quantitative descriptive - Questionnaire - Cluster analysis, path analysis | Public health nurses (n = 219) | PPD | Training, attitudes, perceived knowledge and perceived competence were associated with perceived preparedness to screen. Attitudes, perceived knowledge and perceived competence were associated with perceived preparedness to intervene; and attitudes and perceived knowledge were associated with perceived preparedness to refer |
| Borglin et al. (2015); Sweden | To investigate public health nurses' perceptions and experiences of mental health and preventing mental ill health among postpartum women | - Qualitative study - Semi-structured interviews - Content analysis | Public health nurses (n = 8) | Postpartum depression and anxiety (PPDA) | External influences on PPDA, screening for and preventing PPDA and pediatric healthcare services as a platform for support, were reflected nurses' perceptions and experiences of mental health among women postpartum |
| Doering et al. (2017); USA | To describe the needs and challenges reported by home visitors when conducting depression screening, making referral decisions, and providing follow-up support | - Qualitative study - Focus-group interview - Thematic content analysis | Home visitors (n = 11) | PPD | Home-visiting practice demanded flexibility and negotiation in decision-making with mothers and families. Coordinating access to mental health evaluation in areas of limited access was a common challenge. Participants reported a need for further training on safety management |
| Glavin et al. (2010); Norway | To investigate the experience of public health nurses who had used the Edinburgh Postnatal Depression Scale (EPDS) for screening | - Qualitative study - Semi-structured telephone interviews - Content analysis | Public health nurses (n = 11) | PPD | Nurses reported that the EPDS was a useful screening tool that led to the identification of mothers with PPD that they would otherwise have missed. They described the EPDS as easy to use and score, as well as easily comprehensible and acceptable to mothers |
| Kang et al. (2019); Malaysia | To determine nurses' level of knowledge, beliefs and practices regarding PPD and factors associated with screening practices | - Quantitative descriptive - Questionnaire - Univariate and multivariate analyses | Nurses with midwifery training (n = 108) | PPD | Over half of the nurses scored above the median total knowledge score and had positive beliefs towards PPD screening. However, PPD screening practices were poor, and this outcome was associated with their beliefs regarding time and responsibility |

(continued on next page)

Table 3 (continued)

| Author(s), Year & Country | Study objective | Study design, data collection method & analytical approach | Sample description & size | Focus | Outcomes relevant to study aim |
|-------------------------------------|--|---|---|-------|--|
| Lees et al. (2009); UK | To elicit information on the process of referral, on knowledge of local services and on the accessibility of services for postpartum mothers | - Mixed methods - Questionnaire, focus group interviews, and documentation review - Analytical approach not specified | Midwives and health visitors (n = 97) | PPD | Participants were overall not adhering to any established criteria to assess maternal mental health needs. There was dissatisfaction with existing services and staffing resources. There was consensus regarding the lack of education and training in perinatal mental health |
| (Mivšek et al., 2008); Slovenia | To explore Slovenian midwives' and nurses' knowledge of, and attitudes towards, postnatal mood disorders. | -Qualitative study -Focus groups - Descriptive and thematic analysis | Nurses' and midwives' working in the community center (n = 5) | PPD | Participants lacked knowledge on post-natal mental health and did not consider its management to be their role. They saw the main obstacle to caring for these women as being a lack of continuity of carer. |
| Rollans et al. (2013); Australia | To investigate the approach taken by Child and Family Health Nurses (CFHNs) following birth to assessment and screening as recommended by state policy | - Qualitative study - Observations and discussion groups - Descriptive and thematic analysis | Child and Family Health Nurses (n = 83) | PND | There was varied interpretation of existing screening policy. Only half of the nurses were observed to undertake the recommended psychosocial assessment. While the EPDS was consistently used, nurses utilised other skills such as observations of mother-baby interactions to develop a clinical decision |
| Rush (2012); Australia | To improve understanding of the experience of child and family health nurses responding to women at risk of PPD | - Qualitative study - Interviews - Phenomenology | Maternal and child health nurses (MCHNs) (n = 8) | PPD | MCHNs believed they had a responsibility to identify women displaying symptoms of high anxiety or depression, and to ensure they were offered appropriate referrals to treatment. Most MCHNs used the EPDS in conjunction with their clinical judgment to assess mothers. There is a need for more PND screening and management training |
| Segre et al. (2010); USA | To assess nurses' views of a nursing model in which nurses screen for symptoms of depression | - Quantitative descriptive - Survey - Descriptive statistics and Chi-square and Mann-Whitney tests | Nurses outside a hospital setting (n = 520) | PPD | The majority (96%) "strongly agreed" or "agreed" with the statement "having nurses screen for depression using a brief screening tool is a good idea." |
| Skoog et al. (2017); Sweden | To understand Swedish Child Health Services (CHS) nurses' experiences of identifying signs of PPD in non-Swedish-speaking immigrant mothers | - Qualitative study - Interview - Content analysis | CHS nurses with the most contact with immigrant mothers who require an interpreter (n = 13) | PPD | Lack of cultural competence caused frustration among the CHS nurses when screening, getting the non-Swedish-speaking mothers to open up or to accept external help. Intuition and the establishment of a caring and transcultural relationship were invaluable to interpreting the mothers' moods |
| VIK et al. (2009); Norway | To examines health visitors' experiences from the implementation of the EPDS as a routine screening tool for postnatal depression | - Qualitative study - Focus group - Phenomenological approach | Population: Health visitors (n = 6) | PND | EPDS was viewed as a useful tool which allowed health visitors to focus on mothers, feel that they no longer had to guess regarding the mothers' mental health, and opened communication. The importance of health visitors' access to supervision was highlighted |
| Edge (2010); UK | To investigate health professionals' views about perinatal mental healthcare for Black and minority ethnic women | - Qualitative study - Interviews and focus groups - Framework analysis | Community midwives and health visitors (n = 16) | PND | Midwives reported inadequacies in training and lack of confidence for identifying the specific needs of Black women and managing PPD. Inadequate PPD management was associated with failure to screen routinely and poorly defined care pathways |
| Noonan et al. (2019) Ireland | To examine public health nurses' education, training, and professional support needs in perinatal mental health | - Quantitative descriptive - Cross-sectional survey - Descriptive statistics analysis using Statistical Package and thematic analysis | Public health nurses (n = 105) | PND | Public health nurses require further training and ongoing professional development that address attitudes to mental health and expressions of psychological distress across cultures |
| Tammentie et al. (2013) Finland | To investigate public health nurses' interaction with families in the child health clinic setting where the mother is at risk of PND | - Qualitative - Interviews - Constant comparative analysis of grounded theory | Public health nurses (n = 14) | PND | Discussions, providing information, functionality of the relationship between the public health nurse and the family, and being professional were all central to identifying postnatal depression |
| Chew-Graham et al. (2008, 2009); UK | To explore health visitors' views on the disclosure of symptoms which may indicate postnatal depression and management of postnatal depression | - Qualitative - In-depth interviews - Thematic analysis | Health visitors (n = 14) | PND | Most health visitors suggested that there was limited value in identifying women with PND. Most described a reliance on clinical intuition, rather than a formal screening tool to assess for PND. A lack of referral options hindered likelihood of screening |

Table 4a
Methodological quality appraisal of qualitative studies.

| Author(s) | Item 1 | Item 2 | Item 3 | Item 4 | Item 5 | Quality rating |
|----------------------------------|--------|---------|---------|---------|---------|----------------|
| Alexandrou et al. (2018) | Yes | Yes | Yes | Unclear | Yes | 80% |
| Almond & Lathlean (2011) | Yes | Yes | Yes | Yes | Yes | 100% |
| Ashford et al. (2017) | Yes | Yes | Yes | Yes | Yes | 100% |
| Ben-David et al. (2017) | Yes | Yes | Unclear | Unclear | Unclear | 40% |
| Borglin et al. (2015) | Yes | Yes | Yes | Yes | Yes | 100% |
| Doering et al. (2017) | Yes | Yes | Yes | Yes | Yes | 100% |
| Glavin et al. (2010) | Yes | Yes | Yes | Yes | Yes | 100% |
| (Mivšek et al., 2008) | Yes | Yes | Yes | Yes | Yes | 100% |
| Rollans et al. (2013) | Yes | Yes | Yes | Yes | Yes | 100% |
| Rush (2012) | Yes | Unclear | Yes | Yes | Unclear | 60% |
| Skoog et al. (2017) | Yes | Yes | Yes | Yes | Yes | 100% |
| Vik et al. (2009) | Yes | Unclear | Yes | Yes | Unclear | 80% |
| Edge (2010) | Yes | Yes | Yes | Yes | Yes | 100% |
| Tammentie et al. (2013) | Yes | Unclear | Yes | Yes | Unclear | 60% |
| Chew-Graham et al. (2008, 2009). | Yes | Unclear | Yes | Yes | Unclear | 60% |

1. Is the qualitative approach appropriate to answer the research question?.
2. Are the qualitative data collection methods adequate to address the research question?.
3. Are the findings adequately derived from the data?.
4. Is the interpretation of results sufficiently substantiated by data?.
5. Is there coherence between qualitative data sources, collection, analysis and interpretation?.

Table 4b
Methodological quality appraisal of quantitative descriptive studies.

| Author(s) | Item 1 | Item 2 | Item 3 | Item 4 | Item 5 | Quality rating |
|----------------------|--------|--------|--------|---------|--------|----------------|
| Bina et al. (2019) | Yes | Yes | Yes | Yes | Yes | 100% |
| Kang et al. (2019) | Yes | Yes | Yes | No | Yes | 100% |
| Segre et al. (2010) | Yes | Yes | Yes | Unclear | Yes | 80% |
| Noonan et al. (2019) | Yes | Yes | Yes | Unclear | Yes | 80% |

1. Is the sampling strategy relevant to address the research question?.
2. Is the sample representative of the target population?.
3. Are the measurements appropriate?.
4. Is the risk of nonresponse bias low?.
5. Is the statistical analysis appropriate to answer the research question?.

Table 4c
Methodological quality appraisal of mixed methods studies.

| Author(s) | Item 1 | Item 2 | Item 3 | Item 4 | Item 5 | Quality rating |
|----------------------------|--------|--------|---------|---------|---------|----------------|
| Baldwin & Griffiths (2009) | Yes | Yes | Unclear | Unclear | Yes | 60% |
| Lees et al. (2009) | Yes | Yes | Unclear | Unclear | Unclear | 40% |

1. Is there an adequate rationale for using a mixed methods design to address the research question?.
2. Are the different components of the study effectively integrated to answer the research question?.
3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?.
4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?.
5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?.

Quality assessment

Quality assessment scores using the MMAT ((Hong et al., 2018) were calculated (Table 4a–d). The distribution of MMAT scores varied from 20%—one criterion met, to 100%—all five criteria met. Overall studies were found to be of good methodological quality: of the 22 included studies, 16 met 80% – 100% of the quality appraisal areas set by MMAT. Mixed methods studies (n = 2) had the lowest MMAT scores.

Two overarching themes were identified: Theme 1 “screening for PNDA” and Theme 2 “factors that influence PNDA management”. Within Theme 1, four subthemes were identified: attitudes toward screening, routine screening practice, screening efficacy, and attitudes toward the Edinburgh Postnatal Depression Scale (EPDS). Within Theme 2, four subthemes are described: availability of formal care pathways, referral options, knowledge and confidence, and multiagency collaboration.

Table 5 outlines the overarching themes and subthemes in the included studies.

Theme 1: Screening for PNDA

The subthemes discussed below highlight the different factors that inform screening practice.

Attitudes toward screening

Eight articles described MCHN’s attitudes toward screening (Alexandrou et al., 2018; Borglin et al., 2015; Chew-Graham et al., 2009; Kang et al., 2019; Mivšek et al., 2008; Rush, 2012; Segre et al., 2010; Vik et al., 2009). Of these, MCHNs in all bar 3 (Alexandrou et al., 2018; Chew-Graham et al., 2009; Mivšek et al., 2008) shared positive attitudes towards screening, which they felt that it was an integral part of their

Table 4
Methodological quality appraisal of non-randomised quasi-experimental studies.

| Author(s) | Item 1 | Item 2 | Item 3 | Item 4 | Item 5 | |
|----------------------|--------|--------|--------|--------|---------|-----|
| Anding et al. (2015) | Yes | Yes | Yes | Yes | Unclear | 80% |

1. Are the participants representative of the target population?
2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?
3. Are there complete outcome data?
4. Are the confounders accounted for in the design and analysis?
5. During the study period, is the intervention administered (or exposure occurred) as intended?

role (Borglin et al., 2015; Vik et al., 2009). MCHNs in the other 2 articles did not always feel that PNDA screening was their responsibility, or a valuable undertaking (Alexandrou et al., 2018; Chew-Graham et al., 2009).

Routine screening practice

Four articles reported on whether all mothers were routinely screened (Alexandrou et al., 2018; Chew-Graham et al., 2008; Edge, 2010; Kang et al., 2019), all of which described a lack of universal screening. For example, in a quantitative descriptive study, Kang et al. (2019) found that of the 108 participants, only 25.9% had ever practiced screening. Likelihood of routine screening practice was associated with the belief that screening was not too time-consuming (Chew-Graham et al., 2008; Edge, 2010; Kang et al., 2019), that adequate resources were available (Chew-Graham et al., 2008), MCHNs' belief that it was their responsibility to screen (Alexandrou et al., 2018; Kang et al., 2019), and MCHNs' belief that they could offer adequate support in light of a 'positive' screen (Chew-Graham et al., 2008). Shortage of time and resources meant that some MCHNs felt they were only able to assess mothers who they perceived as extremely unwell (Chew-Graham et al., 2008; Edge, 2010).

Table 5
Themes and subthemes identified in study sample.

| Author(s) | Screening for PNDA | | | Attitudes toward formal care pathways | Knowledge and confidence | Multiagency collaboration |
|---------------------------------|----------------------------|----------------------------|--------------------|---------------------------------------|--------------------------|---------------------------|
| | Attitudes toward screening | Routine screening practice | Screening efficacy | | | |
| Alexandrou et al. (2018) | ✓ | ✓ | ✓ | | | |
| Almond & Lathlean (2011) | | | ✓ | | | |
| Ashford et al. (2017) | | | ✓ | | | |
| Ben-David et al. (2017) | | | ✓ | | | |
| Borglin et al. (2015) | ✓ | | ✓ | ✓ | ✓ | ✓ |
| Doering et al. (2017) | | | ✓ | ✓ | ✓ | |
| Glavin et al. (2010) | | | ✓ | ✓ | | |
| (Mivšek et al., 2008) | ✓ | | ✓ | ✓ | ✓ | |
| Rollans et al. (2013) | | | ✓ | ✓ | | |
| Rush (2012) | ✓ | | ✓ | ✓ | ✓ | |
| Skoog et al. (2017) | | | ✓ | ✓ | | |
| Vik et al. (2009) | ✓ | | ✓ | ✓ | | |
| Edge (2010) | | ✓ | ✓ | | ✓ | ✓ |
| Tammentie et al. (2013) | | | ✓ | | | |
| Chew-Graham et al. (2008, 2009) | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Bina et al. (2019) | | | ✓ | | ✓ | |
| Kang et al. (2019) | ✓ | ✓ | ✓ | | | |
| Segre et al. (2010) | ✓ | | ✓ | | | |
| Noonan et al. (2019) | | | ✓ | | ✓ | |
| Baldwin & Griffiths (2009) | | | ✓ | ✓ | | |
| Lees et al. (2009) | | | ✓ | ✓ | ✓ | |
| Anding et al. (2015) | | | ✓ | | | |
| Representation (n,%) | 8/22, 36% | 4/22, 18% | 17/22, 77% | 8/22, 36% | 5/22, 22% | 6/22, 27% |
| | | | | | 6/22, 27% | 3/22, 13% |

Screening efficacy

Efficacy refers to the degree to which existing screening practice can be relied upon to accurately identify mothers at risk of, or experiencing, PNDA. Seventeen articles identified various factors that impact screening efficacy (Alexandrou et al., 2018; Almond and Lathlean, 2011; Anding et al., 2015; Ashford et al., 2017; Baldwin and Griffiths, 2009; Bina et al., 2019; Doering et al., 2017; Edge, 2010; Kang et al., 2019; Lees et al., 2009; Mivšek et al., 2008; Noonan et al., 2019; Rollans et al., 2013; Rush, 2012; Skoog et al., 2017; Tammentie et al., 2013; Vik et al., 2009). Four key factors were identified as impacting screening efficacy:

(i) Knowledge and training

Fifteen articles identified that adequate knowledge and training was central to effective PNDA screening by MCHNs (Alexandrou et al., 2018; Almond and Lathlean, 2011; Ashford et al., 2017; Bina et al., 2019; Doering et al., 2017; Edge, 2010; Kang et al., 2019; Lees et al., 2009; Mivšek et al., 2008; Noonan et al., 2019; Rollans et al., 2013; Rush, 2012; Skoog et al., 2017; Tammentie et al., 2013; Vik et al., 2009).

Of these, ten highlighted various degrees of gaps in existing knowledge and a need for further training (Alexandrou et al., 2018; Ashford et al., 2017; Doering et al., 2017; Edge, 2010; Kang et al., 2019; Lees et al., 2009; Mivšek et al., 2008; Noonan et al., 2019; Rollans et al., 2013; Rush, 2012). For instance, in a qualitative study of MCHNs, Rollans et al. (2013) found that of the 83 participants, only 40% had received training in depression screening, including the use of the EPDS, making it difficult to conduct efficacious screening. Ashford et al. (2017) found that there was a need for improved training specifically related to the assessment of PNA.

Of the five articles reporting on MCHNs' training and knowledge regarding the screening of mothers from minority ethnic groups (Almond and Lathlean, 2011; Baldwin and Griffiths, 2009; Edge, 2010; Noonan et al., 2019; Skoog et al., 2017), all described a lack of adequate cultural knowledge and training regarding how to effectively screen mothers from minority ethnic groups.

(ii) Establishing a trusting relationship

The role of a trusting relationship between MCHNs and mothers in screening efficacy was explored in nine articles (Baldwin and Griffiths, 2009; Chew-Graham et al., 2008; Edge, 2010; Mivšek et al., 2008;

Noonan et al., 2019; Rollans et al., 2013; Rush, 2012; Skoog et al., 2017; Tammentie et al., 2013). All reported that this was an important factor in effectively screening mothers, and the likelihood of mothers disclosing symptoms and/or risk factors for PNDA. Lack of time was identified as a barrier to building effective relationships with mothers (Baldwin and Griffiths, 2009; Mivšek et al., 2008; Noonan et al., 2019; Rollans et al., 2013), as was disruptions to continuity of care (Chew-Graham et al., Mivšek et al., 2008; 2008; Rush, 2012).

(iii) Guidelines and policies

Six articles examined the role of screening guidelines and policies, and all identified that the presence of, and adherence to, guidelines and policies helped to support effective and uniform screening practice (Alexandrou et al., 2018; Anding et al., 2015; Baldwin and Griffiths, 2009; Edge, 2010; Lees et al., 2009; Rollans et al., 2013). Alexandrou et al. (2018) found that the absence of guidelines meant that MCHNs lacked organised screening pathways and relied entirely on their clinical judgment when identifying PNDA. When no systematic identification strategy was in place, Anding et al. (2015) found that MCHNs failed to identify 50% of mothers experiencing significant post-natal depressive symptoms.

Of the articles that looked at screening practice when guidelines were available (Baldwin and Griffiths, 2009; Edge, 2010; Lees et al., 2009; Rollans et al., 2013), all shared that MCHNs did not always comply with them, resulting in inconsistent screening practices. For example, Lees et al. (2009) found that despite set protocols, none of the 50 participants reported consistent use of guidelines to identify PNDA.

(iv) Using a validated tool, or relying on clinical judgment

Eleven articles described that clinical judgment was a key tool that MCHNs relied upon (either solely or in addition to a validated tool) to assess mothers for PNDA (Alexandrou et al., 2018; Anding et al., 2015; Baldwin and Griffiths, 2009; Ben-David et al., 2017; Borglin et al., 2015; Chew-Graham et al., 2009; Edge, 2010; Rollans et al., 2013; Rush, 2012; Skoog et al., 2017; Tammentie et al., 2013). This included observation (particularly interaction between mother and baby), being mindful of nonverbal communication (Alexandrou et al., 2018; Baldwin and Griffiths, 2009; Rollans et al., 2013; Tammentie et al., 2013), and steady infant physical growth (Rollans et al., 2013). For example, MCHNs described not needing to ask psychosocial questions if the infant was putting on weight (Rollans et al., 2013).

Four articles described how clinical judgment was the only tool that MCHNs used to assess PNDA (Alexandrou et al., 2018; Baldwin and Griffiths, 2009; Chew-Graham et al., 2009; Edge, 2010). This was highlighted as problematic by Edge (2010) who found that while MCHNs seemingly privileged intuition over routine instruments, lack of confidence and competence in identifying PND were recurring themes. However, other studies found that MCHNs typically used a standardised screening tool in addition to intuition and clinical judgment (Ben-David et al., 2017; Borglin et al., 2015; Glavin et al., 2010; Rollans et al., 2013; Rush, 2012; Skoog et al., 2017). MCHNs expressed that using the EPDS alongside their clinical judgment allowed them to identify mothers who might be at risk, despite low EPDS scores (Ben-David et al., 2017). Respecting MCHNs' field experience and clinical judgment was identified as central to the process of adoption of a validated screening tool (Ben-David et al., 2017), as was receiving clinical supervision (Vik et al., 2009).

Attitudes toward the EPDS

The EPDS was the only standardised tool about which MCHNs' attitudes and experiences were examined. MCHNs described the following experiences with the EPDS:

(i) The EPDS can be a valuable assessment tool

MCHNs in most of the included studies were likely to use the EPDS. They described the EPDS as a valuable assessment tool (Ben-David et al., 2017; Borglin et al., 2015; Doering et al., 2017; Glavin et al., 2010; Rush, 2012; Skoog et al., 2017), which functioned as "an identifier" and "door opener" (Glavin et al., 2010) and provided an opportunity

to initiate dialog around PNDA with mothers (Doering et al., 2017; Rush, 2012). Other reasons for use were: providing an opportunity to focus on the mother (rather than the child), helping to validate mothers' feelings (Borglin et al., 2015; Doering et al., 2017; Rollans et al., 2013; Vik et al., 2009); being easy to use and score (Borglin et al., 2015; Glavin et al., 2010); and identifying mothers who might have otherwise been missed (Glavin et al., 2010). MCHNs also reported that using the EPDS gave them increased professional confidence, which in turn improved quality of engagement with mothers (Borglin et al., 2015; Glavin et al., 2010; Vik et al., 2009).

(ii) The EPDS has language and cultural limitations

MCHNs described how immigrant mothers who were not proficient in the host country's language struggled to complete the EPDS, even with the use of an interpreter. (Glavin et al., 2010; Rollans et al., 2013; Skoog et al., 2017). Availability of the EPDS in the mother's language was also a reported challenge (Doering et al., 2017; Skoog et al., 2017). When the EPDS was available in the mother's language, it was noted that the mothers' educational level impacted her ability to complete the EPDS (Rollans et al., 2013; Skoog et al., 2017).

Language and cultural limitations were also identified in instances where the EPDS was administered to mothers who spoke English as a first language (Ben-David et al., 2017; Doering et al., 2017). MCHNs in 2 American studies (Ben-David et al., 2017; Doering et al., 2017) stressed that mothers struggled to understand the language used in question 6: "Things have been getting on top of me", an expression which was foreign to them. Moreover, MCHNs expressed that questions such as, "I have been anxious or worried for no good reason," overlooked the socioeconomic context of some mothers (Ben-David et al., 2017). Mothers who were facing economic hardship and/or residing in unsafe neighbourhoods would typically not agree with this statement, believing that they experienced anxiety for good reasons.

Theme 2: Factors that influence PNDA management

This second overarching theme looks at factors that impact MCHNs' ability to support mothers who may be at risk of, or experiencing, PNDA. These are described in the following 4 subthemes.

Availability of formal care pathways

MCHNs in five articles (Alexandrou et al., 2018; Baldwin and Griffiths, 2009; Borglin et al., 2015; Edge, 2010; Lees et al., 2009) expressed that a lack of formal care pathway hindered their capacity to provide 'at risk' mothers with adequate support. In the absence of formal care pathways, MCHNs provided support based on their own personal perception of the mother's needs (Alexandrou et al., 2018; Borglin et al., 2015), while Lees et al. (2009) found that access to support was dependent on the MCHN's knowledge of available services. Poorly defined care pathways increased the likelihood of MCHNs failing to identify PNDA (Edge, 2010).

Referral options

When care pathways were available, MCHNs described issues pertaining to access and availability as hindering mothers' ability to obtain timely support (Ashford et al., 2017; Borglin et al., 2015; Chew-Graham et al., 2009; Doering et al., 2017; Lees et al., 2009; Noonan et al., 2019). Access issues included: long wait times for appointments (Doering et al., 2017; Noonan et al., 2019), transportation, securing childcare, cost, inadequate insurance coverage (Doering et al., 2017), and MCHNs not being able to refer to mental health services directly (Noonan et al., 2019).

MCHNs described a general lack of services and inadequate access based on location, particularly for women with PNA (Ashford et al., 2017). Concerns regarding the cultural appropriateness of existing supports, such as support groups, for minority ethnic mothers were also highlighted (Almond and Lathlean, 2011).

Knowledge and confidence

Six articles described MCHNs' knowledge and/or confidence to be an important factor in the provision of adequate support (Bina et al., 2019; Borglin et al., 2015; Edge, 2010; Mivšek et al., 2008; Noonan et al., 2019; Rush, 2012). For example, Rush (2012) found that MCHNs felt confident in responding to PND due to knowledge of available supports for mothers, self-education, and professional experience. Perceived knowledge regarding treatment options increased the likelihood of a referral being made (Bina et al., 2019). Noonan et al. (2019) found that over half of MCHNs indicated that they were not confident to manage PNDA.

Multiagency collaboration

Three articles added that multiagency teamwork, for example between MCHNs and GPs, was essential to supporting 'at risk' mothers (Borglin et al., 2015; Chew-Graham et al., 2008; Edge, 2010). Chew-Graham et al. (2008) found that MCHNs believed that the only service they could refer mothers to was the GP. However, negative experiences of working with GPs made MCHNs reluctant to encourage women to discuss their mental health with GPs.

Discussion

This scoping review of 22 studies explored the range and nature of primary research evidence pertaining to the screening and management of PNDA by MCHNs within community settings. The review found 2 overarching themes: one relating to screening practice, and the other relating to factors that impact MCHNs' capacity to manage PNDA in new mothers. To our knowledge, this is the first review that has explicitly examined MCHNs' screening and follow-up care and management of PNDA within community settings. This review identifies the strengths and limitations of existing practice and the factors that are needed to facilitate universal and effective screening, and adequate management of all new mothers who may be at risk of, or experiencing, PNDA.

The review identified a significant gap in studies relating to the identification and management of PNA by MCHNs. Of the 21 included studies, only one examined MCHNs' experiences of screening for PNA (Ashford et al., 2017), revealing a shared belief among MCHNs that screening guidelines set out by the National Institute of Health and Care Excellence (NICE) focussed predominantly on depression and not anxiety. They also described a lack of adequate training and knowledge regarding PNA, including the availability and use of appropriate PNA screening tools. This finding is reflective of the overall limited research on PNA (Dennis et al., 2017) and is a significant oversight given the high prevalence of PNA, its frequent comorbidity with depression, and its adverse impact on child and maternal health (Dennis et al., 2017; Farr et al., 2014). Dennis et al. (2017) suggest that the primary focus on depression in clinical practice means that mothers with anxiety (but without depression) are more likely to remain undetected. To improve PNA detection rates, Ashford et al. (2017) stress the need for ongoing training that facilitates better knowledge of PNA, including the use of recommended PNA screening tools.

The review found that while MCHNs typically believed that screening for PNDA was an integral part of their role, it was not always carried out routinely. This finding is supported by a systematic review by Evans et al. (2015) which demonstrated that an average of only 55% of healthcare professionals ever assess for PND. Evidence suggests that training can improve screening competency, facilitate the delivery of evidence-based care, and enhance maternal mental health outcomes (Legere et al., 2017). Conversely, inadequate training can hinder effective PNDA detection and contribute to stigmatization and negative perceptions of mental ill health expressed by MCHNs, undermining quality of care (Legere et al., 2017).

Despite the substantial evidence regarding its benefits, this review found a broadly shared opinion among MCHNs that they lacked adequate training, knowledge and confidence to effectively screen and sup-

port all mothers at risk of, or experiencing, PNDA (Alexandrou et al., 2018; Ashford et al., 2017; Doering et al., 2017; Edge, 2010; Lees et al., 2009; Mivšek et al., 2008; Noonan et al., 2019; Rollans et al., 2013; Rush, 2012). Comparable findings are reported in a scoping review by Coates and Foureur (2019) who found that overall, MCHNs lacked the necessary knowledge and skills to support mothers with perinatal mental health issues, including PNDA. Similarly, a systematic review by Legere et al. (2017) found that MCHNs had limited opportunities for education and professional development regarding perinatal mental health. Our review found that this was particularly the case for MCHNs who worked with mothers from minority ethnic groups (Almond and Lathlean, 2011; Baldwin and Griffiths, 2009; Edge, 2010; Noonan et al., 2019; Skoog et al., 2017). MCHNs' training lacked content relating to cultural competency and the unique needs and challenges of minority ethnic mothers (Almond and Lathlean, 2011; Noonan et al., 2019). This was further exacerbated by limitations of the EPDS in accurately identifying the likelihood of PNDA in some ethnic minority mothers (Glavin et al., 2010; Rollans et al., 2013; Skoog et al., 2017). This impacted the frequency and quality of screening undertaken with ethnic minority mothers (Almond and Lathlean, 2011; Doering et al., 2017; Glavin et al., 2010; Rollans et al., 2013; Skoog et al., 2017). This finding is in keeping with studies that have examined racial disparities in PNDA detection rates, which found that compared to white mothers, ethnic minority mothers were notably less likely to be assessed for PNDA (Redshaw and Henderson, 2016), less likely to be offered treatment (Redshaw and Henderson, 2016), and significantly more likely to experience PNDA than mothers in the general population (Falsh-Hassani et al., 2015).

Addressing this disparity requires a commitment to an MCHN workforce that is culturally competent. Systematic review of the evidence suggests that cultural competence training improves healthcare providers' knowledge, skills, attitudes, confidence and cultural sensitivity (Govere and Govere, 2016). Curtis et al. (2019) maintain that culturally appropriate care must be defined by care recipients, and their communities, and measured through advancements towards the attainment of health equity. Our review found that while some services had organisational policies that aimed to facilitate equitable service provision, there were no apparent strategies for monitoring or assessing progress toward this goal.

In light of concerns regarding the effectiveness of the EPDS, some MCHNs described the use of clinical judgment as particularly important when assessing ethnic minority mothers (Skoog et al., 2017). Practice guidelines call for the use of professional judgment, in addition to a validated screening tool (Austin et al., 2017). However, we found that in many instances, guidelines were not regularly adhered to and professional judgment was the only (or primary) way in which PNDA assessments were made, leading to inconsistencies in screening practice. Using a screening tool, such as the EPDS, can improve PND detection rates (Khanlari et al., 2019), health professionals' responsiveness, and screening frequency (Clevesy et al., 2018). Where MCHNs were unlikely to use a screening tool, despite guidelines, it was typically due to negative perceptions of the tool (Baldwin and Griffiths, 2009; Edge, 2010; Rush, 2012), lack of awareness regarding existing tools (Alexandrou et al., 2018; Kang et al., 2019), and lack of awareness of screening guidelines (Baldwin and Griffiths, 2009). Conversely, providing adequate training on the use of the EPDS, while respecting MCHNs' clinical judgment, was central to the uptake of the EPDS (Ben-David et al., 2017), as was receiving clinical supervision (Vik et al., 2009).

For screening to be meaningful, identification of mothers with positive screening results must be followed by appropriate and timely support (Family and Community Development Committee, 2018). However, this review identified multiple barriers which hindered MCHNs' ability to provide consistently adequate care. Lack of access to appropriate referral options were further exacerbated by a lack continuity of care and a coordinated approach between agencies (Borglin et al., 2015;

Chew-Graham et al., 2008; Edge, 2010; Mivšek et al., 2008). According to the World Health Organisation (WHO), continuity of care facilitates better care coordination by bringing about the conditions and relationships needed to support seamless interactions between providers and interdisciplinary teams (WHO, 2018). Enablers of care coordination include established protocols and care pathways, use of appropriate technology (such as electronic health records) and education (WHO, 2018). The WHO highlights education and training as a key priority as it builds provider knowledge and competence and prepares them for interdisciplinary practice (WHO, 2018). However, our review found that MCHNs frequently described inadequate access to training. Research evidence suggests that it is this lack of ongoing training, rather than a lack of motivation, that is responsible for the widely identified gap in MCHNs' knowledge and confidence in supporting mothers who require additional PNDA supports (Coates and Foureur, 2019; Legere et al., 2017).

Strengths and limitations

Use of a comprehensive scoping methodology (Arksey and O'Malley 2005) means that this review is systematic, transparent and replicable. It also applied inclusion/exclusion criteria using PICO and had robust inter-rater reliability. However, some limitations are acknowledged: It is likely that the use of English-only language articles and exclusion of gray literature limited available data. Moreover, most studies were carried out in high-income countries, representing limitations in the diversity in our publication sample and hence a limited perspective of PNDA screening and management practice among MCHNs globally. This is important as strategies for screening and management progress must be based on local contexts and settings. Additionally, most included articles pertained to PND, as such our understanding of MCHNs' assessment and management of PNA, including their professional development needs, remains limited.

Conclusion

Overall, MCHNs understand and value their unique position in identifying and supporting mothers at risk of, or experiencing, PNDA. However, multiple (and often co-occurring) obstacles challenge the level and quality of care they provide. While best practice guidelines for the identification and management of PNDA broadly reflect the research evidence, the review identified gaps between research evidence and clinical practice. Many practitioner and organisational factors impact implementation and uptake, some of which have been identified in this review, including: lack of time, lack of awareness of guidelines, lack of adequate referral options and clearly defined care pathways, organisational barriers that prohibited continuity of care and the ability to build trusting relationships with mothers, and a wide-spread lack of ongoing education and training. Narrowing the gap between evidence and practice is unlikely without directly addressing these barriers to best practice.

Relevance to clinical practice

This review identified gaps in MCHNs' knowledge, skills and confidence regarding the effective screening and management of mothers at risk of, or experiencing, PNDA. There is a need for training and professional development to be ongoing and include content that facilitates better understanding of postnatal depression and anxiety equally, without giving precedence to one over the other. This includes training on the use of appropriate screening tools, including for anxiety, which appears to be less understood among MCHNs. Moreover, training must include content regarding the unique needs and challenges of mothers from minority ethnic groups, including risk factors that are more prevalent or unique to mothers in certain minority communities. Training must also be reflective of the fact that a 'one size fits all' approach is not

effective or appropriate, including for women in ethnic minority groups who are not a homogenous group.

It is important that MCHNs possess knowledge regarding the unique context, needs and challenges of their community, including available PNDA support options and appropriate referral pathways. Care pathways must facilitate a coordinated and multidisciplinary approach, including agreed upon areas of shared and individual responsibilities. State and organisational policies must be evidence-based. However, as this review has revealed, this is not always enough. Policy must also include strategies for how evidence will be implemented in everyday practice, including ways of monitoring and evaluating progress.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.midw.2021.103039.

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Further evidence since publication

The scoping review was undertaken in 2020, and additional studies may have been conducted since this time. I therefore performed an additional search in December 2022, using the same key words and search terms across all databases used in the original search in 2020.

The search yielded 20 results, of which two studies conducted in Norway (Vik et al., 2021), and the Netherlands (Schouten et al., 2021) met inclusion criteria and have been incorporated into the thesis. In Norway, Vik et al. (2021) conducted an exploratory qualitative study involving 10 health visitors and two midwives, which aimed to explore how they perceived and practiced routine screening, using the EPDS. Similar to findings from earlier studies (i.e. those conducted between 2008 and 2020) identified in the scoping review, Vik et al. (2021) report that while the EPDS was a well-accepted screening tool, the establishment of a trusting relationship was viewed as central to the screening process. Likewise, lack of time, and the belief that the EPDS was not always an effective tool for identifying migrant women were highlighted as barriers to the accurate identification of all women who required further PNDA related supports. Finally, participants indicated that the presence of adequate resources, including enough staff, as well as working as part of a multidisciplinary team were important factors that enabled them to screen and support women with PNDA symptoms.

In their mixed method study, which aimed to identify the most significant barriers midwives experience when discussing depression-related symptoms with ethnic minority women, Schouten et al. (2021) conducted a cross-sectional survey involving 60 midwives and in-depth interviews with eight midwives. Barriers to consistent screening and support provision that were highlighted by midwives included: lack of culturally appropriate instruments to screen for depression, lack of culturally appropriate educational resources to inform Moroccan and Turkish women about depression, cultural taboos surrounding depression in the women's respective communities, and the tendency to somatise symptoms of depression by Moroccan and Turkish women. Finally, results from this study indicated that, despite being recommended in existing guidelines, routine screening with the EPDS was not universally practiced and that implementation of existing protocols in midwifery practice is lagging.

Findings from these two additional studies largely echo that of the findings from the studies included in the scoping review. Specifically, they highlight inconsistent screening practices among MCHNs, particularly when screening CALD women. They also continue to emphasise MCHNs' perceptions regarding the EPDS as an inadequate screening tool for CALD women and the urgent

need to address this issue. Finally, they emphasise how crucial it is that MCHNs have the necessary time and resources to carry out this important work.

Summary

This chapter presented a published scoping review titled: *Postnatal depression and anxiety screening and management by maternal and child health nurses in community settings: A scoping review*. The review highlighted a range of personal and organisational barriers in screening and managing PNDA, contributing to a gap between best practice and current evidence about clinical practice. These included: lack of time and managing competing priorities, lack of awareness of guidelines, lack of adequate referral options and clearly defined care pathways, organisational barriers that prohibited continuity of care and the ability to build trusting relationships with mothers, and a wide-spread lack of ongoing education and training. Importantly, this review identified a broadly shared belief among MCHNs that they lacked adequate training, knowledge and confidence to effectively screen and support migrant and refugee women who did not fluently speak the host country's language. Addressing this important issue requires a commitment to an MCHN workforce that is culturally competent, as well as policies that include strategies for how evidence can be implemented in everyday practice.

The following chapter presents the context, rationale and aims of the thesis research, informed by the literature and scoping review.

Chapter Six: Study context, rationale and aims

By drawing on the literature and scoping reviews in the preceding chapters, this chapter provides a rationale for why this research was conducted and the significance of this research. It begins by providing an outline of the study context including discussion of existing Australian and Victorian government PNDA screening recommendations, as well as the Victorian Maternal and Child Health service. Generated from the literature and scoping review, next, the rationale for study is provided, along with description of the research questions and aims.

Study context

National strategy to support perinatal mental health

The 'beyondblue' National Postnatal Depression Program (2001 - 2005)

In 2001, Beyond Blue, an Australian mental health support organisation, funded a national initiative to introduce universal screening across Australia, as well as evaluate the feasibility and acceptability of routine screening for PNDA among women and health professionals (Buist et al., 2007; Buist et al., 2008). This seminal study, involving more than 40,000 women and 43 healthcare services from across Australia, generated several important findings with implications for practice and the development of national screening guidelines (not yet established at this point). Findings were as follows:

1. Symptoms of postnatal depression were experienced by nearly 16% of all Australian mothers (Buist et al., 2008)
2. Women with low income and educational attainment may face greater risk of PNDA onset (Buist et al., 2008)
3. Timing of screening is important as onset is not confined to the first eight weeks postpartum. Ongoing assessment beyond this timeframe is required to ensure detection (Buist et al., 2008)
4. Screening with the EPDS is feasible and highly acceptable to women and health professionals, including MCHNs (Buist et al., 2007; Highet & Purtell, 2012)
5. Most women who experience PNDA do not seek help (Buist et al., 2007)
6. Perinatal mental health training can significantly boost health professional's knowledge of, and confidence in, PNDA screening and management following a 'positive' screen (Buist et al., 2007)
7. The identification of risk factors, through a psychosocial assessment, is an important part of the screening process (Buist et al., 2007)

8. For screening to be effective, health workers must have a sound knowledge of available pathways to care in their community (Buist et al., 2007).

The 'beyondblue' Perinatal Mental Health National Action Plan (2007)

Findings from the National Postnatal Depression Program underscored the importance of a coordinated national approach to PNDA screening, as well as post-identification care (Highet & Purtell, 2012). To that end, in 2007, Beyond Blue produced the Perinatal Mental Health National Action Plan (Beyond Blue, 2008), which outlined a national strategy for increasing awareness of PNDA among health professionals, improving screening practices, workforce development, and a framework for supporting women's perinatal mental health needs (Highet & Purtell, 2012).

The National Perinatal Depression Initiative and National Perinatal Clinical Practice Guidelines (2008 - 2019)

In 2008, Beyond Blue gained support from the Federal Government to facilitate a national approach to universal PNDA screening. This included \$30M from the Federal Government to facilitate the national roll out of universal PNDA screening, training for health workers, and expanding the availability of support and treatment services. This was matched by an additional \$30M from respective state and territory governments (Highet & Purtell, 2012).

The first Australian national guidelines for perinatal mental healthcare was established in 2011 (Austin et al., 2011), recommending universal PNDA screening at least once in the early postnatal period. These recommendations were updated and expanded in 2017 and again in 2019 (Austin et al., 2019). According to the current national guideline (Austin et al., 2019), all women should be screened for PNDA with use of the EPDS, between six to 12 weeks postpartum, and at least once more during the first 12 months postpartum. Additionally, it is recommended that a psychosocial assessment is carried out in conjunction with the EPDS to identify potential PNDA risk factors (Austin et al., 2019).

While the recommendations included in the guideline pertain to a range of mental health issues (including severe mental illness and psychosis) and modes of treatment, Table 2 provides an overview of key recommendations which relate specifically to the screening and management of PNDA within the MCH setting.

Table 2 Summary of key recommendations outlined in the Australian Clinical Practice Guideline

| IDENTIFICATION | |
|--|--|
| <i>Practice point</i> | <i>Recommendation</i> |
| Training | All health professionals providing care in the perinatal period should receive training in woman-centred communication skills, psychosocial assessment and culturally safe care. |
| Screening method | Use the EPDS to screen all women for PNDA symptoms. |
| Psychosocial assessment | Undertake psychosocial assessment in conjunction with the EPDS. If using a tool to assess psychosocial risk, administer the ANRQ. |
| Screening time and frequency | Complete the first screen between six to 12 weeks postpartum. Repeat screen at least once more in the first 12 months postpartum. |
| POST IDENTIFICATION | |
| Establishing a therapeutic relationship | <p>Establishing and maintaining a therapeutic relationship is central to providing psychosocial care in the perinatal period. Enabling factors include time, collaborative goal setting, regular support to help achieve set goals, offering validation, non-judgemental attitude, and cultural competence and respect.</p> <p>It is important that health services tailor care to women likely to have low health literacy (e.g. Aboriginal and Torres Strait Islander and CALD women) by involving Aboriginal and Torres Strait Islander or bicultural workers to facilitate conversations and fostering trusting relationships.</p> |
| Continuity of care | <p>Continuity of care involves a shared understanding of care pathways by all professionals involved in a woman's care, with the aim of reducing fragmented care and conflicting advice.</p> <p>Factors that can facilitate continuity of care include information sharing between health professionals, collaborative development of management plans, and providing shared care.</p> |
| Information on treatment and care pathways | Provide easy to follow information on PNDA and available treatment options, including in the woman's first language. Understand and support women's treatment preferences. |

The Victorian Maternal and Child Health service

The Victoria Maternal and Child Health (MCH) service is a free universal primary health service for all Victorian families with children 0-6 years (Department of Health and Human Services, 2019b).

The service began in 1917 as a single 'baby health clinic' with an emphasis on health education,

sanitation, infant feeding, and development tracking, and minimal attention to maternal health (Flood 1998). Today the service operates across all of Victoria’s 79 Local Government Areas (LGAs) and focuses on prevention, early identification and intervention for a host of maternal and child health and well-being issues, including postnatal mental health (Department of Health and Human Services, 2019b). The MCH service is delivered by dual registered nurses and midwives who have completed postgraduate studies in maternal and child health nursing. It is estimated that there are currently more than 1,400 MCHNs practicing in Victoria (Department of Health and Human Services, 2019b). The MCHN role is comparable to that of Health Visitors in the United Kingdom (Lowenhoff et al., 2017) and public health nurses in Canada (Premji et al., 2019).

Three distinct components make up the MCH service: the Universal MCH (UMCH) program, the Enhanced MCH (EMCH) program and the 24-hour MCH telephone support line. The Universal program supports children and their families with a focus on health promotion, parenting, developmental assessment, early detection, referral and support (Department of Health and Human Services, 2019b). The UMCH program is delivered through the provision of 10 Key Ages and Stages (KAS) consultations, which include an initial home visit and subsequent clinic-based consultations (Table 3).

Table 3 Schedule of Key Ages and Stages consultations

| Time of consultation | 1 week (home visit) | 2 weeks | 4 weeks | 8 weeks | 4 mths | 8 mths | 12 mths | 18 mths | 2 years | 3.5 years |
|----------------------|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| Duration | 1 hr | 30 mins | 1 hr | 30 mins | 30 mins | 45 mins | 30 mins | 45 mins | 30 mins | 45 mins |

The EMCH program is a nurse home visiting program which is provided instead of the Universal program (up to 20 hours per family in metropolitan areas and up to 22 hours for rural/remote families) to families experiencing complex and concurrent vulnerabilities (Department of Health and Human Services, 2019b). Research indicates that over 25% of families accessing the EMCH program experience mental health issues and more than 20% experience family violence (Adams et al., 2019).

Finally, staffed by MCH nurses, the MCH 24-hour telephone service provides Victorian families with evidence-informed guidance, information, and support. Most calls concern sleep and settling

issues, breastfeeding, nutrition, allergies, and immunisation (Department of Health and Human Services, 2019b).

Australia has three tiers of government: federal (national); state or territory; and local (a total of 79 in Victoria). While local government is responsible for overseeing and implementing the MCH service, operational policies are developed by the state government, and (typically) equal funding contributions are made by both state and local government (Victorian State Government, 2021). The UMCH service is guided by the state government's Key Age and Stages (KAS) framework, and is the foundation upon which the MCH service practice guidelines were developed (Department of Health and Human Services, 2019b). Introduced in 2009, the KAS framework defines a sequence of evidence-based activities to be completed by the MCHN at each of the 10 KAS visits, with a focus on the health and well-being of both mother and child. This includes completing a maternal health and well-being assessment during the four-week KAS visit.

PNDA screening: A comparison of Victorian and National Practice Guidelines

It is important to preface this section by noting that, while the National Guidelines for perinatal mental healthcare have been updated twice since their inception in 2011 (in 2017 and 2019), the PNDA screening recommendations outlined in the MCH Practice Guidelines (Department of Health and Human Services, 2019b) have not changed since they were first drafted in 2009.

There are three key differences between the Australian Clinical Practice Guideline and the Victorian MCH Practice Guidelines regarding PNDA screening:

1. **Timing of screening** - While the Australian Clinical Practice Guideline (Austin et al., 2019) recommends that PNDA screening (i.e. administering the EPDS and conducting a psychosocial assessment) takes place between six and 12 weeks postpartum, the Victorian Guidelines recommends that MCHNs conduct a 'maternal health and well-being check' during the four week KAS consultation and that maternal health and well-being be monitored throughout all KAS visits (Department of Health and Human Services, 2019b). The maternal health and well-being check is not limited to PNDA screening. During their allotted one hour appointment, MCHNs are also required to assess for common postnatal physical health concerns (e.g. back pain, excessive bleeding), provide information on contraception, fatigue management, and self-care strategies, as well as screen for PNDA and family violence (Department of Health and Human Services, 2019b).

2. **Administration of the EPDS-** The Australian Clinical Practice Guideline recommends that the EPDS is administered universally (to all mothers) in conjunction with a psychosocial assessment. However, the Victorian Practice Guidelines recommend that while a psychosocial assessment should be carried out with all mothers, the EPDS should be administered if psychosocial risk factors have been identified or if indicated by clinical judgment (Department of Health and Human Services, 2019b; Victorian State Government, 2013).
3. **Frequency of screen-** While the Victorian Guidelines recommend that screening is conducted at the four-week visit and that MCHNs 'monitor' maternal well-being at all the KAS visits, the Australian Guidelines recommend that screening (with the EPDS) is carried out at least twice in the first 12 months postpartum (once between six and 12 weeks postpartum, and at least once after this).

Rationale for this study

The previous chapters have described that PNDA is a significant public health problem (Farr et al., 2014; Howard & Khalifeh, 2020; Woody et al., 2017) impacting 17% to 21% of all mothers (Fawcett et al., 2019; Shorey et al., 2018). Undetected and untreated PNDA can have adverse and long-term effects on women, the quality of mother-child relationship (Ramakrishna et al., 2019; Slomian et al., 2019), and child health and well-being (Goodman et al., 2016; Slomian et al., 2019; Stein et al., 2018), as well as partners' well-being (Egmoose et al., 2022; Ruffell et al., 2019; Wang et al., 2021). Furthermore, undetected and untreated PNDA imposes a large economic burden due to lost productivity, poor maternal and child outcomes, and strain on the healthcare and social services systems (O'Connor et al., 2016; PricewaterhouseCoopers, 2014; Luca et al., 2020).

Evidence indicates that most women experiencing PNDA symptoms do not disclose their symptoms to a health worker unless they are asked and they do not seek professional support unless they are encouraged and supported to do so (Hadfield & Wittkowski, 2017). Universal screening for PNDA using a validated tool such as the EPDS is largely acceptable to women and health professionals (El-Den et al., 2015), improves rates of detection (Berger et al., 2015), professional responsiveness (Clevesy et al., 2019), rates of referral and service utilisation among women (Van der Zee-van den Berg et al., 2017), and is associated with improved maternal mental health outcomes (Carroll et al., 2012; O'Connor et al., 2016; Reilly et al., 2020). Conversely, targeted screening, screening without a validated tool, and relying predominantly on professional judgement can result in approximately half of women with PNDA remaining undetected (Anding et al., 2015; Diaz & Plunkett, 2018; Jarvis et al., 2020). Moreover, evidence suggests that the

significant economic burden associated with undetected and untreated PNDA is closely related to inconsistent screening practices among healthcare providers (Luca et al., 2020).

When women with PNDA are identified early and are supported to access evidence-based interventions (e.g. peer support and cognitive behavioural therapy), they are likely to experience a significant reduction in their symptoms, resulting in improved long-term outcomes for themselves and their families (Dennis & Hodnett, 2007; Hadfield & Wittkowski, 2017; Lumley et al., 2004). Universal PNDA screening with a validated tool is thus a critical component of delivering effective postnatal care to women and is recommended by the World Health Organisation (WHO, 2022), as well as in best practice guidelines in comparable countries to Australia, including Sweden (Wickberg et al., 2020) and the United States (American College of Obstetricians and Gynecologists Committee, 2018).

In Victoria, the important task of identifying and supporting mothers struggling with PNDA is typically assigned to MCHNs. According to the latest available data, 99.8% of all Victorian families attend at least one KAS visit in the first 12 months postpartum, and 80% attend approximately seven times in the first 12 months postpartum (Department of Health and Human Services, 2019a). This frequent contact makes MCHNs exceptionally well-placed to identify and support women with PNDA. However, data pertaining to the PNDA screening and management practices of Victorian MCHNs are not routinely gathered (Hight & Purtell, 2012; Moss et al., 2020). This means that there are considerable gaps in our understanding regarding whether (and to what extent) Victorian MCHNs screen in accordance with established guidelines and what systemic or individual factors influence MCHNs' screening practices. Similarly, our understanding of how MCHNs proceed following a 'positive' identification of PNDA, and the factors which impact their practices, remains equally limited.

In their 2020 inquiry into mental health, the Australian Productivity Commission (an independent research and advisory body to the Australian government) (Productivity Commission, 2020), found that national and state/territory data collection on the proportion of women screened for perinatal mental illness, including PNDA, was inconsistent. According to two Australian studies conducted between 2007 and 2010, the (national) proportion of women screened for PNDA varies between 53% and 76% (Australian Institute of Health and Welfare, 2012; Reilly et al., 2013). While data on PNDA screening rates in Victoria are not available, findings from a 2018 inquiry into perinatal services by the Family and Community Development Committee (established to investigate and report to the Victorian government on a range of family welfare issues) (Family

and Community Development Committee, 2018), suggest that Victorian PNDA screening is not universal. The Committee heard expert testimony from the Perinatal Anxiety and Depression Australia (PANDA) that “screening is not universally undertaken, despite the fact that screening has been in place for some time, the importance of screening is known, and screening is encapsulated in the Guideline” (Family and Community Development Committee, 2018, p. 130). Additionally, the Committee highlighted several systemic barriers to universal screening, including a lack of time, insufficient workforce screening competency, and limited referral pathways.

To our knowledge, there has been only one study which explored the experiences of Victorian MCHNs responding to mothers with postnatal depression (Rush, 2012). However, this study had several limitations, including a limited sample of eight MCHNs from only four (of 79) LGAs (data on the remoteness and/or demographic profile of the LGAs are not provided). Moreover, data were analysed by a single researcher and information regarding whether data saturation was reached was not provided. Finally, the study's scope is confined to MCHNs' experiences of identifying and responding to postnatal depression, not anxiety. Identifying the PNDA screening practices of MCHNs, and understanding the factors which influence them, is an imperative first step toward facilitating the conditions and supports MCHNs require to effectively fulfill their important role of identifying and supporting mothers struggling with PNDA. Moreover, understanding the nuances of how MCHNs support women with a ‘positive’ screen, and the conditions which impact their caregiving capacity, is critical to the development of service delivery models that are evidence-based and designed to facilitate optimal outcomes for women and their families. Furthermore, the evidence generated from this thesis will bring awareness to the professional needs of MCHNs in being able to effectively carry out their role, as identified by them.

Research aims and questions

The overall aim of this thesis was to contribute to a better understanding of Victorian MCHNs' PNDA screening and management practices, and the factors which influence these, with the goal to contribute to policy and practices that facilitate and improve maternal health outcomes.

To achieve this aim, the following research questions were addressed:

1. What are MCHNs' self-reported knowledge of, and attitude toward, PNDA screening and management?
2. What are MCHNs' screening practices?
3. How do MCHNs support women following a ‘positive’ screen?

4. What factors impact MCHNs' screening practices and their support provision following identification?

Chapter Seven: Theoretical Frameworks

This chapter describes the conceptual and theoretical frameworks that guided this study: the Knowledge, Attitude, and Practice (KAP) framework, and Socio-ecological Framework (SEF), respectively.

It begins by providing an overview of the KAP framework's theoretical foundation, which illustrates why the KAP framework was chosen for this study and describes how the KAP framework has been utilised in other similar studies involving healthcare practitioners. This is followed by an overview of the SEF, as well as a rationale for why this framework was chosen to guide the study.

Knowledge, Attitude, and Practice Framework

The KAP framework was first created in the 1950s for use in family planning and population studies. Specifically, it was used to determine whether opposition to family planning existed across different demographic characteristics so that tailored family planning initiatives could be developed for various programs worldwide (Schopper et al., 1993; Wan et al., 2016; You & Han, 2020). The framework assumes that health behaviour is influenced by one's knowledge of and attitudes toward health and sickness, and that these have a direct impact on one's health-related behaviours (Ajzen, 1991). Using this approach, MCHNs' knowledge of and attitudes toward PNDA screening and management are expected to have a direct impact on their screening and management practices.

The KAP framework is based on three fundamental health behaviour theories that seek to characterise factors which influence human behaviour, including healthcare workers' professional behaviour:

The Health Belief Model- According to the health belief model, a person's motivation to undertake a health behaviour are determined by three key factors: individual perceptions (i.e. factors that impact one's perception of illness, perceived susceptibility to illness, and perceived severity); modifying factors (i.e. demographic characteristics and cues to action such as information, people and events that guide the individual toward the health behaviour); and likelihood of action (i.e. perceived benefits minus the perceived barriers of taking the recommended health action) (Carico et al., 2021; Glanz et al., 2008; Rosenstock, 1974).

The Theory of Planned Behaviour- Developed by Ajzen (1991), the theory of planned behaviour asserts that a person's behaviour is determined by their intent to engage in that behaviour, which

is influenced not only by their own attitude towards the behaviour, but also their perceptions of other people's attitudes towards that behaviour and their desire to comply with others' standards, as well as their perceived behavioural control (Ajzen, 1991). When attitudes, subjective norms, and perceived behavioural controls are positive, there is greater intention and therefore greater likelihood of carrying out the behaviour (Ajzen, 1991).

Social Cognitive Theory- Social cognitive theory (Bandura, 2005a) asserts that people's self-beliefs in their ability to perform a given behaviour, their expectations that a certain action will result in a particular outcome, and their perceptions of environmental facilitators and barriers can impact behaviours in positive and negative ways (Bandura, 2005b).

Derived from these theories, the KAP framework proposes that change in peoples' behaviours occur in three sequential steps: knowledge acquisition, attitude formation, and behaviour formation (Fan et al., 2018), and that knowledge and attitude directly impact practice (Wan et al., 2016). Today, the KAP framework is widely used to better understand health behaviours (practices), including the practices of healthcare workers across a range of settings, such as screening for domestic violence (Roelens et al., 2006) and caring for patients who have experienced Female Genital Mutilation or Cutting (FGM/C) (Marea et al., 2021). Moreover, according to the WHO (World Health Organization, 2008), KAP studies can contribute greatly to the effective implementation and evaluation of public health initiatives by:

- Identifying knowledge gaps, beliefs, or behavioural patterns that serve to either promote or hinder the adoption of positive health behaviours.
- Identifying factors which influence behaviours and attitudes, as well as why and how certain behaviours are practiced.
- Providing a robust evidence base on which to build future service and/or strategic priorities and objectives (e.g. to address the most common barriers to effective health behaviours).

To my knowledge, very few studies have used a KAP framework to examine MCHNs' PNDA screening and/or management practices. I found only one study (Kang et al., 2019) which used a KAP framework to do this (described below), while another similar study (Sanders, 2006) used the Theory of Planned Behaviour to test the hypothesis that MCHNs with a positive attitude, a high perceived level of competence and knowledge regarding PND screening were more likely to incorporate screening into routine practice. While other similar existing studies focus on MCHN's knowledge, attitude and perceived learning needs or confidence regarding perinatal mental health (Hauck et al., 2015; Higgins et al., 2018; Noonan et al., 2018), these do not utilise a KAP framework

and do not investigate the specific relationship between knowledge, attitude, and practice. Due to this gap, a review of KAP studies pertaining to other closely related public health issues and other healthcare providers (e.g. physicians, nurses) was carried out to examine the methodologies employed in other studies and aid in the development of the methodology for this study. The four most relevant studies are described next.

Kang et al. (2019) conducted a cross-sectional study involving 108 Malaysian nurses who provided postnatal maternal care. Nurses were asked to complete a self-reported questionnaire developed by the research team, consisting of items on *knowledge* of PND (e.g. PND risk factors and symptoms), *attitudes* (significance of screening, perceived responsibility to screen) and *practice* (e.g. having ever screened and utilisation of a screening tool). The results of this study reveal that although nurses had a high level of PND knowledge, this did not significantly affect their PND screening practices, specifically the likelihood that they would conduct PND screening. However, Kang et al. (2019) found that nurses' attitudes toward screening (specifically that PND screening was not their responsibility, and that screening was too time consuming) were associated with a significant reduction in the likelihood that nurses would conduct PND screening.

In a similar study, Sanders (2006) utilised the Theory of Planned Behaviour to assess nurses' *attitudes*, perceived screening ability, and *knowledge* regarding PND screening and its association with nurses' PND screening *practice*. A 33-item self-reported questionnaire was developed by the authors specifically for the study and completed by 413 nurses. Results indicated a significant positive relationship between nurses' attitudes, perceived ability, and knowledge and likelihood of screening, with positive attitudes and perceived ability having the strongest relationship with screening.

Roelens et al. (2006) investigated the KAP of 478 obstetrician-gynaecologists in Flanders, Belgium, on Intimate Partner Violence (IPV) screening to identify potential barriers to IPV screening. The authors hypothesised that for routine screening practice to take place, physicians must first have a strong knowledge of IPV, as well as a positive attitude toward IPV screening. A 69-item questionnaire was designed to measure *knowledge*, *attitude*, and screening and referral *practices* regarding IPV. Results indicated that physicians had poor knowledge of IPV and grossly underestimated its prevalence, with less than 7% having ever received any form of training on IPV. Most participants favoured targeted screening (rather than universal) and did not consider pregnancy as an opportune time for routine screening. Moreover, while participants perceived screening for IPV as an important function of their role, a perceived lack of self-efficacy in

responding to IPV, perceived lack of time and perceived lack of available referral options reduced the likelihood of IPV screening among participants (Roelens et al., 2006). The findings of this study suggested that strengthening physician's knowledge of IPV through ongoing training was a crucial step towards the effective implementation of future IPV screening guidelines (Roelens et al., 2006), thus highlighting the relationship between knowledge and practice.

Similarly, Marea et al. (2021) utilised the KAP framework to design a cross-sectional survey which examined the relationship between health workers' (n = 354) demographic characteristics, *knowledge* of female genital mutilation/cutting (FGM/C), *attitudes* toward FGM/C, and confidence in caring for patients who had undergone FGM/C. A study-specific online questionnaire, consisting of four sections (demographic characteristics, knowledge of health complications of FGM/C, attitudes toward FGM/C, and confidence in providing care) was created by the research team. Multivariable linear regression analysis was carried out to examine the relationship between these variables, with the goal to inform the development of future FGM/C training for health providers (Marea et al., 2021). Interestingly, Marea et al. (2021) did not identify a significant association between having received previous training in FGM/C and greater confidence in clinical practice, suggesting that the existing training program did not provide opportunities for health workers to attain competence prior to caring for patients (Marea et al., 2021).

Existing studies that have applied the KAP framework, including those outlined above, demonstrate the value of performing KAP research to identify potential barriers and facilitators to screening and other health-related behaviours which impact public health outcomes. Understanding the barriers and enablers to adherence to evidence-based practice standards is critical, and KAP studies provide a useful method for identifying particular areas for improvement. Thus, a KAP framework was utilised in this study to explore MCHNs' knowledge and attitudes regarding PNDA screening, and their influence on PNDA screening practises.

Development of KAP instruments

While the KAP framework is regularly utilised across various sectors of healthcare provision, there is no standardised tool for examining health workers' KAP. As the appropriate items necessarily vary to reflect specific study characteristics (i.e., health issue, healthcare population, service context), research teams typically develop their own KAP instrument. To develop an effective measure of MCHNs' KAP as they relate to the screening and management of PNDA, I drew on the literature, as well as the concepts of attitudes theory (described below) to:

- define what constitutes *knowledge* about PNDA screening and management
- describe *attitudes* that influence screening and care provision following a 'positive' screen
- define *practices* that constitute effective screening and support provision

Study measures as they related to Knowledge, Attitude and Practice are presented in Appendix 5.

In the current study, knowledge, attitude and practice (Figure 1) were defined and conceptualised as follows:

Knowledge

In a seminal report on how knowledge, attitude, and practice come together to form the basis of 'excellence and wisdom', Badran (1995) defines knowledge as "the capacity to acquire, retain and use information; a mixture if comprehension, experience, discernment and skill" (Badran, 1995. p.9). Knowledge possession in this study refers to MCHNs' comprehension of PNDA (e.g. its risk factors and symptoms), their comprehension of PNDA screening (e.g. how to screen, what screen tool to use), and their comprehension of PNDA management (e.g. available referral pathways).

Attitude

This study's definition of "attitude" was informed by the concept of Attitudes Theory (Albarracín & McNatt, 2005; Zanna & Rempel, 2008). According to this theory, attitudes are formed as a result of the interaction between affect, cognition, and behaviour (Rosenberg et al., 1960) and manifest as the inclination to view something favourably or unfavourably (Eagly & Chaiken, 2007). Affect refers to the emotions that may emerge in reaction to the examined view. For example, the way an MCH nurse feels toward the EPDS (e.g. its useability and accuracy) will influence how they feel about its use as a screening tool. Cognition pertains to correct or false views about the topic under consideration, which can typically be modified through education (i.e. knowledge acquisition through training/education) (Eagly & Chaiken, 2007; Wan et al., 2016). For example, limited training on PNDA screening may contribute to a view that using a validated screening tool will not result in better detection rates. In this study, attitude refers to any preconceived notions about PNDA, and PNDA screening and management, which may influence MCHNs' screening and management practices.

Practice

Finally, practice refers to health-related behaviours/actions that result from the reciprocal interaction between knowledge and attitude and can impact the identification and treatment of

an illness (Wan et al., 2016). In this study, practice refers to MCHNs' PNDA screening and management actions, in line with the Australian practice guideline (Austin et al., 2019).

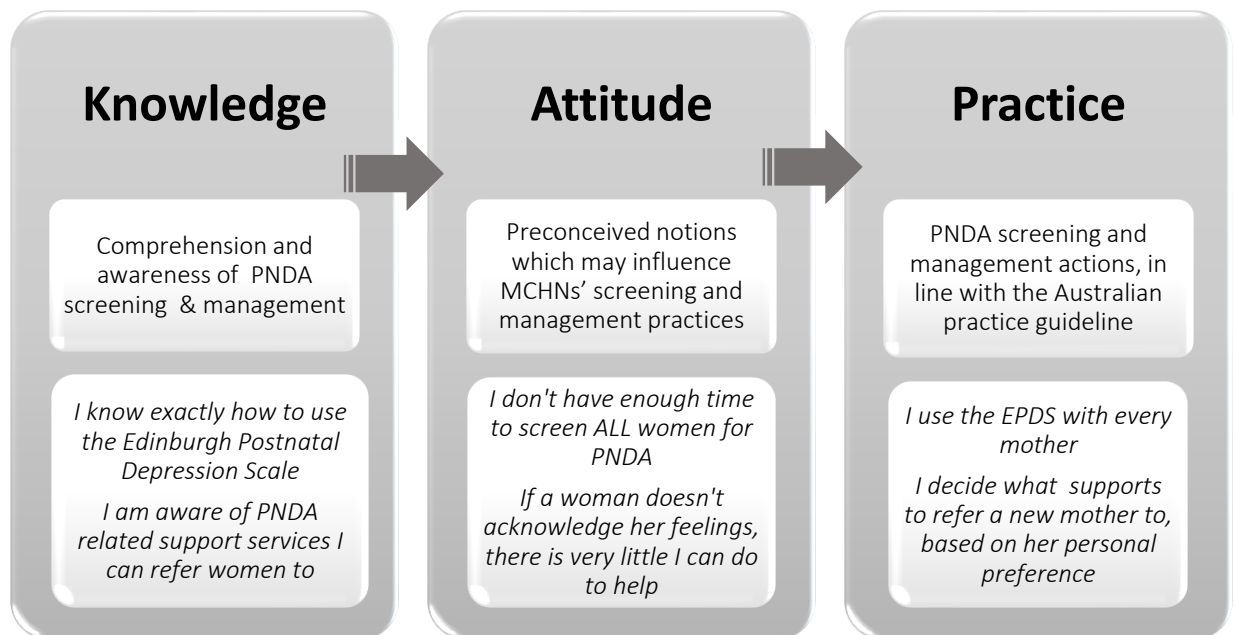


Figure 1 Knowledge, Attitude and Practice relevant to this study: definitions and example questions

Socio-ecological Framework

Given the complexity of the environment and systems within which MCHNs practice, an understanding of the interaction between the environmental and systemic factors that may influence MCHNs' screening practices was also required. As such, we utilised a *modified* Socio-Ecological Framework (SEF) (Baron et al., 2014; McLeroy et al., 1988) to assess the ways in which individual, systemic, and societal factors influenced MCHNs' PNDA screening and management practices.

Originally developed by Bronfenbrenner (1979) the socio-ecological model (SEM) maintains that human behaviour is affected by the interplay between five key factors (McLeroy et al., 1988):

1. **Intrapersonal**- the individual's characteristics such as age, sex, and ethnicity.
2. **Interpersonal**- informal and formal social networks such as work groups.
3. **Organisational**- organisational characteristics, including formal and informal policies and regulations.
4. **Community**- relationships between individuals and organisations or institutions.
5. **Public policy**- local, state or national policies or/and laws.

Because the SEF can facilitate the examination of a wide range of complex factors, it has been increasingly adopted in attempts to improve health service delivery (Litchfield et al., 2021), including: improving patient care (Phelan & Kirwan, 2020), improving access to services (Pendergrass et al., 2017) as well as improving our understanding of broader concepts of care (Davidson et al., 2018). Utilising the SEF in this study allowed me to identify individual and contextual influences on MCHNs' PNDA screening and management practices, which we may have missed had I relied solely on the KAP framework.

Due to the overlap between SEF domains as applied to this research, factors were combined into three domains as follows- individual factors that may affect MCHNs' practices may include individual characteristics such as age, years of professional practice and ethnicity; systemic factors may include availability and access to appropriate referral options; and societal factors many include concentration of socio-economic advantage or disadvantage in MCHNs' community of practice (Figure 2).

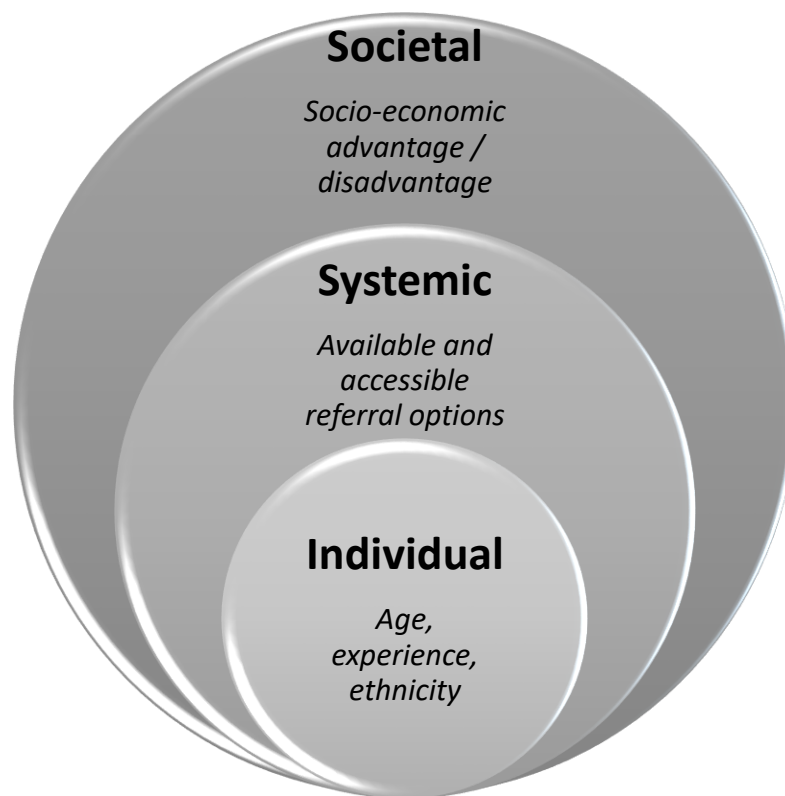


Figure 2 Adapted SEF model demonstrating factors influencing MCHNs' PNDA screening and management practices

Summary

This chapter explained the conceptual and theoretical frameworks that guided this thesis: the Knowledge, Attitude, and Practice (KAP) framework, and the socio-ecological Framework (SEF), respectively, as well as the rationale for why they were used.

The next chapter describes the methodology used for this doctoral thesis, as well as a rationale for why it was used. It describes the stages of the multiphase approach selected and the design, selection of participants, recruitment, data collection, data analysis and ethical considerations pertaining to each of the studies.

Chapter Eight: Methods

This chapter describes the multiphase design (Figure 3) of the thesis, comprising three sequential studies that were ultimately integrated to address the thesis aim.

The aim of a multiphase study design is to answer a series of research questions that together address a single research objective. It offers an overarching methodological framework to a project that requires numerous phases to establish an overall program of research (Creswell & Creswell, 2017). To that end, this design was selected because 1) it was not possible to meet the overarching thesis objective with a single mixed methods study; and 2) because this is an emerging area of research, it was anticipated that new questions would emerge at various stages of the project. Utilising this approach also provided the flexibility required to apply both qualitative and quantitative research designs required to address the interconnected research questions I wished to investigate.

In this study the three phases (and their respective studies) answered the: “What are MCHNs PNDA screening and management practices and what factors influence these?”

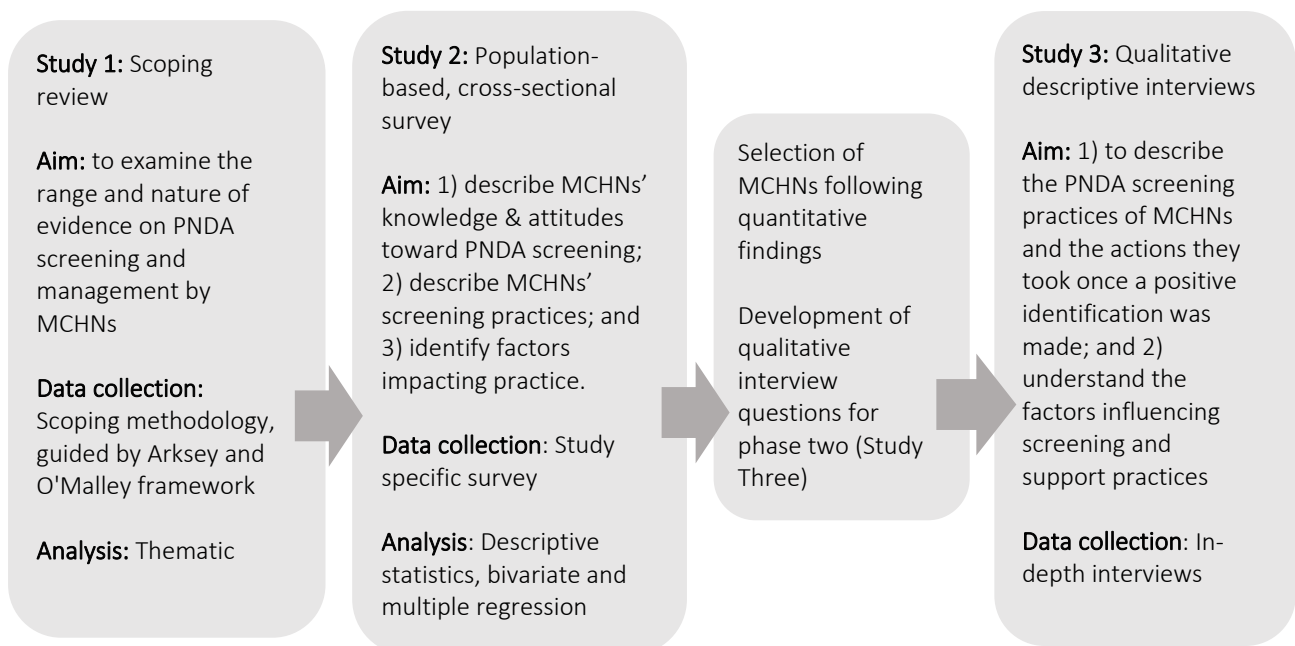


Figure 3 Multiple phases of this study

Study One: Scoping review

The overarching aim of this study was to examine the range and nature of primary research evidence on postnatal depression and anxiety screening and management by maternal and child health nurses within community settings.

This study has been published:

Arefadib, N., Cooklin, A., Nicholson, J., & Shafiei, T. (2021). Postnatal depression and anxiety screening and management by maternal and child health nurses in community settings: A scoping review. *Midwifery*, 100, 103039. doi.org/10.1016/j.midw.2021.103039

A detailed discussion of the methods used in this study was presented in Chapter Five.

Study Two: Population-based cross-sectional study

The overall aim of this study was to examine MCHNs' knowledge, attitude, and practices regarding PNDA screening and identify the personal and/or systemic factors that influenced them. Initiating data collection using a quantitative design meant that I could attain population-level data, the findings of which could be used to inform the interview questions for Study Three. Moreover, it was intended that Study Three could offer a more nuanced interpretation of the results from Study Two.

Design

A population-based cross-sectional research design is an observational study that analyses data from a sample at a specific point in time with the intention to generalise findings to a population (Wang & Cheng, 2020)- sometimes described as a "snapshot" of a population (Carlson & Morrison, 2009). Cross-sectional studies are often used when the aim of a study is to examine the prevalence of traits, attitudes and knowledge among health workers (and patients) (Kesmodel, 2018). Given that the aim of this study was to examine Victorian MCHN's PNDA screening knowledge, attitude, and practices, this methodology was selected.

I developed a cross-sectional survey, in which an online self-report questionnaire was sent to all MCHNs in Victoria via email. Survey research is defined as "the collection of information from a sample of individuals through their responses to questions" (Check & Schutt, 2011, p. 160). By analysing a sample of a specific population, survey research provides a quantitative description of the trends, attitudes, or perspectives of that population (Ponto, 2015).

Survey instrument

A study specific survey was designed as a knowledge, attitudes, and practice assessment tool regarding MCH nurses' screening and management of PNDA. Survey content was designed based on 1) a rapid literature review of international evidence relating to best practice in screening for PNDA and common barriers and enablers to PNDA screening in nursing and midwifery; and 2) recommendations outlined in the Practice Resource Manual for Victorian Maternal and Child Health Nurses (Victorian State Government, 2013) and the Australian Clinical Practice Guideline (Austin et al., 2019).

Rapid literature review

The purpose of the rapid literature review was to ensure that the survey questions were reflective of the evidence regarding what 'best practice' in PNDA screening and management looked like (so that we could examine if, and to what extent, best practice was being adhered to); and that we were asking the right questions regarding potential barriers to PNDA screening. For example, by conducting the rapid review, I found evidence from studies conducted in the UK (Chew-Graham et al., 2009), Malaysia (Kang et al., 2019), and Cyprus (Alexandrou et al., 2018) to suggest that the perceived view among MCHNs that screening was too time consuming and/or not a function of their role was likely to reduce the likelihood of universal PNDA screening among MCHNs. Considering this evidence, I wanted to determine whether these factors also influenced PNDA screening among MCHNs in Victoria. I therefore designed survey items to help me answer these questions (survey items are discussed in the following section).

The rapid review involved:

- A time-limited search (2000 - 2022) of peer-reviewed publications and reports in academic databases including Cumulative Index of Nursing and Allied Health Literature (CINAHL), MEDLINE, PsycINFO, as well as Google Scholar.
- A scan of key international Nursing and Midwifery journals, including 'Journal of Clinical Nursing', 'Midwifery', 'Journal of Advanced Nursing', and 'Women and Birth'.
- A scan of websites of three key research institutions and networks, including 'The Parent-Infant Research Institute', 'The International Marce Society for Perinatal Mental Health', and 'Centre of Perinatal Excellence' (COPE).

I began by reviewing the screening recommendations outlined by key institutions and networks, and in the Practice Resource Manual for Victorian Maternal and Child Health Nurses (Victorian State Government, 2013) and the Australian Clinical Practice Guideline (Austin et al., 2019) and

made a list of key factors (e.g. the importance of psychosocial assessments, use of a validated screening tool, availability of referral pathways) presented as central to effective PNDA screening and management.

Based on the findings and recommendations reported in the identified literature, I subsequently extracted information regarding common barriers and enablers to universal screening and effective management post identification (from both mother’s and professional’s perspective), in line with best practice. I then compiled a list of key factors, drawn from each study. For example, there was evidence to suggest that poor knowledge of available referral options and/or perceived lack of adequate referral options were barriers to screening for some MCHNs (Borglin et al., 2015).

I made a final list of all the factors that were identified (in both the literature and Guidelines) as fundamental to effective PNDA screening and management, and based on this, designed a survey which was guided by the evidence and was conducive to capturing data which supported my research aim. Table 4 presents examples of some of the key elements of best practice, identified through the rapid review, as well as its respective barriers and related survey item, as described in Table 5.

Table 4 Elements of best practice and respective barriers

| Elements of best practice | Barriers to screening in line with best practice | Example of survey item |
|--|---|--|
| Screening should be universal | Lack of time | I don't have enough time to screen ALL women for PNDA |
| | Social stigma surrounding mental illness | The stigma/shame associated with mental ill health makes it difficult for me to screen for PNDA |
| A validated tool should be used as a component of screening | Failure to identify risk factors | I am more likely to use the EPDS when a woman has multiple risk factors |
| | Negative attitude toward the EPDS screening tool | The EPDS is not an effective PNDA screening tool for CALD women |
| Screening should occur at least twice in the first postpartum year | Failure to repeat screen if the first screen was not 'positive' or no concerns were flagged by mother | I never/rarely screen more than once in the first 12 months because I had no concerns after the first screen |

| | | |
|--|--|---|
| | Limited rapport between mother-provider / limited continuity of care | I never/rarely screen more than once in the first 12 months because I don't have a good rapport with the new mother |
| A comprehensive psychosocial assessment must be a component of screening | Over-reliance on professional judgment to identify risk factors | I am capable of identifying women at risk of PNDA without screening for it |

Survey format

The survey was designed in REDCap electronic data capture tool (Harris et al., 2009). It contained a total of 72 items (overview outlined in Table 5) including fixed-choice items with Likert-scale and yes/no responses (See complete survey attached as Appendix 6). A Participant Information Statement (Appendix 7) pertaining to the study's purpose, eligibility conditions, data storage, and how participant anonymity would be ensured, was attached to the first 'page' of the online survey.

Table 5 Overview of survey items

| Demographic and employment characteristics | |
|---|---|
| Location of employment | Name of local government area(s) |
| Years of experience as an MCHN | 1 = < 1 year; 2 = 1-4 years; 3 = 5-9 years; 4 = 10-20 years; 5 = > 20 years |
| Work hours | 1 = Full-time; 2 = Part-time; 3 = Casual / Relief; 4 = Other |
| Gender | 1 = Female; 2 = Male; 3 = Other; 4 = Prefer not to say |
| Age (years) | 1 = less than 25; 2 = 25-34; 3 = 35-44; 4 = 45-54; 5 = 55-64; 6 = 65 or greater ; 7 = Prefer not to say |
| Born in Australia | 0 = No (please specify which country you were born in); 1 = Yes |
| English first language | 0 = No (please specify your first language); 1 = Yes |
| Aboriginal and/or Torres Strait Islander origin | 0 = No; 1 = Yes, Aboriginal; 2 = Yes, Torres Strait Islander; 3 = Yes, Both Aboriginal and Torres Strait Islander |
| Attitudes toward screening | |
| Universal screening | One item with 3 options (e.g. 'I believe that MCHN should screen ALL new mothers for PNDA regardless of the absence of risk factors') |
| Screening method and professional role | Six items (e.g. 'It's important to speak with women about PNDA before I screen for it') on a 5-point Likert scale |

| | |
|---|--|
| Edinburgh Postnatal Depression Scale screening frequency, and facilitators to screening | Nine items (e.g. 'The Edinburgh Postnatal Depression Scale is the best screening tool for PNDA'; 'I am MORE likely to screen a woman for PNDA when we have a trusting relationship') on a 5-point Likert scale |
| Availability of suitable referral options | One item with yes or no options |
| Self-reported knowledge of PNDA, and PNDA screening | |
| Self-reported knowledge and skills to screen all mothers, including correct use of the EPDS | Five items (e.g. 'I know how to ask women from Aboriginal and/or Torres Strait Islander communities about PNDA'; 'I know exactly how to use the Edinburgh Postnatal Depression Scale') on a 5-point Likert scale |
| Screening practice | |
| Universal screening | One item with 3 options (e.g. 'I routinely screen ALL women for PNDA'; 'I RARELY or NEVER screen for PNDA') of which only one could be selected |
| Barriers to universal screening | One item with 13 options (e.g. 'lack of follow-up supports'; 'lack of time') of which more than one could be selected |
| Time of screening | One item with 8 options (e.g. '4 weeks'; '8 weeks') of which more than one could be selected |
| Frequency of screening more than once in the first 12 months | One item with 4 options (e.g. 'Most of the time'; 'Rarely/never') of which only one could be selected |
| Reasons for 'never/rarely' screening more than once | One item with 7 options (e.g. 'I had no concerns after the first screen') of which more than one could be selected |
| Method of screening | One item with 6 options (e.g. 'EPDS if indicated by Case finding questions'; 'Clinical/professional judgment') of which more than one could be selected |
| Reasons for method(s) chosen | Two items (e.g. 'The screening method I use depends on how much time I have'). Yes or no option |
| Administering and discussing results of the EPDS | Five items (e.g. 'When using the EPDS, how often do you discuss the results with her?') on a 4-point scale |

Piloting and final instrument testing

I tested the acceptability and accessibility of the survey through extensive consultation with clinicians and researchers at the Judith Lumley Centre, La Trobe University, with expertise in MCH nursing, nursing research, and/or research design. Additionally, two rounds of piloting were undertaken:

Round 1: Seven researchers (specialising in population health and epidemiology, as well as survey development experience) from the Murdoch Children's Research Institute (MCRI) and two from the Judith Lumley Centre, La Trobe University (specialising in maternal and child health research

and/or clinical practice, as well as survey development experience) were provided with a hard copy of the survey and asked to provide feedback on features including: length of the survey; how easy the survey was to follow; if the survey items were easy to understand; if any questions might be considered offensive/should be removed; if any new survey items should be included; and any other comments/suggestions for improving the survey. I discussed each reviewer's feedback with them in person. This resulted in some changes to the structure and wording of the survey items.

Round 2: An updated version of the survey was entered into the REDCap data management system and piloted with eight additional staff and/or PhD candidates from JLC (many of whom are MCH nurses and all of whom have extensive survey development experience). Further review and updates were conducted based on each reviewer's feedback and where appropriate, incorporated into the survey. This resulted in some minor changes to the structure of the final survey.

None of the MCHNs who were involved in the piloting of the survey were included as participants in the study.

Participants

Participants were universal and enhanced MCH nurses (approximately 1,300 currently practicing) across all Victorian local government areas (LGAs), of which there are 79 in total. Inclusion criteria were: 1) undertaking KAS visits with new mothers as a primary component of their role, and 2) currently practicing in Victoria as an enhanced and/or universal MCH nurse for a minimum of six months.

Recruitment and data collection

Because MCHNs' contact information is not publicly available, the Municipal Association of Victoria² (MAV) helped me to reach MCHNs by emailing the survey link to MCH Coordinators³ across all 79 Victorian Local Government Areas (LGAs) on my behalf.

Prior to sending the emails, the MAV invited me to speak with Victorian MCH Coordinators at the June 2019, MCH Coordinators meeting. I delivered a 20-minute presentation about my research and explained how Coordinators would be able to support this work by disseminating the survey link via email (along with details and rationale) to all MCH nurses within their respective LGAs. A

² The Municipal Association of Victoria is a membership association and the legislated peak body for Victoria's 79 local government councils.

³ MCH Coordinators are responsible for managing all aspects of the operation of the MCH Service, including management of MCHNs.

10-minute question-and-answer session was held, and Coordinators were requested to provide recommendations regarding the ideal timing for survey distribution (given MCHNs' demanding workload and extensive responsibilities). MCH Coordinators indicated that the last week of June 2019 would be an appropriate time for data collection/survey distribution.

I drafted an email for the MAV to send to all MCH Coordinators (Appendix 8), which included a Participant Information Statement (PIS) and a request for MCH Coordinators to forward the survey link to MCHNs in their respective LGAs. Interested participants were directed to an online survey, set up in REDCap, from the link provided in the email. The first 'page' of the survey asked MCHNs to read and endorse (tick) a series of statements to indicate that they: 1) met the inclusion criteria (i.e. they were currently undertaking KAS visits with new mothers, and currently practicing in Victoria as an MCHN for at least six months); 2) had read the Participant Information Statement; and 3) consented to participating in the study. Survey commencement was not permitted until all eligibility and Participant Information Statements were endorsed. Participants responding 'no' to any of these items were directed 'out' of the survey and thanked for their interest. Participants who responded 'yes' and agreed to participate were directed to the survey. We estimated that the survey would take approximately 20 minutes to complete.

Coordinators were sent three email reminders (by the MAV, drafted by me) at 10-day intervals, asking them to remind their respective MCHNs to respond to the survey. A survey link was provided in the body of each reminder email. Data were collected between June and November 2019.

Data Security and Storage Protocols

Data were collected using the REDCap (Harris et al., 2009) data management system, which saves all acquired data in a password-protected, encrypted location which was only accessible to my supervisors and I.

All responses to the survey were anonymous and each completed survey was allocated a unique code number. All study materials / data files were downloaded and stored in a secure password protected folder on the server at La Trobe university. Only my supervisors and I have access to this folder. Data will be stored for five years after publication of the findings, and then destroyed.

Analysis

Prior to data analysis, a code book including a list of all survey variable names and codes was created to ensure that data were coded accurately and consistently. Survey data were imported from REDCap to Stata 14 (StataCorp, 2005) for data cleaning and analysis.

All Likert scale questions with five-point response categories '1— Strongly disagree, 2— disagree, 3— Neutral, 4— Agree, 5— Strongly agree' were collapsed into three categories: '1— Disagree, 2— Neutral, 3—Agree'. While the additional response options allow participants to express their opinions or attitudes more precisely, capturing subtle variations in their responses, a decision to collapse the responses into three categories was made in an effort to simplify data analysis.

Some participants (5% - 10%) had missing data for certain variables; however, all available data were used in the analysis. Because missing data were not at random, they were not imputed.

Descriptive analyses were conducted to describe participant's characteristics, knowledge, attitude, and screening practices, as well as barriers and enablers to screening in line with best practice. Based on national best practice guidelines, a new variable, 'practice according to recommended guidelines' was derived to identify MCHNs who simultaneously used the EPDS and carried out a psychosocial assessment as their routine method of screening (code "1 = yes"), versus those who did not do both ("0 = no").

Data from the Australian Bureau of Statistics (2016) Socio-Economic Indexes for Areas (SEIFA) was used as an indicator of each LGAs' relative socio-economic advantage or disadvantage, compared to other LGAs in Victoria. Using deciles ranging from one to 10, where the lowest 10% of areas are given a decile number of one and so forth, up to the highest 10% of areas which are allocated the decile number of 10. Decile one represents the most disadvantaged LGA relative to the other deciles. The Australian Bureau of Statistics (ABS) determine socio-economic advantage and disadvantage by drawing on variables including income, education, employment, occupation and housing characteristics (Australian Bureau of Statistics, 2016). For the purpose of analysis, decile scores for socio-economic advantage and disadvantage were re-coded into "disadvantaged areas" (range one - five) and "advantaged areas" (range 6 - 10).

Bivariate logistic regression analysis was conducted to investigate possible associations between MCHNs' screening practices (specifically, practice according to recommended guidelines, and screening frequency) and their demographic characteristics, knowledge, attitude, and other

relevant factors (specifically, availability of referral options and concentration of socio-economic disadvantage in the LGAs where MCHNs worked).

Finally, multiple regression analysis was carried out to adjust for potential confounders including age, years of professional experience, remoteness, attitude toward screening, and perceived availability of referral options. I did not adjust for Aboriginality, gender and country of birth given limited variation in these characteristics. All adjusted Odds Ratios (aOR) were reported with a 95% Confidence Interval (CI). P value of < 0.05 was considered to indicate statistical significance in all tests.

Study Three: Qualitative descriptive interviews

The purpose of this study was to gain a deeper and more nuanced understanding of MCHNs' experiences of screening for PNDA and supporting women following the identification of PNDA symptoms, as well as the personal and/or systemic factors which influenced these. Findings from Study Three are presented in two manuscripts: one pertaining to MCHNs' experiences of PNDA screening (Chapter Ten); and the other pertaining to MCHNs' experiences of supporting women following a 'positive' identification (Chapter Eleven).

Design

Qualitative methods allow for a thorough examination of subjects and/or phenomena that are complex, consist of concepts or variables which are not always easy to measure, and require deep listening to populations regarding whom relatively little is known (Colorafi & Evans, 2016; Creswell & Creswell, 2017).

There are numerous qualitative research methods (e.g. narrative, phenomenological, grounded theory), the selection of which relies on the question(s) being investigated. However, despite the different approaches to qualitative research, most share a common objective: to comprehend and describe a phenomenon as experienced by groups or individuals (Holloway & Galvin, 2016). Of the qualitative research designs available, qualitative descriptive studies allow for the examination of events and/or experiences to be studied in their natural state and for findings to be presented in the language of participants (Sandelowski, 2000, 2010). Moreover, while qualitative descriptive research requires interpretation of data (Sandelowski, 2010), it requires a less "conceptual or otherwise highly abstract rendering of data" (Sandelowski, 2000, p. 335) than other qualitative approaches, such as phenomenology or grounded theory, which have greater levels of inference. Qualitative descriptive studies are particularly valuable in healthcare research given their focus on

factual enquiry and analysis of participants' experiences (Colorafi & Evans, 2016). In a systematic review of 55 nursing research articles, Kim et al. (2017) found that qualitative descriptive design was most frequently used in studies seeking to use low inference and describe a phenomenon in the everyday language of participants. This design is also often utilised in mixed-methods studies where qualitative data can be used to gain deeper insight into quantitative findings (Doyle et al., 2016). It is for these reasons that a qualitative descriptive design was selected for this study.

Participants and recruitment

Eligible participants were MCHNs who (1) undertook Key Ages and Stages visits with new mothers as a primary component of their role (2) had been practicing in Victoria as an MCHN for a minimum of six months and (3) had participated in the survey (Study Two) and agreed to be re-contacted for participation in the present study.

The final survey question in Study Two asked if MCHNs would be willing to participate in a follow-up interview. Those who said 'yes' were invited to provide their contact information (either phone or email address). A total of 62 MCHNs agreed to be interviewed, of which purposive sampling was used to ensure variability in participants' age, years of professional experience, geographic area (metropolitan versus regional), concentration of socio-economic disadvantage in the LGA in which they practiced, and attitudes towards screening. Participants' response to survey item 15 ("I am capable of identifying women at risk of PNDA without screening for it") was used as an indicator of their attitude toward screening. Data from the Australian Bureau of Statistics' Socio-Economic Indexes for Areas (Australian Bureau of Statistics, 2016) was used as an indicator of each area's relative socio-economic disadvantage, compared with other local government areas in Victoria. Decile scores (calculated by the ABS) for socio-economic advantage and disadvantage were re-coded into "disadvantaged areas" (range one - five) and "advantaged areas" (range six - ten).

To ensure diversity across these criteria, I selected 12 MCHNs to participate in Study Three and invited them to participate via email. A Participant Information Statement (Appendix 9), which detailed the study's purpose, eligibility conditions, data storage, and how anonymity would be maintained, was sent as an attachment to each email invitation 2 weeks prior to each interview, and again 48 hours before each interview. Of the 12 MCHNs who were initially emailed, one notified me that she no longer worked as an MCHN, and three were uncontactable. At this point I selected four more MCHNs (using the same selection criteria) and sent them an invitation to participate via email.

The sample size was determined by the principle of saturation, defined by Grady et al. (1998) as when “...new data tend to be redundant of data already collected. In interviews, when the researcher begins to hear the same comments again and again, data saturation is being reached... It is then time to stop collecting information and to start analysing what has been collected.” (Grady, 1998, p. 26). Saturation is widely acknowledged as the ‘gold standard’ for defining sample size in qualitative research, signifying that (based on the already collected and/or analysed data) additional data collection is largely redundant (Saunders et al., 2018). Based on this definition, my supervisory team and I agreed that data saturation had occurred when the data acquired during the interviews became redundant and that additional interviews would add little to our understanding of the study subject. We agreed saturation was reached after 10 interviews; however, I carried out two additional interviews for confirmation.

Data collection

Semi-structured in-depth interviews were conducted via Zoom, a cloud-based videoconferencing service (Zoom Inc, 2016). Semi-structured in-depth interviews are the most widely used interviewing format for qualitative research (DiCicco-Bloom & Crabtree, 2006; Doody & Noonan, 2013) as they allow for mutuality and rapport building between interviewer and interviewee (Galletta, 2013; Kallio et al., 2016); and provide participants with some direction on what to talk about, while allowing the interviewer the flexibility to ask follow-up questions and explore topics that come up spontaneously (Doody & Noonan, 2013; Kallio et al., 2016). Moreover, the interviewer can alter the sequence and language of the questions (Power et al., 2010) depending on the direction of the interview, and ask additional questions where deemed appropriate (Doody & Noonan, 2013). For these reasons, a decision was made to use semi-structured interviews for this study.

I conducted 12 interviews between March and May of 2021, each lasting between 30 and 45 minutes. An interview schedule (Table 6) was prepared to address gaps in our understanding regarding how MCHNs screened for and supported women likely experiencing PNDA. Questions were in part informed by the results of Study Two (cross-sectional survey), which highlighted the following gaps:

1. MCHNs’ experiences of screening for depression versus anxiety (e.g. did they use a similar screening process? What factors, if any, influenced their screening of each? Did they feel differently about screening for depression versus anxiety?)

2. MCHNs' experiences of screening women from non-English backgrounds, as well as Aboriginal and Torres Strait Islander women (e.g. did they use a similar screening method for these populations versus the general population? What factors, if any, influenced how they screened women from these populations?)
3. What processes typically followed a 'positive' screen, and what influenced these next steps?
4. How did MCHNs respond to women with acute mental health needs who required immediate response? What factors influenced MCHNs' responses?

Table 6 Study Three interview guide

Can you tell me about how you identify new mums who may be experiencing PNDA?

What has been your experience with hospitals sharing relevant information with the MCH service about women's mental health (e.g. upon discharge, antenatally or any known history of mental ill health)?

In your experience, is identifying postnatal anxiety different in any way to identifying postnatal depression? (e.g. is the process of identification any different? Is it easier or more challenging to identify?)

What is your approach to screening women from non-English speaking or culturally diverse backgrounds? (e.g. do you apply the same process of identification? Is it more/less challenging?)

What is your approach to screening Aboriginal and Torre Strait Islander women?

Can you tell me about what you usually do once you've identified a mum with PNDA symptoms?

What sorts of things are likely to influence your decision?

What do you typically do when you identify a mum who needs critical/urgent care?

What would make it easier for you to support mothers with PNDA?

Within the past 12 to 24 months, have you undertaken any professional training related to perinatal mental health (including PNDA screening and management)?

If so, can you describe the nature and extend of this training?

If not, when was the last time (if ever) you completed any such training?

Is there anything that we haven't discussed today that you feel is important and should be included in this conversation and certainly in this study?

It was important that the process for developing the interview guide remained iterative so that I had the flexibility to introduce new items if any new issues were identified throughout the

interviews. For example, after conducting several interviews, it became apparent that depression and anxiety screening (and the sharing of information regarding these) by hospitals where women received antenatal care was significant to how some MCHNs identified women who may be at greater risk of PNDA. Specifically, MCHNs looked to hospital discharge notes to acquire a more complete understanding of women's mental health prior to and during the prenatal period. After this issue was raised by MCHNs in the first few interviews, the iterative approach allowed me to include a new question regarding MCHNs' experiences of receiving relevant information regarding women's mental health from hospitals.

Prior to all interviews, participants were requested to acknowledge that they had read the Participant Information Statement and were given the opportunity to ask any questions or express any concerns regarding their involvement in the study (none had any questions or concerns). Following this, verbal consent to participate, and for the interview to be audio-recorded on a recording device were obtained from all MCHNs prior to the commencement of interviews.

Piloting

Prior to the study, pilot interviews were held with three MCHNs (not included in the study sample) via Zoom video-conferencing to assess the suitability, wording, and order of the questions to be asked, along with any issues which may have prevented us from obtaining quality data. Piloting the interview guide creates an opportunity to make informed revisions to the interview questions, identify potential interviewer bias, and ultimately enhance the quality of data collected (Kallio et al., 2016). This resulted in minor changes to the wording and ordering of some questions. Moreover, through the pilot interviews, I became more cognisant of my verbal and non-verbal (e.g. facial expressions) reactions to participants' responses, and the impact that my reactions may have on how participants respond to my questions. During one of the pilot interviews, for instance, the MCHN informed me that my expression of shock to her statement regarding the lack of MCH staff could be regarded as critical or disapproving, which may prompt some participants to reconsider their responses to future questions. She wisely advised me to remain more impartial in my response so as not to discourage anyone from providing an honest response.

Data Security and Storage Protocols

While all responses to the survey were anonymous, data of those who agreed to participate in a follow-up interview and provided their contact details in the survey were separated when survey data was later transferred to Stata. Each completed survey was allocated a unique identification number. Identifying information provided by participants for the purposes of participation in the

interview were removed from the main data file. These identifying details were stored separately, only re-identifiable with code numbers. Survey and interview data were later matched using code numbers for the purposes of identifying a range of MCHNs for participation in interviews, but de-identified again following this so that only group data were reported for both phases. Data from the content of the interviews were handled to ensure that what was reported could not lead to the participant being identified. All data will be securely stored for a minimum of 5 years following publication.

Analysis

Commonly employed in qualitative descriptive studies, thematic and content analysis were selected together for this study because of their suitability for undertaking exploratory research in an area where relatively little is known (Vaismoradi et al., 2013). Detailed rationale regarding why these modes of analysis were selected, as well as what each entailed, are provided in this section.

Thematic analysis

First, thematic analysis, using Braun and Clarke (2006) six-step process, was conducted to systematically identify and organise patterns across the data. Braun and Clarke's approach to thematic analysis was used as it is considered the most influential approach to thematic analysis in the field of health and social sciences (Maguire & Delahunt, 2017) and offers a clear and replicable framework for carrying out thematic analysis. Braun and Clarke (2006, p. 79) describe thematic analysis as: *"...a method for identifying, analysing and reporting patterns (themes) within data."* They also emphasise that this approach offers a large degree of freedom in its use because it is neither founded in or constrained by any particular theoretical perspective or framework. The objective of a thematic analysis is to distinguish significant patterns in the data which can then be used to answer the research question and/or shed light on an issue (Maguire & Delahunt, 2017). Braun and Clarke (2006) argue that this process goes beyond merely summarising or describing the data; rather it requires the researcher to interpret and explain the data by examining and identifying *"underlying ideas, assumptions, and conceptualisations – and ideologies - that are theorised as shaping or informing the semantic content of the data"* (Braun & Clarke, 2006, p. 84). In adherence with Braun and Clarke's (2006) six-step process, I carried out thematic analysis of the data by completing the following steps:

1. **Becoming familiar with the data.** Because I had completed all the interviews, I arrived at the process of analysis with prior knowledge of the data, as well as some initial analytic thoughts. To fully immerse myself in the data, I transcribed the first five interviews verbatim (including

pauses, sighs, laughs, sarcastic tones etc), requiring me to listen to and re-listen to the interviews numerous times over an extended period (the remaining seven interviews were transcribed by a professional transcription service). Once all transcribing had been completed, I undertook an active process of 'repeated reading' where I began to look for emerging patterns and ideas. I read each of the 12 transcripts from beginning to end two or three times (depending on how well I felt I grasped or understood what was being said). Before starting the next step of coding, I collated a preliminary summary of my initial thoughts about the data, as well as things which had come up which were interesting and unexpected.

2. **Generating initial codes.** I began the coding process by opening each transcript in a Microsoft Word document and coding each transcript line by line, where any new idea or topic would be highlighted, and a code, which described what the idea was about, would be written using the 'comment' function in Microsoft Word. Examples of codes included: "screening fathers", "psychosocial assessment"; "discharge notes"; and "family violence". I then made a table in a word document and put each unique code in its own row. For example, I had a row for the code "EPDS" and every time a participant had mentioned the EPDS, I would put the code "EPDS" in that row so that I would be able to count the number of times the "EPDS" code had been used. To help me remember which codes belonged to which participant, I placed a column next to each row of codes where I noted the transcript number relevant to each code (I had given all transcripts a number from one to 12 for anonymity). Next to each transcript number, I also included a quote which supported my use of the code and served as a personal reminder as to why I had used each specific code. Also, each transcript number (i.e. participant) was given a unique colour, which made it easy for me to identify which participant each code had come from. For example, the code "EPDS" was written in its own unique row in 12 different colours, because all participants had mentioned it in some regard, while the code "family violence" was written in its own row in four different colours as four participants had mentioned something to do with family violence. These steps made it possible for me to keep track of which participant had raised which issue, as well as count the number of participants who had discussed a specific code.

Coding the data was completed in an iterative process where myself and two of my supervisors initially coded two interviews independently, before we came together to discuss and compared how/if our codes (of the same manuscripts) differed or had commonalities. We discussed variations until consensus was reached. I then coded the remaining transcripts in the manner described above and engaged in regular discussions with my supervisors during

this process to ensure transparency and consensus. I made sure to code for as many potential patterns or themes as possible, coding line by line to ensure nothing was missed.

3. **Searching for themes.** I started this phase once all my initial coding had been completed and collated in the table created. According to Braun and Clarke (2006), this step initiates the process of analysis at the broader level of themes, including the compilation of different codes which begin to identify high-level themes pertaining to the data. After examining the codes, it became clear that some of them could be merged to create an overarching theme. For example, the codes “professional judgment”, “EPDS”, “discharge notes”, “unsettled baby” (among others) came together to form the overarching theme, “Variations in screening practices”. In re-examining and analysing the codes, I also started to identify sub-themes emerging within the overarching themes. For example, “repeat if yes to Q10”, “repeat if high score at 4 weeks” (and other codes) merged to form the sub-theme regarding frequency of screening, under the overarching theme of “Variations in screening practices”. In essence, sub-themes are themes that sit together within a theme (Braun & Clarke, 2006). Sub-themes play an important role in providing structure to a particularly broad and multifaceted theme, as well as for illustrating the complexity of participants’ experiences and the interplay between the many factors which influence them.

4. **Reviewing themes.** At this point, I re-read all transcripts to ensure that all themes had been identified during the process of analysis. I then pulled together all the data (including all codes and relevant supporting quotes) relevant to each theme to review and refine all themes and related sub-themes. This process involved asking a series of questions, proposed by Maguire and Delahunt (2017), whose work provides further insight into implementing Braun and Clarke’s (2006) framework in a systematic manner to ensure the rigour of the analysis process. These included asking myself: 1) if the themes make sense; 2) if the themes truly reflect the data; 3) if there was any overlap in themes and if so, were they truly two unique themes; 4) if my sub-themes accurately reflect the data; and 5) if I have missed/overlooked any other themes or sub-themes.

After completing this process independently, I met with my supervisors to discuss how I had interpreted each code, how I had grouped certain codes together to create themes, how I understood each theme, and how I had grouped codes which made up specific sub-themes. I provided my supervisors with my table of codes, themes, and sub-themes and they looked

over these independently. Following this, we met again to discuss any variations in interpretation of the data, codes, themes, and sub-themes. This resulted in some changes to how overarching themes and sub-themes were grouped. For example, it became evident that I had put too many sub-themes under some of the overarching themes, and that what I had interpreted as sub-themes were better suited to being overarching themes. I repeated this process until consensus was reached.

5. **Defining and naming themes & sub-themes.** The purpose of this step was to define the 'essence' of each theme (Braun & Clarke, 2006, p. 92), as well as to clearly depict how the themes and sub-themes connect with one another and tell a coherent story, accompanied by narrative. Defining and naming of themes goes beyond simply paraphrasing participants' account of events and experiences, but rather captures interesting and important patterns in the data. To ensure that theme and sub-theme names were concise and accurately reflected the story that each was intended to tell, my supervisors and I reviewed and discussed the names until we were all in agreement about their suitability.

6. **Reporting of findings.** According to Braun and Clarke (2006, p. 93), the primary aim of this final step should be "to tell the complicated story of your data in a way which convinces the reader of the merit and validity of your analysis." To do this, I had extensive discussions with my supervisors regarding each theme and how I could convey the meaning behind each theme in a manner which stayed true to the experiences of the participants. As a result of these ongoing discussions, a decision was made that, given the large volume of data, it would be best for me to report my findings across two papers (presented in Chapters Ten and Eleven). In doing so, I was able to present my findings and analysis with the depth they merited, without the need to omit key findings due to word count constraints associated with publication guidelines and requirements.

The reporting process involved writing and re-writing many drafts of the results until my supervisors and I agreed that the write-up accurately captured participants' experiences and conveyed their stories in a coherent and concise manner and was a true reflection of the data.

Content analysis

Following the process of thematic analysis, qualitative content analysis (Sandelowski, 2000, 2010) was carried out to confirm and better understand each theme. Content analysis is a method for

systematically categorising and exploring large volumes of data in order to better understand trends of and patterns in the data by counting their occurrences so as to confirm patterns and help understand their significance (Vaismoradi et al., 2013). The primary distinction between thematic and content analysis is that content analysis involves a process of tallying responses (or codes), as well as the numbers of participants in each code category (Sandelowski, 2000; Vaismoradi et al., 2013). However, as Sandelowski (2000) highlights, the aim of identifying the frequency of responses is not to obtain a statistical representation of the data, but a robust portrayal of the regularities and patterns in the data that have (in part) been identified and confirmed by counting. In this study, qualitative content analysis was used to identify and confirm patterns in the data by counting the number of times each response (code) was identified. Counting the number of repetitions allowed me to identify which issues were most emphasised by MCHNs. As such, data were presented in themes and by frequency.

Establishing trustworthiness

There are four fundamental quality criteria which speak to the trustworthiness of all qualitative research: credibility, transferability, dependability, and confirmability (Korstjens & Moser, 2018; Lincoln & Guba, 1985). This section provides an overview of the steps I took to strengthen the trustworthiness of the qualitative phase of my study by following Lincoln and Guba's (1985) strategies for strengthening trustworthiness in qualitative research.

Table 7 provides a high-level definition, as described by Korstjens and Moser (2018), of each of the five quality areas, as well as the steps I took to strengthen each.

Table 7 Credibility, transferability, dependability, and confirmability relevant to Study Three

| Quality criteria | Definition | Steps taken to strengthen quality area |
|-------------------------|---|--|
| Credibility | Credibility refers to how accurately findings reflect the original data and how accurately they represent the participants' experiences and viewpoints. | <p><i>Prolonged engagement and persistent observation:</i></p> <p>Prior to interviewing, I had a deep understanding of the MCH service, through my reading and familiarity with the literature. I had also read (on multiple occasions) both the Victorian and Australian Clinical Practice Guideline and was familiar with some of the trends in how MCHNs screened for PNDA, based on the findings from the survey.</p> <p>During the interviews, I encouraged MCHNs to support their statements by providing examples, and ensured to ask follow-up questions, where appropriate.</p> |

Following the interviews, I ensured to immerse myself in the data by transcribing the initial five interviews verbatim. I also re-listened to all the interviews and re-read all the transcripts prior to coding, during coding, and again after I had completed coding and before I started the analysis process. I also re-read all the transcripts before finalising my analysis.

Investigator triangulation:

Although I lead the coding and data analysis, my two primary supervisors were heavily involved in, and made substantial contribution, to both processes. Both supervisors coded two separate manuscripts independently, after which we met as a team to compare our interpretation of the data. Where our interpretation differed, we looked back over the data together and discussed these until a consensus was reached. Moreover, during the coding and analysis processes, we frequently met as a team to discuss findings and/or any challenges that may have arisen.

| | | |
|-----------------|---|---|
| Transferability | Transferability pertains to the applicability of the findings, and how accurately they can be transferred to other settings. Specifically, it refers to how well the reader can assess whether the findings are transferable to their unique setting. | <p>To strengthen transferability, when reporting on my findings, I ensured to provide context to participant's experiences, so that they would become meaningful to readers unfamiliar with various components of the study. This included describing the context and aim of the MCH service, as well as who accesses the service and to what extent. I also provided comparable examples of the MCH nurse in other countries (e.g. Plunket nurse in New Zealand, Public Health Nurse in Ireland and Norway, and Health Visitors in the UK).</p> <p>I provided relevant information pertaining to PNDA screening guidelines in both Victoria, and nationally, and presented evidence on the limited PNDA screening data that is collected within the MCH service.</p> <p>I also provided detailed descriptions of participants' demographic information, procedure of data collection and analyses, and finally by providing direct quotes from participants which captured diversity in MCHNs demographic characteristics and experiences.</p> |
| Dependability | This refers to the extent to which the research and reporting process are systematic and can be replicated if the study were to be repeated within | To strengthen dependability, I provided a detailed and step-by-step description of my methodology, including research design, recruitment, piloting, data storage, and analysis. I also used Braun and Clarke's (2006) six step process during my analysis, which provides details of each step I took during the process of analysis. Throughout all this, I maintained a detailed audit trail for each stage of the study. |

a comparable setting.

Finally, the study was reported in compliance with the Consolidated criteria for Reporting Qualitative Research (COREQ) (Tong et al., 2007) (Appendix 10).

| | | |
|----------------|--|---|
| Confirmability | This refers to the objectivity of the findings, including the extent to which the study's findings could be corroborated by other researchers. | Confirmability was strengthened by having a multidisciplinary research team (consisting of myself and my two primary supervisors) with expertise in midwifery, mental health, public health, and women's health, who reviewed the data and coding, and enriched the analysis and corroborated the study's findings, conclusions, and recommendations. |
|----------------|--|---|

Ethical consideration

A low-risk ethical application was submitted to Science, Health and Engineering (SHE) College Human Ethics Sub-Committee (HEC) and to the Department of Health and Human Services (DHHS), Centre for Evaluation and Research. The study was approved by SHE College HEC on 23/01/2019 (Reference number: HEC18512), and the DHHS on 28/03/2019 (Appendices 1 and 2 respectively).

Participants were provided with a detailed Participant Information Statement when invited to participate in Study Two (Appendix 7) and Study Three (Appendix 8) which included a description of the purpose of the study, how their information would be managed, and that they were free to withdraw from the study at any time.

Electronic data were kept on university servers, and password protected. Care was taken to ensure no quotes or other information used in presentations or publications could be used to identify any of the participants.

All participant information remains strictly confidential. For reporting, each participant's identity has been concealed through the use of codes, and no names or identifying characteristics have been included in any published results. The study data management strategy including data organisation, backup, sensitive data protection, and archiving data follows the Australian Code for the Responsible Conduct of Research (National Health and Medical Research Council, 2018). Verbal consent to participate and for the interview to be audio-recorded was obtained prior to the commencement of all interviews. The audio-recorded interviews were transferred from the recording device to a password protected file in the La Trobe University Cloudstor server which is only accessible by student researcher and supervisory team.

Summary

This chapter provided a detailed description of the methodologies used in Studies Two and Three, including the qualitative and quantitative designs, population sample and size, recruitment, analysis, reporting, and ethical considerations. Chapters Nine to Eleven discuss the results of these studies, which are presented across three published manuscripts:

1. *Results from Study Two (paper one):* Disparities in postnatal depression and anxiety screening: Results from a cross-sectional survey of Maternal and Child health nurses in Victoria, Australia
2. *Results from Study Three (paper two):* Barriers and enablers to postpartum depression and anxiety screening: A qualitative study of Victorian maternal and child health nurses' practices
3. *Results from Study Three (paper three):* Barriers and facilitators to supporting women with postnatal depression and anxiety: A qualitative study of maternal and child health nurses' experiences.

Chapter Nine: Disparities in postnatal depression and anxiety screening: Results from a cross-sectional survey of Maternal and Child Health Nurses in Victoria, Australia

Study Two

This chapter supports the overarching aim of this research by describing MCHNs' self-reported knowledge of, and attitude toward screening for postnatal depression and anxiety, and identifying factors which impact screening in line with recommended guidelines.

The chapter presents the published paper of Study Two. Drawing on a KAP framework, this cross-sectional study aimed to 1) describe MCHNs' self-reported knowledge of, and attitude toward PNDA and screening; 2) describe MCHNs' screening practices; and 3) identify factors which impact screening in line with recommended practice.

Arefadib, N., Cooklin, A., Nicholson, J. M., & Shafiei, T. (2022). Disparities in postnatal depression and anxiety screening: Results from a cross sectional survey of Maternal and Child Health Nurses in Victoria, Australia. *Sexual & Reproductive Healthcare*, 33, 100737.

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Authors' contribution

| | |
|---|--|
| Nature and extent of candidate's contribution | 80% contribution by candidate: Conceptualization, methodology, survey design, data collection, data analysis, piloting oversight, interpretation of results, writing – original draft, writing – review & editing. |
| Nature and extent of co-authors contribution | 20% contribution by co-authors: Conceptualization, methodology, data analysis, interpretation of results, writing – review & editing. |

Candidate signature:

Date: 06/02/2023

Principal supervisory signature:

Date: 06/02/2023



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Disparities in postnatal depression and anxiety screening: Results from a cross sectional survey of Maternal and Child health nurses in Victoria, Australia

Noushin Arefadib^{*}, Amanda Cooklin, Jan M Nicholson, Touran Shafiei

Judith Lumley Centre, School of Nursing and Midwifery, George Singer Building, La Trobe University, Bundoora, Victoria 3086, Australia

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ABSTRACT

Objectives: To describe Maternal and Child Health nurses' self-reported knowledge of, and attitude toward screening for postnatal depression and anxiety, and identify factors which impact screening in line with recommended guidelines.

Methods: A population-based, cross-sectional study of all Maternal and Child Health nurses in Victoria, Australia. Data were collected in 2019 through an online survey designed to fit a Knowledge, Attitude and Practice framework. Descriptive analyses were conducted to describe participant characteristics, self-reported knowledge, attitude, and practices. Bivariate and multivariate regression analysis were performed to evaluate associations between screening practices and nurses' attitude toward screening and a range of sociodemographic variables. **Results:** Two hundred and eighteen Maternal and Child Health nurses participated in the study. Participants viewed screening as an important part of their role and screened all mothers at least once in the first 12 month postpartum. <35% routinely did so more than once in the first 12 months postpartum, and 31% were able to adhere to the recommended use of psychosocial assessments as part of their screening practice. After adjusting for confounding factors, nurses practicing in communities with greater socio-economic advantage were significantly more likely to conduct psychosocial assessments (aOR 3.93, 95% CI 1.47–10.49) and screen more than once (aOR 2.91, 95% CI 1.18–7.13), compared to nurses who worked in disadvantaged communities.

Conclusion: Place-based inequities in nurses' screening practices serve to widen the gap in health outcomes between advantaged and disadvantaged mothers. Policy and practice strategies must consider the systematic challenges that contribute to this phenomenon and embed place-based strategies which address them.

Introduction

Postnatal depression and/or anxiety (PNDA) is a significant public health issue [1], impacting 17% to 20.7% of all mothers [2,3]. Early detection is central to treatment and minimising the adverse effects of PNDA on women and their families [4]. The Edinburgh Postnatal Depression Scale (EPDS) [5] is the most frequently used screening tool for postnatal depression [6]. Although the EPDS was originally developed to screen for possible depression [7], the absence of a screening tool for anxiety disorders with adequate evidence in the postnatal period, combined with a growing body of evidence which suggests that the EPDS is helpful for identifying symptoms of postnatal anxiety [6], has led countries such as Australia to recommend that the EPDS is used

to screen for both postnatal depression and anxiety [8].

Screening with a validated screening tool such as the EPDS is largely acceptable to women and healthcare professionals [9] and can increase rates of detection, referral, and service utilisation [10,11]. In Australia, clinical guidelines recommend that the EPDS is administered to screen all new mothers at six to 12 weeks postpartum and readministered at least once more in the first postnatal year. It is also recommended that a psychosocial risk assessment, designed as a series of questions intended to ascertain a woman's risk for mental health difficulties (such as a history of depression), is carried out in conjunction with the EPDS [8]. Despite this, evidence suggests that certain structural (e.g. lack of referral options) and individual (e.g. the belief that the EPDS is an ineffective tool) barriers can hinder screening in accordance with

^{*} Corresponding author.

E-mail addresses: N.Arefadib@latrobe.edu.au (N. Arefadib), A.Cooklin@latrobe.edu.au (A. Cooklin), J.Nicholson@latrobe.edu.au (J.M. Nicholson), T.Shafiei@latrobe.edu.au (T. Shafiei).

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recommended guidelines [12].

In countries such as the United Kingdom and Australia, PNDA screening is typically carried out by community-based nurses or midwives, referred to as Maternal and Child Health nurses (MCHNs) in Victoria. MCHNs offer free universal support to all mothers with children from birth to five years in the form of 10 Key Ages and Stages (KAS) visits, making them well placed to monitor and respond to existing or emerging mental health needs of postnatal women. Victorian MCH practice guidelines [13] require MCHNs to screen all new mothers during the four-week KAS consultation by conducting a psychosocial assessment and administering the EPDS where indicated.

While a lack of routinely collected screening data from MCHNs means that there is no robust evidence regarding their screening practices [14], scoping and systematic reviews of international evidence suggests that many healthcare workers, including nurses, do not screen in ways which are consistent with recommended guidelines [15]. Reasons for this include lack of adequate training, lack of time, and inadequate referral options [12].

To our knowledge, no prior studies have examined Victorian MCHNs' PNDA screening practices or the factors which impact them. Anecdotal evidence from Victorian healthcare professionals highlights that screening practices among MCHNs is irregular and that system-wide constraints hinder screening in accordance with recommended guidelines [16,17].

To ensure that best practice guidelines are reflected in routine practice, we must first understand MCHNs' knowledge of, and attitude toward, PNDA and screening, and how (if at all) these impact their screening practices. Knowledge, Attitude and Practice (KAP) studies measure a population's knowledge, personal beliefs, and actions toward a specific topic, such as PNDA screening [18]. This evidence can be instrumental in identifying potential knowledge gaps and behavioural patterns that might influence the implementation of public health interventions [18]. Drawing on a KAP framework, this cross-sectional study aimed to 1) describe MCHNs' self-reported knowledge of, and attitude toward PNDA and screening; 2) describe MCHNs' screening practices; and 3) identify factors which impact screening in line with recommended practice.

Methods

Design

A population-based, cross-sectional survey, in which an online self-report questionnaire was sent to all MCHNs in Victoria via email.

Participants

MCHNs (approximately 1300 currently practicing) across all 79 Victorian Local Government Areas (LGAs). Inclusion criteria were: 1) undertaking KAS visits with new mothers as a primary component of their role, and 2) currently practicing in Victoria as an MCHN for a minimum of six months.

Procedure

Invitations to participate were sent by the Municipal Association of Victoria (the peak body for local government), to all MCH coordinators across all LGAs. Coordinators were asked to forward the email request to MCHNs in their respective LGA. Interested participants were directed to a 20-minute online survey, set up in REDCap electronic data capture tools [19] from the link provided in the email. A participant information statement, outlining information pertaining to the study's purpose, eligibility conditions, data storage, and how participant anonymity would be ensured, was attached to the first 'page' of the online survey. The first 'page' of the survey also asked MCHNs to read and endorse (tick) a series of statements to indicate that they: 1) met the two

inclusion criteria (i.e. they were currently undertaking KAS visits with new mothers, and currently practicing in Victoria as an MCHN for at least six months); 2) had read the Participant Information Statement; and 3) consented to participating in the study. Survey commencement was not permitted until all eligibility and Participant Information Statements were endorsed. Participants responding 'no' to any of these items were directed 'out' of the survey and thanked for their interest.

Coordinators were sent three email reminders at 10-day intervals, asking them to remind their respective MCHNs to respond to the survey. Data were collected between June – November 2019.

Survey instrument

The study-specific survey was designed as a knowledge, attitudes, and practice assessment tool with regard to MCH nurse's screening and management of PNDA. Survey content was designed based on 1) a literature review of international evidence relating to best practice in screening for PNDA, as well as common barriers and enablers to PNDA screening in nursing and midwifery [20–25]; and 2) recommendations outlined in the Practice Resource Manual for Victorian Maternal and Child Health Nurses [26] and the National Perinatal Mental Health Guideline [8]. Questions were developed to fit a KAP framework and reflect the evidence on best practice, and barriers and enablers to screening. Study measures are presented as [supplementary material](#) (Appendix A). Face validity of the survey was evaluated through extensive consultation with clinicians and researchers at the Judith Lumley Centre, La Trobe University, with expertise in MCH nursing, nursing research, and/or research design. Additionally, two rounds of piloting were undertaken with a total of 11 MCHN colleagues (not included in the study), and seven public health researchers with either content knowledge or survey development knowledge. As a result of the piloting, minor modifications were made to the structure and wording of the survey questions

Analysis

Data from REDCap were imported to StataSE 14 [27] for cleaning and analysis. Some participants had missing data for certain variables; however, they were included in the analysis. Because missing data were not at random, they were not imputed.

Descriptive analyses were conducted to describe participant characteristics, self-reported knowledge, attitude, and screening practices, as well as barriers and enablers to screening in line with best practice. Based on national best practice guidelines, a new variable, 'practice according to recommended guidelines' was derived to identify MCHNs who simultaneously used the EPDS and carried out a psychosocial assessment as their routine method of screening (score "1 = yes") vs those who did not do both of these ("0 = no").

Bivariate logistic regression analysis was applied to evaluate possible associations between MCHNs' screening practices (specifically, practice according to recommended guidelines, and screening frequency) and their demographic characteristics, attitude toward screening, and concentration of socio-economic disadvantage in the LGAs where MCHNs worked. Data from the Australian Bureau of Statistics' (ABS) Socio-Economic Indexes for Areas [28] (SEIFA) was used as an indicator of each LGAs' relative socio-economic advantaged or disadvantaged, compared to other LGAs in Victoria. Using deciles ranging from one to 10, where the lowest 10% of areas are given a decile number of one and so forth, up to the highest 10% of areas which are allocated the decile number of 10. Decile one represents the most disadvantaged LGA relative to the other deciles. The ABS determine socioeconomic advantage and disadvantage by drawing on variables including income, education, employment, occupation and housing characteristics [28]. For the purpose of analysis, decile scores for socio-economic advantage and disadvantage were re-coded into "disadvantaged areas" (range one - five) and "advantaged areas" (range six – 10). Finally, multiple

regression analysis was carried out to adjust for potential confounders including age, years of professional experience, remoteness, attitude toward screening, and perceived availability of referral options. We did not adjust for Aboriginality, gender and country of birth given limited variation in these characteristics. All adjusted Odds Ratios (aOR) are reported with a 95% Confidence Interval (CI). P value of < 0.05 was considered to indicate statistical significance in all tests.

Ethics

This study was approved by the La Trobe University Human Ethics Committee (HEC18512) and the Department of Health and Human Services.

Results

After invitations were sent to all MCH Coordinators across all 78 LGAs, one LGA informed us that they would not be able to participate due to their participation in another study. Our final sample consisted of 218 MCHNs from 62 (of the 78 eligible LGAs) who opted to participate. We are uncertain if this represents active decline to participate on behalf of MCHNs, or lack of survey distribution by MCH Coordinators in all LGAs. With these caveats, we estimate our participation rate to be approximately 17%.

Participant characteristics are reported in Table 1. Participants were predominantly part-time employed (75%) and practicing in metropolitan areas (65%). The majority were born in Australia (90%) and spoke English as a first language (99%). Most (57%) had at least 10 years of professional experience as an MCHN and 52% were aged 55 years or older.

Analysis of missing data indicates that compared to participants with complete data, MCHNs with missing data were more likely to work in disadvantaged communities (54% versus 42%), rural areas (58% versus 38%), were older in age (54% versus 38%), and had more years of professional experience (52% versus 44%).

Table 1
Participant characteristics.

| | n (%) |
|---|------------|
| Years of experience as an MCHN (n = 218) | |
| < 1 | 14 (6.4) |
| 1–4 | 30 (13.7) |
| 5–9 | 50 (22.9) |
| 10–20 | 85 (39.0) |
| > 20 | 39 (17.9) |
| Employment hours (n = 217) | |
| Part-time | 162 (74.6) |
| Full-time | 36 (16.6) |
| Casual / Relief | 19 (8.7) |
| Gender (n = 214) | |
| Female | 214 (100) |
| Age (n = 218) | |
| 25–44 | 39 (18.0) |
| 45–54 | 64 (29.3) |
| 55 - >65 | 113 (52.8) |
| Undisclosed | 2 (0.9) |
| Country of birth (n = 210) | |
| Australia | 189 (90) |
| Other | 21 (10) |
| English first language (n = 216) | |
| Yes | 213 (98.6) |
| Aboriginal and/or Torres Strait Islander (n = 216) | |
| No | 215 (99.5) |
| Remoteness area (n = 204) | |
| Metro | 133 (65.2) |
| Rural/remote | 71 (34.8) |

Self-reported knowledge of PNDA and screening

Nurses' self-reported knowledge of PNDA and PNDA screening is described in Table 2. Overall, almost all participants (96%) agreed that they possessed the right skills to identify likelihood of PNDA. Self-reported knowledge pertaining to asking Aboriginal and/or Torres Strait Islander and Culturally and Linguistically Diverse (CALD) women about PNDA was slightly lower, at 65% and 77% respectively.

Attitudes toward screening

Nurses' attitudes toward screening are described in Table 2. The majority (97%) of MCHNs agreed that screening should be carried out universally and that they were adequately resourced (77%) and supported (80%) by their workplace to do so. Most (69%) agreed that screening should occur more than once. Less than half (48%) felt that

Table 2
MCHNs' self-reported knowledge and attitudes toward PNDA screening.

| | Disagree n (%) | Neutral n (%) | Agree n (%) |
|--|----------------|---------------|-------------|
| If a woman doesn't acknowledge her depression and/or anxiety, there is little I can do to help (n = 213) | 188 (88.2) | 14 (6.6) | 11 (5.2) |
| I don't have enough time to screen all women for PNDA (n = 213) | 174 (81.7) | 19 (8.9) | 20 (9.4) |
| It's important to speak with women about PNDA before screening (n = 212) | 17 (8.0) | 17 (8.0) | 178 (84.0) |
| The stigma/shame associated with mental ill health makes it difficult for me to screen for PNDA (n = 210) | 183 (87.1) | 15 (7.1) | 12 (5.7) |
| I can identify women at risk of PNDA without screening for it (n = 211) | 85 (40.3) | 53 (25.1) | 73 (34.6) |
| Only Enhanced MCHNs should screen for PNDA (n = 212) | 207 (97.6) | 2 (1.0) | 3 (1.4) |
| The EPDS is the best screening tool for PNDA (n = 205) | 20 (9.7) | 66 (32.2) | 119 (58.0) |
| The EPDS is an effective PNDA screening tool among culturally and linguistically diverse women (n = 207) | 77 (37.2) | 68 (32.8) | 62 (30.0) |
| The EPDS is an effective tool for PNDA screening among Aboriginal and/or Torres Strait Islander women (n = 203) | 41 (20.2) | 102 (50.2) | 60 (29.6) |
| ALL new mothers should be screened for PNDA MORE than once (n = 206) | 17 (8.2) | 47 (22.8) | 142 (69.0) |
| I am MORE likely to screen a woman for PNDA when I feel we have a trusting and warm relationship (n = 205) | 143 (69.8) | 31 (15.1) | 31 (15.1) |
| ONLY women presenting with multiple risk factors should be screened for PNDA more than once (n = 204) | 170 (83.3) | 18 (8.8) | 16 (7.8) |
| I don't feel comfortable discussing PNDA with women who are from a different cultural and/or linguistic background to my own (n = 206) | 181 (87.8) | 20 (9.7) | 5 (2.4) |
| My workplace has enough MCHNs to screen all women for PNDA (n = 206) | 20 (9.7) | 27 (13.1) | 159 (77.2) |
| My workplace provides me with the support I need to screen all women for PNDA (n = 205) | 16 (7.8) | 25 (12.2) | 164 (80.0) |
| I have a good understanding of the challenges faced by women experiencing PNDA (n = 201) | 4 (2.0) | 6 (3.0) | 191 (95.0) |
| I have the skills I need to screen for PNDA (n = 196) | 1 (0.5) | 7 (3.5) | 188 (96.0) |
| I know how to ask women from culturally and linguistically diverse communities about PNDA (n = 201) | 15 (7.5) | 31 (15.4) | 155 (77.1) |
| I know how to ask women from Aboriginal and/or Torres Strait Islander communities about PNDA (n = 200) | 15 (7.5) | 55 (27.5) | 130 (65.0) |
| I know exactly how to use the Edinburgh Postnatal Depression Scale (n = 201) | 2 (1.0) | 5 (2.5) | 194 (96.5) |

they had adequate referral options available to them once an identification had been made. While more than half (58%) agreed that the EPDS was the best PNDA screening tool, only 30% believed that it was an effective screening tool for CALD and Aboriginal and/or Torres Strait Islander women. Nearly 35% of MCHNs indicated that they could identify women at risk of PNDA without screening for it.

Overall screening practices

Nurses' overall screening practices, and the factors which can

Table 3
MCHNs' overall screening practices: timing, frequency and method.

| | n (%) |
|---|------------|
| In my practice as an MCHN I ... (n = 200) | |
| Routinely screen ALL women for PNDA | 137 (68.5) |
| Screen most women for PNDA | 60 (30) |
| Only screen women who I believe are at risk of and/or show signs of PNDA | 3 (1.5) |
| I routinely screen for PNDA during the following KAS visit(s)* (n = 201) | |
| 2 weeks | 11 (5.5) |
| 4 weeks | 179 (89.0) |
| 8 weeks | 43 (21.4) |
| 4 – 8 months | 41 (20.0) |
| 12 months | 8 (4.0) |
| In the first 12 months postpartum, I have screened women for PNDA more than once (n = 198) | |
| Always / most of the time | 69 (34.8) |
| Sometimes | 114 (57.6) |
| Rarely/never | 15 (7.6) |
| Which of the following screening resources do you most often use* (n = 197) | |
| EPDS | 194 (98.5) |
| Case-finding questions | 49 (24.9) |
| Psychosocial assessment | 61 (31.0) |
| Professional judgment | 130 (66.0) |
| I am less likely to screen women for PNDA when*... (n = 200) | |
| There is not enough time to do so | 63 (31.5) |
| The woman doesn't speak fluent English (and can't understand me without the use of an interpreter) | 58 (29.0) |
| The screening method I use depends on each woman's unique context/situation (n = 196) | |
| Yes | 74 (37.8) |
| No | 103 (52.5) |
| Unsure | 19 (9.7) |
| The screening method I use depends on how much time I have (n = 196) | |
| Yes | 33 (16.9) |
| No | 152 (77.5) |
| Unsure | 11 (5.6) |
| I am LESS likely to use the EPDS when I know the woman... (n = 200)* | |
| Has no history of family/personal mental illness | 26 (13.0) |
| Has a good support network | 23 (11.5) |
| I am more likely to use the EPDS more than once if the woman has multiple risk factors (n = 196) | |
| Yes | 176 (89.8) |
| No | 10 (5.1) |
| Unsure | 10 (5.1) |
| When using the EPDS, how often do you discuss PNDA before administering the tool? (n = 195) | |
| Rarely/sometime | 16 (8.2) |
| Often/ always | 179 (91.8) |
| When using the EPDS, how often do you go through the questions in a conversation (n = 194) | |
| Rarely/sometime | 128 (66.0) |
| Often/ always | 66 (34.0) |

* Multiple options available.

influence these, are described in Table 3. The majority of MCHNs (98%) reported routinely screening all/most mothers, with most (89%) doing so during the four-week KAS visit. Nearly all (98%) reported that the EPDS was their most frequently used screening resource and most (65%) also reported using their professional judgement in conjunction with the EPDS as a way of detecting likelihood of PNDA. Only one MCHN relied solely on their professional judgement as a form of screening. Just under 35% of MCHNs reported to routinely screening for PNDA more than once in the first 12 months postpartum.

Factors associated with screening frequency

Descriptive results (see Table 3) show that nearly 32% of MCHNs indicated that they were 'less likely to screen women for PNDA' when there was not enough time to do so, while 29% reported that they were less likely to do so when a woman did not speak fluent English and required an interpreter. Most (90%) said they were more likely to use the EPDS on more than one occasion if they had identified multiple risk factors, and 38% said that the screening method they used was 'dependant on each woman's unique situation'.

Results of the regression analyses comparing those nurses who screened once only to those who screened more than once are presented in Table 4. Results of the bivariate regression analysis revealed a significant association between socioeconomic status and screening frequency, where MCHNs who practiced in advantaged areas were significantly more likely to screen on more than one occasion in the first 12 months postpartum, compared to MCHNs who worked in disadvantaged areas (p = 0.01, OR 2.34, 95% CI 1.24–4.58). After adjusting for potential confounders (age, years of professional experience, remoteness, attitude toward screening, and perceived availability of referral options), the association between socioeconomic status and screening frequency remained significant (p = 0.02, aOR 2.91, 95% CI 1.18–7.13).

Nurses' screening practice according to best practice guidelines

Results pertaining to nurses' screening practices in accordance with recommended guidelines, are presented in Table 5. Only 31% of MCHNs were identified as screening in accordance with recommended practice guidelines (i.e. using the EPDS in conjunction with a psychosocial assessment). Results of the bivariate regression analysis identified a significant association between the socioeconomic status of the communities in which MCHNs worked and likelihood of adhering to best practice (p = 0.005, OR 2.68, 95% CI 1.34–5.36). Nurses who worked in advantaged areas were significantly more likely to adhere to recommended practice than those who worked in disadvantaged areas. After adjusting for potential confounders (age, years of professional experience, remoteness, attitude toward screening, and perceived availability of referral options) the association between socioeconomic status and screening in accordance with recommended practice remained significant (p = 0.006, aOR 3.93, 95% CI 1.47–10.49).

Discussion

To our knowledge, this is the first study to systematically examine the PNDA screening practices of Victorian MCHNs in line with recommended practice and offer insight into factors which may influence them.

With nearly all MCHNs reporting routine use of the EPDS to screen all mothers in the first 12 months postpartum, it is likely that universal screening has been embedded into practice. However, our findings suggest that this alone is not likely to translate into optimal and equitable outcomes for all women. It was notable that while 90% of MCHNs reported to screening at approximately four weeks postpartum, less than 35% consistently did so more than once in the first 12 month postpartum. This is problematic because while the diagnostic criteria for postpartum mood disorders specifies onset within four weeks

Table 4
MCHNs' screening frequency according to socio-demographic factors.

| | Screen more than once | | Unadjusted | | | Adjusted* | | |
|---|-----------------------|------------|------------|-------------|---------|------------|-----------|---------|
| | Yes | No | Odds Ratio | Conf int | P value | Odds Ratio | Conf int | P value |
| Remoteness (n = 184) | n (%) n (%) | | | | | | | |
| Rural | 21 (31.8) | 45 (68.2) | Reference | | | | | |
| Metro | 45 (37.8) | 74 (62.2) | 1.30 | 0.69 – 2.46 | 0.41 | 0.63 | 0.26–1.53 | 0.31 |
| Years of experience (n = 197) | | | | | | | | |
| ≥10yrs | 35 (31.0) | 78 (69.0) | Reference | | | | | |
| <10yrs | 34 (40.0) | 51 (60.0) | 1.49 | 0.82 – 2.68 | 0.19 | 1.51 | 0.73–3.13 | 0.27 |
| Age (n = 216) | | | | | | | | |
| 25–54 | 33 (35.87) | 59 (64.13) | Reference | | | | | |
| >/-55 | 35 (33.33) | 70 (66.67) | 0.89 | 0.49 – 1.61 | 0.71 | 1.08 | 0.52–2.24 | 0.20 |
| SEIFA (n = 189) | | | | | | | | |
| Decile 1–5 | 17 (23.6) | 55 (76.4) | Reference | | | | | |
| Decile 6–10 | 50 (42.4) | 68 (57.6) | 2.34 | 1.24–4.58 | 0.01 | 2.91 | 1.18–7.13 | 0.02 |
| Attitude: I CAN identify risk of PNDA without screening | | | | | | | | |
| Disagree/ neutral | 45 (34.9) | 84 (65.1) | 1.02 | 0.55 – 1.91 | 0.94 | 1.07 | 0.54–2.09 | 0.85 |
| Agree/ strongly agree | 23 (34.3) | 44 (65.7) | Reference | | | | | |
| External factors: I HAVE adequate referral options in my LGA | | | | | | | | |
| Disagree/ neutral | 24 (28.2) | 61 (71.8) | Reference | | | | | |
| Agree/ strongly agree | 44 (39.7) | 67 (60.4) | 1.67 | 0.91 – 3.06 | 0.09 | 1.10 | 0.93–1.30 | 0.24 |

*Adjusted for: all other variables in the table.

Table 5
MCHNs' screening practice according to recommended guidelines.

| | Best practice | | Unadjusted | | | Adjusted | | |
|---|---------------|------------|------------|-------------|---------|------------|------------|---------|
| | x | No | Odds Ratio | Conf int | P value | Odds Ratio | Conf int | P value |
| Remoteness (n = 184) | n (%) n (%) | | | | | | | |
| Rural | 17 (26.15) | 48 (73.8) | Reference | | | | | |
| Metro | 41 (34.45) | 78 (65.5) | 1.48 | 0.76 – 2.90 | 0.25 | 0.67 | 0.23–1.71 | 0.40 |
| Age (n = 216) | | | | | | | | |
| 25–54 | 28 (30.77) | 63 (69.23) | Reference | | | | | |
| ≥55 | 33 (31.43) | 72 (68.57) | 1.03 | 0.52 – 1.89 | 0.92 | 0.92 | 0.43–1.99 | 0.84 |
| Years of experience (n = 197) | | | | | | | | |
| ≥10yrs | 34 (30.36) | 78 (69.6) | Reference | | | | | |
| <10yrs | 27 (31.76) | 58 (68.2) | 1.07 | 0.58 – 1.96 | 0.83 | 0.91 | 0.42–1.96 | 0.81 |
| SEIFA (n = 189) | | | | | | | | |
| High disadvantage | 14 (19.44) | 58 (80.5) | Reference | | | | | |
| Low disadvantage | 46 (39.32) | 71 (60.6) | 2.68 | 1.34 – 5.36 | 0.005 | 3.93 | 1.47–10.49 | 0.006 |
| Attitude: I CAN identify risk of PNDA without screening | | | | | | | | |
| Agree/ strongly agree | 15 (22.39) | 52 (77.61) | Reference | | | | | |
| Disagree/ neutral | 45 (35.16) | 83 (64.8) | 1.9 | 0.95 – 3.71 | 0.07 | 1.93 | 0.93–4.03 | 0.07 |
| External factors: I have adequate referral options in my LGA | | | | | | | | |
| No/ neutral | 28 (28.3) | 71 (71.7) | Reference | | | | | |
| Yes | 32 (34.8) | 60 (65.2) | 1.34 | 0.70 – 2.5 | 0.33 | 1.01 | 0.84–1.19 | 0.95 |

postpartum [29], there is evidence to suggest that onset can occur well after four weeks postpartum [30]. In an Australian cohort study, Woolhouse et al [30] found that most women reported onset of depressive symptoms in the second six months postpartum. This suggests that effective identification of women who are likely experiencing PNDA is reliant on routinely screening more than once in the first 12 months postpartum. Findings from this study suggest that it is possible for mothers who experience onset of depression after four weeks postpartum to remain unidentified.

We were also concerned to find that only 31% of MCHNs were able to adhere to the recommended use of psychosocial assessments in conjunction with the EPDS. Psychosocial risk factors such as a history of depression, can greatly increase the risk of onset of PNDA [31]. Accurately identifying such risk factors, by means of a psychosocial assessment, is central to the process of screening and the establishment of appropriate care pathways [31].

We also identified significant place-based variations in MCHNs' screening practices, where MCHNs practicing in disadvantaged areas were significantly less likely to screen more than once, and less likely to conduct psychosocial assessments. This raises serious questions regarding whose needs for support are most likely to be identified, and

whose are most likely to be missed. Our findings are consistent with existing evidence that PNDA is less likely to be identified among people who experience socioeconomic disadvantage, versus those who do not [32]. In a 2014 UK national survey, Redshaw and Henderson [32] found that in the postnatal period, women who lived in the most disadvantaged areas, were from a culturally and linguistically diverse background, and had lower educational attainment were significantly less likely to be asked about their mental health than those who did not. Possible reasons for these disparities include lack of adequate referral options in more disadvantaged areas, lack of professional training (including cultural competency training), the belief among some healthcare workers that the EPDS is not an appropriate screening tool for ethnic minority mothers, and lack of time [12,32].

In a recent systematic review, Prady et al [33] found that midwives were less likely to enquire about postnatal depression among mothers who were not proficient in English because they were concerned that using an interpreter added a time burden. Our findings support this evidence. In particular, we found that nearly 30% of MCHNs said that they were less likely to screen at all if a mother did not speak fluent English and required an interpreter; and only 30% of MCHNs believed that the EPDS was an effective PNDA screening tool for CALD and

Aboriginal and Torres Strait Islander mothers. Such findings are particularly striking in light of evidence that in 2017–18, Australians living in the most disadvantaged areas were more than twice as likely to experience high psychological distress than those living in the least disadvantaged areas (18% versus 9% respectively) [34]. Moreover, Indigenous and CALD mothers are significantly more likely to reside in areas with higher concentration of socioeconomic disadvantage than Anglo-Australian mothers, as are single parent families, typically headed by a woman [35,36]. According to the ABS [35] 48% of Indigenous Australians live in the bottom fifth most disadvantaged areas, compared to only 18% of non-Indigenous Australians. Similarly, findings from the longitudinal Refugees, Housing and Social Inclusion Survey [36] showed that more than half (54%) of the CALD respondents lived in areas with the greatest concentration of disadvantage.

The pattern of inequity in MCHNs' screening practices identified in this study is an important phenomenon that has been observed in other healthcare settings [37]. This is sometimes referred to as the 'double jeopardy' phenomenon, which maintains that concurrent socioeconomic disadvantages often result in inferior health and wellbeing outcomes, compared to sole or nil disadvantages [38]. This is further compounded by what Hart [39] refers to as the "inverse care law", where those who face the greatest risk of adverse health outcomes are also those who are less likely to be screened and treated. For example, in a recent study of Medicare data for the period 2006–11, Schpero et al [37] found that compared to their white counterparts, black and Hispanic Americans were significantly less likely to receive quality and effective care. Our study echoes this complex interplay between disadvantage and service provision, and the likely impact that it can have on widening existing health disparities.

Finally, given the discrepancy in our missing data (i.e. MCHNs working in disadvantaged and rural areas were more likely to have missing data), it is plausible that if a greater proportion of MCHNs in these areas had completed more survey items, an even greater disparity in screening practices would have been apparent between MCHNs working in high and low disadvantaged neighbourhoods, as well as rural and urban areas.

Limitations

This is the first study to explore Victorian MCHNs' knowledge, attitude and practice regarding PNDA screening. The survey was evaluated by MCHNs and researchers with relevant expertise in MCH nursing, underwent piloting, and was based on a comprehensive review of the literature. While the survey was comprehensive, its length may have resulted in our less than anticipated response rate. Our data collection relied solely on self-reported measures, which increases likelihood of social desirability and other forms of response bias. However, this may have been reduced given that the survey was anonymous. Our small sample size means that we cannot be confident that our findings are true of all MCHNs in Victoria. However, while (to the best of our knowledge), the demographic profile of MCHNs is not publicly released by the Victorian Government, existing evidence [17,40] indicates that, similarly to our sample, most Victorian MCHNs are over the age of 51 years, are part-time employed [17], work in metropolitan areas, and have over ten years of MCH practice experience [40]. This, coupled with the knowledge that at least one MCHN from 62 of the 78 LGAs participated in the study, provides some reassurance that our sample is broadly representative of MCHNs currently working in Victoria.

Other limitations pertain to the possibility that MCHNs who participated in this study did so due to a particular interest in perinatal mental health, which increases the risk of selection bias and nonresponse bias. The use of optional responses resulted in some questions remaining unanswered, however, given that no data currently exists on Victorian MCHNs' screening practices, we believed that completion of any part of the survey would strengthen the knowledge base. Finally, because all survey items referred to depression and anxiety simultaneously (i.e.

PNDA), our understanding of whether MCHNs' knowledge, attitudes and screening practices differ between the two remains limited. Moreover, because screening for postnatal anxiety is a more recent development, it is possible that our findings are more indicative of MCHNs' screening practices for depression than anxiety.

Lastly, while national and Victorian clinical practice guidelines [8,13] recommend the EPDS for both depression and anxiety screening, it is important to acknowledge that there are presently no validated screening tools for perinatal anxiety disorders that satisfy the requisite level of evidence for accuracy [8]. Further research is needed to understand whether MCHNs' knowledge, attitudes and screening practices for postnatal depression and anxiety vary.

Conclusions

Our study has important implications for future research and practice. The frequency with which MCHNs see mothers over the postnatal period offers a unique opportunity to identify and support mothers who require mental health supports. However, our findings highlight place-based disparities in MCHNs' screening practices, which can only contribute to widening existing health inequities between mothers in the most advantaged and disadvantaged areas. While recommended practice guidelines promote a homogenous approach to PNDA screening among all MCHNs, for some, this has not translated into everyday practice. Our study highlights systematic challenges, such as a lack of time and inadequate referral options, which can hinder MCHNs' ability to consistently screen for PNDA in accordance with recommended practice guidelines. Best practice policies must be accompanied by effective implementation strategies which include place-based initiatives that can support equitable screening (and access to supports) for all mothers, as well as ways to systematically monitor, evaluate and improve practice. Further research is needed to better understand the screening disparities that were identified in this study and how to address them.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.srhc.2022.100737>.

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Supplementary results

In addition to the findings presented in the above manuscript, there is one crucial survey finding not highlighted in the above manuscript, and it relates to the professional training and development needs of MCHNs (Table 8).

MCHNs were asked to select the type of training they would have liked to receive to support their PNDA screening and management practices. As indicated in Table 8, an overwhelming majority of Victorian MCHNs highlighted that they would like to receive training in culturally responsive ways of working with CALD and Aboriginal and/or Torres Strait Islander women.

Table 8 Nurses' self-identified training needs

| I would like further training in (please select ALL that apply) (n = 164) | N (%) |
|---|----------|
| Culturally appropriate ways of screening and responding to culturally and linguistically diverse women experiencing or at risk of PNDA | 148 (90) |
| Culturally appropriate ways of screening and responding to Aboriginal and/or Torres Strait Islander women experiencing or at risk of PNDA | 137 (83) |
| How to screen for PNDA | 32 (20) |

Conclusion

The findings of this study show that there are considerable differences in how MCHNs screen for PNDA depending on the extent of socio-economic disadvantage in the communities in which they practice. The pattern of inequity in MCHNs' screening practices will undoubtedly have real life consequences on the health and well-being outcomes of many Victorian women and their families, with those who face the greatest risk of adverse health outcomes also being less likely to be identified and treated. This study highlights the urgent need for policy and practice initiatives that can support equitable screening (and access to supports) for all mothers, as well as ways to systematically monitor, evaluate and improve practice.

The next chapter presents the first part of findings from Study Three (qualitative interviews), and continues to explore in greater depth, the complexities of how MCHNs screen for PNDA and the factors that influence their practices.

Chapter Ten: Barriers and enablers to postpartum depression and anxiety screening: A qualitative study of Victorian maternal and child health nurses' practices

Study Three (a)

This chapter supports the overarching aim of this research by providing an in-depth understanding of MCHNs' screening practices, and the factors which impact them. Qualitative descriptive design with semi-structured interviews were used and the findings are presented in the published paper of Study Three (a) (semi-structured qualitative interviews).

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Authors' contribution

| | |
|---|---|
| Nature and extent of candidate's contribution | 80% contribution by candidate: Conceptualization, methodology, data collection, data analysis, interpretation of results, writing – original draft, writing – review & editing. |
| Nature and extent of co-authors contribution | 20% contribution by co-authors: Conceptualization, methodology, data analysis, interpretation of results, writing – review & editing. |

Candidate signature:

Date: 06/02/2023

Principal supervisory signature:

Date: 06/02/2023

Barriers and enablers to postpartum depression and anxiety screening: A qualitative study of Victorian maternal and child health nurses' practices

Noushin Arefadib B Psych, M Hum Rights PhD Candidate | Amanda Cooklin BA (Hons), MPH, PhD | Touran Shafiei B Mid PhD

Judith Lumley Centre, School of Nursing and Midwifery, George Singer Building, La Trobe University, Bundoora, Victoria, Australia

Correspondence

Noushin Arefadib, Judith Lumley Centre, School of Nursing and Midwifery, George Singer Building, La Trobe University, Bundoora, Victoria 3086, Australia.
Email: n.arefadib@latrobe.edu.au

Abstract

In Victoria, Australia, Maternal and Child Health nurses (MCHNs) play a key role in facilitating the timely identification of Postnatal Depression and Anxiety (PNDA). Understanding MCHNs' screening practices, and the factors which impact them, is central to ensuring that future screening policy agendas are evidence-based and able to support MCHNs in carrying out this critical work. Yet, little is known about this subject. The purpose of this study was to gain an in-depth understanding of MCHNs' screening practices, and the factors which impact them. Qualitative descriptive design with semi-structured interviews were used. Participants were MCHNs who had been practicing for a minimum of 6 months and regularly saw new mothers. Purposeful sampling was used to facilitate diversity across participant characteristics. Twelve MCHNs were interviewed between March and May 2021. Thematic analysis was conducted to identify patterns across our data. Qualitative content analysis was then used to identify issues which were most emphasised by MCHNs. Two themes were identified. Theme one, 'variations in screening practices', pertained to MCHNs' various screening practices (i.e., who, when, how) and the factors which influence them. Theme two, 'systemic barriers hinder equitable screening', pertained to factors which hindered equitable screening practices. Results indicate that systemic barriers contribute to inconsistent and inequitable screening practices, with women from culturally and linguistically diverse backgrounds less likely to be screened in line with best practice. Our findings emphasise an urgent need for MCHNs to be allocated with the resources required to screen all women equally, regardless of their cultural background.

KEYWORDS

anxiety, midwifery, postnatal depression, public health nursing, qualitative analysis, screening

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1 | INTRODUCTION

Postnatal depression and/or anxiety (PNDA) affects between 10 and 21% of all mothers in the immediate postpartum period up until 12 months (Fawcett et al., 2019; Woody et al., 2017) and if untreated, can adversely impact the long-term well-being of mother and child (Slomian et al., 2019). Routine screening for PNDA using a validated tool facilitates a standardised approach to screening, which is central to fostering a reliable and consistent method of PNDA identification (and management) for all women, regardless of their socio-economic status. Moreover, use of a validated tool improves detection as well as referral and service utilisation by women (Reilly et al., 2020; Waqas et al., 2022; van der Zee-van den Berg et al., 2017), and is associated with improved maternal mental health outcomes (O'Connor et al., 2016; Reilly et al., 2020). In a recent systematic review of randomised controlled trials involving postpartum or pregnant women, O'Connor et al. (2016) found as much as 9% absolute risk reduction in depression prevalence at 3–5 months follow-up among women who were screened, compared to those not screened routinely.

The Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987) is the most commonly utilised screening instrument for postnatal depression (Levis et al., 2020) and its efficacy (characterised as having a positive effect on depressive symptoms, services referred to or utilised and impact on women's mental health) is supported by a substantial body of evidence (Austin et al., 2019). Although it was initially developed to screen for symptoms of depression (Cox & Holden, 2003), there is accumulating evidence that the EPDS can also identify symptoms of anxiety (Smith-Nielsen et al., 2021). This, along with established evidence that screening with the EPDS is overall acceptable to women and healthcare workers (El-Den et al., 2015), has led the World Health Organisation (2022), as well as countries such as Australia, to recommend use of the EPDS to screen for both postnatal depression and anxiety (Austin et al., 2019).

In Victoria, the important task of screening for PNDA is assigned to Maternal and Child Health Nurses (MCHNs), whose role is comparable to that of Health Visitors in the United Kingdom and public health nurses in Canada (Premji et al., 2019). MCHNs offer free universal services to all Victorian families with children (from birth to school age), through the provision of 10 Key Ages and Stages (KAS) visits intended to support optimal maternal and child health. Victorian MCH practice guidelines (Department of Health and Human Services, 2019b) recommend that MCHNs screen all mothers, by conducting a psychosocial assessment and administering the EPDS during the four-week KAS visit (attended by 97% of all Victorian mothers) (Department of Health and Human Services, 2019a).

Data pertaining to the PNDA screening practices of MCHNs are not routinely collected (Productivity Commission, 2020). However, findings from a 2018 inquiry into perinatal services by the Family and Community Development Committee (Family and Community Development Committee, 2018) indicated that Victorian PNDA screening is not universal and that MCHNs (and other healthcare

What is known about this topic

- Maternal and child health nurses play a critical role in reducing the global burden of postnatal depression/anxiety by facilitating its timely identification.
- Systemic barriers can hinder screening practices in line with recommended practice guidelines.

What this paper adds

- Our results indicate the absence of a systematic approach and an overall lack of uniformity in screening practices between maternal and child health nurses.
- Nurses were largely reluctant to administer the Edinburgh Postnatal Depression Scale to women from culturally and linguistically diverse backgrounds, particularly those with limited English proficiency.
- Nurses relied predominantly on their professional judgement to identify postnatal depression/anxiety among non-English speaking mothers, resulting in screening practices which were potentially inequitable.

providers) face concurrent systemic barriers to universal screening, including a lack of time, insufficient workforce screening competency and limited referral pathways. To our knowledge, no prior studies have examined Victorian MCHNs' PNDA screening practices and/or the factors which impact them, leading to a considerable gap in our understanding regarding this critical issue. Early identification of PNDA necessitates detection in universal services, including the MCH service. Understanding the screening practices of MCHNs, as well as the factors which influence them, is an imperative first step toward facilitating the conditions and supports MCHNs require to effectively identify and support women experiencing PNDA. This evidence is also essential for the development of service delivery models that are evidence-based and tailored to facilitate optimal outcomes for women and their families.

This study is the second phase of a two-phased mixed methods study (phase one was a cross-sectional survey of all MCHNs practicing in Victoria) into MCHNs' knowledge, attitudes and practices relating to the screening (and management) of PNDA in Victoria, Australia (2019–2020). The goal of this study was to gain a comprehensive understanding of PNDA screening practices among Victorian MCHNs, and the factors which influence them.

2 | METHODS

2.1 | Design

A qualitative descriptive design was used. Qualitative descriptive studies examine events and experiences in their natural state and allow a comprehensive presentation of a phenomenon in the

language of participants (Sandelowski, 2000). To that end, the intent of this approach is to convey facts, and the meanings attributed to these facts, as defined by participants. The study is reported in compliance with the Standards for Reporting Qualitative Research (SRQR) (O'Brien et al., 2014).

2.2 | Participants and recruitment

Eligible participants were MCHNs who: (1) undertook KAS visits with new mothers as a primary component of their role, and (2) had been practicing in Victoria as an MCHN for a minimum of 6 months and (3) had agreed to be re-contacted following participation in phase one. The final survey question in phase one asked if MCHNs would be willing to participate in a follow-up interview. Those who said 'yes' were invited to provide their best contact information. A total of $n = 62$ MCHNs agreed to be interviewed, of which purposive sampling was used to ensure variability in participants' attitudes toward screening, age, years of professional experience, geographical area (metropolitan versus regional) and concentration of socio-economic disadvantage in the Local Government Area (LGA) in which they practiced. Data from the Australian Bureau of Statistics' (ABS) Socio-Economic Indexes for Areas (SEIFA) (Australian Bureau of Statistics, 2016) used as an indicator of each LGAs' relative socio-economic disadvantage (low vs. high), compared to other LGAs in Victoria. The ABS determine socio-economic disadvantage by drawing on variables including income, education, employment, occupation and housing characteristics.

Twelve MCHNs were initially invited to participate via email. Of these, one no longer worked as an MCH, and three were uncontactable, at which point (using the same recruitment method) four more MCHNs were invited to participate. The sample size was determined by the principle of saturation (Saunders et al., 2018). Saturation is widely acknowledged as the 'gold standard' for defining sample size in qualitative research, signifying that (based on the already collected and/or analysed data) additional data collection is largely redundant (Saunders et al., 2018). Based on this definition, the research team agreed that data saturation was reached after 10 interviews; however, two additional interviews were conducted for confirmation.

2.3 | Data collection

Between March and May 2021, interviews with semi-structured questions were held via Zoom videoconferencing (Inc, 2016). The first author emailed all participants a participant information statement (detailing the study's purpose, eligibility conditions, data storage and how anonymity would be maintained) 2 weeks prior to each interview, and again 48 h before each interview. Prior to all interviews, participants were requested to acknowledge that they had read the participant information statement and were given the opportunity to ask any questions or express any concerns regarding

TABLE 1 Interview guide

| |
|--|
| Can you tell me about how you identify new mums who may be experiencing PNDA? |
| What has been your experience with hospitals sharing relevant information with the MCH service about women's mental health (e.g., upon discharge, antenatally or any known history of mental ill health)? |
| In your experience, is identifying postnatal anxiety different in any way to identifying postnatal depression? (e.g., is the process of identification any different? Is it easier or more challenging to identify?) |
| What is your approach to screening women from non-English speaking or culturally diverse backgrounds? (e.g. do you apply the same process of identification? Is it more/less challenging?) |
| What is your approach to screening ATSI women? |
| Is there anything we have not discussed today regarding this issue that you think is important and would like to share? |

their involvement in the study (none had any questions or concerns). Following this, verbal consent to participate, and for the interview to be audio-recorded on a recording device were obtained prior to the commencement of all interviews. An interview schedule (Table 1) was prepared based on preliminary findings from the survey results from phase one. Prior to the study, pilot interviews were held with three MCHNs (not included in the study sample) which resulted in minor changes to the wording of some questions. All interviews were conducted by the first author and lasted between 30 and 45 min.

2.4 | Analysis

All interviews were transcribed verbatim and anonymised. Data were analysed using thematic and qualitative content analysis. Commonly employed in qualitative descriptive studies, thematic and content analysis were selected for this study because of their suitability for undertaking exploratory research in an area where relatively little is known (Vaismoradi et al., 2013). A decision to use theme methods of analysis together was made because while Braun and Clarke's (2006) approach allowed us to apply a systematic and replicable approach to identifying, organising and reporting patterns across our data, content analysis provided an opportunity to confirm these patterns and better understand their significance by counting the number of times each response was identified (Vaismoradi et al., 2013). Counting the number of repetitions allowed us to identify which issues were most emphasised by MCHNs.

First, thematic analysis, using Braun and Clarke's (2006) six-step process, was conducted. This involved coding the data in an iterative process where two members of the research team initially coded three interviews separately and discussed any variations until consensus were reached. The remaining nine transcripts were then coded by the first author who engaged in regular discussions with the co-authors during this process to ensure methodological rigour. Similar codes were grouped together, and themes were identified and defined in a joint process by all authors. Qualitative content

analysis (Sandelowski, 2000) was then used to confirm and better understand each theme by counting the number of times each response (code) was identified (Figures 1 and 2). Counting the number of repetitions allowed us to identify which issues were most emphasised by MCHNs. Data are presented in themes and frequency.

Thematic and content analysis are commonly used in nursing research and were chosen for this study due to their unique suitability for conducting exploratory research in an area where little is known (Vaismoradi et al., 2013). Furthermore, thematic analysis has the added benefit of being a versatile and effective research method that can facilitate the nuanced understanding of rich and complex data (Braun & Clarke, 2006).

2.5 | Ethics considerations

This study was approved by the La Trobe University Low Risk Human Ethics Committee (reference HEC18512) and the Department of Health and Human Services, Centre for Evaluation and Research.

3 | RESULTS

3.1 | Participant demographic characteristics

Our sample consisted of 12 MCHNs, working across 11 Local Government Areas (LGAs) in regional ($n = 4$) and metropolitan ($n = 8$) Victoria. Participants were all female and predominantly worked part-time (Table 2). Most participants were between 45 and 54 years old and had between 10 and 20 years of experience as an MCHN. Seven MCHNs worked in communities with low socio-economic status, and half had indicated (in study one) that they were able to identify PNDA without screening for it (i.e., without use of a tool such as the EPDS).

3.2 | Themes

Two overarching themes were identified. Theme one, 'variations in screening practices', included three subthemes relating to MCHNs' various screening practices (i.e., who, when, how and how often) and the co-occurring factors which influence them (Figure 1). Theme two, 'systemic barriers hinder equitable screening', included two subthemes pertaining to the factors which impact equitable screening practices (Figure 2). Representative quotes from a range of MCHNs have been included, along with brackets containing each MCHNs' unique deidentified code and the geographical area in which they work—MCHNs working in a regional area are identified with 'R' and those working in metropolitan areas are identified with 'M' (e.g., MCHN 1, M).

3.2.1 | Theme one. Variations in screening practices

Screening: Who, when, how often and why

Overall, screening for PNDA was focussed on mothers (rather than all parents), however three MCHNs made attempts to also screen fathers by offering them the EPDS tool. They specified that screening fathers was not a workplace requirement, but a personal preference.

MCHNs all said that they screened mothers (in some capacity) during the 4-week KAS visit (as per Victorian practice guidelines). Three MCHNs said that this timing posed a possible threat to accurately identifying PNDA, given that most new mothers were still adjusting to motherhood at 4-week postpartum. Despite their view, all said that they continued to screen at the 4-week visit because, of the 10 KAS appointments they provided, this was the only appointment where there was additional time allotted specifically for PNDA screening.

"It's common knowledge that that's probably too early... I don't think you get an accurate, what's going on, because they're still recovering from the birth and everything at four weeks." (MCHN 6, R).

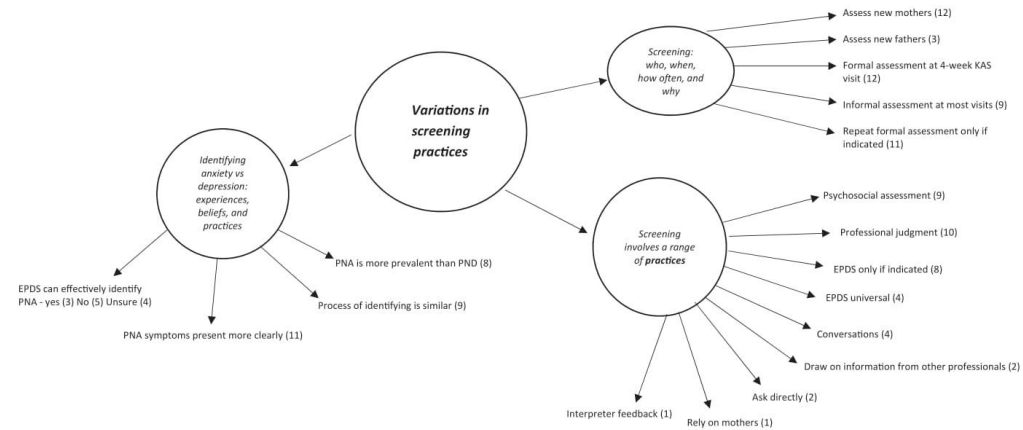


FIGURE 1 Variations in screening practices.

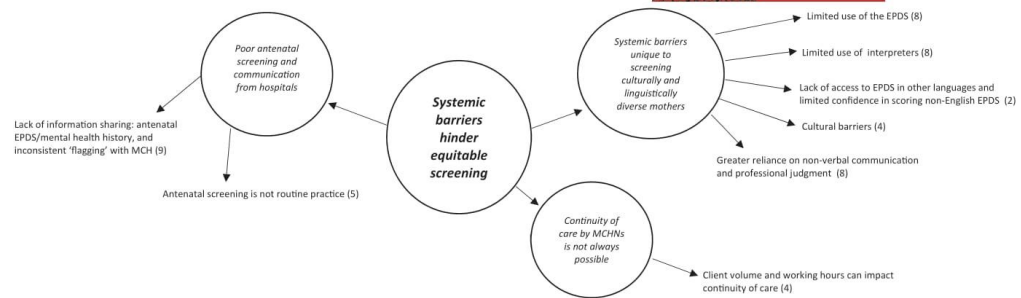


FIGURE 2 Systemic barriers hinder equitable screening.

TABLE 2 Demographic information of participants ($n = 12$)

| Age | n (%) |
|--------------------------------|----------|
| 45–54 | 6 (50) |
| 55–64 | 4 (33) |
| ≥65 | 2 (17) |
| Years of experience as an MCHN | |
| 3–9 | 2 (17) |
| 10–20 | 7 (58) |
| > 20 | 3 (25) |
| Role | |
| Universal MCHN only | 6 (50) |
| Enhanced & Universal MCHN | 5 (42) |
| Enhanced MCHN only | 1 (8) |
| Employment hours | |
| Part-time | 9 (75) |
| Full-time | 2 (17) |
| Casual / Relief | 1 (8) |
| Gender | |
| Female | 12 (100) |
| Remoteness area | |
| Metro | 8 (67) |
| Regional | 4 (33) |
| Level of disadvantage in LGA | |
| High Disadvantage (1–5) | 7 (58) |
| Low Disadvantage (6–10) | 5 (42) |

Following the formal 4-week assessment, most MCHNs ($n = 9$) said that they typically conducted an informal 'check-in' with mothers at each visit thereafter, to enquire about how they were feeling.

"I do it at every appointment pretty much... just ask how they're going emotionally." (MCHN 1, M).

"I always just ask general questions like, how are you travelling at the moment?" (MCHN 10, R).

However, nearly all ($n = 11$) said that repeated administration of the EPDS (after the 4-week visit) took place only if indicated. This was typical if a mother presented with poor affect (e.g., she was

tearful), verbalised that she was not coping, scored high on the initial EPDS and/or responded 'yes' to EPDS item-10 (i.e., thoughts of self-harm), did not appear to bond with her baby, and if the MCHN felt that she had not responded truthfully to the initial EPDS. Reasons for not repeating the EPDS (unless indicated) were: the belief that they were not required to do so ($n = 4$); lack of time ($n = 3$) and competing workplace priorities, particularly family violence screening ($n = 2$). The only MCHN who said she screened all mothers twice, said that her workplace provided additional time (at 3-month postpartum) to do so.

"There is no workplace policy (to repeat EPDS). It's just at our discretion." (MCHN 11, R).

"(PNDA) was top of the list of figures we were all talking about... But now, family violence is. And I think with my clients, family violence is probably more of a problem." (MCHN 3, M).

Screening involves using a range of practices

Most MCHNs ($n = 9$) said that they typically began their screening process by conducting some form of psychosocial assessment. However, there were notable practice variations between MCHNs regarding what this entailed. Four MCHNs used the 'parents and carers psychosocial assessment' questionnaire—a set of standard questions recommended by the Victorian Department of Health and Human Services (Department of Health and Human Services, 2019c). However, most took a less structured approach and used certain questions they had 'come up' with over their years of practice and/or looked for other indicators, such as reviewing hospital discharge notes regarding delivery complications, gestation at birth and medical history ($n = 5$). Some also enquired about current or past family/domestic violence ($n = 4$), and the level of family or social support available to mothers ($n = 2$).

"...questions I've come up with over the years (like): have you ever experienced depression in the past, or anxiety – or anyone in the family?" And that's pretty much all we say about it." (MCHN 12, M).

"If they've had the delivery from hell, or they've got a really prem baby...then I put a flag on their system." (MCHN 4, M).

Findings from the psychosocial assessment were often used to partially inform what most MCHNs ($n = 10$) felt was their most

reliable screening tool: their own experience and professional judgement. Sometimes referred to as 'experience and common sense' or a 'gut feeling', these MCHNs believed that while the EPDS was a useful screening asset, it was not as reliable in identifying PNDA as their professional judgement.

"Oh, look, it's experience and common sense." (MCHN 2, M).

"The Edinburgh just usually ends up confirming what you were thinking about with that mum." (MCHN 9, M).

In addition to the psychosocial assessment, most ($n = 8$) looked for the presence or absence of certain conditions or factors, to inform their professional intuition. These included: issues relating to infant sleep and settling, changes in mother's physical or emotional presentation, greater frequency of appointments initiated by mothers, and infant's presentation.

"You can see it in their body. If they ring you frequently ... or if the baby's not sleeping well, you think hang on a minute what's going on here?" (MCHN 1, M).

Personal views regarding what anxiety 'looked like' could also influence professional judgements:

"You feel they're not doing well. She's very anxious and it's not her first baby... that's what concerns me most." (MCHN 5, M).

"If I do a home visit, and the house is spotless, I think 'righto, I'm going to keep an eye on this lady. She's putting a lot of pressure on herself.'" (MCHN 11, R).

While all MCHNs said that they used the EPDS, most ($n = 8$) did not do so with every mother. MCHNs were less likely to administer the EPDS when: mothers did not read or speak fluent English ($n = 8$); mother's affect was 'normal' and/or she said she was feeling okay ($n = 4$); they believed that administering the EPDS to all mothers was not a workplace requirement ($n = 3$); they faced additional work and time pressures resulting from the COVID-19 pandemic ($n = 1$); or they had concerns regarding the likelihood of family violence and the mother's partner was present ($n = 1$).

"It's not something we have to do, it's only if we feel it's needed, if she (mother) said she wasn't managing." (MCHN 6, R).

"We have to clean the rooms before and after each appointment (due to COVID) and we still only have 45 minutes for those appointments. You tend to take shortcuts to keep your time management in place." (MCHN 12, M).

Despite not using the EPDS with all mothers, three MCHNs said that they always asked or talked about EPDS item-10 (relating to thoughts of self-harm) with all mothers. In fact, attaining an honest response to item-10 was very important to most MCHNs ($n = 8$).

"Number 10 is the big one, red flag and I tell them I'm really worried about them...I don't muck around with a "yes" to number 10." (MCH 8, M).

Moreover, overall EPDS scores offered most MCHNs ($n = 8$) important indicators, provided red flags, prompted urgent action, as well as plans for referral and follow-up.

"...if you get a score of 0 or 1, to explore that, and to actually ask if there's any reason that they wouldn't have filled it out honestly." (MCHN 5, M).

"...if she scores 12,13 or 14... we'd refer her." (MCHN 8, M).

Other ways of screening, in conjunction with those already described, included: conversations to 'check in' and explore ($n = 4$); asking mothers directly if they felt they were experiencing PNDA ($n = 2$); relying on mothers to be forthcoming about experiencing PNDA ($n = 1$); or drawing on feedback from interpreters ($n = 1$).

"I always preface it: 'I'm going to ask you the hard questions now. [Will you accept that]?... and then ask, are you aware of postnatal depression? Do you think that's you at the moment?'" (MCHN 7, R).

"It's not uncommon for an interpreter to talk to us after the consultation and say, 'I don't think she's telling us the whole story.'" (MCHN 5, M).

Identifying anxiety vs depression: Experiences, beliefs and practices

Five MCHNs expressed the view that depression and anxiety were often comorbid. However, most ($n = 8$) felt that anxiety was significantly more prevalent (than depression) and experienced by most mothers.

"Anxiety would be one of the most common referral criteria for my role, more so than depression. Everyone's saying, Anxiety, anxiety, anxiety." (MCHN 10, R).

"...in my experience, most women have anxiety. It's the age of anxiety." (MCHN 2, M).

MCHNs shared different views regarding why anxiety was so prevalent, including: anxiety was more socially acceptable and less 'taboo', making it easier to talk about ($n = 3$); mothers (particularly educated mothers) had unrealistic expectations of motherhood ($n = 2$) and mothers were choosing to have children later in life ($n = 1$).

"Maybe because everyone is talking about it, it's okay to be anxious." (MCHN 10, R).

"Upper middle-class people, well educated, with very high expectations of themselves." (MCHN 8, M).

Most MCHNs ($n = 9$) said that identifying PNA involved a similar process to that of identifying PND (i.e., combined use of psychosocial assessment, EPDS and professional judgement). However, all but one MCHN (who felt that she did not have a clear understanding of PNA) expressed that professional judgement was their most reliable tool for identifying PNA. Reasons for why professional judgement was so greatly relied upon were two-fold: first, MCHNs felt that symptoms of anxiety presented a lot more clearly than those of depression, making it easier to identify. MCHNs viewed obvious signs of anxiety as: increased frequency of contact by mothers, distressed demeanour and asking a lot of questions. Second, MCHNs ($n = 3$) had perceived mothers to be more forthcoming about their anxiety than depression.

"Just by observation, without even screening them. The anxiety displays itself very evidently by frequency of appointments; the questions asked..." (MCHN 5, M).

"You can tell with anxiety...mother's demeanour, pattern of speech, long list of questions they have." (MCHN 12, M).

Views regarding how effectively the EPDS could identify PNA varied: three MCHNs said that the EPDS effectively identified PNA, four were not sure either way and five said that it was not an effective tool for identifying anxiety. The most cited ($n = 5$) reason for

why the EPDS could not reliably identify PNA was that most of its questions related to depression, and that the anxiety specific questions were worded poorly, making it difficult for mothers to respond accurately ($n = 2$).

"It says, 'do you worry excessively for no apparent reason'... and it's like well, yeah, they worry but there's a reason for it." (MCHN 1, M).

3.2.2 | Theme two. Systemic barriers hinder equitable screening

Poor antenatal screening and communication from hospitals

Most MCHNs ($n = 9$) said that poor and inconsistent communication from hospitals was a common problem. This included inadequate information in the mothers' discharge summary regarding her mental health antenatally, and/or mental health history, lack of information regarding whether an EPDS was administered and/or an EPDS score, inconsistent efforts to communicate a need for urgent/priority contact by MCHNs following discharge.

"Never get a record of it, so in their discharge summary they would never put EPDS, which would be helpful." (MCHN 1, M).

"I can say that in the last 6–12 months, never (received information from hospital regarding mothers' mental health). Absolutely hopeless." (MCHN 2, M).

Some MCHNs ($n = 5$) believed that antenatal PNDA screening was not standard practice among most hospital healthcare workers, even in instances where mothers had a known history of depression and/or anxiety. Two MCHNs said that in their experience, mothers who gave birth at private hospitals were less likely to be asked about their mental health, while one MCHN said that physicians were less likely (than midwives) to conduct routine antenatal PNDA screening.

"(screening) depends on what hospital they've birthed at...private hospitals are shocking." (MCHN 10, R).

The combined impact of these challenges (lack of routine screening and poor communication from hospitals) meant that mothers who should have been flagged upon referral to MCH as 'at risk' or requiring more urgent attention were not always identified.

"I've just seen two babies that the private hospital should have flagged us, were quite urgent to see and they didn't. And I'm looking at them thinking they've been sitting there for a while." (MCHN 6, R).

Systemic barriers unique to screening culturally and linguistically diverse mothers

MCHNs identified a number of challenges which they felt made the identification of PNDA among Culturally and Linguistically Diverse (CALD) mothers (particularly those with limited English), significantly more difficult. These pertained to use of interpreters, administration of the EPDS, poor access to the EPDS in other languages, uncertainty around correctly scoring a translated EPDS and certain cultural barriers.

Most MCHNs (8) said that they did not routinely use an interpreter with Non-English-Speaking (NES) mothers due to: a lack of trust in how accurately things were being translated ($n = 8$), the additional burden of time it added to their already demanding workload ($n = 4$), and some mothers' reluctance to use an interpreter because they are known to them in the community ($n = 1$).

"I would never do it with an interpreter because I don't think the interpreter could interpret that and translate that well enough for us." (MCHN 10, R).

"...it takes forever (to use an interpreter), and we're really under the pump in time pressure." (MCHN 2, M).

Most MCHNs ($n = 8$) said that they seldom offered the EPDS to mothers who did not speak and read English well, unless she presented with obvious symptoms. The most common ($n = 8$) reason for not using the EPDS with every NES mother was reluctance to use an interpreter (due to the reasons outlined above). Other reasons included, a greater likelihood of illiteracy among NES mothers ($n = 3$), which made administering the EPDS in a mother's own language challenging.

Poor access to the EPDS in other languages and lack of confidence in adequately scoring a non-English EPDS ($n = 2$), and the belief that the EPDS just 'does not translate' ($n = 1$) were also identified barriers to its use among NES mothers.

"I have to find them first, which is never as easy as it should be ... then you'd have to work out which questions you score which way." (MCHN 3, M).

"The words that are in the actual questions don't translate properly into their own language. They tell me that, interpreters tell me the same." (MCHN 9, M).

While language barriers were predominantly unique to NES mothers, cultural barriers impacted NES and CALD mothers (who were proficient in English) equally. Specifically, MCHNs ($n = 4$) said that mental health was often viewed as a foreign and poorly understood concept within some CALD communities, that mental health (particularly poor mental health) was less likely to be openly discussed or acknowledged, and that there was a greater sense of distrust in institutions and services among some CALD communities.

"Usually it's something very foreign (mental health) they (CALD mothers) say no, that's right we don't talk about it". (MCHN 1, M).

"...I feel a lot like mental health in non-English backgrounds is a bit hidden. Not often spoke about." (MCHN 3, M).

"They (CALD mothers) are more likely to say everything's okay because they have got a fear of services.... they (worry) if they say they're not managing that we might then come in and take their kids." (MCHN 6, R).

As a result of these challenges, most MCHNs ($n = 8$) said that in lieu of the EPDS and a thorough psychosocial assessment, they relied on other things to identify PNDA among CALD/NES mothers. These included asking more direct questions (e.g., 'are you feeling sad?' or 'are you crying a lot?'), relying more on hand gestures and facial expressions, taking more notice of mothers' body language and demeanour, and looking for other signs (e.g., poor infant sleep).

"I ask them, 'Do you cry?' Well, I show them with my fingers what crying means, they say, 'No, no.' Or 'Yes, yes'. You can use your hands a lot." (MCHN 2, M).

"Their body language tells you something and then they talk about how bad baby's sleeping and he's a naughty boy and you go, hang on a minute." (MCHN 1, M).

4 | DISCUSSION

To our knowledge, no previous studies have undertaken a detailed investigation of the screening practices of Victorian MCHNs. This study offers new evidence which addresses this knowledge gap and has relevance for other similar systems in Australia and internationally.

Consistent with findings from comparable international studies, (Borglin et al., 2015; Kang et al., 2019; Noonan et al., 2017) we found that MCHNs were committed to identifying and supporting women experiencing PNDA. However, our results indicate the absence of a systematic approach to the identification of PNDA, and an overall lack of uniformity in screening practices between MCHNs. Although all said that they conducted some form of mental health assessment during the 4-week KAS visit, how this manifested in practice largely varied between MCHNs. While some conducted routine (and comprehensive) psychosocial assessments, most took a less structured approach, with obvious variations between MCHNs regarding which psychosocial risk factors were assessed. Similar findings have been reported in qualitative Australian studies by Rollans et al. (2013) and Sims and Fowler (2018) who found that MCHNs undertook psychosocial assessments in various ways, with Rollans et al. (2013) reporting that assessments were not always conducted in line with recommended guidelines. Although evidence regarding the use of structured psychosocial questionnaires versus a less structured approach is mixed (Austin, 2014), there is little debate that risk factors for PNDA are complex (e.g., domestic violence, substance misuse and history of abuse) (Ramakrishna et al., 2019; Zhao & Zhang, 2020). Gaining a comprehensive understanding of the number and nature of existing risk factors is critical to the provision of appropriate care pathways and is endorsed by Australian and other relevant international expert committees (Austin, 2014; Austin et al., 2017). Moreover, a comprehensive psychosocial assessment can facilitate important conversations and information sharing between MCHNs and the women they support (American College of Obstetricians and Gynecologists Committee, 2018; Austin et al., 2017).

Similarly, we found that while administration of the EPDs was largely at MCHNs' discretion, there was no systematic process in place to support MCHNs in making this important decision. To that end, MCHNs predominantly relied on their professional judgement to identify PNDA, with most deciding to administer the EPDS only if they believed PNDA symptoms were apparent. Our findings are consistent with existing evidence (Arefadib et al., 2021; Goldin Evans et al., 2015; Puspitasari et al., 2021) that highlight heterogeneous PNDA screening practices among healthcare workers, including

midwives. In a cross-sectional study of 118 healthcare workers, Puspitasari et al. (2021) found that nearly 40% used a validated screening tool only when women expressed PNDA symptoms.

Evidence suggests that screening with a validated tool (such as the EPDS) improves PNDA detection (Reilly et al., 2020) as well as professional responsiveness and screening frequency (Clevesy et al., 2019). Conversely, failure to screen with a validated tool, and relying predominantly on professional judgement, can result in approximately half of women with PNDA remaining undetected (Anding et al., 2015; Puspitasari et al., 2021). In a quasi-experimental study involving 104 community-based midwives, Anding et al. (2015) found that midwives who relied only on their professional judgement, failed to identify 50% of mothers experiencing severe postnatal depression. Previous research has shown that perceived lack of time and expressed negativity toward the EPDS tool reduces the likelihood of its used among MCHNs (Arefadib et al., 2021; Higgins et al., 2018), particularly when assessing CALD and NES mothers (Prady et al., 2021). Our results support this finding, demonstrating a clear pattern in MCHNs' reluctance to administer the EPDS to mothers from CALD backgrounds, particularly those with limited English proficiency.

A growing body of evidence indicates that immigrant women experience significantly higher rates of PNDA (Falah-Hassani et al., 2015; Giscombe et al., 2020; Ogbo et al., 2019) than their native-born counterparts. In a systematic review, Falah-Hassani et al. (2015) found that compared with non-immigrant women, the prevalence of PND among immigrant women was 1.5 to 2 times greater. Moreover, those with limited local language ability experienced a greater prevalence of PND than immigrant women proficient in the language of the host country. Considering this evidence, we were concerned to find that poor English proficiency was the most frequently cited barrier to MCHNs administering the EPDS. This was mostly due to MCHNs reluctance to utilise an interpreter, given the additional burden of time associated with communicating through an interpreter, and the belief that interpreters were unable to effectively translate what was being said. Similar findings were reported in a systematic review by Prady et al. (2021) who found that midwives evaded use of interpreters because it was time consuming. We found that in the absence of interpreters and the EPDS tool, MCHNs relied solely on their professional judgement and even resorted to hand gestures to ask women important questions about their mental health. There is evidence to suggest that such screening discrepancies contribute to inequitable PNDA identification among CALD mothers universally (Arefadib et al., 2021; Prady et al., 2021; Redshaw & Henderson, 2016).

4.1 | Strengths and limitations

This is the first study to explore in detail, Victorian MCHNs' PNDA screening practices and highlights opportunities for a more systematic and equitable approach to PNDA screening.

Our purposeful sampling facilitated diversity across a range of participant personal and professional characteristics. We also

adhered to recommended strategies to ensure validity, reliability and rigour (Korstjens & Moser, 2018). Our study also has several limitations. It is possible that our results are influenced by self-selection bias given that those who participated in the study may have a special interest in perinatal mental health, and as such their views and practices do not accurately reflect those of all MCHNs.

Finally, because all 12 participants were aged 45 or older, and most had over 10 years of professional experience, we cannot be certain that our findings are reflective of the experiences of MCHNs with less clinical experience. However, while the Victorian government does not publicly share the demographic profile of MCHNs, existing evidence suggests that, like our sample, the majority of Victorian MCHNs are over the age of 45 and have more than 10 years of experience as an MCHN (Family and Community Development Committee, 2018; Hooker et al., 2021). This offers some encouragement that our sample is largely representative of Victorian MCHNs.

5 | CONCLUSION

Our findings have significant implications for future policy, research and practice. While best-practice guidelines support a uniform approach to PNDA screening, our findings reveal systemic barriers which impede equitable PNDA screening, irrespective of women's cultural background, language and literacy skills and the setting in which they give birth. MCHNs can be better supported to carry out their important work by having access to continued education, training and mentorship regarding PNDA, as well as the EPDS, particularly its application among mothers from non-English speaking backgrounds. Additionally, there is an urgent need to improve antenatal PNDA screening and the way in which hospitals (both private and public) communicate and share information with the MCH service. Such efforts are likely to promote a multidisciplinary approach to supporting better health and well-being outcomes for women and their families.

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CONFLICT OF INTEREST

The authors declare that they have no known conflict of interest, including any competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available upon reasonable request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ETHICS STATEMENT

This study was approved by the La Trobe University, Science Health & Engineering College Low Risk Human Ethics Committee (reference HEC18512) and the Department of Health and Human Services (DHHS), Centre for Evaluation and Research.

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Supplementary results

As described in Chapter Nine, one of the interview questions posed to MCHNs concerned the extent and nature of the professional training they had received regarding perinatal mental health, particularly PNDA screening and management. Although it was not discussed in the above manuscript, these results are reported here, and have important implications for MCHNs' ongoing training and development needs.

When asked if they had received any training relevant to perinatal mental health in the previous 24 months, including PNDA screening and management, all 12 MCHNs responded that they had not. When asked if they recalled completing any relevant mental health training during their careers as MCHNs, all responded that they had not and had no further comment about this. It is possible that many MCHNs lack the training required to adequately identify and support all women experiencing PNDA, despite the recommendations outlined in the Australian Clinical Practice Guideline (Austin et al., 2019). The implications of this finding for clinical practice, as well as for women experiencing PNDA are examined in Chapter Twelve: Discussion and Conclusions.

Conclusion

Victorian MCHNs are committed to identifying and supporting women experiencing PNDA. Despite this, a systematic approach to the identification of PNDA among MCHNs is lacking, with little uniformity in screening practices between MCHNs. Administration of the EPDS appears to be largely at the discretion of each MCHN, with the majority of MCHNs opting not to administer the EPDS to non-English speaking women, not using an interpreter to ask important psychosocial questions regarding PNDA risk factors and instead relying heavily on their professional judgment to identify PNDA symptoms and risk factors. This is especially problematic in light of evidence which indicates that failure to screen with a validated tool and relying predominantly on professional judgement can result in 50% of women with PNDA going undetected (Anding et al., 2015; Puspitasari et al., 2021).

This study's findings also emphasise the systemic challenges that limit equitable PNDA screening, such as inadequate collaboration and communication between hospitals and the MCH service and a general absence of a multidisciplinary approach to supporting women during the postnatal period. MCHNs also require greater training around use of the EPDS, particularly its application among mothers from non-English speaking backgrounds.

The next chapter presents the second part of findings from Study Three. Specifically, it explores MCHNs' experiences of supporting women following the identification of PNDA symptoms.

Chapter Eleven: Barriers and facilitators to supporting women with postnatal depression and anxiety: A qualitative study of maternal and child health nurses' experiences

Study Three (b)

Maternal and child health nurses play a key role in identifying women with postnatal depression and anxiety and facilitating their access to appropriate supports. Understanding how nurses carry out this work, and the conditions which impact their ability to do so, is critical to the development of service delivery frameworks that can facilitate optimal outcomes for women and their families. Despite this, little is known about this subject.

This chapter presents the published paper of the in-depth qualitative interviews with MCHNs about their experiences of supporting women once a 'positive' PNDA identification had been made, as well as barriers and enablers to providing adequate supports.

Arefadib, N., Shafiei, T., & Cooklin, A. (2022). Barriers and facilitators to supporting women with postnatal depression and anxiety: A qualitative study of maternal and child health nurses' experiences. *Journal of Clinical Nursing*. 00:1–12. <https://doi.org/10.1111/jocn.16252>

Authors' contribution

| | |
|---|---|
| Nature and extent of candidate's contribution | 80% contribution by candidate: Conceptualization, methodology, data collection, data analysis, validation, interpretation of results, writing – original draft, writing – review & editing. |
| Nature and extent of co-authors contribution | 20% contribution by co-authors: Conceptualization, data analysis, methodology, validation, interpretation of results, writing – review & editing. |


Candidate signature:

Date: 6/2/2023

Principal supervisory signature:

6/2/2023

Barriers and facilitators to supporting women with postnatal depression and anxiety: A qualitative study of maternal and child health nurses' experiences

Noushin Arefadib B Psych, M Hum Rights, PhD Candidate  | Touran Shafiei B Mid, PhD |
Amanda Cooklin BA(Hons), MPH, PhD

Judith Lumley Centre, School of Nursing and Midwifery, La Trobe University, Bundoora, Victoria, Australia

Correspondence

Noushin Arefadib, Judith Lumley Centre, School of Nursing and Midwifery, George Singer Building, La Trobe University, Bundoora, Victoria 3086, Australia.
Email: n.arefadib@latrobe.edu.au

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Abstract

Aims and objectives: To explore maternal and child health nurses' experiences of supporting women with postnatal depression and anxiety and the factors which impact these.

Background: Maternal and child health nurses play a key role in identifying women with postnatal depression and anxiety and facilitating their access to appropriate supports. Understanding how nurses carry out this work, and the conditions which impact their ability to do so, is critical to the development of service delivery frameworks that can facilitate optimal outcomes for women and their families. Despite this, little is known about this subject.

Design: A qualitative descriptive study.

Methods: Participants were maternal and child health nurses practicing for at least six months and regularly seeing new mothers in Victoria, Australia. Twelve nurses were interviewed. Thematic analysis was conducted to identify patterns across our data. Qualitative content analysis was used to identify issues which were most emphasised by nurses. Reporting complies with the COREQ checklist.

Findings: Three overarching themes were identified. Theme one pertained to steps taken by nurses following the identification of depression or anxiety symptoms and the shared challenges they encountered. Theme two concerned nurses' experiences of supporting women who required acute mental health interventions and the systemic barriers they faced. Finally, theme three related to how the existing service delivery model could be improved to better support nurses in their work.

Conclusions: The complex system within which nurses operate presents barriers that can impede their ability to respond to women with postnatal mental health issues. There is a need for service delivery frameworks that better support nurses and facilitates equitable access to mental healthcare.

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Relevance to clinical practice: Facilitating equitable access to all perinatal mental health services and interventions must be at the heart of all future policy, funding and service delivery frameworks.

KEYWORDS

Maternal child health, postnatal anxiety, postnatal depression, Public health nursing, qualitative study

1 | INTRODUCTION

Postnatal depression and/or anxiety (PNDA) impacts between 10% and 20% of all mothers (Falah-Hassani et al., 2017; Woody et al., 2017). Global evidence regarding the adverse and potentially long-term impact of untreated PNDA on maternal and child outcomes is well established (Slomian et al., 2019). Moreover, recent studies from the United States (Luca et al., 2020), Australia (PricewaterhouseCoopers, 2014, 2019) and the UK (Bauer et al., 2016) have identified a significant economic burden associated with undetected and untreated PNDA, resulting from ongoing healthcare costs and lost income. Conversely, systematic reviews of global studies, including those set in Australia, Canada and across Europe and Asia (Dennis & Chung-Lee, 2006; Dennis & Hodnett, 2007; Lumley et al., 2004) indicate that timely identification of PNDA through universal screening, followed by the facilitation of access to evidence-based interventions (e.g. peer support and cognitive behavioural therapy) is cost-effective, perceived by women as beneficial, and can significantly reduce PNDA symptoms and mitigate negative outcomes (Hadfield & Wittkowski, 2017).

Despite this, an alarmingly low proportion of women seek treatment (Dennis & Chung-Lee, 2006; Fonseca et al., 2015; Henshaw et al., 2013; Holt et al., 2017). In a cross-sectional study involving 656 Portuguese women, Fonseca et al. (2015) found that approximately 80% of women who screened positive for perinatal depressive disorders did not seek any professional supports. Similarly, in an Australian randomised controlled trial, Holt et al. (2017) found that 65% of women who screened positive for PND while receiving standard care, did not seek any form of treatment. Systematic reviews indicate that women's help-seeking behaviours are influenced by similar factors around the world (Dennis & Chung-Lee, 2006; Hadfield & Wittkowski, 2017). These encompass, but are not limited to, structural factors (e.g. screening practices among healthcare providers and availability of appropriate interventions); social factors (e.g. cultural stigma associated with mental illness and use of mental health services); personal factors (e.g. treatment preferences by women and views towards pharmacological treatments) and interpersonal factors which largely pertain to the provider-maternal relationship (e.g. women's perceived absence of judgement by the health worker) (Dennis & Chung-Lee, 2006; Hadfield & Wittkowski, 2017; Jones, 2019). To that end, Dennis and Chung-Lee (2006) maintain that healthcare professionals play a pivotal part in either impeding or facilitating women's access to appropriate PNDA supports.

What does this paper contribute to the wider global clinical community?

- Maternal and child health nurses hold a significant amount of responsibility in identifying women with symptoms of postnatal depression and anxiety and facilitating their timely access to appropriate supports.
- Understanding the factors which impede or facilitate nurses' ability to carry out this critical work is central to the development of service delivery models that are evidence-based and designed to facilitate optimal outcomes for women and their families.
- This study brings awareness to the professional needs of maternal and child health nurses in being able to effectively carry out their role, as identified by them.

In Victoria, Australia, identifying women with PNDA and facilitating their access to appropriate supports is largely the responsibility of dual registered nurse/midwives known as maternal and child health nurses (MCHNs) (Department of Health & Human Services, 2019). Maternal and child health nurses provide free universal care to all women with children aged birth to six years through the provision of ten (or more if required) key ages and stages visits with a focus on prevention, early identification and intervention for a host of maternal and child health issues, including PNDA (Department of Health & Human Services, 2019). With roughly 80% of all Victorian mothers visiting an MCHN approximately seven times in the first 12 months postpartum (Victorian State Government, 2019), MCHNs are exceptionally well-placed to identify and support women with PNDA. The MCHN role is comparable with that of the Plunket nurse in New Zealand (Honey & Westbrooke, 2016), Public Health Nurse in Ireland and Norway (Glavin & Leahy-Warren, 2013) and Health Visitors in the UK (Lowenhoff et al., 2017). Throughout this paper, the term 'MCHN' will be used to describe all nurses and midwives (discussed in the literature) whose role is comparable to that of Victorian MCHNs.

Victorian maternal and child health practice guidelines (Department of Health & Human Services, 2019) recommend that MCHNs screen all women for PNDA during the fourth week visit by performing a psychosocial assessment (i.e. enquiring about known psychosocial risk factors such as a history of mental illness and

family violence) and, where indicated, administering the Edinburgh Postnatal Depression Scale (Cox et al., 1987). Additionally, the guidelines recommend that MCHNs inform women of available support and referral options and facilitate access to these once a 'positive' identification has been made. However, the lack of routinely collected data pertaining to how MCHNs identify and support women with PNDA means that our understanding of this critical issue is limited.

This study is the second phase of a two-phased mixed methods study which aimed to generate new evidence to address this gap. Phase one was a cross-sectional survey of all MCHNs practicing in Victoria and examined MCHNs' knowledge, attitudes and practices relating to the screening and management of PNDA (2019–2020). The aim of the present study was to gain a deeper and more nuanced understanding of MCHNs' experiences of screening and supporting women following the identification of PNDA symptoms. This manuscript reports exclusively on the study's findings pertaining to the actions which took place once a positive PNDA identification was made, as well as the factors which influenced these. While MCHNs' screening and management practices are intrinsically connected and cannot be separated from one another in practice, the factors which influence each are overall distinct (Arefadib et al., 2021). In a recent scoping review of the range and nature of primary research on PNDA screening and management by MCHNs, Arefadib et al. (2021) found that MCHNs' PNDA screening practices were largely influenced by how they perceived their role, their attitude towards PNDA and screening tools, as well as their knowledge and training. However, MCHNs' management of PNDA, following identification, was influenced by availability of formal care pathways, availability and access to services, continuity of care and collaboration and cohesion between service providers. To the best of our knowledge, no previous studies have provided an in-depth assessment of MCHNs experiences following the identification of PNDA symptoms.

Understanding the nuances of how MCHNs support women with PNDA, and the conditions which impact their caregiving capacity, is critical to the development of service delivery models that are evidence-based and designed to facilitate optimal outcomes for women and their families. Moreover, it brings awareness to the professional needs of MCHNs in being able to effectively carry out their role, as identified by them. As such, this study aimed to 1) describe what actions MCHNs took once they had identified PNDA; and 2) understand the conditions/factors which impede or strengthen their ability to support women with PNDA effectively.

2 | METHODS

2.1 | Design

A qualitative descriptive design was used. Qualitative descriptive studies are committed to examining events or experiences in their natural state and allow a comprehensive presentation of a phenomenon in the everyday language of participants (Sandelowski,

2000). To that end, the intent of this approach is to convey facts, and the meanings attributed to these facts, as defined by participants. Qualitative descriptive studies are founded on the general principles of naturalistic enquiry (Colorafi & Evans, 2016; Lincoln & Guba, 1985), which centre on the concept of truth and require the researcher to observe events in their natural state without attempting to manipulate how events unfold. The study is reported in compliance with the Consolidated criteria for Reporting Qualitative Research (COREQ) (Tong et al., 2007) [Supplementary file].

2.2 | Participants and recruitment

Eligible participants were MCHNs who (1) undertook key ages and stages visits with new mothers as a primary component of their role (2) had been practicing in Victoria as an MCHN for a minimum of 6 months and (3) had participated in the phase one survey and agreed to be re-contacted for participation in the present study. The final survey question in phase one asked if MCHNs would be willing to participate in a follow-up interview. Those who said 'yes' were invited to provide their contact information (either phone or email address). A total of 62 MCHNs agreed to be interviewed, of which purposive sampling was used to ensure variability in participants' attitudes towards screening, age, years of professional experience, geographic area (metropolitan versus regional) and concentration of socioeconomic disadvantage in the local government area in which they practiced. Data from the Australian Bureau of Statistics' Socio-Economic Indexes for Areas (Australian Bureau of Statistics, 2016) used as an indicator of each area's relative socioeconomic disadvantage (low versus high), compared with other local government areas in Victoria. The Australian Bureau of Statistics determine socioeconomic advantage and disadvantage by drawing on variables including income, education, employment, occupation and housing (Australian Bureau of Statistics, 2016).

Twelve MCHNs were initially invited to participate via email. Of these, one informed us that she no longer worked as an MCH, and three were uncontactable, at which point four more MCHNs were invited to participate. The authors agreed that data saturation had occurred when the data acquired during the interviews became redundant and that additional interviews would add little to our understanding of the study subject. The authors perceived saturation after ten interviews; however, two additional interviews were carried out for confirmation.

2.3 | Data collection

Between March and May, 2021, interviews with semi-structured questions were held via Zoom, a cloud-based videoconferencing service (Inc, 2016). All interviews were conducted by the first author and lasted between 30 and 45 min. Verbal consent to participate and for the interview to be audio-recorded was obtained prior to the commencement of all interviews. An interview guide was created

to address gaps in our understanding regarding how MCHNs' managed PNDA. Questions were in part informed by the survey results of phase one, which highlighted these gaps. For example, we realised from the survey findings that we still had a very limited understanding of how MCHNs met the needs of women who required critical mental health supports. To address this gap, a question regarding this critical issue was included in the interview guide. Overall, questions were designed to strengthen our understanding of MCHNs PNDA management practices, and the conditions which influenced them. Prior to the study, pilot interviews were held with three MCHNs (not included in the study sample) to assess the suitability, wording and order of the questions to be asked, along with any issues which may have prevented us from obtaining quality data. This resulted in minor changes to the wording and ordering of some questions. Interview questions are presented in Table 1. All interview and participant data were stored on password protected computer files, operated by La Trobe University. All data will be securely stored for a minimum of 5 years following publication.

2.4 | Analysis

All interviews were anonymised and later transcribed verbatim. To facilitate authentic engagement with the data, the initial five interviews were transcribed by the first author; all subsequent interviews were transcribed by a professional transcription service. Data were analysed using thematic and qualitative content analysis. First, thematic analysis, using Braun and Clarke's (Braun & Clarke, 2006) six-step process, was conducted to systematically identify and organise patterns across our data. This involved coding the data in an iterative process where all three members of the research team initially coded three interviews separately and discussed any variations until consensus on codes and respective meanings were reached. Given the limited discrepancy between how the three authors assigned codes and meaning to the data, the remaining nine transcripts were coded by the first author who routinely sought feedback from the second and third authors during this process. All final codes were independently assessed by the second and third authors.

Similar codes were grouped together, and themes were identified and defined in a joint process by all authors. Qualitative content analysis (Sandelowski, 2000) was then used to confirm and better understand each theme by counting the number of times

TABLE 1 Interview guide

Can you tell me about what you usually do once you've identified a mum with PNDA symptoms?

What sorts of things are likely to influence your decision?

What do you typically do when you identify a mum who needs critical/urgent care?

What would make it easier for you to support mothers with PNDA?

Is there anything that we haven't discussed today that you feel is important and should be included in this conversation and certainly in this study?

each response (code) was identified. Counting the number of repetitions allowed us to identify which issues were most emphasised by MCHNs. Data are presented in themes and frequency (Table 2).

2.5 | Establishing credibility, transferability, and dependability

We followed Lincoln and Guba's (1985) strategies for strengthening trustworthiness in qualitative research, which includes criteria for credibility, transferability and dependability. Credibility relates to how accurately findings reflect the truth and are based on the assertions of participants (Korstjens & Moser, 2018; Lincoln & Guba, 1985). To strengthen our study's credibility, we used investigator triangulation, persistent observation of the data and relevant literature and prolonged engagement with the data (Korstjens & Moser, 2018). Transferability pertains to how accurately the findings can be transferred to other settings (Korstjens & Moser, 2018). To increase transferability, we provided context to participant's experiences, so that they would become meaningful to readers unfamiliar with components of the study (e.g. the MCH service). Dependability and confirmability relate to the extent to which the research and reporting process are systematic, transparent and accurate (Korstjens & Moser, 2018). To increase our study's dependability and confirmability, we maintained a detailed audit trail for each stage of the study.

2.6 | Ethics considerations

This study was approved by the La Trobe University, Science Health & Engineering College Low Risk Human Ethics Committee (reference HEC18512) and the Department of Health and Human Services (DHHS), Centre for Evaluation and Research.

3 | FINDINGS

3.1 | Participant characteristics

Our sample consisted of 12 MCHNs, working across 11 local government areas in regional ($n = 4$) and metropolitan ($n = 8$) Victoria. Participants' characteristics are reported in Table 3. Participants were all female and predominantly worked part-time. Seven MCHNs worked in communities with low socioeconomic status, and half had indicated (in study one) that they were able to identify PNDA without screening for it (i.e. without the use of a tool such as the Edinburgh Postnatal Depression Scale).

3.2 | Themes

Three overarching themes were identified. Theme one, 'what happens next? referral power, availability and access' comprised two

TABLE 2 Themes, sub-themes and frequencies

| Theme | Subtheme | Frequency |
|---|--|-----------|
| What happens next? referral power, availability and access | Referral power: an uneven distribution between MCHNs and GPs | 10 |
| | Availability and access—the role of place and socioeconomic status | 12 |
| In case of emergency | Mental health crisis supports: what are the options? | 12 |
| | Barriers to facilitating access to crisis and intensive supports | 11 |
| Going forward—how MCHNs can be better supported to facilitate women's | Not just nurses: the need for a multidisciplinary team and co-location of services | 8 |
| | More time and resources, not more training | 9 |
| | More direct referral power | 5 |

TABLE 3 Demographic information of participants (n = 12)

| | n (%) |
|--|----------|
| Age | |
| 45–54 | 6 (50) |
| 55–64 | 4 (33) |
| ≥65 | 2 (17) |
| Years of experience as an MCHN | |
| 3–9 | 2 (17) |
| 10–20 | 7 (58) |
| >20 | 3 (25) |
| Role | |
| Universal MCHN only | 6 (50) |
| Enhanced & Universal MCHN | 5 (42) |
| Enhanced MCHN only | 1 (8) |
| Employment hours | |
| Part-time | 9 (75) |
| Full-time | 2 (17) |
| Casual/Relief | 1 (8) |
| Gender | |
| Female | 12 (100) |
| Remoteness area | |
| Metro | 8 (67) |
| Regional | 4 (33) |
| Level of disadvantage in local government area | |
| High disadvantage (1–5) | 7 (58) |
| Low disadvantage (6–10) | 5 (42) |

sub-themes relating to MCHNs' typical steps following the identification of PNDA and the factors which influenced these decisions. Theme two, 'in case of emergency' included two sub-themes pertaining to how MCHNs facilitate women's access to acute mental healthcare and the challenges that they face when doing so. Finally, theme three, 'going forward—how MCHNs can be better supported in facilitating women's access to appropriate mental healthcare' comprised three sub-themes relating to how MCHNs could be better supported in continuing their important work. Representative quotes from a range of MCHNs have been included, along with brackets containing each MCHNs' unique de-identified code and the

geographic area in which they work—MCHNs working in a regional area are identified with 'R' and those working in metropolitan areas are identified with 'M' (e.g. MCHN 1, M).

3.2.1 | Theme 1: What happens next? referral 'power', availability and access

What happened after MCHNs had identified PNDA symptoms was overall determined by two factors: (1) who/where the MCHN had the 'power' to refer to; and (2) what services were simultaneously available and accessible. Findings pertaining to each are presented in two respective sub-themes.

Referral power: an uneven distribution between MCHNs and GPs

All MCHNs said that, unless they had identified an immediate risk of harm to mother and/or infant, their first step following identification of PNDA symptoms, was typically to refer women to a GP. Most MCHNs (n = 10) said that referring to a GP was their first step because they were extremely limited in who/where they could refer to, with most mental health services (e.g. psychologists) and facilities (e.g. mother-baby units) requiring a referral from a GP as a condition of access. Furthermore, MCHNs expressed that for women to receive financial reimbursement associated with the cost of accessing most mental health services, they were required to attain a 'Mental Health Treatment Plan' (MHTP), which only a physician had the authority to complete.

All we can do sometimes is (refer to GP)... If they (mothers) need more than that we're just going to hope their GP will do more... for us to rely on them to do the right thing by the client is hard. (MCHN 6, R).

Most MCHNs (n = 10) identified several issues with being so heavily reliant on GPs to support women with PNDA. The most cited issue (n = 7) was that the quality of care that women with PNDA received was directly proportional to how much interest each GP had in PNDA, how well-informed the GP was (e.g. symptomology, availability of local supports), and how 'seriously' they took PNDA. MCHNs described how this resulted in noticeable practice variations and inconsistencies between how each GP treated PNDA. They shared that while some

GPs provided ample information regarding a range of treatment options (e.g. medications and available support services), some solely offered antidepressants, and some even dismissed women's experience of PNDA.

I've had a mum I've sent off to the GP, and the GP rang me back and said, what do you want me to do about it? A lot of our GPs will say, you're a new mum, of course you're anxious. They downplay both at times (depression and anxiety), but more the anxiety. (MCHN 9, M).

... She went to see the GP. Put her on medication. I said, 'well, how about that referral for a counsellor for talking therapies?' and she said, 'oh, no, the GP just wants me to try the medication first. (MCHN 7, R).

I don't think the GPs have the time or the knowledge base to go that next step... you say, 'Okay, did you talk to your GP about this?' And she'll say, 'they didn't ask me any questions, so I didn't bother telling them.' So they've come back with no referral, no medication. (MCHN 10, R).

Four MCHNs also expressed that the prerequisite of having to see a GP before being able to use services served as a barrier to accessing supports, particularly for women who would benefit from it most—those struggling to stay on top of their daily activities, in addition to meeting the demands of parenthood. Furthermore, MCHNs viewed their limited referral power as a missed opportunity for facilitating women's access to supports at a time when they were likely to be most receptive to accessing it:

...they're being honest about their struggles, and you feel like this would be a great opportunity to refer them while they're receptive, and you're like, 'yeah, head off to the GP! Do they go? Are they going to be comfortable to discuss these things? It's just extending the process, and they can fall through the cracks because when your mental health is really bad, you're often not in a place to go off to the GP and talk about it. (MCHN 12, M).

The more there is to do for women with anxiety and depression, the less gets done. They are not able to get themselves to various appointments. (MCHN 3, M)

Lack of communication from GPs after a referral made by MCHNs was identified as problematic by six MCHNs, who felt that this resulted in disjointed ongoing service provision. MCHNs gave examples of writing referral letters, along with completed Edinburgh Postnatal Depression Scale forms, but failing to receive any follow-up communication from GPs. Three MCHNs felt that this lack of communication

may have been the result of GPs not valuing the role of the MCH service.

I've written a few letters (to GPs) recently and not heard a thing back which is very disappointing. I don't know how important they (GP) see our role. Ignorance maybe. (MCHN 1, M).

You normally hear nothing from the GP, even in emergency situations I think it's just they're time poor, or they don't value our service. (MCHN 12, M)

Availability and access—the role of place and socioeconomic status

All MCHNs described how availability of, and access to, appropriate mental health supports were significantly impacted by three key and often overlapping, factors: women's geographic location, financial means and ethnicity (particularly English proficiency). Three MCHNs described how their local council provided additional funding specifically for supporting women in the postnatal period, including home visitation programs for mothers experiencing, or at risk of, PNDA and supported playgroups (in various languages). Additional funding also meant that MCHNs were able to offer extra appointments to women who needed it. The provisions of these added supports meant that women requiring PNDA supports were more likely to access appropriate and timely supports. All three MCHNs worked in three respective affluent local government areas, with very low concentrations of socioeconomic disadvantage.

We're fortunate to receive good council funding on top of the State Government funding. So, just our availability of appointments means we can bring anyone back more frequently, without taking away from something else. (MCHN 5, M).

Conversely, nine MCHNs (seven of whom worked in local government areas with high concentrations of socioeconomic disadvantage) said that the lack of adequate PNDA support options, combined with an inability to offer additional appointments (due to limited funding) was a significant problem. Not only did this issue impact new mothers (who were unable to access timely supports), but it also resulted in MCHNs having to carry the ethical and moral responsibility of supporting mothers with PNDA, when no other service was available to do so. With no alternative available to them, many MCHNs resorting to using their personal time to contact women for follow-up and to ensure their safety. Fatigue, feeling emotionally and mentally overwhelmed and a sense of defeat was a broadly shared experience among these MCHNs.

It's important to know how much MCH nurses care. There comes a point where you've just got nothing else left to give and no other services that you can recommend (and) you're personally depleted. ...if we could do it the way we wanted to do it instead of what

we are left with because there's no funding, you'd do what really needed to be done... (MCHN 3, M).

I may, shock horror, contact the client if it's a Saturday, make sure they're all right. But then council are very clear to say, 'Oh, well, if you say or do something then, you're not protected by us.' (but) you can get emotionally involved...you care. (MCHN 2, M).

They (employer) don't want us to hold them but then give us the right supports or places to refer them to. Child protection won't even take half of them, so you're still holding them and that's a really big thing. (MCHN 1, M).

Lack of suitable PNDA support options for Culturally and Linguistically Diverse (CALD) women (particularly those with limited English) was identified by five MCHNs; while the lack of support options for women residing in regional areas was identified by all four MCHNs who worked across their four respective regional local government areas.

I think there's this silent epidemic in the health system of racism, cultural racism. And if you don't have good English, you can't bat for yourself, you're kind of screwed, really. (MCHN 2, M).

We are not (adequately resourced), because we're regional and we don't have the services. And, even less so out in the outer region of our shire. (MCHN 6, R)

Where services were available, most MCHNs described barriers to access, including long waitlists ($n = 8$), cost ($n = 5$) and distance/transportation issues ($n = 3$). MCHNs felt that issues relating to access predominantly impacted vulnerable and disadvantaged mothers who could not afford to pay for private treatment facilities, and/or costs associated with travelling to existing facilities.

A lot of them (mother-baby units) are private, and most of our clients don't have private health cover, so they can't afford it and public (mother-baby) beds are not available... there's huge waiting lists. It's bad news, which adds to depression, family depression. (MCHN 4, M).

Some of the most vulnerable ones are the ones at the lower socioeconomic and they can't go out of town, they can't go far... (services) can be two hours for them. So, if they're really unwell to get them to go anywhere is really difficult. And if you've got a mental health issue a waitlist is no good. (MCHN 6, R).

A private psychologist costs... your mental health plan doesn't cover it. And that's a problem for my (CALD) clients. (MCHN 3, M)

3.2.2 | Theme 2: In case of emergency

The experience of identifying, and responding to an emergency, that is an immediate risk of harm (to mother and/or child) was shared by all twelve MCHNs. Findings pertaining to how MCHNs supported women through this experience, as well as the challenges they faced along the way, are presented in the following two sub-themes.

Mental health crisis supports: what are the options?

MCHNs expressed that in instances where an immediate risk of harm (to mother and/or child) was identified, they had two main options available to them: (1) seven MCHNs said they would contact the Acute Community Intervention Service (ACIS)—an interdisciplinary team of professionals who assess risk and, where appropriate, respond to urgent requests for support in the event of a mental health crisis (Victorian Department of Health, 2014); and (2) five MCHNs said they would advise the woman to attend her closest hospital emergency department (ED), or call an ambulance to transport her to ED. While the 'Mother Baby Unit' (MBU) was also frequently identified ($n = 6$) as a suitable option for women experiencing acute PNDA, MCHNs advised that they did not have the ability to refer directly to this facility, which required a referral from a physician for access. For instances, where MCHNs had not identified an immediate risk of harm but believed that a woman required more immediate and intensive supports, existing options for this circumstance included referring to child protective services ($n = 3$) and/or to an enhanced MCHN ($n = 7$), who work with families experiencing multiple and concurrent complex challenges (e.g. family violence, drug and alcohol abuse).

Barriers to facilitating access to crisis and intensive supports

Most MCHNs ($n = 11$) identified a range of barriers associated with supporting women's access to these crises support options, the most frequent of which ($n = 6$) was the extremely high threshold for risk required for access to each.

Sometimes the nurses have assessed the client and have thought she's at considerable risk and ACIS has assessed them and disagreed. (MCHN 8, M)

...that's the only thing they're (ACIS) interested in; is your risk assessment and your information from your risk assessment. (MCHN 9, M)

They (Enhanced MCH) say, "is her mental health impacting her parenting ability?" Well, no, not at the moment. "Well, she's not in the enhanced criteria". (MCHN 12, M)

Other identified barriers to facilitating access to immediate/crisis support options included limited availability and the long waitlists this resulted in ($n = 5$):

We did have a lady, very severe postnatal depression, and we couldn't even get her into the mental triage at the hospital. The nurse that was dealing with it, was blocked at every door... (MCHN 11, R).

There is a lack of services...there's never any beds in the mother baby units. (MCHN 3, M)

Slow response time was another identified barrier. This related to either waiting a long time for the ACIS team to arrive, or having to wait in ED for a long time before being assessed, and the adverse impact that this can have on access ($n = 5$):

I'll often have to call them (ACIS) and then the mother has to sit around for ages. We're in the office still to make sure they're in a safe place. We're still trying to keep going with our work. Sometimes it's after hours before they even respond. (MCHN 4, M).

I find people don't want to go into emergency because... there's still that stigma. A lot of them don't want people to know that they're not well. And because they're not losing a leg or dying... they're generally there for a while waiting. (MCHN 6, R).

The final identified barrier pertained to limited integrated service delivery. This was characterised by lack of communication between crisis support services and the MCH service, particularly regarding long-term support plans set in place prior to discharge ($n = 2$).

...we ended up calling an ambulance to the hospital. They discharged the mum within three hours and not any services put in place. (MCHN 9, M)

3.2.3 | Theme 3: Going forward—how MCHNs can be better supported to facilitate women's access to appropriate mental healthcare

MCHNs identified numerous ways in which they could be better supported in ensuring that women experiencing PNDA can access appropriate and timely supports. These are presented in the following three sub-themes.

Not just nurses: the need for a multidisciplinary team and co-location of services

Most MCHNs ($n = 8$) working in both regional and metropolitan Victoria said that being able to effectively support mothers

experiencing PNDA required a multidisciplinary approach, characterised by the co-location of a team of professionals (e.g. psychologists, social workers, family support and domestic violence workers). MCHNs described the perceived benefits to this approach, including access to the expertise and support of other relevant professionals, with whom they could share the enormous responsibility of their work; as well as tackling some of the barriers to women accessing supports, such as distance, lack of transportation and long waitlists.

...a team of not just nurses but of counsellors, and family support workers... I think that's crucial so they can all work together because it's a tough gig. (MCHN 1, M)

Having a social worker sitting here next to me. Having those other people close by, that can help. (MCHN 11, R)

More time and resources, not more training

Lack of sufficient time to adequately support women experiencing PNDA, coupled with the long list of tasks that MCHNs were assigned with, was identified as a significant barrier to the provision of adequate care ($n = 9$). While MCHNs were not opposed to completing ongoing mental health-related training, they felt training was redundant without the simultaneous provision of adequate time for effective engagement and support delivery, as well as suitable referral options.

I don't need hours and hours of training around this, unless someone's going to give me the time to do the stuff. (MCHN 2, M)

The problem isn't training us up, it's finding somebody to refer to afterwards. Because, yeah, we'll do the screening... but then you've got to find somewhere to send the client. (MCHN 9, M).

More direct referral power

The benefits of being able to refer women directly to appropriate mental health services, particularly in circumstances where there was urgency around the provision of care, were identified by five MCHNs.

... we can't refer to (the mother baby unit) directly, which would be amazing if we could. Because it's so hard to get someone like that to go somewhere, to get that referral—they're not in a state to do that when they're that bad. (MCHN 11, R).

... they (GPs) only see people for 10 minutes. It's not realistic. I know they're very protective of their role and don't like to give things up...but I don't think we should have to rely on them. (MCHN 6, R).

4 | DISCUSSION

To the best of our knowledge, this is the first qualitative study to explicitly examine Victorian MCHNs' experiences of supporting women with PNDA and the factors which enable or impede their ability to do so effectively. We identified three overarching themes: theme one pertained to the typical steps taken by MCHNs following the identification of PNDA and how place, socioeconomic status and MCHNs' capacity to refer women directly to specialist services shaped these steps. The second theme concerned MCHNs' experiences of supporting women who required acute mental health interventions and the systemic barriers they encountered in facilitating access to such supports. Finally, theme three pertained to how the existing service delivery model could be improved to better support MCHNs to continue their important work with greater ease and efficacy.

We found that MCHNs' inability to directly refer women to specialist mental health services meant that they (and women) were largely dependent on GPs to facilitate women's access to appropriate psychological interventions, posing two fundamental issues. The first was that the requirement to attend another appointment at a different location posed a potential barrier to access for women whose PNDA symptoms made keeping up with daily tasks particularly challenging. This was concerning as it implied that those with more severe PNDA symptoms, and hence the greatest need for support, were potentially missing out on accessing much needed care. The assertion that women with PNDA are less likely to access support when faced with logistical barriers (e.g. travelling alone with an infant, lack of childcare and limited support) and the requirement to consult multiple professionals who are not co-located, is consistent with evidence from a recent UK study (Ford et al., 2019) where similar to Australia, primary care is central to the provision of health services (Weller, 2006). In their study of 71 postpartum women in the UK, Ford et al. (2019) found that 42% of women who screened positive for PNDA did not see their GP for support, citing the logistical challenge of attending the appointment as a primary reason. Moreover, despite differences in the healthcare systems of the United States and Australia, similar findings were reported in an American study by Albaugh et al. (2018) who found that of the 647 women referred for perinatal mental health treatment, those who were offered home visits or appointments that were co-located with their postpartum visit were four times more likely to access care.

The second issue with MCHNs' overwhelming reliance on GPs was that the quality of care received by women (e.g. whether she was asked about her mental health, how validated she felt if a disclosure was made, what information she received, what treatment options were provided) was largely dependent on their GP's knowledge of, and attitude towards PNDA. Evidence from a systematic review by Ford et al. (2016), which included studies from the United States, Australia, UK, Netherlands and Canada, supports this, showing that GPs' treatment options for PNDA were significantly influenced by their attitude, training and knowledge of PNDA. Moreover, how women perceive their therapeutic relationship, particularly if they

feel validated, listened to without judgement and are offered choice and control in all aspects of their care, is pivotal to how likely they are to access PNDA supports (Chew-Graham et al., 2009; Dennis & Chung-Lee, 2006; Hadfield & Wittkowski, 2017; Megnin-Viggars et al., 2015). In their systematic review of the experiences of 585 women from the UK, Canada, Japan and Australia, who had sought support for PND, Hadfield and Wittkowski (2017) found that having health workers minimise their symptoms was a commonly shared experience, leading many to refrain from discussing this issue again in subsequent appointments. Megnin-Viggars et al. (2015) reported similar findings in their systematic review of women's experiences in the UK indicating that women's access to postnatal mental health treatment was significantly hampered by their belief that their GP was unwilling to listen to, or was dismissive of, their psychological distress. Considering this evidence, we were concerned to find that many of the MCHNs in our study had encountered GPs who minimised women's PNDA symptoms and believed that depression and/or anxiety was a 'normal' response to the challenges associated with a newborn.

MCHNs also expressed concern regarding GPs' proclivity to recommend pharmacological interventions without offering women alternative options, including talk-therapy. Evidence suggests that women favour non-pharmacological interventions to treat PNDA and that many avoid seeking help if they anticipate that medication will be the only treatment option offered (Buist et al., 2006; Chew-Graham et al., 2009; Hadfield & Wittkowski, 2017). In a qualitative study which took place in 11 countries (eight European countries, Japan, Uganda and the United States), Oates et al. (2004) found that having someone to talk to and talk-therapy were universally indicated as a treatment preference among women with PND. Our finding regarding MCHNs' experiences of GPs' promoting the use of antidepressants over other forms of interventions is consistent with international evidence (Britt et al., 2016; Buist et al., 2006; Chew-Graham et al., 2009; Ford et al., 2016, 2019). In their systematic review, Ford et al. (2016) found that among GPs, antidepressants were the first and preferred option for treating PND (57%–92%). Similarly, in their UK study, Ford et al. (2019) found that of the women who had spoken with their GP about PNDA symptoms, 83% were offered antidepressants while only 29% were offered referral to therapy.

Our findings also indicate that scarcity of appropriate mental health referral options, including acute mental health services, was a challenge shared by many MCHNs. Moreover, where services were available, access was largely constrained due to barriers such as distance, limited transportation, cost and long waitlists. While issues pertaining to availability and access were widespread, our findings suggest that they may be particularly problematic in areas with greater socioeconomic disadvantage, rural/remote regions and communities with a large CALD/non-English-speaking population. Previous research supports this finding, indicating that vulnerable and disadvantaged women are less likely to access PNDA supports than their more advantaged counterparts due to a greater number of barriers to accessing care (e.g. cost, distance, limited transportation, language limitations and structural racism) (Falah-Hassani

et al., 2015; O'Mahony & Clark, 2018; Ogbo et al., 2018; Prady et al., 2021; Wright et al., 2018). In a recent study of the characteristics of mothers admitted to a mother-baby unit in Auckland, New Zealand, Wright et al. (2018) identified significant disparities in equity of access, with older, more educated, white women being admitted for PND, while Pacific Island and Asian women were only admitted if they had a diagnosis of schizophrenia or bipolar disorder. This was in contrast to the fact that Pacific Islander and Asian women had the greatest prevalence of PND in Auckland (Wright et al., 2018). Such findings are concerning given that low socioeconomic status, limited local language proficiency, being an immigrant (Falah-Hassani et al., 2015; Ogbo et al., 2018) and living remotely (Bilszta et al., 2008; Mollard et al., 2016; Villegas et al., 2011) are all the risk factors for greater likelihood of PNDA.

Additionally, we found that the absence of a coordinated and multidisciplinary approach to responding to the needs of women with PNDA created a strong sense of duty on the part of MCHNs to support these women when no other service/professional was available to do so. Evidence suggests that facilitating the accommodation of care through flexible appointment times and giving women the opportunity to talk about their feelings in an unrushed manner are central to enabling women to disclose their PNDA symptoms and is associated with greater likelihood of engagement with supports (Dennis & Chung-Lee, 2006; Hadfield & Wittkowski, 2017; Viveiros & Darling, 2018). Despite this, the inability to offer longer visits and/or additional appointments to women who required it most, was the most identified challenge by MCHNs in our study.

4.1 | Strengths and limitations

This is the first study to explore in detail, Victorian MCHNs' experiences of supporting women with PNDA, as well as the factors which hinder or facilitate their ability to carry out this important work effectively. Our purposeful sampling enabled diversity across a range of participant personal and professional characteristics. Moreover, analysis was carried out in line with Braun and Clarke's (2006) six-step process, and the study was reported in compliance with the COREQ checklist (Tong et al., 2007). Our study also has several limitations. It is possible that our findings are influenced by self-selection bias given that those who participated in the study may have a special interest in perinatal mental health, and as such their views and practices do not accurately reflect those of all MCHNs. Additionally, despite reaching data saturation, our relatively small sample size means that it is possible that our findings are not transferable to all (approximately) 1300 MCHNs currently practicing in Victoria, and as such should be interpreted with caution. Finally, there are broader issues, such as negative public discourse and stigma surrounding mental health, as well as healthcare funding structures, which may influence some of the issues identified by MCHNs in this study. While these were not within the scope of our study, it is important to acknowledge and highlight them as topics for future research.

5 | CONCLUSION

When women with PNDA are identified early and are supported to access appropriate supports, they are likely to experience a significant decrease in their symptoms, resulting in improved long-term outcomes for them and their families (Dennis & Hodnett, 2007; Hadfield & Wittkowski, 2017). To that end, MCHNs hold a significant amount of responsibility, and are very well-placed, to not only identify women with PNDA but also facilitate their timely access to appropriate interventions and offer a safe space for women to share their feelings. Our findings demonstrate that MCHNs honour this responsibility and strive to support women to the best of their ability. However, MCHNs work within a complex system, entrenched with a host of challenges that at times impede their ability to offer supports that are responsive to the needs of women with PNDA. Our findings emphasise an urgent need for policy and service delivery frameworks that facilitate equity in access to appropriate mental health care, regardless of socioeconomic status, ethnicity or place of residence. They also emphasise the significance of an integrated approach to supporting women with PNDA, so that no single professional body, including GPs or MCHNs, bears the lion's share of responsibility for facilitating women's access to psychological interventions. Finally, while our findings largely relate to MCHNs' experiences of supporting women with PNDA, it also highlights the many challenges that women with PNDA, particularly those who are most vulnerable, face in gaining access to timely and appropriate care.

6 | RELEVANCE TO CLINICAL PRACTICE

Our study identified a number of recommendations, put forth by MCHNs, which would greatly enhance their ability to support women with PNDA. They included the ability to operate as part of an integrated, multidisciplinary team of professionals; to offer additional and extended appointments when required and the ability to refer women directly to mental health and other relevant services, such as mother-baby units. There is an urgent need to address the systemic barriers identified in this study, which hinder MCHNs' ability to consistently respond to the needs of women experiencing PNDA. Facilitating equitable access to all perinatal mental health services and interventions must be at the heart of all future policy, funding and service delivery frameworks. Finally, greater investment is needed to address the current shortage of mental health services and specialists in rural areas, as well as the lack of mental health support options for women from non-English speaking backgrounds.

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CONFLICT OF INTEREST

The authors declare that they have no known conflict of interest, including any competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available upon reasonable request from the corresponding author. The data are not publicly available due to privacy and ethical restrictions.

ORCID

Noushin Arefadib  <https://orcid.org/0000-0001-8478-6730>

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SUPPORTING INFORMATION

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Conclusion

This study's findings demonstrate that MCHNs aim to honour their responsibility of supporting women experiencing PNDA (and other mental health concerns). However, MCHNs operate within a complex system in which multiple and concurrent obstacles limit their capacity to support women and be as responsive to their needs as they desire. MCHNs expressed their frustration with their restricted referral options, which resulted in an overreliance on GPs, some of whom MCHNs believed were not always able to meet the immediate and/or long-term support needs of women with PNDA. This was exacerbated by poor communication between professionals (including GPs and MCHNs, and/or hospital health workers and MCHNs) and an overall lack of a system-wide and multidisciplinary approach to support provision. Results echo findings from Studies One, Two, and Three (a), which indicate that women with a greater number of PNDA risk factors (e.g. women living in rural/remote areas, non-English speaking women, women experiencing poverty) have fewer support options due to facing a greater number of concurrent barriers, including (but not limited to) cost, distance, poor co-location of services, limited travel options, and language barriers.

The following chapter discusses the results of all three studies, as well as implications for policy and practice.

Chapter Twelve: Discussion and Conclusions

The overall aim of this thesis was to contribute to a better understanding of Victorian MCHNs' PNDA screening and management practices, and the socio-ecological and personal factors which influence these. To address this aim, I utilised the KAP framework, which allowed me to explore whether and how MCHNs' attitudes and knowledge impacted their PNDA screening and management practices. Moreover, due to the intricate nature of the environments and systems in which MCHNs operate, it was crucial to comprehend how such environmental and systemic factors might impact their individual screening practices. I therefore used a modified Socio-Ecological Framework (Baron et al., 2014; McLeroy et al., 1988) to examine how individual, systemic, and societal factors influenced MCHNs' PNDA screening and management practices. To clearly illustrate how the KAP and Socio-Ecological Frameworks guided these studies, I have provided an overview of my key findings in line with each framework (Table 9 and Table 10).

Table 9 Key findings in line with Knowledge, Attitude and Practice framework

| <i>Attitude</i> | |
|--|---|
| Overall, findings from all three Studies supported the assertion that practitioners' attitudes impacted their practices. Specifically, these related to: | |
| Attitude | Impact on practice |
| Attitudes toward the importance of screening and MCHN's role in screening and support provision. | MCHNs had an overall positive attitude toward the importance of PNDA screening and management, as well as their unique role in facilitating this process. This was reflective in findings which showed that most MCHNs engaged in some form of activity that assisted them in identifying PNDA and/or its risk factors. |
| Attitude toward the EPDS. | MCHNs who viewed the EPDS as an effective PNDA identification were more likely to utilise it. This was especially evident in MCHNs' hesitation to use the EPDS with non-English speaking women, owing to their assumption that the EPDS was ineffective at identifying PNDA in these women. |
| Attitudes regarding how PNDA symptoms manifest, as well as the belief that women were likely to disclose symptoms. | MCHNs were more likely to administer the EPDS if they perceived that PNDA symptoms were apparent, including when women disclosed negative emotional or psychological state. |

Knowledge

Overall, my findings suggest that MCHNs' knowledge of PNDA screening and management impacted their screening and management practices.

| Knowledge area | Impact on practice |
|--|---|
| <p>MCHNs had received little to no training on PNDA screening and management.</p> <p>MCHNs had not received any form of cultural competency training to aid their screening and support provision of non-English speaking women.</p> | <p>Largely inconsistent screening practices, particularly when screening non-English speaking women.</p> <p>Much less likely to use the EPDS with non-English speaking mothers and less likely to utilise an interpreter when they did administer the EPDS.</p> <p>Greater reliance on professional judgment and 'gut feeling'.</p> |
| <p>Knowledge of PNDA risk factors, including availability of tool to conduct psychosocial assessment risk factors.</p> | <p>MCHNs' knowledge of PNDA risk factors greatly impacted how they conducted psychosocial assessments (i.e. they only looked for risk factors that they were aware of). Most were also not aware of any tools to conduct psychosocial assessments. Both resulted in significant inconsistencies in how psychosocial assessments were carried out and risk factors identified.</p> |

Table 10 Key findings in line with Socio-Ecological Framework

| Individual | Impact on practice |
|---|--|
| <p>Age, years of professional experience, ethnicity</p> | <p>There was no relationship between any individual level characteristics and screening or management practices in the studies.</p> |
| Systemic | Impact on practice |
| <p>Victorian clinical practice guidelines do not reflect the most recent evidence regarding best practice.</p> <p>Lack of time and competing work demands.</p> <p>Limited training on PNDA screening, including appropriate use of available tools.</p> | <p>These systemic factors influence MCHNs' PNDA screening practices, in line with the Australian Clinical Practice Guideline (Austin et al., 2019), including how often screening occurs in the first 12 months postpartum and whether the EPDS is utilised universally in conjunction with a comprehensive psychosocial assessment.</p> |

| | |
|---|---|
| Inadequate collaboration and communication between hospitals and the MCH service. | These systemic factors influence MCHNs' capacity to support women once a 'positive' identification has been made. |
| Available and accessible referral options. | |
| Lack of a multidisciplinary approach to supporting women. | |
| Societal | Impact on practice |
| Socio-economic advantage / disadvantage in LGAs where MCHNs worked. | MCHNs practicing in disadvantaged areas were significantly less likely to screen more than once, and less likely to conduct psychosocial assessments. |

I conducted three studies: 1) a scoping review of the PNDA screening and management practices of MCHNs practicing in community settings; 2) a population-based, cross-sectional study of Victorian MCHNs' PNDA screening practices and the factors which impacted screening in line with the Australian Clinical Practice Guideline (Austin et al., 2019); and 3) qualitative interviews which aimed to gain an in-depth understanding of how MCHNs identify PNDA, the actions they took once a 'positive' identification had been made, and the factors which influenced these.

This chapter provides an integrated summary of key findings from these studies and discusses them in the context of the overall thesis objectives, as well as the existing literature. It also outlines the contribution this research has made to the evidence regarding how MCHNs identify and support women experiencing PNDA and discusses the implications of the findings on future policy, practice, and research. Finally, the strengths and limitations of the study are discussed, followed by concluding remarks.

Summary of key findings in the context of the literature

MCHNs' attitudes towards PNDA screening

When examining the attitudes of MCHNs on PNDA, international and Australian research has focused primarily on MCHNs' attitudes towards 'mental illness' and caring for mothers with mental illness (Coates & Foureur, 2019; Jones et al., 2012; Noonan, Doody, et al., 2017; Noonan et al., 2018) rather than their attitudes towards routine PNDA screening specifically. In a scoping review of 30 studies which explored the role and competence of midwives in supporting women's perinatal mental health, Coates and Foureur (2019) found that overall, MCHNs held a positive attitude towards their role in mental health care and recovery. Similarly, in an integrative review

of 22 studies, Noonan, Doody, et al. (2017) found that most MCHNs acknowledged their role in supporting women experiencing perinatal mental health issues. However, the authors highlight that some MCHNs believed that providing perinatal mental healthcare is, or should be, the responsibility of social workers, obstetricians, and general practitioners.

To my knowledge, to date there has only been one study, based in the US, which has explored the attitudes of nurse-midwives towards PND (but not PNA) screening (Sanders, 2006). In a survey of 378 nurse-midwives, Sanders (2006) found that 86% of respondents had a positive attitude toward depression screening and that attitude (and perceived ability) had the greatest positive relationship to likelihood of screening. However, because it is unclear whether the nurse-midwives in this study worked in a community or hospital setting, we cannot be assured that these findings are applicable to MCHNs who work in community settings. Moreover, participants' attitudes towards screening for PNA were not examined.

My doctoral thesis addressed this significant gap in the literature. I began with conducting a scoping review (Study One) of 22 international studies pertaining to the screening and/or management of PNDA by midwives whose role was akin to that of the Victorian MCHN (i.e. provided universal postpartum maternal and child health supports within community settings). The findings of this review suggested that community based MCHNs held a generally positive view of screening and viewed it as an essential aspect of their profession. This was also supported by findings from my cross-sectional study (Study Two) and qualitative interviews (Study Three). Overall, MCHNs who took part in Studies Two and/or Three reported that screening was the responsibility of all MCHNs and that the regularity with which they saw women in the first 12 months postpartum made them particularly well-placed to screen for PNDA. For example, 97% (n = 207) of MCHNs who participated in the cross-sectional survey (Study Two) disagreed with the survey item "only Enhanced MCHNs should screen for PNDA", indicating that screening was perceived as the responsibility of all MCHNs, and not just those who supported vulnerable or 'at risk' women. Moreover, while results from the qualitative interviews (Study Three) highlighted varied screening practices among MCHNs, it was evident that all MCHNs who participated in this study engaged in some form of activity which supported them in identifying PNDA and/or its risk factors among mothers.

Evidence supports the notion that MCHNs' attitudes toward mental health and the role they play in screening and caring for women with mental ill health can impact their professional practice, including how they screen for PNDA (Kang et al., 2019; Noonan, Doody, et al., 2017; Noonan et al.,

2018; Sanders, 2006). It was therefore encouraging to find that MCHNs in Victoria have a largely favourable attitude toward screening and supporting women experiencing PNDA. The following section discusses key findings pertaining to MCHNs' PNDA screening practices, in accordance with recommendations outlined in the Australian Clinical Practice Guideline (Austin et al., 2019). Specifically, I address findings from Studies One, Two and Three regarding how MCHNs conduct psychosocial assessments and administer the EPDS and discuss these in the context of the existing literature. In addition, I will discuss the frequency of screening undertaken by Victorian MCHNs and the implications for the early identification of PNDA symptoms and provision of supports.

MCHNs' screening practices: a lack of overall consistency

Results from Studies One, Two, and Three consistently highlighted disparities in MCHNs' screening practices. Specifically, variations pertained to MCHNs' systematic utilisation of the EPDS, the way in which psychosocial assessments were conducted (if at all), screening frequency in the first 12 months postpartum, and the degree to which MCHNs relied on their professional judgment to identify PNDA.

Given that MCHNs who participated in the cross-sectional study (Study Two) reported largely positive attitudes towards PNDA screening, it is perhaps not surprising that the majority also reported routinely screening all (68.5%, n = 137) or most (30%, n = 60) women for PNDA- with most (98%) reporting to doing so with the EPDS. However, while 90% of these MCHNs reported screening at approximately four weeks postpartum, less than 35% screened again after this point. This makes it likely that many of the women who experience onset of depression and/or anxiety after four weeks postpartum remained unidentified. There is evidence to suggest that PND onset can occur well after four weeks postpartum (Chaudron et al., 2001; Verreault et al., 2014; Woolhouse et al., 2012). For example, in an Australian cohort study, involving 1305 women, Woolhouse et al. (2012) assessed the prevalence of perinatal depression (i.e. from pregnancy to 12 months postpartum) and found that over 50% of women who reported depressive symptoms (EPDS score \geq 13) experienced these for the first time in the second six months postpartum.

On closer examination of MCHNs' use of the EPDS in Study Three (qualitative interviews), I also learned that not all MCHNs administered the EPDS universally and that use of the EPDS was largely at the MCHN's discretion. Despite this, there appeared to be no structure in place to support MCHNs in making this critical decision and to ensure that all Victorian women, regardless of where they lived and which MCH nurse they were assigned, experienced a similar PNDA screening process. Overall, MCHNs were less likely to administer the EPDS to CALD women who did not read

or speak fluent English or who required an interpreter. This finding is discussed at greater length in the below section, titled 'Poor cultural competency'. When not using the EPDS, MCHNs were more likely to rely on their professional judgement to identify PNDA symptoms, with the majority deciding to administer the EPDS only if they believed PNDA symptoms were evident, including when women disclosed their negative postpartum emotional or psychological state. In a recent cross-sectional study of 118 healthcare workers, Puspitasari et al. (2021) reported similar findings where nearly 40% (n = 47) of all participants used a validated screening tool only when women explicitly disclosed PNDA symptoms. Results of this study should be interpreted with caution given that participants in this study were all physicians (e.g. obstetricians and gynaecologists) or social workers, and not MCHNs. However, comparable findings have also been reported in an Australian study by Armstrong and Small (2007), who analysed screening data pertaining to 257 women who visited an MCHN over a 12 month period. According to their findings, only 50% of women were screened with the EPDS (at one month postpartum), and this proportion declined to 38% between one and eight months postpartum. The authors highlight that MCHNs' decision not to screen with the EPDS was made, at times, based on their own clinical judgment, which outweighed the screening protocol requiring them to administer the EPDS. This decision was based on MCHNs' observations at the time of assessment (e.g. "mother told me she was well" or "mother cruising, back at work") (Armstrong & Small, 2007, p. 59). Similarly, in a qualitative Australian study involving 83 MCHNs, Rollans et al. (2013b) found that MCHNs preferred a more 'relational' approach to screening where they looked for social cues by "gathering information, seeing, hearing, thinking; and having a sixth sense" (Rollans et al., 2013b, p. 9). However, other evidence indicates that relying on women to disclose symptoms is particularly problematic because stigmatised views pertaining to mental illness can impede women's disclosure of symptoms (Khan, 2015; Moore et al., 2017).

Findings from the qualitative interviews (Study Three) also revealed another inherent problem with depending too heavily on clinical judgement to identify PNDA: MCHNs' perceptions regarding how PNDA manifested in women varied. For example, some MCHNs believed that a new mother's increased contact with the MCH service was indicative of underlying anxiety, others looked for signs of PNDA in how women engaged with their babies, and some relied on women to disclose symptoms. Evidence suggests that relying primarily (or completely) on clinical judgement, rather than a standardised tool (such as the EPDS), can result in over 50% of cases going undetected (Anding et al., 2015; Buist, Bilszta, et al., 2006; Jarrett, 2017). A problem cited in the literature is the difficulty health practitioners have in distinguishing between a woman's natural adjustment to parenting and the behaviours and affect indicative of mental ill health (Foulkes, 2011; Jarrett,

2017). Women have also described midwives (and GPs) as being “out of their depth” when assessing and responding to perinatal mental health and for “normalising symptoms”, resulting in inadequate identification (Jarrett, 2016). Chan (2019) argues that over-reliance on clinical judgement is problematic because it means that decisions are made based on a woman’s presentation, as well as the clinician’s unique experiences, assumptions and stereotypes. For example, the assumption that it is ‘not normal’ for women in some cultures to talk about their mental health – which was highlighted in some of the interviews in Study Three, rather than a holistic understanding of a woman’s context. Furthermore, Iudici et al. (2019) emphasised that health workers’ observations interact with a patient’s communication abilities within the constraints and objectives of the healthcare system, which is likely to influence both.

Finally, while professional experience can be valuable, there is evidence that it can lead to cognitive bias and carrying out evaluations or assessments based on what a clinician 'knows' as opposed to a critical assessment (Iudici et al., 2019). Cognitive bias is defined by Molony (2016) as “those adaptive processes of human cognition that allow for rapid decision making and judgments resulting in actions” (Molony, 2016, p. 346) and are reflective of decisions made based on prior experience, rather than an extensive analytical assessment. Cognitive bias is often accompanied by another source of assessment error- overconfidence bias- which is an overestimation of one’s own skills and abilities (Ferretti et al., 2016; Iudici et al., 2019). Paradoxically, there is evidence to indicate that overconfidence (and cognitive bias) is more prevalent among health professionals with the most experience, leading them to believe that they are more competent than their less experienced colleagues and to anticipate a recurrence of the events and experiences they have encountered in the past (Iudici et al., 2019).

The heterogenous screening practices of MCHNs revealed in studies Two and Three are consistent with those documented in other studies that have identified varied PNDA screening patterns among healthcare professionals, including MCHNs (Appleton & Cowley, 2004; Armstrong & Small, 2007; Goldin Evans et al., 2015; Noonan et al., 2018; Prady et al., 2021; Puspitasari et al., 2021; Rollans et al., 2013b). In a cross-sectional study involving 157 Irish MCHNs, Noonan et al. (2018) reported substantial variation in screening practices with 77% (n = 121) of MCHNs indicating that they did not utilise a screening tool when enquiring about PNDA, and only 16.6% (n = 26) referencing the EPDS. Interestingly, similar to Victorian MCHNs, MCHNs in Noonan and colleagues’ study also had an overall positive attitude toward mental illness (although the authors did not explore attitudes towards screening), suggesting that a positive attitude toward mental health alone does not equate to screening practices that are in line with best practice.

Results from Studies Two (cross-sectional survey) and Three (qualitative interviews) also identified heterogeneity in how Victorian MCHNs conducted psychosocial assessments. Findings from Study Two showed that only 31% of MCHNs were able to adhere to the recommended use of psychosocial assessments in conjunction with the EPDS, while Study Three revealed that overall, a systematic approach to conducting psychosocial assessments was lacking. Interestingly, inconsistent approaches to how psychosocial assessments are conducted were also identified in the scoping review (Study One), indicating that the absence of a systematic approach to universal PNDA screening (i.e. use of the EPDS and psychosocial assessments) is a global concern.

As described in Chapter Two, a wide range of psychosocial risk factors (e.g., family violence, lack of social support, a history of mental illness) can enhance women's vulnerability to PNDA. A psychosocial assessment will also help determine the most appropriate care pathway for every woman, based on the number and nature of risk factors identified (Austin et al., 2019). As such, the Australian Clinical Practice Guideline (Austin et al., 2019) recommends that a comprehensive psychosocial assessment is carried out in conjunction with the administration of a screening tool (e.g. EPDS) to identify past or present circumstances which may adversely impact women's postnatal mental health. Given the paucity of evidence suggesting that using a standardised tool to conduct a psychosocial assessment is more (or less) effective than a less structured approach (e.g. a broad conversation around risk factors), the Australian Clinical Practice Guideline does not specify that a tool must be used. However, the Guideline states that while a psychosocial assessment should be brief, it should "cover the key risk domains" and be used to start the conversation so that particular domains can then be explored further as needed" (Austin et al., 2019, p. 32). It is also recommended that practitioners receive adequate training regarding the importance of psychosocial assessments and how to use a psychosocial assessment tool (e.g. the ANQR). Despite this, results from the qualitative study (Study Three) indicated that MCHNs' understanding of PNDA risk factors, as well as the importance of conducting a psychosocial assessment, varied significantly. MCHNs carried out psychosocial assessments based on their personal understanding of PNDA risk factors, and most were not aware of the existence of any psychosocial assessment tool. While some MCHNs reviewed hospital discharge summaries for information regarding delivery complications (traumatic birth) or gestation at birth, others enquired about women's medical/mental health history. Only four out of the 12 participating MCHNs reported asking about a past or current experience of family violence, and only two reported asking about women's access to social/family supports. Moreover, despite many MCHNs reporting that they received limited information from hospitals regarding women's mental health during pregnancy, none reported asking about women's experience of depression and/or anxiety

during pregnancy. This is problematic given the substantial body of evidence indicating that depression and/or anxiety during pregnancy, family violence, and insufficient social support are all significant risk factors for PNDA (Arnold & Kalibatseva, 2021; Ghaedrahmati et al., 2017; Howard et al., 2013; Koirala & Chuemchit, 2020; Underwood et al., 2016; Zhao & Zhang, 2020).

Adherence to the Australian Clinical Practice Guideline (Austin et al., 2019) is essential for establishing a consistent and evidence-based approach to the identification (and management) of PNDA for all women, regardless of where they live, their cultural identity or socio-economic status. While Victorian MCHNs have a largely positive attitude toward screening, my thesis has identified notable discrepancies in how screening takes place in everyday practice. Ultimately, this raises important questions around whose needs for supports are likely to be identified and whose are likely to go unnoticed. The next section will provide a synthesis of my findings pertaining to why these discrepancies in MCHNs screening practices exist. In accordance with the conceptual (knowledge, attitude, and practice- KAP) and theoretical (socio-ecological) frameworks which guided my data collection and analysis, I will describe the factors that impede consistent and equitable screening among MCHNs and situate these within the context of existing evidence.

Factors which influence variations in screening practices

Results from Studies One, Two, and Three consistently emphasised the interplay between a wide range of factors which came together to challenge MCHNs' ability to screen for PNDA in line with best practice. Moreover, I found that the concurrent and largely biased nature of these obstacles meant that screening in line with best practice was particularly challenging for some MCHNs in their everyday clinical practice.

Limited training and poor confidence

Results from the scoping review (Study One) indicated that key reasons for MCHNs' inconsistent screening practices largely pertain to inadequate training, knowledge, and confidence to screen for PNDA. In contrast, results from the cross-sectional study (Study Two) showed that nearly all MCHNs (96%, n = 188) agreed with the statement "I have the skills I need to screen for PNDA", and "I know exactly how to use the Edinburgh Postnatal Depression Scale". However, this should be considered in light of the fact that these items in Study Two were self-reported, which increases the likelihood of socially desirable responding and other forms of response bias. Moreover, as described in Chapter Ten, during the qualitative interviews (Study Three), all 12 MCHNs stated that not only had they not received any training relevant to perinatal mental health (including PNDA screening and management), none of the MCHNs could recall ever having

received such training during their career as an MCHN. The Australian Clinical Practice Guideline (Austin et al., 2019) stipulates that all health professionals providing care in the perinatal period should undergo training in the significance of psychosocial assessment and application of a psychosocial assessment tool and culturally safe care, as well as training in PNDA screening methods.

The need to strengthen MCHNs' overall knowledge and training regarding postnatal mental health, including PNDA screening and management, is supported by previous studies (Bayrampour et al., 2018; Elshatarat et al., 2018; Higgins et al., 2018; Jones et al., 2011; Noonan, Doody, et al., 2017). In a cross-sectional survey involving 815 Australian MCHNs, Jones et al. (2011) found that approximately 50% of MCHNs overestimated or underestimated the proportion of women likely to experience PND, a significant majority (71%) were unaware of the onset period for PND, and 32% were unaware of recommended treatment options for moderate to severe PND. Furthermore, nearly half (44%) incorrectly stated that the EPDS could be used to assess for symptoms of psychotic depression. Jones et al. (2011) note that MCHNs' narrow understanding of the functions and limitations of the EPDS, highlights the need for greater training on the use of EPDS in clinical practice. Moreover, with more than half of MCHNs (55.8%) in the study reporting that their midwifery education had not provided them with adequate training on assessment and management of women with PND (and/or antenatal depression), Jones et al. (2011) suggest that midwifery education programs in Australia should be re-examined to address this issue. More recently, in an integrative review of 22 studies, Noonan, Doody, et al. (2017) found that overall, MCHNs' lack of knowledge regarding perinatal mental health adversely influenced their ability to screen and support women with 'perinatal mental health problems' (including PNDA). Similar to earlier recommendations made by Jones et al. (2011), Noonan, Doody, et al. (2017) assert that training on perinatal mental health must be included in MCHNs' (undergraduate) midwifery education and continue well after registration.

Similarly, in a systematic review of the educational and training needs of healthcare providers (including MCHNs) in perinatal depression, Legere et al. (2017) found that providers consistently reported having insufficient formal education and training in perinatal mental health (including screening and management) and a need for improved professional development. The authors also found that training on perinatal depression screening and management was likely to improve providers' screening confidence, knowledge, and efficiency, and contributed to improved outcomes for women (e.g., reduced EPDS scores) with no reported adverse events. Finally, in an integrative review of 20 studies, Bayrampour et al. (2018) reported that inadequate training and

an overall lack of general knowledge regarding the symptoms and risk factors of 'perinatal mental health issues' and how to conduct PNDA screening were frequently cited as barriers to routine screening by MCHNs. However, it is important to interpret these findings with the knowledge that these studies do not distinguish between MCHNs working within community or hospital settings and focus on screening (and management) of 'mental health issues', which can include severe mental health problems such as psychosis. Moreover, overall, these studies do not distinguish findings between screening and/or management in the prenatal and postnatal period.

Poor cultural competency

In each of the three studies comprising this thesis, I found that MCHNs were consistently less likely to screen in accordance with best practice (i.e. screen with the EPDS in conjunction with a psychosocial assessment) when screening CALD women, particularly those with limited English proficiency. One possible explanation for this is that MCHNs in Victoria have poor cultural competency, which a growing body of evidence suggests can affect the quality of care that health professionals, including MCHNs, provide to CALD women (Beach et al., 2005; Henderson et al., 2011; Fair et al., 2021).

Campinha-Bacote (2002, p. 181) describes cultural competency as "*the ongoing process in which the healthcare provider continuously strives to achieve the ability to effectively work within the cultural context of the client (individual, family, community).*" Based on this definition, rather than having an endpoint, cultural competency is an ongoing and reflective process which entails the integration of five key principles: 1) cultural awareness (i.e. becoming aware of one's own cultural values, and assumptions about other cultures); 2) cultural knowledge (i.e. the process of seeking knowledge about diverse cultures); 3) cultural skill (i.e. the ability to ascertain relevant cultural information about the patient's presenting problem and conduct a culturally appropriate assessments); 4) cultural encounters (i.e. the process of actively engaging with patients from diverse backgrounds and being aware of their language needs, including the need for a qualified interpreter); and 5) cultural desire (i.e. a sense that the process of becoming culturally aware is driven by a personal desire, rather than a requirement).

Based on this definition, it is evident from the findings of all three studies (scoping review, cross-sectional survey, and qualitative interviews) that MCHNs in Victoria and abroad largely lack the cultural competency skills necessary to screen CALD women in line with best practice. For example, results from the scoping review (Study One) showed that MCHNs' training lacked content relating to cultural awareness, cultural encounters, including appropriate use of

interpreters, and the unique needs and challenges faced by CALD women (Almond & Lathlean, 2011; Edge & MacKian, 2010; Noonan et al., 2019). Moreover, when using the EPDS with CALD women, MCHNs encountered language and cultural barriers which made administering the EPDS particularly challenging, even with the presence of an interpreter (Rollans et al., 2013b; Skoog et al., 2017). MCHNs' negative views toward the EPDS as an effective identification tool among CALD women was also identified in the cross-sectional study (Study Two), where only 30% (n = 62) of MCHNs agreed with the statement "The EPDS is an effective PNDA screening tool among culturally and linguistically diverse women". This contrasted with over half (58%) of MCHNs agreeing that "The EPDS is the best screening tool for PNDA" overall. Comparable findings were identified in Study Three (qualitative interviews), where MCHNs demonstrated a clear pattern of reluctance to administer the EPDS to CALD women, particularly those with limited English proficiency. This was largely due to poor knowledge regarding the availability and how to access the EPDS in languages other than English, limited knowledge and confidence in scoring a non-English EPDS, the belief that administering the EPDS through an interpreter was too time consuming, and the belief that the EPDS was ineffective at identifying PNDA symptoms in CALD women.

Compared to the relatively robust body of evidence pertaining to MCHNs' overall perinatal mental health knowledge and training needs, MCHNs' knowledge and training needs specific to the identification and management of PNDA among CALD women has not been extensively studied. Results from the cross-sectional survey (Study Two) showed that an overwhelming 90% (n = 148) of Victorian MCHNs who participated in the study would like to receive training in "culturally appropriate ways of screening and responding to culturally and linguistically diverse women experiencing or at risk of PNDA". Existing evidence supports these findings, indicating that overall, MCHNs (and other healthcare professionals) do not receive adequate cultural competency training to effectively identify and respond to the unique needs and challenges of CALD women (Higgins et al., 2018; Noonan et al., 2018; Viveiros & Darling, 2018). In a cross-sectional survey of 157 midwives in Ireland, Noonan et al. (2018) found that, half (50%) of the midwives disagreed with the statement: "training pays sufficient attention to the cultural dimension of pregnancy, birth and postnatal (period)." Moreover, only 4% agreed that their training had equipped them to adequately respond to the mental health needs of CALD women. It should be noted, however, that the midwives in this study all worked in hospital settings, thus the results may not be applicable to MCHNs practicing in community settings such as in Victoria.

According to Shorey et al. (2021), cultural competency amongst healthcare providers is central to the delivery of congruent perinatal care to CALD women. In a systematic review of studies which

examined the cultural competency of healthcare workers (including midwives) providing maternity care (including mental healthcare) to CALD women, Shorey et al. (2021) found that healthcare providers often perceived CALD women as “other”. Defined as the process of identifying those who are perceived to be different from the majority, “othering” disregards the complexity of individuals and ultimately perpetuates positions of dominance and subordination (Johnson et al., 2004; Wilkinson & Kitzinger, 1996). The authors also found that women’s poor command of the host country’s language was a common obstacle to information sharing and relationship-building between them and their healthcare worker - an issue compounded by health workers’ reluctance to utilise qualified interpreters. Shorey et al. (2021) found that concerns regarding the clarity, and accuracy of interpreters, as well as the belief that interpreters were too expensive and/or unavailable, all contributed to their poor utilisation by providers.

My findings are also consistent with the growing body of evidence which highlights significant racial disparities in PNDA detection rates, indicating that, compared to white women and women who are fluent in the language of the host country, CALD women are notably less likely to be screened and less likely to be offered and/or to access PNDA treatment (Callander et al., 2021; Jankovic et al., 2020; Moore et al., 2019; Pilav et al., 2022; Prady et al., 2021; Prady et al., 2016; Redshaw & Henderson, 2016; Watson et al., 2019). After analysing data from the 2014 UK national maternity survey, pertaining to 4502 women, Redshaw and Henderson (2016) found that MCHNs were significantly less likely to ask women about their mental and emotional health in the first postpartum month if they were from a CALD background, lived in disadvantaged areas, were single, or had lower educational attainment. Similarly, in a systematic review of six studies which examined the PNDA screening and management practices of UK health workers, including MCHNs, Prady et al. (2021) found consistent evidence of reduced screening and support provision for CALD women, regardless of their language proficiency. The authors highlight, however, that their findings should be interpreted with caution given that the focus, sample, and characterisation of inequality in the included studies may not have been explored adequately and thus may not constitute a definitive evidence base. Moreover, the small samples and variation in concepts measured meant that the authors were unable to distinguish findings between inequities in the prenatal and postnatal periods. It should also be noted that the review pertained only to studies conducted in the UK.

Results from studies which explored the experiences of perinatal mental healthcare of CALD women echo such findings (Watson et al., 2019). In a recent systematic review of 15 studies which examined the experiences of CALD women with perinatal mental health services in Europe,

Watson et al. (2019) found that CALD women frequently reported that their health visits often felt rushed and their provider appeared very busy, that they were not asked about their perinatal mental health, that their provider appeared uninterested in their mental health, and that the provider either did not recognise or dismissed their self-reported symptoms. In addition, CALD women believed that their healthcare provider discriminated against them based on their ethnicity. Interestingly, results from the qualitative interviews (Study Three) support CALD women's perceptions of feeling rushed, that the provider was too busy to enquire about their mental health, and that the provider did not recognise their symptoms. Lack of time, competing workplace priorities and a demanding workload, as well as the additional burden of time associated with administering the EPDS through an interpreter, were all frequently cited by MCHNs as barriers to screening CALD women with the EPDS and/or conducting a complete psychosocial assessment. Instead, when it came to identifying PNDA symptoms and risk factors in CALD women, MCHNs relied primarily on their professional judgement. Similarly, nearly 30% of MCHNs who completed the cross-sectional survey (Study Two) said that they were less likely to screen 'at all' if a mother did not speak fluent English and required an interpreter.

Findings from my thesis highlight an urgent need to address this important gap in MCHNs' routine practice. Evidence consistently indicates that CALD women are significantly more likely to experience PNDA than their non-CALD counterparts (Falah-Hassani et al., 2015; Giscombe et al., 2020; Ogbo et al., 2019; Snow et al., 2021). There is evidence to indicate that receiving cultural competency training can improve the quality of perinatal (Fair et al., 2021) and other healthcare that health practitioners provide to CALD populations (Beach et al., 2005; Fair et al., 2021). For example, in a recent mixed-methods study (Fair et al., 2021), the knowledge, self-perceived cultural competence, and skill scores of 55 midwives from across Europe were evaluated prior to and after cultural competency training. In line with previous studies (Beach et al., 2005; Henderson et al., 2011), Fair et al. (2021) found that completion of cultural competency training significantly improved midwives' skills, knowledge, and self-perceived cultural competence required to provide high quality care to CALD women.

Addressing the overall lack of cultural competency among MCHNs is essential to meeting the needs of the growing CALD populations in Australia and is a first step in ensuring that those with an elevated risk of PNDA are identified and supported in accessing appropriate care.

Place-based disparities in MCHNs' screening practices

Findings from my thesis indicate that place and everything that place embodies, particularly the degree of socio-economic advantage or disadvantage in a given area, is a significant determinant of whether or not Victorian MCHNs are likely to screen in accordance with recommended practice guidelines. While the cross-sectional survey (Study Two) showed that nearly all (98.5%, n = 194) MCHNs reported to using the EPDS to screen for PNDA, it also showed that only 31% screened in accordance with recommended practice guidelines (i.e. using the EPDS in conjunction with a psychosocial assessment) and that there were significant place-based disparities in MCHNs screening practices. Specifically, MCHNs practicing in disadvantaged areas were significantly less likely to conduct psychosocial assessments and significantly less likely to screen more than once, than those who worked in socio-economically advantaged areas.

This finding raises serious questions regarding whose needs for support are most likely to be identified, and whose are most likely to be missed. An established body of Australian (Australian Bureau of Statistics, 2018; Australian Institute of Health and Welfare, 2022; Hashmi et al., 2020; Isaacs et al., 2018) and international (Silva et al., 2016; World Health Organisation, 2022a) evidence indicates that relative socio-economic disadvantage is associated with greater prevalence of mental illness. In 2017–18, the Australian Bureau of Statistics (2018) reported that Australians residing in the most disadvantaged communities were more than twice as likely than those living in the least disadvantaged communities to experience high psychological distress (18% versus 9%, respectively), continuing the trend from 2014–15 (17.7% versus 7.3% respectively). The ABS determines socio-economic advantage and disadvantage by drawing on variables such as income, educational attainment, employment status, housing characteristics (e.g. single parent household, housing density), as well as community social cohesion (Australian Bureau of Statistics, 2016). As discussed in Chapter Two, low educational attainment, low income/poverty, perceived lack of social support and connectedness, and single-parent status (Agnafors et al., 2019; Cooklin et al., 2013; Field, 2018; Goodman et al., 2016; Maxwell et al., 2019; Ramakrishna et al., 2019) are all associated with a greater likelihood of PNDA onset.

Additionally, place-based drivers of disparities in health outcomes including poor quality environments, which are typical of neighbourhoods with greater socio-economic disadvantage (Generaal et al., 2019), can also impact mental health through structural (e.g. housing quality, built environment, access to public transport) and social (e.g. social cohesion, connections with neighbours, graffiti, and crime rates) mechanisms (Cohen-Cline et al., 2018; Galea et al., 2005; Kirkbride et al., 2014). Residing in a poor quality environment (e.g. limited access to resources,

poor social cohesion, greater exposure to disorder and noise, limited access to public transportation and limited access to green spaces) is associated with a greater risk of adverse mental health outcomes across the lifespan, including the postpartum period (Beyer et al., 2014; Cohen-Cline et al., 2018; Eastwood et al., 2013; World Health Organisation, 2021).

Evidence also indicates that in Australia, CALD women, particularly refugees and those seeking asylum, are significantly more likely to reside in areas with higher concentration of socio-economic disadvantage than their Anglo-Australian counterparts, as are single parent families, which are typically headed by a woman (Australian Bureau of Statistics, 2017; Davern et al., 2016; Flatau et al., 2014). For example, Davern et al. (2016) examined the spatial location of refugees and asylum seekers in Victoria, Australia, utilising several quantitative data sets, including the ABS Census and Migrants Integrated Dataset (Australian Bureau of Statistics, 2013) and the Department of Immigration and Border Protection Settlement Database (Marshall et al., 2015). Their findings revealed that nearly two-thirds of humanitarian entrants to Australia in 2011 resided in Victoria's most socio-economically disadvantaged neighbourhood. Of these, just over 46% were women, of whom most (62.5%) were aged between 25 and 34 years. Similarly, in a longitudinal Refugees, Housing and Social Inclusion Survey which examined the housing, neighbourhood and social inclusion experiences of 85 refugees living in Perth (Western Australia) and Melbourne (Victoria), Flatau et al. (2014) found that more than half (54%) of the respondents resided in areas with the highest concentration of socio-economic disadvantage. Additionally, the authors found that women from particular cultural backgrounds were more likely to experience greater social isolation and language barriers due to cultural 'norms' which meant that they were less likely than men to develop their English language skills and build social connections through participation in social, educational, and employment opportunities.

The significant adverse impact of socio-economic disadvantage, characterised as limited social supports, financial hardship, single parenting, housing stress, and other factors described in Chapter Two, on maternal postpartum mental health and well-being is irrefutable. CALD and other ethnic minority and marginalised women, including Indigenous women, are significantly more likely to experience a greater number of these risk factors concurrently, as well as additional risk factors which are unique only to them (e.g. language barriers, racial discrimination, loss of family as a result of migration) (Black et al., 2019; Boyle et al., 2019; Brown et al., 2019; Falah-Hassani et al., 2015; Giscoombe et al., 2020; Nakash et al., 2016; Ogbo et al., 2019; Owais et al., 2019; Snow et al., 2021; Stewart et al., 2008; Weetra et al., 2016). Evidence indicates that experiencing concurrent risk factors can also greatly increase the likelihood of onset of comorbid PNDA, which

can increase symptom severity and duration for both depression and anxiety (Farr et al., 2014; Ramakrishna et al., 2019). Comorbid PNDA also increases the risk of suicide and self-harm (Sit et al., 2015; Tavares et al., 2012), and is associated with a range of adverse outcomes for offspring, including complex social-emotional development from infancy through adolescence (with no sign of weakening with age), greater externalising and internalising behaviours and lower cognitive and language development (Rogers et al., 2020). The concentration of women with high levels of individual PNDA risk factors in more disadvantaged areas and the compounding impact of individual and place-based risk factors on PNDA outcomes further highlights the urgent need to address the significant place-based disparities in the PNDA screening practices of Victorian MCHNs, as identified in Studies One and Two.

This thesis has identified an overall lack of consistency in how MCHNs screen for PNDA in Victoria. Disparities in MCHNs screening practices are influenced by concurrent factors pertaining to inadequate knowledge and training, poor cultural competency, and the level of socio-economic disadvantage in the communities in which MCHNs practice. These findings highlight the need for policies and service delivery frameworks which facilitate a more systematic and equitable approach to PNDA screening. The following section will discuss findings from this thesis regarding the actions taken by MCHNs following the identification of PNDA and the factors that significantly influenced these actions.

Supporting women experiencing PNDA

For screening to be effective, it must be accompanied by appropriate follow-up care by a multidisciplinary team of professionals and referral to accessible and timely psychosocial supports and evidence-based interventions (Austin et al., 2019; El-Den et al., 2022; Hazell Raine et al., 2021; Siu & Force, 2016). However, findings from this thesis clearly indicate that: 1) the nature and extent of supports provided by MCHNs following a 'positive' screen is greatly shaped by the constraints of the system within which they operate; 2) the system is such that it overwhelmingly supports better access to mental health (and other) services for women who are not socio-economically disadvantaged; and 3) while best practice calls for a multidisciplinary team approach to supporting women experiencing PNDA (Austin et al., 2019), the system within which MCHNs operate fails to facilitate this in any meaningful way. The combination of these factors has significant implications not just for the quality of care that women, particularly disadvantaged women, are likely to receive from the MCH services, but also for the likelihood of professional burnout among MCHNs, particularly those working in disadvantaged areas.

The following sections will synthesise findings from this thesis regarding the key factors which impact how MCHNs support women following a 'positive' identification and discusses these in the context of the literature.

Limited care pathways

Findings from this thesis indicate that lack of available care pathways are common to MCHNs supporting women following a 'positive' identification. When asked if they ever have difficulty finding appropriate services to refer women to, three-quarters of the MCHNs in Study Two said, 'sometimes' (64%, n = 123) or 'always' (12%, n=24).

The most cited reasons for poor referral options were: long waitlists (65%); cost of the service was too high for women to cover (55%); no appropriate services in the LGA (45%); and available service was not culturally appropriate (28%). Finally, when asked if they had adequate referral options in their LGA, 52% of MCHNs said no or that they were unsure.

Results from the qualitative study (Study Three) echoed these findings, with MCHNs consistently highlighting issues pertaining to lack of available support options for CALD mothers, limited access due to distance, limited transportation, high cost, and long waitlists, particularly for women who did not have private health insurance. While issues pertaining to availability and access were widespread, they were particularly problematic in areas with greater socio-economic disadvantage, rural/remote regions and communities with a large CALD/non-English speaking population. Furthermore, MCHNs maintained that their inability to directly refer women to specialist mental health services was a barrier to care for many women, particularly those most vulnerable (e.g. women who had limited access to transport, childcare, did not have money to pay for the cost of transport, and had more severe PNDA symptoms which made managing daily tasks more challenging). These findings imply that women with more severe PNDA symptoms, and those with a greater number of vulnerabilities (and hence the greatest need for support) are potentially missing out on much needed care.

Similar findings were identified in the scoping review (Study One) which highlighted that when care pathways were available, MCHNs encountered access and availability challenges that prevented women from receiving timely support (Ashford et al., 2017; Borglin et al., 2015; Noonan et al., 2019). Similar to findings from the cross-sectional (Study Two) and qualitative study (Study Three), access issues identified in the scoping review (Study One) pertained largely to long wait times for appointments, lack of transportation, lack of childcare, high cost, inadequate insurance coverage, and MCHNs not being able to refer to mental health services directly. Likewise, issues

relating to access and availability were particularly problematic for those residing in regional/remote areas and for CALD women who had limited (or no access) to culturally and linguistically appropriate services.

The findings that 75% of MCHN report a lack of suitable referral options, whilst alarming, is perhaps not surprising given the established body of evidence which consistently shows that vulnerable and disadvantaged women are less likely to access PNDA supports than their more advantaged counterparts due to a greater number of barriers to accessing care (e.g. cost, distance, limited transportation, language limitations and structural racism) (Chambers et al., 2018; Falah-Hassani et al., 2015; O'Mahony & Clark, 2018; Ogbo et al., 2018; Prady et al., 2021; Wright et al., 2018). In an Australian retrospective study of Medicare Benefits Schedule⁴ (MBS) utilisation and costs, Chambers et al. (2018) found that during the perinatal period (defined as pregnancy to end of the first postpartum year) women who lived in remote and regional areas spent, on average, less than those in metropolitan areas. The authors attributed this to a reduced overall number of consultations by women in regional/remote areas, as well as notably less access to high-cost psychiatric consultations than women residing in metropolitan areas. Moreover, Chambers et al. (2018) found that the proportion of women residing in remote areas who were accessing at least one mental health consultation was half that of women living in metropolitan and regional areas. Finally, women in remote and regional areas received fewer mental health related consultations during the perinatal period. The authors note that the geographic inequities in access to perinatal mental healthcare for Australian women residing in regional and remote areas are comparable to findings from previous studies which revealed greater mental healthcare costs associated with those (within the general population) residing in metropolitan areas (Pirkis, Ftanou, et al., 2011; Pirkis, Harris, et al., 2011).

In a systematic review of 18 studies which examined barriers and facilitators to access to PND treatment among low-income women, Hansotte et al. (2017) found that financial constraints were the primary reasons for why women did not access PND treatment. The authors note, however, that 'financial constraints' extended beyond simply not being able to pay for the intervention but included not being able to pay for the childcare that was required for women to get to treatment, not being able to afford the cost of transport to get to treatment, or not having insurance that would cover the cost of treatment. Hansotte et al. (2017) highlight that, even if a low-income

⁴ The MBS is the foundation of Medicare, Australia's universal health insurance scheme, which provides all Australians with access to primary care services, subsidised pharmaceuticals, and public hospitals through a levy on taxpayers. Medicare pays rebates for professional health services listed on the MBS, including mental health services provided by psychiatrists, general practitioners and allied health professionals (eligible registered psychologists, occupational therapists, and social workers) (Chambers et al., 2018).

woman wanted to access mental health supports, overcoming the concurrent obstacles to care were often too challenging. They argue that such barriers to care can be reduced through home visitation programs, which eliminates the need for (and costs associated with) travel and childcare. Evidence supports this assertion, with previous studies showing that perinatal mental health service delivery via home visitation increase service access and engagement (Albaugh et al., 2018), and decreases depressive symptoms (Beeber et al., 2004; Surkan et al., 2012). In a retrospective study conducted in the United States, Albaugh et al. (2018) examined the medical records of 647 women who had accepted a perinatal mental health referral, in order to identify characteristics related to attendance at mental health intake visits. Their results showed that women who were offered home visits or appointments that were co-located with their postpartum visit were four times more likely to access supports, a finding which had been demonstrated in earlier studies (Segre et al., 2012; Smith et al., 2009; Yawn et al., 2012). Albaugh et al. (2018) argue that the success of home-visitation interventions is due largely to the reduction of psychological and logistical barriers to access, including lack of transport, limited access to childcare, and the decreased motivation associated with PNDA.

Results from the scoping review (Study One) and qualitative interviews (Study Three) also underscore the disparities in access to timely and culturally appropriate mental healthcare for CALD women, and women of refugee and asylum seeker backgrounds. As previously stated, not only are CALD women more likely to experience PNDA (Falah-Hassani et al., 2015; Ogbo et al., 2018), but they are also more likely to face the concurrent barriers to care which have been described above (e.g. financial difficulties etc), in addition to barriers to care that are unique to them (e.g. language barriers, racial discrimination) (Black et al., 2019; Boyle et al., 2019; Brown et al., 2019; Falah-Hassani et al., 2015; Giscombe et al., 2020; Ogbo et al., 2019; Owais et al., 2019; Snow et al., 2021; Weetra et al., 2016).

Racial disparities in access to depression care within the general population are well established (Aggarwal et al., 2016; Cardemil et al., 2015; Cook et al., 2014; Gonzalez et al., 2011; Harman et al., 2004; Simpson et al., 2007; Turney, 2012). A growing body of evidence suggests that racial disparities also adversely impact CALD women's access to appropriate and timely PNDA interventions, as well as the quality of care which is provided to CALD women (Chan et al., 2021; Kozhimannil et al., 2011; Moore et al., 2019; Prady et al., 2021). In a retrospective cohort study, data pertaining to 29,601 American women who gave birth between 2004 and 2007 were obtained by Kozhimannil et al. (2011). Association between racial disparities and initiation of antidepressants or outpatient visit within six months postpartum, follow-up, and ongoing mental

health support was assessed by logistic regression. Results showed significantly reduced levels of PND treatment for all low-income women, with markedly reduced treatment initiation rates for black and Latina women, 4% and 5%, respectively, compared to 9% for white women. Although rates of PND were not identified in their study, Kozhimannil et al. (2011), maintain that the discrepancies in initiation and continuation of care revealed in their study indicates that a disproportionate percentage of Latina and black women with PND do not obtain the interventions that they require.

More recently, in a UK cohort study which examined the relationship between ethnicity, migration, and self-reported prevalence and treatment for PNDA at 9-month and 5-years postpartum, Moore et al. (2019) reported that despite higher prevalence, migrant women were 50% less likely than non-migrant women to report accessing PNDA treatment at both time points. Despite greater incidents of reported PNDA, treatment prevalence was significantly lower among black women compared with white women at five years (2% vs 8%). Moreover, adjusted analyses showed that ethnicity was a much stronger predictor than migrant status of relative risks of psychological distress and current treatment.

Absence of a coordinated and multidisciplinary approach to care provision

To be able to provide adequate care and support to women experiencing PNDA, MCHNs must function as part of a multidisciplinary and coordinated system in which collaboration and continuity of care across the spectrum of health and other care systems are fostered. This was clearly highlighted in findings from the scoping review (Study One), as well as the qualitative interviews (Study Three), where MCHNs consistently expressed the urgent need for the MCH service to adopt a more collaborative approach to supporting women and for MCHNs to work as part of a multidisciplinary team consisting of a range of healthcare and other professionals (e.g. psychologists and other mental health professionals, social workers).

Lack of access to appropriate referral options was further exacerbated by a lack of continuity of care and lack of a coordinated approach between GPs, hospitals, and other services such as mother-baby-units. MCHNs in Study Three (qualitative interviews) consistently raised concerns regarding poor communication between the MCH service and GPs, as well as hospitals (both public and private), and the adverse impact that this had on their ability to provide adequate and coordinated care to women experiencing PNDA. Women presenting with complex risk factors (e.g. poverty, social isolation, language barriers) require a coordinated and multidisciplinary approach to their care planning (Austin et al., 2019). However, MCHNs in Study Three (qualitative

interviews) stressed that access to additional services that support mental health interventions, such as the Enhanced Maternal and Child Health (EMCH) service and Family Support Services were often limited to women who were deemed “high risk” - which meant that the MCHN had to prove that the woman she was referring to the service met the extremely high threshold for risk required for access to that service. These factors all contributed to the absence of a coordinated response to supporting women experiencing PNDA. For many MCHNs, who have a strong sense of responsibility towards these women, it meant that they were often left to "pick up the slack" and provide supports when no other service or professional was available to do so. This placed an enormous amount of psychological stress on some MCHNs, and evidence suggests they are often already overwhelmed with the number of challenging tasks assigned to them.

Service integration and collaborative care are central to ensuring continuity within and between health and other services and that all parties are working towards a mutually defined and set outcome (Myors et al., 2015; Myors et al., 2013). According to the World Health Organisation (WHO), continuity of care facilitates better care coordination by bringing about the conditions and relationships needed to support seamless interactions between providers and interdisciplinary teams (WHO, 2018). Enablers of care coordination include established protocols and care pathways, use of appropriate technology (such as electronic health records) and education (WHO, 2018). The WHO highlights education and training as a key priority as it builds provider knowledge and competence and prepares them for interdisciplinary practice (WHO, 2018). Supporting MCHNs to carry out their important work requires a new approach to developing policies and service delivery frameworks which facilitate service integration and coordinated care between and within health and other services.

Strengths and limitations

This thesis is the first multiphase research program to explore the PNDA screening and management practices of Victorian MCHNs. Adopting a phased multi-method approach allowed a comprehensive integration of data and facilitated the development of possible strategies (discussed below) which can support the screening and management practices of MCHNs, in line with best practice.

In Study One (scoping review), the use of a comprehensive scoping methodology (Arksey and O’Malley, 2005) meant that the review was systematic, transparent and replicable. It also applied inclusion/exclusion criteria using PICO and had robust inter-rater reliability. To my knowledge, this was the first review that explicitly examined MCHNs’ PNDA screening and follow-up care practices,

providing a valuable road map for future policy and practice strategies and guidelines. However, the review was not without its limitations: It is likely that the exclusion of gray literature and exclusive use of English language articles restricted available data. Also, most studies were conducted in high-income countries, limiting the diversity in the publication sample and our understanding of PNDA screening and management practice among MCHNs globally. This is significant as strategies for screening and management practice must be based on local contexts and settings. Finally, the included articles pertained mostly to PND, therefore our understanding of MCHNs' assessment and management of PNA, including their professional development and support needs, remains limited.

Study Two (cross-sectional survey) addressed the evidence gap regarding Victorian MCHNs' PNDA screening and management practices and the factors which contribute to these. The survey was reviewed by MCHNs and researchers with relevant expertise in MCH nursing, underwent piloting, and was based on a comprehensive review of the literature. Although the survey used in this study was comprehensive, its length may have resulted in our less than anticipated response rate. Other limitations include the possibility that MCHNs who participated in this study did so because of a unique interest in perinatal mental health, which increases the risk of selection bias and nonresponse bias. The use of optional responses resulted in some questions remaining unanswered, however, given that no data currently exists on Victorian MCHNs' screening practices, completion of any part of the survey will strengthen the knowledge base. Our small sample size means that we cannot be confident that our findings are true of all MCHNs in Victoria. However, while (to the best of our knowledge), the demographic profile of MCHNs is not publicly released by the Victorian Government, existing evidence (Family and Community Development Committee, 2018) indicates that, similarly to our sample, most Victorian MCHNs are over the age of 51 years, are part-time employed (Family and Community Development Committee, 2018), work in metropolitan areas, and have over 10 years of MCH practice experience (Hooker et al., 2021). This, coupled with the knowledge that at least one MCHN from 62 of the 78 LGAs participated in the study, provides some reassurance that our sample is broadly representative of MCHNs currently working in Victoria.

Study Three (qualitative interviews) was the first study to explore in detail Victorian MCHNs' PNDA screening practices and highlights opportunities for a more systematic and equitable approach to PNDA screening. Purposeful sampling facilitated diversity across a range of participant personal and professional characteristics, including age, years of professional experience and remoteness and socio-economic status of the communities in which MCHNs practiced. The analysis was carried

out in line with Braun and Clarke's (2006) six-step process, and the study was reported in compliance with the COREQ checklist (Tong et al., 2007). I also adhered to the recommended strategies to ensure credibility, transferability, dependability, and confirmability (Korstjens & Moser, 2018), outlined in Table 7. However, the study also had several limitations: it is likely that our results are influenced by self-selection bias given that those who participated in the study may have a special interest in perinatal mental health, and as such their views and practices do not accurately reflect those of all MCHNs. It is also likely that those who are more apathetic toward mental health screening did not participate in this study and therefore their attitudes and practices are not reflected in the study's findings. Despite reaching data saturation, our relatively small sample size means that it is possible that our findings are not transferable to all (approximately) 1300 MCHNs currently practicing in Victoria, and as such should be interpreted with caution. Also, given that all 12 participants were aged 45 or older, and most had over 10 years of professional experience, it is plausible that the findings are not reflective of the experiences of MCHNs with less clinical experience. Finally, there are broader issues, such as negative public discourse and stigma surrounding mental health, as well as healthcare funding structures, which may influence some of the issues identified by MCHNs in this study. While these were not within the scope of our study, it is important to acknowledge and highlight them as topics for future research.

Finally, it should be noted that the results of Studies Two and Three are specific to MCHNs working in Victoria, Australia, and that while there are many similarities between Victorian MCHNs and other community-based midwives and/or nurses working in other jurisdictions in Australia, as well as overseas, there may also be differences that must be considered when applying these findings to settings outside of Victoria.

Recommendations

Based on the key findings of this study, this section outlines a set of evidence-informed recommendations pertaining to policy, practice, and future research.

Recommendation 1: Alignment of Victorian and Australian Clinical Practice Guideline

There is an urgent need to address the disparities between the screening recommendations outlined in the Victorian and Australian Clinical Practice Guideline. The Victorian MCH practice guidelines' recommendations pertaining to how MCHNs should screen for PNDA have not been updated since 2009 and are not reflective of the most recent evidence regarding how and when

screening should occur. It is imperative that the Victorian guideline are updated to align with the Australian Clinical Practice Guideline and call for universal screening with the EPDS at 6-12 weeks postpartum and repeated at least once in the first 12 months postpartum.

Recommendation 2: Coordinated and multidisciplinary support provision

As expressed by MCHNs in this study, effective delivery of the MCH service necessitates a multidisciplinary approach, ideally characterised by the co-location of a team of professionals (such as psychologists, social workers, family support and domestic violence workers) who work together to facilitate the best possible outcome for all women. Embedding a multidisciplinary approach will not only relieve MCHNs of some of the enormous responsibilities they alone have been assigned (including PNDA and family violence screening), but it will also address some of the key barriers to women accessing supports, such as distance, lack of transportation and long waitlists.

It is important that no single professional body, including GPs or MCHNs, bear the lion's share of responsibility for facilitating women's access to appropriate mental health supports and interventions. Ensuring this requires a coordinated and multidisciplinary approach, including agreed upon areas of shared and individual responsibilities.

In accordance with the Australian Clinical Practice Guideline, health practitioners providing antenatal care (including doctors and midwives working in the public and/or private sectors) must screen all women (using the EPDS or another validated tool) at least twice during pregnancy. This must be carried out in conjunction with a comprehensive assessment of a woman's psychosocial risk factors (e.g. history of mental illness, past or current experience of family violence, availability of family and social supports). The results of the EPDS and psychosocial assessments must be adequately documented and shared with the MCH service as part of the handover process.

Recommendation 3: Comprehensive and ongoing perinatal mental health training

There is a need for training and professional development to be ongoing and include content that facilitates better understanding of postnatal depression and anxiety equally, without giving precedence to one over the other. This includes training on the use of appropriate screening tools, including for anxiety (which appears to be less understood among MCHNs), and use of the EPDS in languages other than English.

There is also a need for adequate training regarding the significance of psychosocial assessments and use of a psychosocial assessment tool- in particular the ANRQ.

While it is important that MCHNs receive this training, it is equally important that other health professionals who come into frequent contact with women during the perinatal period also receive this training. This includes obstetricians and gynaecologists, hospital and community-based midwives and nurses, and GPs. Clear processes for handover of relevant information between professionals, pertaining to women's personal and family mental health history, and other factors which are likely to increase the likelihood of PNDA, must also be established and consistently reviewed for quality assurance.

Recommendation 4: Cultural competency training.

As cultural competency training is likely to support the equitable identification and support of CALD women experiencing PNDA, it should be recommended and adopted by local and state government, integrated into the MCH practice guidelines and implemented across the Victorian MCH service. Training must also include content regarding the unique needs and challenges of mothers from minority ethnic groups, including risk factors that are more prevalent or unique to mothers in certain minority communities. Training must also be reflective of the fact that a 'one size fits all' approach is not effective or appropriate, including for women in ethnic minority groups who are not a homogenous group.

Recommendation 5: Additional funding for more, and extended, client appointments

Local and state government must come together to provide funding and ongoing organisational support for the inclusion of an additional, maternal health visit at the three-four-month consultation. Moreover, additional funding must be allocated to allow MCHNs in all LGAs to offer extra appointments and/or longer appointments to women who require them. This would allow MCHNs to utilise an interpreter without worrying about the additional burden of time. It would also allow MCHNs the time and flexibility that is required to address ongoing maternal mental health (and other) needs. Ensuring that MCH services in all LGAs have the required funding to offer extended and/or additional appointments will also likely reduce the current disparities between MCH services in affluent LGAs (some of which already offer additional and extended appointments) and those in more disadvantaged areas.

Recommendation 6: Monitoring and evaluation

Further research is needed to better understand the place-based disparities in the screening and management practices of MCHNs that were identified in this thesis and how to address them. The Victorian Department of Health needs to identify outcome measures using validated tools, performance standards, and the minimum benchmarks for effective Maternal and Child Health program evaluation. Best practice policies must be accompanied by effective implementation strategies which include initiatives that can support equitable screening (and access to supports) for all mothers, as well as ways to systematically monitor, evaluate and improve practice.

Conclusion

Postnatal depression and anxiety is a global public health issue. Universal screening with use of a validated screening tool, coupled with appropriate and timely pathways to care can significantly improve women's symptoms, resulting in improved long-term outcomes for women and their families. Maternal and Child Health nurses play a critical role in identifying women experiencing PNDA and facilitating their access to appropriate supports while providing a supportive space for women to discuss their postpartum experiences, both positive and negative.

Findings from this thesis have highlighted that the complex system within which MCHNs carry out their important work can challenge their capacity to screen for PNDA and provide subsequent care in a manner consistent with their favourable attitudes towards PNDA screening and management. As described by one MCHN, *"...if we could do it the way we wanted to do it instead of what we are left with because there's no funding, you'd do what really needed to be done."*

Findings from this research can support the establishment of evidence-based policies and procedures that better support MCHNs to screen for and manage incidents of PNDA in line with evidence-based recommendations. This is central to ensuring that all women experiencing PNDA are identified in a timely manner and are supported to access the supports they need to recover.

Appendices

Appendix 1: Ethics Approvals Department of Health and Human Services



Department of
Health & Human Services

50 Lonsdale Street
Melbourne Victoria 3000
Telephone: 1300 650 172
GPO Box 4057
Melbourne Victoria 3001
www.dhhs.vic.gov.au
DX 210081

HHSD/19/124301

Noushin Arefadib
Judith Lumley Centre, La Trobe University
Level 3, George Singer Building
BUNDOORA VIC 3086

Dear Noushin,

Re: Examining the postnatal depression and anxiety screening practices of Maternal and Child Health nurses in Victoria

Thank you for your application to the Department of Health & Human Services (the department) to undertake the research, "Examining the postnatal depression and anxiety screening practices of Maternal and Child Health nurses in Victoria".

I am pleased to advise you the department is able to support your project.

The reviewers of your project have requested that the following matters be carefully attended to when seeking support:

- Review length and content of the survey in partnership with Maternal and Child Health (MCH) experts (currently working in LGAs) and adjust accordingly.
- Use the terminology *universal and enhanced maternal and child health nurses* in full rather than the acronym E/MCH as this is not common language in the sector.
- The communication strategy for MCH coordinators should clearly specify that the research is being undertaken as part of a Ph.D. candidate research and is not instigated by the department.
- Note that the key policy that directs current MCH practice is the Perinatal Mental Health and Psychosocial Assessment: Practice Resource Manual for Victorian Maternal and Child Health Nurses 2013.

A draft copy of the final report must be provided to the Centre for Evaluation and Research (CER) for feedback prior to completion and/or submission for publication. The approval to access departmental information is limited to this project. If you wish to use departmental information for other research purposes, you must submit a separate external research application to the department to seek further approval.

Your departmental contact for this project will be: Marcia Armstrong, Principal Maternal and Child Health Nurse Advisor, Maternal & Child Health and Parenting, marcia.armstrong@dhhs.vic.gov.au



Please provide the CER with a copy of your final report. If you have any further queries, do not hesitate to contact us via email on cer@dhhs.vic.gov.au.

We wish you all the best with your research.

Yours sincerely

Ms. Meredith Jones
Manager
Centre for Evaluation & Research
28/3/2019

cc. Marica Armstrong

Appendix 2: La Trobe Human Ethics Committee Approval Letter



UNIVERSITY HUMAN ETHICS COMMITTEE
Ethics and Integrity Team, Research Office

Mailing address

La Trobe University
Victoria 3086 Australia

T + 61 3 9479 1443
E humanethics@latrobe.edu.au
latrobe.edu.au/researchers/ethics/human-ethics

MELBOURNE CAMPUSES

Bundoora
Collins Street CBD
Franklin Street CBD

REGIONAL CAMPUSES

Bendigo
Albury-Wodonga
Mildura
Shepparton

To: Touran Shafiei

From: Human Research Ethics Committee (HREC)

Date: 23/01/2019

Subject: Notification of Ethics Review Outcome - Approved

Ethics Application Number: HEC18512

Ethics Application Title: Examining the postnatal depression and anxiety screening and management practices of universal and enhanced maternal and child health nurses in Victoria

Approval Period: 23/01/2019 to 23/01/2024

Approved investigators:

Principle investigator: Touran Shafiei

Other investigators: Jan Nicholson, Amanda Cooklin, Noushin Arefadib

Approved Documents:

Ethics application

PhD proposal V1.1 mark-up.docx

Withdrawal of consent for use of data form for interviews.docx

PhD proposal V2 clean.docx

Data management plan.pdf

Proposed email from LaTrobe research team to MAV.docx

Confirmation email from MAV.docs

I am pleased to advise you that the Human Research Ethics Committee (HREC) has granted ethical approval of the project listed above, subject to the following conditions being met:

Conditions of Approval specific to this project

N/A

Conditions of Approval – All projects

- **The approval of this Application will be ratified by the full Committee at its next available meeting.**

- **Approval is limited** to the research project and associated documents as outlined in this ethics approval letter.
- **Governance:** Approval is contingent on any governance requirements relevant to the project that need to be met prior to the project starting. This may include but is not limited to any legal agreements IBC/AEC approvals, research permits/licences, TGA and Insurance.
- **The Principal Investigator** will immediately report anything that might warrant review of ethical approval of the project.
- **Modifications to an Approved Project:** Any changes to the project application, project description/protocol and/or other project documents must be submitted for review and approval in accordance with the instructions outlined on the Human Research Ethics website. Modifications can be implemented once written approval has been received.
- **Annual Report:** If your project continues for more than 12 months, you are required to submit an Annual Report by the due date outlined in the annual report reminder. The form is available on the Human Research Ethics website. Failure to submit a Progress Report will mean approval for this project will be suspended and no further research activities can be carried out until the annual report is received.
- **Final Report or Withdrawal of Project:** At the conclusion of your project you must submit a final report within 3 months via the process outlined on the Human Research Ethics website.
- **Safety Reporting:** If a significant safety issue arises from the conduct of the project, it must be reported via the process outlined on the Human Research Ethics website.
- **Monitoring:** All projects are subject to monitoring at any time and will be monitored in accordance with the University's Research Monitoring Policy.
The Human Research Ethics Committee (HREC) Terms of Reference, membership and standard forms are available from <http://www.latrobe.edu.au/researchers/research-office/ethics/human-ethics>.

Should you require any further information, please contact the Human Research Ethics Team on: T: +61 3 9479 1443 | E: humanethics@latrobe.edu.au.

Kind regards,

Lina Yiannoudes
Senior Manager, Research Ethics, Integrity and Biosafety
On behalf of Chair, Human Research Ethics Committee (HREC)

Appendix 3: Conference presentations (Poster)- Child & Adolescent Mental Health Conference, 2022, Gold Coast, Australia



Screening for Postnatal Depression: How Maternal and Child Health Nurses Can Support Infant Mental Health

Noushin Arefadib, Amanda Cooklin, Jan Nicholson, Touran Shafiei
Judith Lumley Centre, La Trobe University, Melbourne Australia

Backgrounds

- Postnatal depression and/or anxiety (PNDA) impacts 10-20% of all mothers (Falsh-Hassani et al., 2017; Woody et al., 2017) and, if left undetected and untreated can lead to significant adverse outcomes for women and their infants (Hadfield & Wittkowski, 2017).
- Infants' significant reliance on their caregiver to meet their basic needs and provide nurturance, combined with the fact that in most families mothers act as the infant's primary caregiver, makes the identification of PNDA and provision of appropriate supports for mothers a public health priority.
- Mothers with PNDA are less likely to demonstrate responsiveness and nurturance, and more likely to avoid or provide inconsistent care to their infant. Infants of mothers with PNDA are also 1.4 times more likely to be hospitalised, have 1.9 times greater risk of death before their first birthday (Jacques et al., 2019).
- Universal screening, using a validated screening tool, increases rates of detection and service utilisation among mothers requiring mental health support (Reilly et al., 2020) and results in as much as 9% risk reduction in depression prevalence (O'Connor et al., 2016).
- Victorian Maternal and Child Health nurses (MCHNs) play a key role in facilitating the timely identification of PNDA.
- Understanding MCHNs' screening practices, and the factors which impact them, is central to ensuring that MCHNs are provided with the required conditions needed to carryout this critical work. Yet, little is known about this subject.

Aim

- To understand how Maternal and Child Health nurses screen for, and support women with symptoms of postnatal and anxiety, and identify factors which impact these.

Methods

Mixed methods:

- Study 1- Cross-sectional survey:
 - Sent to all MCH coordinators across all 79 Victorian local government areas. Coordinators were asked to forward the invitation to MCHNs in their respective area. Interested participants were directed to a 20minute online survey. The Data were collected in 2019.
 - Descriptive analyses were conducted to describe participant characteristics, knowledge, attitude, and practices. Univariate logistic regression analysis was applied to evaluate associations between screening practices and knowledge, attitude, and other sociodemographic variables.
- Study 2- Qualitative descriptive interviews:
 - Twelve MCH nurses were interviewed. Thematic analysis was conducted to identify patterns across our data. Qualitative content analysis was used to identify issues which were most emphasised by nurses

Results Crosssectional survey (n = 218)

- Participants viewed screening as an important part of their role and screened all mothers at least once in the first 12 month postpartum.
- Less than 35% routinely did so more than once in the first 12 months postpartum.
- Only 31% were able to adhere to the recommended use of psychosocial assessments as part of their screening practice.
- Nurses practicing in communities with greater socio-economic advantage were significantly more likely to adhere to best-practice clinical guidelines by conducting psychosocial assessments, and screening more than once, compared to nurses who worked in disadvantaged communities.
- Results suggest that disadvantaged women, who are more vulnerable to postnatal depression and anxiety, are also less likely to be identified through adequate screening.
- Our findings highlight place-based disparities in MCHNs' screening practices, which can only contribute to widening existing health inequities between mothers in the most advantaged and disadvantages areas.

Results Qualitative descriptive interviews (n = 12)

Three overarching themes were identified:

| Theme | Subtheme |
|---|---|
| What happens next? referral power, availability and access. | Referral power: an uneven distribution between MCHNs and GPs. Availability and access—the role of place and socioeconomic status. |
| In case of emergency | Mental health crisis supports: what are the options? Barriers to facilitating access to crisis and intensive supports. |
| Going forward—how MCHNs can be better supported to facilitate women's | Not just nurses: the need for a multidisciplinary team and co-location of services. More time and resources, not more training. More direct referral power. |

All we can do sometimes is refer to GPs. If they (mothers) need more than that we're just going to hope their GP will do more.

If we could do it the way we wanted to do it instead of what we are left with because there's no funding, you'd do what really needed to be done...

There is a lack of services...there's never any beds in the mother baby units.

...a team of not just nurses but of counsellors, and family support workers, so they can all work together because it's a tough gig.



Conclusion & implications

- When women with postnatal depression/anxiety are identified early and are supported to access appropriate supports, they are likely to experience a significant decrease in their symptoms, resulting in improved long-term outcomes for them and their families.
- MCHNs hold a significant amount of responsibility, and are very well-placed, to not only identify women with postnatal depression/anxiety but also facilitate their timely access to appropriate interventions.
- Our study highlights systematic challenges, such as a lack of time and inadequate referral options, which can hinder MCHNs' ability to consistently screen for and support women experiencing postnatal depression and anxiety.
- There is an urgent need for policy and service delivery frameworks that facilitate equity in access to appropriate mental health care, regardless of women's socioeconomic status or place of residence.
- Our findings also highlight the need for an integrated approach to supporting women in the postnatal period, so that no single professional body, including general practitioners or MCHNs, bears the lion's share of responsibility for facilitating women's access to psychological interventions.
- Finally, greater investment is needed to address the current shortage of mental health services and specialists in rural areas, as well as the lack of mental health support options for women from non-English speaking backgrounds.

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Contact details

Noushin Arefadib, PhD Candidate

Judith Lumley Centre, La Trobe University, Melbourne Australia

Ph: +61 3 9479 8796

Email: n.arefadib@latrobe.edu.au

Appendix 4: Edinburgh Postnatal Depression Scale (EPDS)

INSTRUCTIONS:

Please select one option for each question that is the closest to how you have felt in the PAST SEVEN DAYS.

1. I have been able to laugh and see the funny side of things:

- As much as I always could
- Not quite as much now
- Definitely not so much now
- Not at all

2. I have looked forward with enjoyment to things:

- As much as I ever did
- Rather less than I used to
- Definitely less than I used to
- Hardly at all

3. I have blamed myself unnecessarily when things went wrong:

- Yes, most of the time
- Yes, some of the time
- Not very often
- No, never

4. I have been anxious or worried for no good reason:

- No, not at all
- Hardly ever
- Yes, sometimes
- Yes, very often

5. I have felt scared or panicky for no very good reason:

- Yes, quite a lot
- Yes, sometimes
- No, not much
- No, not at all

6. Things have been getting on top of me:

- Yes, most of the time I haven't been able to cope at all
- Yes, sometimes I haven't been coping as well as usual
- No, most of the time I have coped quite well
- No, I have been coping as well as ever

7. I have been so unhappy that I have had difficulty sleeping:

- Yes, most of the time
- Yes, sometimes
- Not very often
- No, not at all

8. I have felt sad or miserable:

- Yes, most of the time
- Yes, quite often
- Not very often
- No, not at all

9. I have been so unhappy that I have been crying:

- Yes, most of the time
- Yes, quite often
- Only occasionally
- No, never

10. The thought of harming myself has occurred to me:

- Yes, quite often
- Sometimes
- Hardly ever
- Never

Appendix 5: Study measures by demography, knowledge, attitude and practice

| Demographic characteristics | |
|--|--|
| Location of employment | Name of local government area(s) |
| Years of experience as an MCHN | 1 = < 1 year; 2 = 1-4 years; 3 = 5-9 years; 4 = 10-20 years; 5 = > 20 years |
| Work hours | 1 = Full-time; 2 = Part-time; 3 = Casual / Relief; 4 = Other |
| Gender | 1 = Female; 2 = Male; 3 = Other; 4 = Prefer not to say |
| Age (years) | 1 = < 25; 2 = 25-34; 3 = 35-44; 4 = 45-54; 5 = 55-64; 6 = 65 >; 7 = Prefer not to say |
| Born in Australia | 0 = No (please specify which country you were born in); 1 = Yes |
| English first language | 0 = No (please specify your first language); 1 = Yes |
| Aboriginal and/or Torres Strait Islander origin | 0 = No; 1 = Yes, Aboriginal; 2 = Yes, Torres Strait Islander; 3 = Yes, Both Aboriginal and Torres Strait Islander |
| Attitudes toward screening | |
| Universal screening | One item with 3 options (e.g. 'I believe that MCHN should screen ALL new mothers for PNDA regardless of the absence of risk factors') |
| Screening method and professional role | Six items (e.g. 'It's important to speak with women about PNDA before I screen for it') on a 5-point Likert scale |
| Edinburgh Postnatal Depression Scale, screening frequency, and facilitators to screening | Nine items (e.g. 'The Edinburgh Postnatal Depression Scale is the best screening tool for PNDA'; 'I am MORE likely to screen a woman for PNDA when we have a trusting relationship') on a 5-point Likert scale |
| Availability of suitable referral options | One item with yes or no options. |

| Self-reported Knowledge of PNDA, and PNDA screening | |
|---|--|
| Self-reported knowledge and skills to screen all mothers, including correct use of the EPDS | Five items (e.g. 'I know how to ask women from Aboriginal and/or Torres Strait Islander communities about PNDA'; 'I know exactly how to use the Edinburgh Postnatal Depression Scale') on a 5-point Likert scale |
| Screening practice | |
| Universal screening | One item with 3 options (e.g. 'I routinely screen ALL women for PNDA'; 'I RARELY or NEVER screen for PNDA') of which only one could be selected |
| Barriers to universal screening | One item with 13 options (e.g. 'lack of follow-up supports'; 'lack of time') of which more than one could be selected |
| Time of screening | One item with 8 options (e.g. '4 weeks'; '8 weeks') of which more than one could be selected |
| Frequency of screening more than once in the first 12 months | One item with 4 options (e.g. 'Most of the time'; 'Rarely/never') of which only one could be selected |
| Reasons for 'never/rarely' screening more than once | One item with 7 options (e.g. 'I had no concerns after the first screen') of which more than one could be selected |
| Method of screening | One item with 6 options (e.g. 'EPDS if indicated by Case finding questions'; 'Clinical/professional judgment') of which more than one could be selected |
| Reasons for method(s) chosen | Two items (e.g. 'The screening method I use depends on how much time I have'). Yes or no option |
| Administering and discussing results of the EPDS | Five items (e.g. 'When using the EPDS, how often do you discuss the results with her?') on a 4-point Likert scale |

Appendix 6: Complete survey

MCHN survey-PNDA screening PID 328

Codebook ▾

Data Dictionary Codebook

01/06/2021 10:42am

[^ Collapse all instruments](#)

| # | Variable / Field Name | Field Label <i>Field Note</i> | Field Attributes (Field Type, Validation, Choices, Calculations, etc.) | | | | |
|--|--|---|--|---|----|---|-----|
| Instrument: MCH nurse survey (mch_nurse_survey) Enabled as survey ^ Collapse | | | | | | | |
| 1 | ignore | | text Custom alignment: LH | | | | |
| 2 | survey_pis | The attached document is a Participant Information Statement, which describes in detail things such as: what this study is about, what will happen to the information you provide, what you will be asked to do, and more. It is important that you read this document carefully before deciding whether you wish to participate in this study. Thank you. | descriptive | | | | |
| 3 | elig_job_leng | Section Header: <i>Survey eligibility</i> Have you been practicing as an MCH nurse for at least 6 months? | radio, Required <table border="1" style="display: inline-table;"> <tr><td>0</td><td>No</td></tr> <tr><td>1</td><td>Yes</td></tr> </table> Custom alignment: LH | 0 | No | 1 | Yes |
| 0 | No | | | | | | |
| 1 | Yes | | | | | | |
| 4 | no_elig_time Show the field ONLY if: [elig_job_leng] = '0' | Thank you for your interest in this survey. Unfortunately, not having worked as an MCH nurse for at least 6 months makes you ineligible for partaking in this survey. We appreciate your time. | descriptive | | | | |
| 5 | elig_kas | Do you regularly conduct Key Ages and Stages (KAS) visits as a central part of your role? | radio, Required <table border="1" style="display: inline-table;"> <tr><td>0</td><td>No</td></tr> <tr><td>1</td><td>Yes</td></tr> </table> Custom alignment: LH | 0 | No | 1 | Yes |
| 0 | No | | | | | | |
| 1 | Yes | | | | | | |
| 6 | ineligi_kas Show the field ONLY if: [elig_kas] = '0' | Thank you for your interest in this survey. Unfortunately, not conducting regular KAS visits as a central part of your work, makes you ineligible for partaking in this survey. We appreciate your time. | descriptive | | | | |
| 7 | consent | Section Header: <i>Survey participation agreement</i> I have read the Participant Information Statement and agree to take part in this survey | radio, Required <table border="1" style="display: inline-table;"> <tr><td>0</td><td>No</td></tr> <tr><td>1</td><td>Yes</td></tr> </table> Custom alignment: LH | 0 | No | 1 | Yes |
| 0 | No | | | | | | |
| 1 | Yes | | | | | | |
| 8 | no_consent Show the field ONLY if: [consent] = '0' | You have indicated that you do not agree to participate in this survey. This decision does not impact your relationship with your MCH Coordinator or La Trobe University in anyway. Have a nice day! | descriptive | | | | |
| 9 | q1_council | Section Header: <i>Section 1: About you</i> Thank you for agreeing to take this survey. Select the response that you are most comfortable with, There are no right or wrong answers. First, we'd like to know a little about you and your current role as an MCH nurse. *Please note: throughout this survey, the abbreviation 'MCH' nurse is used to refer to BOTH Enhanced and Universal MCH nurses (unless otherwise specified). 6% 1. Please name the council(s) where you predominantly work | text Custom alignment: LH | | | | |

| | | | | | | | | | | | | | | | | | |
|----|---|--|--|---|--|---|-------------------------|---|----------------------------------|---|-------------------------|---|-------------|---|--------------------|---|-------------------|
| 10 | q2_work_exp | 2. Please indicate how long have you been practicing as an MCH nurse | radio <table border="1"> <tr><td>1</td><td>Less than 1 year</td></tr> <tr><td>2</td><td>1-2 years</td></tr> <tr><td>3</td><td>3-4 years</td></tr> <tr><td>4</td><td>5-9 years</td></tr> <tr><td>5</td><td>10-20 years</td></tr> <tr><td>6</td><td>More than 20 years</td></tr> <tr><td>7</td><td>Prefer not to say</td></tr> </table> Custom alignment: LV | 1 | Less than 1 year | 2 | 1-2 years | 3 | 3-4 years | 4 | 5-9 years | 5 | 10-20 years | 6 | More than 20 years | 7 | Prefer not to say |
| 1 | Less than 1 year | | | | | | | | | | | | | | | | |
| 2 | 1-2 years | | | | | | | | | | | | | | | | |
| 3 | 3-4 years | | | | | | | | | | | | | | | | |
| 4 | 5-9 years | | | | | | | | | | | | | | | | |
| 5 | 10-20 years | | | | | | | | | | | | | | | | |
| 6 | More than 20 years | | | | | | | | | | | | | | | | |
| 7 | Prefer not to say | | | | | | | | | | | | | | | | |
| 11 | q3_role | 3. In your MAIN job, do you work as a ... | radio <table border="1"> <tr><td>1</td><td>UNIVERSAL MCH nurse only</td></tr> <tr><td>2</td><td>ENHANCED MCH nurse only</td></tr> <tr><td>3</td><td>Enhanced AND Universal MCH nurse</td></tr> <tr><td>4</td><td>Other (please specify)</td></tr> </table> Custom alignment: LV | 1 | UNIVERSAL MCH nurse only | 2 | ENHANCED MCH nurse only | 3 | Enhanced AND Universal MCH nurse | 4 | Other (please specify) | | | | | | |
| 1 | UNIVERSAL MCH nurse only | | | | | | | | | | | | | | | | |
| 2 | ENHANCED MCH nurse only | | | | | | | | | | | | | | | | |
| 3 | Enhanced AND Universal MCH nurse | | | | | | | | | | | | | | | | |
| 4 | Other (please specify) | | | | | | | | | | | | | | | | |
| 12 | q4_other_role Show the field ONLY if: [q3_role] = '4' | | text Custom alignment: LH | | | | | | | | | | | | | | |
| 13 | q4_hours | 4. Please indicate your usual employment hours | radio <table border="1"> <tr><td>1</td><td>Full-time</td></tr> <tr><td>2</td><td>Part-time</td></tr> <tr><td>3</td><td>Casual / Relief</td></tr> <tr><td>4</td><td>Other (please specify):</td></tr> </table> Custom alignment: LV | 1 | Full-time | 2 | Part-time | 3 | Casual / Relief | 4 | Other (please specify): | | | | | | |
| 1 | Full-time | | | | | | | | | | | | | | | | |
| 2 | Part-time | | | | | | | | | | | | | | | | |
| 3 | Casual / Relief | | | | | | | | | | | | | | | | |
| 4 | Other (please specify): | | | | | | | | | | | | | | | | |
| 14 | q4_hours_other Show the field ONLY if: [q4_hours] = '4' | | text Custom alignment: LH | | | | | | | | | | | | | | |
| 15 | q5_sex | 5. Please indicate your gender | radio <table border="1"> <tr><td>1</td><td>Female</td></tr> <tr><td>2</td><td>Male</td></tr> <tr><td>3</td><td>Other</td></tr> <tr><td>4</td><td>Prefer not to say</td></tr> </table> Custom alignment: LV | 1 | Female | 2 | Male | 3 | Other | 4 | Prefer not to say | | | | | | |
| 1 | Female | | | | | | | | | | | | | | | | |
| 2 | Male | | | | | | | | | | | | | | | | |
| 3 | Other | | | | | | | | | | | | | | | | |
| 4 | Prefer not to say | | | | | | | | | | | | | | | | |
| 16 | q6_age | 6. Please indicate your age | radio <table border="1"> <tr><td>1</td><td>< 25</td></tr> <tr><td>2</td><td>25-34</td></tr> <tr><td>3</td><td>35-44</td></tr> <tr><td>4</td><td>45-54</td></tr> <tr><td>5</td><td>55-64</td></tr> <tr><td>6</td><td>65 ></td></tr> <tr><td>7</td><td>Prefer not to say</td></tr> </table> Custom alignment: LV | 1 | < 25 | 2 | 25-34 | 3 | 35-44 | 4 | 45-54 | 5 | 55-64 | 6 | 65 > | 7 | Prefer not to say |
| 1 | < 25 | | | | | | | | | | | | | | | | |
| 2 | 25-34 | | | | | | | | | | | | | | | | |
| 3 | 35-44 | | | | | | | | | | | | | | | | |
| 4 | 45-54 | | | | | | | | | | | | | | | | |
| 5 | 55-64 | | | | | | | | | | | | | | | | |
| 6 | 65 > | | | | | | | | | | | | | | | | |
| 7 | Prefer not to say | | | | | | | | | | | | | | | | |
| 17 | q7_c_birth | 7. Were you born in Australia? | radio <table border="1"> <tr><td>0</td><td>No (please specify which country you were born in)</td></tr> <tr><td>1</td><td>Yes</td></tr> </table> Custom alignment: LV | 0 | No (please specify which country you were born in) | 1 | Yes | | | | | | | | | | |
| 0 | No (please specify which country you were born in) | | | | | | | | | | | | | | | | |
| 1 | Yes | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|----|--|---|--|---|--|---|---|---|---|---|---|---|-------------------|
| 18 | q7_born_o_s Show the field ONLY if: [q7_c_birth] = '0' | | text Custom alignment: LH | | | | | | | | | | |
| 19 | q8_language | 8. Is English your first language? | radio <table border="1"> <tr> <td>0</td> <td>No (please specify your first language)</td> </tr> <tr> <td>1</td> <td>Yes</td> </tr> </table> Custom alignment: LV | 0 | No (please specify your first language) | 1 | Yes | | | | | | |
| 0 | No (please specify your first language) | | | | | | | | | | | | |
| 1 | Yes | | | | | | | | | | | | |
| 20 | q8_other_language Show the field ONLY if: [q8_language] = '0' | | text Custom alignment: LH | | | | | | | | | | |
| 21 | q9_atssi | 9. Are you of Aboriginal and/or Torres Strait Islander origin? | radio <table border="1"> <tr> <td>0</td> <td>No</td> </tr> <tr> <td>1</td> <td>Yes, Aboriginal</td> </tr> <tr> <td>2</td> <td>Yes, Torres Strait Islander</td> </tr> <tr> <td>3</td> <td>Yes, BOTH Aboriginal and Torres Strait Islander</td> </tr> <tr> <td>4</td> <td>Prefer not to say</td> </tr> </table> Custom alignment: LV | 0 | No | 1 | Yes, Aboriginal | 2 | Yes, Torres Strait Islander | 3 | Yes, BOTH Aboriginal and Torres Strait Islander | 4 | Prefer not to say |
| 0 | No | | | | | | | | | | | | |
| 1 | Yes, Aboriginal | | | | | | | | | | | | |
| 2 | Yes, Torres Strait Islander | | | | | | | | | | | | |
| 3 | Yes, BOTH Aboriginal and Torres Strait Islander | | | | | | | | | | | | |
| 4 | Prefer not to say | | | | | | | | | | | | |
| 22 | q10_uni_screen | <p>Section Header: <i>Section 2: Attitudes Now we'd like to know a little about your views and attitudes about screening for postnatal depression and anxiety (PNDA). *Please note: in this survey, the term "screening" refers to any practice or method you commonly use to identify the risk and/or likelihood of PNDA, in order to promote prevention and early detection and support.</i></p> <p>10. Please indicate which of the following statements you most agree with:</p> | radio <table border="1"> <tr> <td>1</td> <td>I believe that MCH nurses should screen ALL new mothers for PNDA regardless of the presence or absence of any risk factors or symptoms</td> </tr> <tr> <td>2</td> <td>I believe that MCH nurses should ONLY screen for PNDA when they know that a new mother is at risk and/or is showing signs of PNDA</td> </tr> <tr> <td>3</td> <td>I believe that it is NOT the role of any MCH nurse to screen for PNDA</td> </tr> </table> Custom alignment: LV | 1 | I believe that MCH nurses should screen ALL new mothers for PNDA regardless of the presence or absence of any risk factors or symptoms | 2 | I believe that MCH nurses should ONLY screen for PNDA when they know that a new mother is at risk and/or is showing signs of PNDA | 3 | I believe that it is NOT the role of any MCH nurse to screen for PNDA | | | | |
| 1 | I believe that MCH nurses should screen ALL new mothers for PNDA regardless of the presence or absence of any risk factors or symptoms | | | | | | | | | | | | |
| 2 | I believe that MCH nurses should ONLY screen for PNDA when they know that a new mother is at risk and/or is showing signs of PNDA | | | | | | | | | | | | |
| 3 | I believe that it is NOT the role of any MCH nurse to screen for PNDA | | | | | | | | | | | | |
| 23 | instruction | Please indicate the extent to which you agree with the following statements | descriptive | | | | | | | | | | |
| 24 | q11_nurse_att | 11. If a woman doesn't acknowledge her feelings of depression and/or anxiety, there is very little I can do to help | radio <table border="1"> <tr> <td>1</td> <td>Strongly disagree</td> </tr> <tr> <td>2</td> <td>Disagree</td> </tr> <tr> <td>3</td> <td>Neutral</td> </tr> <tr> <td>4</td> <td>Agree</td> </tr> <tr> <td>5</td> <td>Strongly agree</td> </tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 25 | q12_time_avail | 12. I don't have enough time to screen ALL women for PNDA | radio <table border="1"> <tr> <td>1</td> <td>Strongly disagree</td> </tr> <tr> <td>2</td> <td>Disagree</td> </tr> <tr> <td>3</td> <td>Neutral</td> </tr> <tr> <td>4</td> <td>Agree</td> </tr> <tr> <td>5</td> <td>Strongly agree</td> </tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|----|-------------------|---|--|---|-------------------|---|----------|---|---------|---|-------|---|----------------|
| 26 | q13_convo | 13. It's important to speak with women about PNDA BEFORE I screen for it | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 27 | q14_stigma | 14. The stigma/shame associated with mental ill health makes it difficult for me to screen for PNDA | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 28 | q15_identify | 15. I am capable of identifying women at risk of PNDA without screening for it | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 29 | q16_emch_only | 16. Only ENHANCED MCH nurses should screen for PNDA | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 30 | instruction1 | Section Header: 24% These questions ask about your views and attitudes toward managing women who may need additional support for postnatal depression/anxiety (PNDA) Please indicate the extent to which you agree with the following statements | descriptive | | | | | | | | | | |
| 31 | q17_ref_engage | 17. I am more likely to refer women at risk of PNDA to a service if I feel she is likely to engage with the service | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 32 | q18_avail_service | 18. There are appropriate mental health support services to refer women to in my LGA | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|----|-------------------|--|--|---|-------------------|---|----------|---|---------|---|-------|---|----------------|
| 33 | q19_collab_mom | 19. As the professional, it is MY responsibility to make all final decisions about what supports the woman needs | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 34 | q20_follow_mom | 20. It's important that I follow up with the woman after making a referral for PNDA, to see how she went | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 35 | q21_ref | 21. I am more likely to follow-up on a referral with the woman when I have a good relationship with her | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 36 | q22_follow_serv | 22. It's important that I follow up with the service with whom I make a PNDA referral to see how things went | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 37 | q23_good_relation | 23. I'm more likely to follow-up on a referral I made with a service when I have a good relationship with them | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 38 | q24_multidis | 24. It is important for women experiencing PNDA to be offered support from a diverse team of professionals (e.g. mental health professional, GP, MCH nurse, etc.) | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 39 | instruction2 | Section Header: 30% These questions ask about your attitude toward the Edinburgh Postnatal Depression Scale Please indicate the extent to which you agree with the following statements | descriptive | | | | | | | | | | |

| | | | | | | | | | | | | | |
|----|-------------------|---|--|---|-------------------|---|----------|---|---------|---|-------|---|----------------|
| 40 | q25_epds_effect | 25. The Edinburgh Postnatal Depression Scale is the best screening tool for PNDA | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 41 | q26_epds_cald | 26. The Edinburgh Postnatal Depression Scale is an effective PNDA screening tool among culturally and linguistically diverse women | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 42 | q27_epds_atst | 27. The Edinburgh Postnatal Depression Scale is an effective tool for PNDA screening among Aboriginal and/or Torres Strait Islander women | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 43 | instruction3 | Section Header: 36% These questions ask about your attitudes about who to screen and how often Please indicate the extent to which you agree with the following statements | descriptive | | | | | | | | | | |
| 44 | q28_scrn_once | 28. ALL new mothers should be screened for PNDA MORE than once | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 45 | q29_ma_reltion | 29. I am MORE likely to screen a woman for PNDA when I feel we have a trusting and warm relationship | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 46 | q30_multi_risk | 30. ONLY women who present with MULTIPLE risk factors should be screened for PNDA MORE than once | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|----|-------------------|---|--|---|-------------------|---|----------|---|---------|---|-------|---|----------------|
| 47 | q31_able_cald | 31. I don't feel comfortable discussing PNDA with women who are from a different cultural and/or linguistic background to my own | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 48 | q32_staff_no | Section Header: 42% This section asks about how you feel your workplace affects your capacity to manage and screen for postnatal depression/anxiety (PNDA) 32. My workplace has enough MCH nurses to screen ALL women for PNDA | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 49 | q33_support_wrk | 33. My workplace provides me with the support I need to be able to screen ALL women for PNDA | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 50 | q34_comment_a | 34. Please add any comments you wish to share related to any of the questions in this section | notes | | | | | | | | | | |
| 51 | instruction4 | Section Header: 48% SECTION 3: Your knowledge The questions in this section are asking you about your KNOWLEDGE of postnatal depression/anxiety (PNDA), and PNDA screening and management. Please indicate the extent to which you agree with the following statements | descriptive | | | | | | | | | | |
| 52 | q35_knw_pnda | 35. I have a good understanding of the challenges faced by women experiencing PNDA | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 53 | q36_skill_scrn | 36. I have the skills I need to screen for PNDA | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|----|-------------------|--|--|---|-------------------|---|----------|---|---------|---|-------|---|----------------|
| 54 | q37_skil_resp | 37. I have the right skills to support women with (or at risk of) PNDA | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 55 | q38_scrn_cald | 38. I know how to ask women from culturally and linguistically diverse communities about PNDA | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 56 | q39_rspnd_cald | 39. Where required, I know how to respond to PNDA in a culturally sensitive manner | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 57 | q40_scrn_atssi | 40. I know how to ask women from Aboriginal and/or Torres Strait Islander communities about PNDA | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 58 | q41_use_epds | 41. I know exactly how to use the Edinburgh Postnatal Depression Scale | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 59 | q42_ref_option | 42. I am aware of PNDA related support services I can refer women to (when required) | radio <table border="1"> <tr><td>1</td><td>Strongly disagree</td></tr> <tr><td>2</td><td>Disagree</td></tr> <tr><td>3</td><td>Neutral</td></tr> <tr><td>4</td><td>Agree</td></tr> <tr><td>5</td><td>Strongly agree</td></tr> </table> Custom alignment: LH | 1 | Strongly disagree | 2 | Disagree | 3 | Neutral | 4 | Agree | 5 | Strongly agree |
| 1 | Strongly disagree | | | | | | | | | | | | |
| 2 | Disagree | | | | | | | | | | | | |
| 3 | Neutral | | | | | | | | | | | | |
| 4 | Agree | | | | | | | | | | | | |
| 5 | Strongly agree | | | | | | | | | | | | |
| 60 | q43_comnt_kn | 43. Please add any other comments you wish to share related to any of the above questions | notes Custom alignment: LH | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|---|--|---|-------------------------------------|--|----------------------------|------------------|--|---|---------------------------------------|--------------------------------------|---|------------------|---|---|------------------|--|---|------------------|---|---|------------------|--|---|------------------|--|---|------------------|--|----|-------------------|---|----|-------------------|------------------------|
| 61 | q44_uni_scrn | <p>Section Header: 54% Section 4: Your practice This section asks you about your PRACTICE of screening and managing women experiencing or at risk of Postnatal Depression and/or Anxiety (PNDA).</p> <p>44. In my practice as an MCH nurse I (select one):</p> | <p>radio</p> <table border="1"> <tr> <td>1</td> <td>Routinely screen ALL women for PNDA</td> </tr> <tr> <td>2</td> <td>Screen MOST women for PNDA</td> </tr> <tr> <td>3</td> <td>ONLY screen women who I believe are at risk of and/or show signs of PNDA</td> </tr> <tr> <td>4</td> <td>RARELY or NEVER screen women for PNDA</td> </tr> </table> <p>Custom alignment: LV</p> | 1 | Routinely screen ALL women for PNDA | 2 | Screen MOST women for PNDA | 3 | ONLY screen women who I believe are at risk of and/or show signs of PNDA | 4 | RARELY or NEVER screen women for PNDA | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Routinely screen ALL women for PNDA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Screen MOST women for PNDA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | ONLY screen women who I believe are at risk of and/or show signs of PNDA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | RARELY or NEVER screen women for PNDA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 62 | <p>q44a_selctive</p> <p>Show the field ONLY if: [q44_uni_scrn] = '3'</p> | <p>44 (a) I only screen women who may be at risk of PNDA because (please select ALL that apply)</p> | <p>checkbox</p> <table border="1"> <tr> <td>1</td> <td>q44a_selctive__1</td> <td>Universal screening does not result in early detection</td> </tr> <tr> <td>2</td> <td>q44a_selctive__2</td> <td>Universal screening does not result in early intervention</td> </tr> <tr> <td>3</td> <td>q44a_selctive__3</td> <td>Universal screening is too expensive</td> </tr> <tr> <td>4</td> <td>q44a_selctive__4</td> <td>Universal screening is too time consuming</td> </tr> <tr> <td>5</td> <td>q44a_selctive__5</td> <td>Universal screening is not acceptable to all women</td> </tr> <tr> <td>6</td> <td>q44a_selctive__6</td> <td>Universal screening is not an essential part of my role</td> </tr> <tr> <td>7</td> <td>q44a_selctive__7</td> <td>There is a lack of referral options in my community that can provide adequate care</td> </tr> <tr> <td>8</td> <td>q44a_selctive__8</td> <td>Most women won't engage with support services anyway</td> </tr> <tr> <td>9</td> <td>q44a_selctive__9</td> <td>Universal screening is not supported by my workplace</td> </tr> <tr> <td>10</td> <td>q44a_selctive__10</td> <td>My professional judgment is as good as any screening tool</td> </tr> <tr> <td>11</td> <td>q44a_selctive__11</td> <td>Other (please specify)</td> </tr> </table> <p>Custom alignment: LV</p> | 1 | q44a_selctive__1 | Universal screening does not result in early detection | 2 | q44a_selctive__2 | Universal screening does not result in early intervention | 3 | q44a_selctive__3 | Universal screening is too expensive | 4 | q44a_selctive__4 | Universal screening is too time consuming | 5 | q44a_selctive__5 | Universal screening is not acceptable to all women | 6 | q44a_selctive__6 | Universal screening is not an essential part of my role | 7 | q44a_selctive__7 | There is a lack of referral options in my community that can provide adequate care | 8 | q44a_selctive__8 | Most women won't engage with support services anyway | 9 | q44a_selctive__9 | Universal screening is not supported by my workplace | 10 | q44a_selctive__10 | My professional judgment is as good as any screening tool | 11 | q44a_selctive__11 | Other (please specify) |
| 1 | q44a_selctive__1 | Universal screening does not result in early detection | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | q44a_selctive__2 | Universal screening does not result in early intervention | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | q44a_selctive__3 | Universal screening is too expensive | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | q44a_selctive__4 | Universal screening is too time consuming | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | q44a_selctive__5 | Universal screening is not acceptable to all women | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | q44a_selctive__6 | Universal screening is not an essential part of my role | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | q44a_selctive__7 | There is a lack of referral options in my community that can provide adequate care | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | q44a_selctive__8 | Most women won't engage with support services anyway | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | q44a_selctive__9 | Universal screening is not supported by my workplace | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | q44a_selctive__10 | My professional judgment is as good as any screening tool | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | q44a_selctive__11 | Other (please specify) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 63 | <p>q44a_othr</p> <p>Show the field ONLY if: [q44a_selctive(11)] = '1'</p> | | <p>notes</p> <p>Custom alignment: LH</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|----|---|--|--|---|--------------------|---|---|--------------------|---|---|--------------------|----------------------------|---|--------------------|---------------------------------|---|--------------------|--|---|--------------------|---|---|--------------------|--|---|--------------------|--|---|--------------------|---|----|---------------------|--|----|---------------------|------------------------|
| 64 | q44b_scrn_never Show the field ONLY if: [q44_uni_scrn] = '4' | 44 (b) I RARELY or NEVER screen for PNDA because (please select all that apply) | checkbox <table border="1"> <tr><td>1</td><td>q44b_scrn_never__1</td><td>Screening does not result in improved early detection</td></tr> <tr><td>2</td><td>q44b_scrn_never__2</td><td>Screening does not result in early intervention</td></tr> <tr><td>3</td><td>q44b_scrn_never__3</td><td>Screening is too expensive</td></tr> <tr><td>4</td><td>q44b_scrn_never__4</td><td>Screening is too time consuming</td></tr> <tr><td>5</td><td>q44b_scrn_never__5</td><td>Screening is not acceptable to all women</td></tr> <tr><td>6</td><td>q44b_scrn_never__6</td><td>Screening is not an essential part of my role</td></tr> <tr><td>7</td><td>q44b_scrn_never__7</td><td>There is a lack of referral options that can provide adequate care</td></tr> <tr><td>8</td><td>q44b_scrn_never__8</td><td>Most women won't engage with support services anyway</td></tr> <tr><td>9</td><td>q44b_scrn_never__9</td><td>If a woman needs help, she should just ask for it</td></tr> <tr><td>10</td><td>q44b_scrn_never__10</td><td>Screening is not supported by my workplace</td></tr> <tr><td>11</td><td>q44b_scrn_never__11</td><td>Other (please specify)</td></tr> </table> Custom alignment: LV | 1 | q44b_scrn_never__1 | Screening does not result in improved early detection | 2 | q44b_scrn_never__2 | Screening does not result in early intervention | 3 | q44b_scrn_never__3 | Screening is too expensive | 4 | q44b_scrn_never__4 | Screening is too time consuming | 5 | q44b_scrn_never__5 | Screening is not acceptable to all women | 6 | q44b_scrn_never__6 | Screening is not an essential part of my role | 7 | q44b_scrn_never__7 | There is a lack of referral options that can provide adequate care | 8 | q44b_scrn_never__8 | Most women won't engage with support services anyway | 9 | q44b_scrn_never__9 | If a woman needs help, she should just ask for it | 10 | q44b_scrn_never__10 | Screening is not supported by my workplace | 11 | q44b_scrn_never__11 | Other (please specify) |
| 1 | q44b_scrn_never__1 | Screening does not result in improved early detection | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | q44b_scrn_never__2 | Screening does not result in early intervention | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | q44b_scrn_never__3 | Screening is too expensive | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | q44b_scrn_never__4 | Screening is too time consuming | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | q44b_scrn_never__5 | Screening is not acceptable to all women | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | q44b_scrn_never__6 | Screening is not an essential part of my role | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | q44b_scrn_never__7 | There is a lack of referral options that can provide adequate care | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | q44b_scrn_never__8 | Most women won't engage with support services anyway | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | q44b_scrn_never__9 | If a woman needs help, she should just ask for it | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | q44b_scrn_never__10 | Screening is not supported by my workplace | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | q44b_scrn_never__11 | Other (please specify) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | q44b_nvr_scrn_other Show the field ONLY if: [q44b_scrn_never(11)] = '1' | | notes Custom alignment: LH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 66 | q45_scrn_time | 45. I routinely screen for PNDA during the following KAS visit(s) (please select all that apply) | checkbox <table border="1"> <tr><td>1</td><td>q45_scrn_time__1</td><td>Never</td></tr> <tr><td>2</td><td>q45_scrn_time__2</td><td>2 weeks</td></tr> <tr><td>3</td><td>q45_scrn_time__3</td><td>4 weeks</td></tr> <tr><td>4</td><td>q45_scrn_time__4</td><td>8 weeks</td></tr> <tr><td>5</td><td>q45_scrn_time__5</td><td>4 months</td></tr> <tr><td>6</td><td>q45_scrn_time__6</td><td>8 months</td></tr> <tr><td>7</td><td>q45_scrn_time__7</td><td>12 months</td></tr> <tr><td>8</td><td>q45_scrn_time__8</td><td>Other (please specify)</td></tr> </table> Custom alignment: LV | 1 | q45_scrn_time__1 | Never | 2 | q45_scrn_time__2 | 2 weeks | 3 | q45_scrn_time__3 | 4 weeks | 4 | q45_scrn_time__4 | 8 weeks | 5 | q45_scrn_time__5 | 4 months | 6 | q45_scrn_time__6 | 8 months | 7 | q45_scrn_time__7 | 12 months | 8 | q45_scrn_time__8 | Other (please specify) | | | | | | | | | |
| 1 | q45_scrn_time__1 | Never | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | q45_scrn_time__2 | 2 weeks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | q45_scrn_time__3 | 4 weeks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | q45_scrn_time__4 | 8 weeks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | q45_scrn_time__5 | 4 months | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | q45_scrn_time__6 | 8 months | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | q45_scrn_time__7 | 12 months | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | q45_scrn_time__8 | Other (please specify) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 67 | q45_scrn_time_otha Show the field ONLY if: [q45_scrn_time(8)] = '1' | | text Custom alignment: LH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|----|--|---|---|---|----------------|--|------------------|----------------|-----------------------------------|---|----------------|--|---|----------------|--|---|----------------|--|---|----------------|--|---|----------------|--|---|----------------|--|----|-----------------|---|----|-----------------|--|----|-----------------|--|----|-----------------|------------------------|
| 68 | q46_scrn_if | 46. I am LESS LIKELY to screen women for PNDA when (please select all that apply) | checkbox <table border="1"> <tr> <td>1</td> <td>q46_scrn_if__1</td> <td>There are no appropriate followup supports for women</td> </tr> <tr> <td>2</td> <td>q46_scrn_if__2</td> <td>There is not enough time to do so</td> </tr> <tr> <td>3</td> <td>q46_scrn_if__3</td> <td>Discussing mental health feels uncomfortable</td> </tr> <tr> <td>4</td> <td>q46_scrn_if__4</td> <td>I have inadequate support from my supervisor/ line manager</td> </tr> <tr> <td>5</td> <td>q46_scrn_if__5</td> <td>I have inadequate support from my colleagues/peers</td> </tr> <tr> <td>6</td> <td>q46_scrn_if__6</td> <td>I lack confidence in my ability to screen for it</td> </tr> <tr> <td>7</td> <td>q46_scrn_if__7</td> <td>I think the woman won't engage with supports</td> </tr> <tr> <td>9</td> <td>q46_scrn_if__9</td> <td>I lack confidence in my ability to respond to a woman who may be experiencing PNDA</td> </tr> <tr> <td>10</td> <td>q46_scrn_if__10</td> <td>I lack confidence in my ability to use a validated screening tool</td> </tr> <tr> <td>11</td> <td>q46_scrn_if__11</td> <td>I haven't built rapport with the woman</td> </tr> <tr> <td>12</td> <td>q46_scrn_if__12</td> <td>The woman doesn't speak fluent English (and can't understand me without the use of an interpreter)</td> </tr> <tr> <td>13</td> <td>q46_scrn_if__13</td> <td>Other (please specify)</td> </tr> </table> Custom alignment: LV | 1 | q46_scrn_if__1 | There are no appropriate followup supports for women | 2 | q46_scrn_if__2 | There is not enough time to do so | 3 | q46_scrn_if__3 | Discussing mental health feels uncomfortable | 4 | q46_scrn_if__4 | I have inadequate support from my supervisor/ line manager | 5 | q46_scrn_if__5 | I have inadequate support from my colleagues/peers | 6 | q46_scrn_if__6 | I lack confidence in my ability to screen for it | 7 | q46_scrn_if__7 | I think the woman won't engage with supports | 9 | q46_scrn_if__9 | I lack confidence in my ability to respond to a woman who may be experiencing PNDA | 10 | q46_scrn_if__10 | I lack confidence in my ability to use a validated screening tool | 11 | q46_scrn_if__11 | I haven't built rapport with the woman | 12 | q46_scrn_if__12 | The woman doesn't speak fluent English (and can't understand me without the use of an interpreter) | 13 | q46_scrn_if__13 | Other (please specify) |
| 1 | q46_scrn_if__1 | There are no appropriate followup supports for women | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | q46_scrn_if__2 | There is not enough time to do so | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | q46_scrn_if__3 | Discussing mental health feels uncomfortable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | q46_scrn_if__4 | I have inadequate support from my supervisor/ line manager | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | q46_scrn_if__5 | I have inadequate support from my colleagues/peers | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | q46_scrn_if__6 | I lack confidence in my ability to screen for it | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | q46_scrn_if__7 | I think the woman won't engage with supports | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | q46_scrn_if__9 | I lack confidence in my ability to respond to a woman who may be experiencing PNDA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | q46_scrn_if__10 | I lack confidence in my ability to use a validated screening tool | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | q46_scrn_if__11 | I haven't built rapport with the woman | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | q46_scrn_if__12 | The woman doesn't speak fluent English (and can't understand me without the use of an interpreter) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | q46_scrn_if__13 | Other (please specify) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 69 | q46_scrn_if_other Show the field ONLY if: [q46_scrn_if(13)] = '1' | | notes Custom alignment: LH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 70 | q47_scrn_mor_1 | Section Header: 60% This section asks you about how often you screen for postnatal depression/anxiety (PNDA) 47. In the first 12 months postpartum, I screen women for PNDA MORE THAN ONCE | radio <table border="1"> <tr> <td>1</td> <td>Always</td> </tr> <tr> <td>2</td> <td>Most of the time</td> </tr> <tr> <td>3</td> <td>Sometimes</td> </tr> <tr> <td>4</td> <td>Rarely/never</td> </tr> </table> Custom alignment: LV | 1 | Always | 2 | Most of the time | 3 | Sometimes | 4 | Rarely/never | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Always | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Most of the time | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Sometimes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Rarely/never | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|----|--|--|--|---|----------------------|---|-----|----------------------|--|---|----------------------|--|---|----------------------|---|---|----------------------|--|---|----------------------|---|---|----------------------|-------------------------|
| 71 | q47a_scrn_rare_bc Show the field ONLY if: [q47_scrn_mor_1] = '4' | 47 (a) I RARELY/NEVER screen for PNDA MORE THAN ONCE in the first 12 months because (please select ALL that apply) | checkbox <table border="1"> <tr> <td>1</td> <td>q47a_scrn_rare_bc__1</td> <td>I don't have enough time in a work day</td> </tr> <tr> <td>2</td> <td>q47a_scrn_rare_bc__2</td> <td>It's not my role to screen women for PNDA more than once</td> </tr> <tr> <td>3</td> <td>q47a_scrn_rare_bc__3</td> <td>I am not encouraged to do so by my workplace</td> </tr> <tr> <td>4</td> <td>q47a_scrn_rare_bc__4</td> <td>I don't have a good rapport with the new mother</td> </tr> <tr> <td>5</td> <td>q47a_scrn_rare_bc__5</td> <td>I had no concerns after the first screen</td> </tr> <tr> <td>6</td> <td>q47a_scrn_rare_bc__6</td> <td>The woman does not speak fluent English</td> </tr> <tr> <td>7</td> <td>q47a_scrn_rare_bc__7</td> <td>Other (please specify):</td> </tr> </table> <p>Custom alignment: LV</p> | 1 | q47a_scrn_rare_bc__1 | I don't have enough time in a work day | 2 | q47a_scrn_rare_bc__2 | It's not my role to screen women for PNDA more than once | 3 | q47a_scrn_rare_bc__3 | I am not encouraged to do so by my workplace | 4 | q47a_scrn_rare_bc__4 | I don't have a good rapport with the new mother | 5 | q47a_scrn_rare_bc__5 | I had no concerns after the first screen | 6 | q47a_scrn_rare_bc__6 | The woman does not speak fluent English | 7 | q47a_scrn_rare_bc__7 | Other (please specify): |
| 1 | q47a_scrn_rare_bc__1 | I don't have enough time in a work day | | | | | | | | | | | | | | | | | | | | | | |
| 2 | q47a_scrn_rare_bc__2 | It's not my role to screen women for PNDA more than once | | | | | | | | | | | | | | | | | | | | | | |
| 3 | q47a_scrn_rare_bc__3 | I am not encouraged to do so by my workplace | | | | | | | | | | | | | | | | | | | | | | |
| 4 | q47a_scrn_rare_bc__4 | I don't have a good rapport with the new mother | | | | | | | | | | | | | | | | | | | | | | |
| 5 | q47a_scrn_rare_bc__5 | I had no concerns after the first screen | | | | | | | | | | | | | | | | | | | | | | |
| 6 | q47a_scrn_rare_bc__6 | The woman does not speak fluent English | | | | | | | | | | | | | | | | | | | | | | |
| 7 | q47a_scrn_rare_bc__7 | Other (please specify): | | | | | | | | | | | | | | | | | | | | | | |
| 72 | p_screen_rare_bc_otha Show the field ONLY if: [q47a_scrn_rare_bc(7)] = '1' | | notes Custom alignment: LH | | | | | | | | | | | | | | | | | | | | | |
| 73 | q48_scrn_methd | Section Header: 69% This section asks you about HOW you screen new mothers for postnatal depression/anxiety (PNDA) 48. Which of the following screening resources do you MOST OFTEN use (select all that apply) | checkbox <table border="1"> <tr> <td>1</td> <td>q48_scrn_methd__1</td> <td>EPDS if indicated by Case finding/ other assessment</td> </tr> <tr> <td>2</td> <td>q48_scrn_methd__2</td> <td>The EPDS only</td> </tr> <tr> <td>3</td> <td>q48_scrn_methd__3</td> <td>Case-finding questions</td> </tr> <tr> <td>4</td> <td>q48_scrn_methd__4</td> <td>Psychosocial assessment</td> </tr> <tr> <td>5</td> <td>q48_scrn_methd__5</td> <td>Clinical/professional judgment</td> </tr> <tr> <td>6</td> <td>q48_scrn_methd__6</td> <td>Other (please specify):</td> </tr> </table> <p>Custom alignment: LV</p> | 1 | q48_scrn_methd__1 | EPDS if indicated by Case finding/ other assessment | 2 | q48_scrn_methd__2 | The EPDS only | 3 | q48_scrn_methd__3 | Case-finding questions | 4 | q48_scrn_methd__4 | Psychosocial assessment | 5 | q48_scrn_methd__5 | Clinical/professional judgment | 6 | q48_scrn_methd__6 | Other (please specify): | | | |
| 1 | q48_scrn_methd__1 | EPDS if indicated by Case finding/ other assessment | | | | | | | | | | | | | | | | | | | | | | |
| 2 | q48_scrn_methd__2 | The EPDS only | | | | | | | | | | | | | | | | | | | | | | |
| 3 | q48_scrn_methd__3 | Case-finding questions | | | | | | | | | | | | | | | | | | | | | | |
| 4 | q48_scrn_methd__4 | Psychosocial assessment | | | | | | | | | | | | | | | | | | | | | | |
| 5 | q48_scrn_methd__5 | Clinical/professional judgment | | | | | | | | | | | | | | | | | | | | | | |
| 6 | q48_scrn_methd__6 | Other (please specify): | | | | | | | | | | | | | | | | | | | | | | |
| 74 | q48_otha_scrn Show the field ONLY if: [q48_scrn_methd(6)] = '1' | | text Custom alignment: LH | | | | | | | | | | | | | | | | | | | | | |
| 75 | q49_scrn_contxt | 49. The screening method I use depends on each woman's unique context/situation | radio <table border="1"> <tr> <td>0</td> <td>No</td> </tr> <tr> <td>1</td> <td>Yes</td> </tr> <tr> <td>2</td> <td>Unsure</td> </tr> </table> <p>Custom alignment: LV</p> | 0 | No | 1 | Yes | 2 | Unsure | | | | | | | | | | | | | | | |
| 0 | No | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Yes | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Unsure | | | | | | | | | | | | | | | | | | | | | | | |
| 76 | q50_scr_time_avai | 50. The screening method I use depends on how much time I have | radio <table border="1"> <tr> <td>0</td> <td>No</td> </tr> <tr> <td>1</td> <td>Yes</td> </tr> <tr> <td>2</td> <td>Unsure</td> </tr> </table> <p>Custom alignment: LV</p> | 0 | No | 1 | Yes | 2 | Unsure | | | | | | | | | | | | | | | |
| 0 | No | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Yes | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Unsure | | | | | | | | | | | | | | | | | | | | | | | |

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|----|-------------------|---|---|---|-----------------|----------------------------|-----------|-----------------|--|---|-----------------|--|----------------|-----------------|--|---|-----------------|----------------------------|---|-----------------|---------------------------------|---|-----------------|--|---|-----------------|---------------------------------|---|-----------------|-----------------------|----|------------------|--|----|------------------|---|----|------------------|------------------------|
| 77 | q51_epds_wen | <p>Section Header: 76% This section asks you about your use of the Edinburgh Postnatal Depression Scale (EPDS)</p> <p>51. I am LESS likely to use the EPDS when I know the woman (please select ALL that apply)</p> | <p>checkbox</p> <table border="1"> <tr> <td>1</td> <td>q51_epds_wen__1</td> <td>Has a good support network</td> </tr> <tr> <td>2</td> <td>q51_epds_wen__2</td> <td>Is in a supportive intimate relationship</td> </tr> <tr> <td>3</td> <td>q51_epds_wen__3</td> <td>Has no history of family/personal mental illness</td> </tr> <tr> <td>4</td> <td>q51_epds_wen__4</td> <td>Had a positive birth experience (e.g. no unexpected C-section or premature delivery)</td> </tr> <tr> <td>5</td> <td>q51_epds_wen__5</td> <td>Is financially comfortable</td> </tr> <tr> <td>6</td> <td>q51_epds_wen__6</td> <td>Doesn't have a history of abuse</td> </tr> <tr> <td>7</td> <td>q51_epds_wen__7</td> <td>Did not have difficulties falling pregnant or experience a miscarriage</td> </tr> <tr> <td>8</td> <td>q51_epds_wen__8</td> <td>Is of Anglo-Australian heritage</td> </tr> <tr> <td>9</td> <td>q51_epds_wen__9</td> <td>Speaks fluent English</td> </tr> <tr> <td>10</td> <td>q51_epds_wen__10</td> <td>Has no history of child protection involvement</td> </tr> <tr> <td>11</td> <td>q51_epds_wen__11</td> <td>Has a child who is developmentally on track</td> </tr> <tr> <td>12</td> <td>q51_epds_wen__12</td> <td>Other (please specify)</td> </tr> </table> <p>Custom alignment: LV</p> | 1 | q51_epds_wen__1 | Has a good support network | 2 | q51_epds_wen__2 | Is in a supportive intimate relationship | 3 | q51_epds_wen__3 | Has no history of family/personal mental illness | 4 | q51_epds_wen__4 | Had a positive birth experience (e.g. no unexpected C-section or premature delivery) | 5 | q51_epds_wen__5 | Is financially comfortable | 6 | q51_epds_wen__6 | Doesn't have a history of abuse | 7 | q51_epds_wen__7 | Did not have difficulties falling pregnant or experience a miscarriage | 8 | q51_epds_wen__8 | Is of Anglo-Australian heritage | 9 | q51_epds_wen__9 | Speaks fluent English | 10 | q51_epds_wen__10 | Has no history of child protection involvement | 11 | q51_epds_wen__11 | Has a child who is developmentally on track | 12 | q51_epds_wen__12 | Other (please specify) |
| 1 | q51_epds_wen__1 | Has a good support network | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | q51_epds_wen__2 | Is in a supportive intimate relationship | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | q51_epds_wen__3 | Has no history of family/personal mental illness | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | q51_epds_wen__4 | Had a positive birth experience (e.g. no unexpected C-section or premature delivery) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | q51_epds_wen__5 | Is financially comfortable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | q51_epds_wen__6 | Doesn't have a history of abuse | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | q51_epds_wen__7 | Did not have difficulties falling pregnant or experience a miscarriage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | q51_epds_wen__8 | Is of Anglo-Australian heritage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | q51_epds_wen__9 | Speaks fluent English | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | q51_epds_wen__10 | Has no history of child protection involvement | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | q51_epds_wen__11 | Has a child who is developmentally on track | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | q51_epds_wen__12 | Other (please specify) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 78 | q51_epds_wen_otha | <p>Show the field ONLY if: [q51_epds_wen(12)] = '1'</p> | <p>notes</p> <p>Custom alignment: LH</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 79 | q52_epds_multi | <p>52. I am more likely to use the EPDS more than once if the woman has multiple risk factors</p> | <p>radio</p> <table border="1"> <tr> <td>0</td> <td>No</td> </tr> <tr> <td>1</td> <td>Yes</td> </tr> <tr> <td>2</td> <td>Not sure</td> </tr> </table> <p>Custom alignment: LH</p> | 0 | No | 1 | Yes | 2 | Not sure | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | No | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Not sure | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 | q53_talk_b4_epds | <p>53. When using the EPDS, how often do you discuss PNDA before administering the tool?</p> | <p>radio</p> <table border="1"> <tr> <td>0</td> <td>Never/rarely</td> </tr> <tr> <td>1</td> <td>Sometimes</td> </tr> <tr> <td>2</td> <td>Often</td> </tr> <tr> <td>3</td> <td>Always</td> </tr> <tr> <td>4</td> <td>Not applicable</td> </tr> </table> <p>Custom alignment: LH</p> | 0 | Never/rarely | 1 | Sometimes | 2 | Often | 3 | Always | 4 | Not applicable | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | Never/rarely | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Sometimes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Often | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Always | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Not applicable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 81 | q54_epds_convo | <p>54. When using the EPDS, how often do you go through the EPDS questions in a conversation with the mother, as opposed to giving her a hand-written questionnaire?</p> | <p>radio</p> <table border="1"> <tr> <td>0</td> <td>Never/rarely</td> </tr> <tr> <td>1</td> <td>Sometimes</td> </tr> <tr> <td>2</td> <td>Often</td> </tr> <tr> <td>3</td> <td>Always</td> </tr> <tr> <td>4</td> <td>Not applicable</td> </tr> </table> <p>Custom alignment: LH</p> | 0 | Never/rarely | 1 | Sometimes | 2 | Often | 3 | Always | 4 | Not applicable | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | Never/rarely | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Sometimes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Often | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Always | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Not applicable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|----|---|---|---|---|--------------|---|----------------------------|---|-------------------------------|---|-------------------------------|---|----------------|---|----------------|
| 82 | q55_talk_result | 55. When using the EPDS, how often do you discuss the results of the woman's screen with her? | radio <table border="1"> <tr><td>0</td><td>Never/rarely</td></tr> <tr><td>1</td><td>Sometimes</td></tr> <tr><td>2</td><td>Often</td></tr> <tr><td>3</td><td>Always</td></tr> <tr><td>4</td><td>Not applicable</td></tr> </table> Custom alignment: LH | 0 | Never/rarely | 1 | Sometimes | 2 | Often | 3 | Always | 4 | Not applicable | | |
| 0 | Never/rarely | | | | | | | | | | | | | | |
| 1 | Sometimes | | | | | | | | | | | | | | |
| 2 | Often | | | | | | | | | | | | | | |
| 3 | Always | | | | | | | | | | | | | | |
| 4 | Not applicable | | | | | | | | | | | | | | |
| 83 | q56_result_partnr | 56. When using the EPDS, how often do you discuss the results of the woman's screen with her partner (if applicable)? | radio <table border="1"> <tr><td>0</td><td>Never/rarely</td></tr> <tr><td>1</td><td>Sometimes</td></tr> <tr><td>2</td><td>Often</td></tr> <tr><td>3</td><td>Always</td></tr> <tr><td>4</td><td>Not applicable</td></tr> </table> Custom alignment: LH | 0 | Never/rarely | 1 | Sometimes | 2 | Often | 3 | Always | 4 | Not applicable | | |
| 0 | Never/rarely | | | | | | | | | | | | | | |
| 1 | Sometimes | | | | | | | | | | | | | | |
| 2 | Often | | | | | | | | | | | | | | |
| 3 | Always | | | | | | | | | | | | | | |
| 4 | Not applicable | | | | | | | | | | | | | | |
| 84 | q57_protocol | Section Header: 80% This section asks you about systematic approaches and supports in your workplace for managing PNDA 57. Does your workplace have a formal protocol for supporting women who are experiencing, or are risk of, PNDA? | radio <table border="1"> <tr><td>0</td><td>No</td></tr> <tr><td>1</td><td>Yes, and it is always used</td></tr> <tr><td>2</td><td>Yes, and it is generally used</td></tr> <tr><td>3</td><td>Yes, but it is not often used</td></tr> <tr><td>4</td><td>Unsure</td></tr> </table> Custom alignment: LV | 0 | No | 1 | Yes, and it is always used | 2 | Yes, and it is generally used | 3 | Yes, but it is not often used | 4 | Unsure | | |
| 0 | No | | | | | | | | | | | | | | |
| 1 | Yes, and it is always used | | | | | | | | | | | | | | |
| 2 | Yes, and it is generally used | | | | | | | | | | | | | | |
| 3 | Yes, but it is not often used | | | | | | | | | | | | | | |
| 4 | Unsure | | | | | | | | | | | | | | |
| 85 | q58_directry | 58. Does your workplace have a directory of all the available services/supports (for referral for PNDA related issues) in your community? | radio <table border="1"> <tr><td>0</td><td>No</td></tr> <tr><td>1</td><td>Yes</td></tr> <tr><td>2</td><td>Unsure</td></tr> </table> Custom alignment: LV | 0 | No | 1 | Yes | 2 | Unsure | | | | | | |
| 0 | No | | | | | | | | | | | | | | |
| 1 | Yes | | | | | | | | | | | | | | |
| 2 | Unsure | | | | | | | | | | | | | | |
| 86 | q59_supervisin | 59. Do you receive clinical supervision? | radio <table border="1"> <tr><td>1</td><td>Always</td></tr> <tr><td>2</td><td>Often</td></tr> <tr><td>3</td><td>Sometimes</td></tr> <tr><td>4</td><td>Rarely</td></tr> <tr><td>5</td><td>Never</td></tr> <tr><td>6</td><td>Not applicable</td></tr> </table> Custom alignment: LV | 1 | Always | 2 | Often | 3 | Sometimes | 4 | Rarely | 5 | Never | 6 | Not applicable |
| 1 | Always | | | | | | | | | | | | | | |
| 2 | Often | | | | | | | | | | | | | | |
| 3 | Sometimes | | | | | | | | | | | | | | |
| 4 | Rarely | | | | | | | | | | | | | | |
| 5 | Never | | | | | | | | | | | | | | |
| 6 | Not applicable | | | | | | | | | | | | | | |
| 87 | q59b_supervi_freqn Show the field ONLY if: [q59_supervisin] = '1' or [q59_supervisin] = '2' or [q59_supervisin] = '3' | 59 (b) Please indicate how often you receive supervision | radio <table border="1"> <tr><td>1</td><td>Once a month</td></tr> <tr><td>2</td><td>Bi-monthly</td></tr> <tr><td>3</td><td>Other (please specify)</td></tr> </table> Custom alignment: LV | 1 | Once a month | 2 | Bi-monthly | 3 | Other (please specify) | | | | | | |
| 1 | Once a month | | | | | | | | | | | | | | |
| 2 | Bi-monthly | | | | | | | | | | | | | | |
| 3 | Other (please specify) | | | | | | | | | | | | | | |
| 88 | q59b_suerv_otha Show the field ONLY if: [q59b_supervi_freqn] = '3' | | text Custom alignment: LH | | | | | | | | | | | | |

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|----------|---|---|--|----------|--|--|---|--------------------|---|---|--------------------|---|---|--------------------|---|---|---------------|---|---|---------------|--|---|---------------|---|---|---------------|------------------------|
| 89 | q60_action | <p>Section Header: 88% This section asks you about your referral and PNDA management practices</p> <p>60. Which of the following actions do you typically take when you identify a woman as being at great risk of, or experiencing, PNDA? Select all that apply:</p> | <table border="1"> <tr> <td colspan="3">checkbox</td> </tr> <tr> <td>1</td> <td>q60_action__1</td> <td>Provide information (e.g. phone numbers to support services, pamphlets, other educational material)</td> </tr> <tr> <td>2</td> <td>q60_action__2</td> <td>Inform the woman about all the various options available in her community</td> </tr> <tr> <td>3</td> <td>q60_action__3</td> <td>Conduct a safety assessment for the woman</td> </tr> <tr> <td>4</td> <td>q60_action__4</td> <td>Conduct a safety assessment for the woman's child</td> </tr> <tr> <td>5</td> <td>q60_action__5</td> <td>Help the woman identify how she wishes to be supported</td> </tr> <tr> <td>6</td> <td>q60_action__6</td> <td>Refer the woman to relevant health care professional (please specify)</td> </tr> <tr> <td>7</td> <td>q60_action__7</td> <td>Other (please specify)</td> </tr> </table> <p>Custom alignment: LV</p> | checkbox | | | 1 | q60_action__1 | Provide information (e.g. phone numbers to support services, pamphlets, other educational material) | 2 | q60_action__2 | Inform the woman about all the various options available in her community | 3 | q60_action__3 | Conduct a safety assessment for the woman | 4 | q60_action__4 | Conduct a safety assessment for the woman's child | 5 | q60_action__5 | Help the woman identify how she wishes to be supported | 6 | q60_action__6 | Refer the woman to relevant health care professional (please specify) | 7 | q60_action__7 | Other (please specify) |
| checkbox | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | q60_action__1 | Provide information (e.g. phone numbers to support services, pamphlets, other educational material) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | q60_action__2 | Inform the woman about all the various options available in her community | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | q60_action__3 | Conduct a safety assessment for the woman | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | q60_action__4 | Conduct a safety assessment for the woman's child | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | q60_action__5 | Help the woman identify how she wishes to be supported | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | q60_action__6 | Refer the woman to relevant health care professional (please specify) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | q60_action__7 | Other (please specify) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90 | q60_other Show the field ONLY if: [q60_action(7)] = '1' | | <p>notes</p> <p>Custom alignment: LV</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| 91 | q60_refr_to Show the field ONLY if: [q60_action(6)] = '1' | | <p>notes</p> <p>Custom alignment: LH</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| 92 | q61_ref_options | 61. Do you ever have difficulty finding appropriate services to refer women to? | <table border="1"> <tr> <td colspan="3">checkbox</td> </tr> <tr> <td>1</td> <td>q61_ref_options__1</td> <td>Never</td> </tr> <tr> <td>2</td> <td>q61_ref_options__2</td> <td>Sometimes</td> </tr> <tr> <td>3</td> <td>q61_ref_options__3</td> <td>Often/always</td> </tr> </table> <p>Custom alignment: LV</p> | checkbox | | | 1 | q61_ref_options__1 | Never | 2 | q61_ref_options__2 | Sometimes | 3 | q61_ref_options__3 | Often/always | | | | | | | | | | | | |
| checkbox | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | q61_ref_options__1 | Never | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | q61_ref_options__2 | Sometimes | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | q61_ref_options__3 | Often/always | | | | | | | | | | | | | | | | | | | | | | | | | |
| 93 | q61_a Show the field ONLY if: [q61_ref_options(2)] = '1' or [q61_ref_options(3)] = '1' | 61. a) I have difficulty finding appropriate services because | <table border="1"> <tr> <td colspan="3">checkbox</td> </tr> <tr> <td>1</td> <td>q61_a__1</td> <td>There are few in my LGA</td> </tr> <tr> <td>2</td> <td>q61_a__2</td> <td>There are long wait lists for these services</td> </tr> <tr> <td>3</td> <td>q61_a__3</td> <td>Their hours of operation are not suitable</td> </tr> <tr> <td>4</td> <td>q61_a__4</td> <td>The financial cost is too high</td> </tr> <tr> <td>5</td> <td>q61_a__5</td> <td>They are not culturally appropriate</td> </tr> <tr> <td>6</td> <td>q61_a__6</td> <td>They don't use interpreters</td> </tr> <tr> <td>7</td> <td>q61_a__7</td> <td>Other (please specify)</td> </tr> </table> <p>Custom alignment: LV</p> | checkbox | | | 1 | q61_a__1 | There are few in my LGA | 2 | q61_a__2 | There are long wait lists for these services | 3 | q61_a__3 | Their hours of operation are not suitable | 4 | q61_a__4 | The financial cost is too high | 5 | q61_a__5 | They are not culturally appropriate | 6 | q61_a__6 | They don't use interpreters | 7 | q61_a__7 | Other (please specify) |
| checkbox | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | q61_a__1 | There are few in my LGA | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | q61_a__2 | There are long wait lists for these services | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | q61_a__3 | Their hours of operation are not suitable | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | q61_a__4 | The financial cost is too high | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | q61_a__5 | They are not culturally appropriate | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | q61_a__6 | They don't use interpreters | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | q61_a__7 | Other (please specify) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 94 | q61_a_other Show the field ONLY if: [q61_a(7)] = '1' | Other (please specify) | <p>notes</p> <p>Custom alignment: LV</p> | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|--|--|--|---|-------------------|--|-----|-------------------|-----------------------------|---|-------------------|---|---|-------------------|--|---|-------------------|--|---|-------------------|---|---|-------------------|---------------------------------------|---|-------------------|--|---|-------------------|---|----|--------------------|--|----|--------------------|--|----|--------------------|--|----|--------------------|---|----|--------------------|--|----|--------------------|------------------------|
| 95 | q62_refer_when | 62. I am MORE LIKELY to make a referral to a support service for a woman experiencing PNDA when (please select all that apply) | checkbox <table border="1"> <tr> <td>1</td> <td>q62_refer_when__1</td> <td>N/A- I ALWAYS make a referral for PNDA</td> </tr> <tr> <td>2</td> <td>q62_refer_when__2</td> <td>I have enough time to do so</td> </tr> <tr> <td>3</td> <td>q62_refer_when__3</td> <td>I feel supported by my line manager / supervisor to do so</td> </tr> <tr> <td>4</td> <td>q62_refer_when__4</td> <td>There are available and relevant supports/services</td> </tr> <tr> <td>5</td> <td>q62_refer_when__5</td> <td>The referral process is easy and straightforward</td> </tr> <tr> <td>6</td> <td>q62_refer_when__6</td> <td>My workplace has a service map/directory of all the relevant services in my community</td> </tr> <tr> <td>7</td> <td>q62_refer_when__7</td> <td>The woman has asked me for a referral</td> </tr> <tr> <td>8</td> <td>q62_refer_when__8</td> <td>When I have a good working relationship with the service I am referring to</td> </tr> <tr> <td>9</td> <td>q62_refer_when__9</td> <td>The woman's EPDS score is above cut-off and / or indicating suicidality</td> </tr> <tr> <td>10</td> <td>q62_refer_when__10</td> <td>I feel the woman would benefit from a referral</td> </tr> <tr> <td>11</td> <td>q62_refer_when__11</td> <td>I am sure the woman would engage with the support service I was referring her to</td> </tr> <tr> <td>12</td> <td>q62_refer_when__12</td> <td>The woman has MULTIPLE risk factors for developing PND</td> </tr> <tr> <td>13</td> <td>q62_refer_when__13</td> <td>I am concerned about the safety and well being of the woman's child</td> </tr> <tr> <td>14</td> <td>q62_refer_when__14</td> <td>I am concerned about the risk of suicide and/or self-harm to the woman</td> </tr> <tr> <td>15</td> <td>q62_refer_when__15</td> <td>Other (please specify)</td> </tr> </table> Custom alignment: LV | 1 | q62_refer_when__1 | N/A- I ALWAYS make a referral for PNDA | 2 | q62_refer_when__2 | I have enough time to do so | 3 | q62_refer_when__3 | I feel supported by my line manager / supervisor to do so | 4 | q62_refer_when__4 | There are available and relevant supports/services | 5 | q62_refer_when__5 | The referral process is easy and straightforward | 6 | q62_refer_when__6 | My workplace has a service map/directory of all the relevant services in my community | 7 | q62_refer_when__7 | The woman has asked me for a referral | 8 | q62_refer_when__8 | When I have a good working relationship with the service I am referring to | 9 | q62_refer_when__9 | The woman's EPDS score is above cut-off and / or indicating suicidality | 10 | q62_refer_when__10 | I feel the woman would benefit from a referral | 11 | q62_refer_when__11 | I am sure the woman would engage with the support service I was referring her to | 12 | q62_refer_when__12 | The woman has MULTIPLE risk factors for developing PND | 13 | q62_refer_when__13 | I am concerned about the safety and well being of the woman's child | 14 | q62_refer_when__14 | I am concerned about the risk of suicide and/or self-harm to the woman | 15 | q62_refer_when__15 | Other (please specify) |
| 1 | q62_refer_when__1 | N/A- I ALWAYS make a referral for PNDA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | q62_refer_when__2 | I have enough time to do so | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | q62_refer_when__3 | I feel supported by my line manager / supervisor to do so | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | q62_refer_when__4 | There are available and relevant supports/services | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | q62_refer_when__5 | The referral process is easy and straightforward | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | q62_refer_when__6 | My workplace has a service map/directory of all the relevant services in my community | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | q62_refer_when__7 | The woman has asked me for a referral | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | q62_refer_when__8 | When I have a good working relationship with the service I am referring to | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | q62_refer_when__9 | The woman's EPDS score is above cut-off and / or indicating suicidality | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | q62_refer_when__10 | I feel the woman would benefit from a referral | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | q62_refer_when__11 | I am sure the woman would engage with the support service I was referring her to | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | q62_refer_when__12 | The woman has MULTIPLE risk factors for developing PND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | q62_refer_when__13 | I am concerned about the safety and well being of the woman's child | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | q62_refer_when__14 | I am concerned about the risk of suicide and/or self-harm to the woman | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | q62_refer_when__15 | Other (please specify) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 96 | q62_ref_wen_oth Show the field ONLY if: [q62_refer_when(15)] = '1' | | notes Custom alignment: LH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 97 | q63_ref_optin | 63. Do you have adequate PNDA referral options in your local government area? | radio <table border="1"> <tr> <td>0</td> <td>No</td> </tr> <tr> <td>1</td> <td>Yes</td> </tr> <tr> <td>2</td> <td>Unsure</td> </tr> </table> Custom alignment: LH | 0 | No | 1 | Yes | 2 | Unsure | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | No | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Unsure | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|-----|---|---|---|---|----------------------|------------------------|-----------|----------------------|---|---|----------------------|--|-------|----------------------|---|---|----------------------|------------------------|
| 98 | q64_ref | 64. I decide what service/support to refer a new mother to, based on her personal preference | radio <table border="1"> <tr><td>0</td><td>Never/rarely</td></tr> <tr><td>1</td><td>Sometimes</td></tr> <tr><td>2</td><td>Often</td></tr> <tr><td>3</td><td>Always</td></tr> </table> Custom alignment: LH | 0 | Never/rarely | 1 | Sometimes | 2 | Often | 3 | Always | | | | | | | |
| 0 | Never/rarely | | | | | | | | | | | | | | | | | |
| 1 | Sometimes | | | | | | | | | | | | | | | | | |
| 2 | Often | | | | | | | | | | | | | | | | | |
| 3 | Always | | | | | | | | | | | | | | | | | |
| 99 | q65_follw_mu | 65. After I make a referral to a support service, I follow up with the woman to see how she went | radio <table border="1"> <tr><td>0</td><td>Never/rarely</td></tr> <tr><td>1</td><td>Sometimes</td></tr> <tr><td>2</td><td>Often</td></tr> <tr><td>3</td><td>Always</td></tr> </table> Custom alignment: LH | 0 | Never/rarely | 1 | Sometimes | 2 | Often | 3 | Always | | | | | | | |
| 0 | Never/rarely | | | | | | | | | | | | | | | | | |
| 1 | Sometimes | | | | | | | | | | | | | | | | | |
| 2 | Often | | | | | | | | | | | | | | | | | |
| 3 | Always | | | | | | | | | | | | | | | | | |
| 100 | q66_foll_service | 66. After I refer a new mother to a service, I follow up with the service to see how everything went | radio <table border="1"> <tr><td>0</td><td>Never/rarely</td></tr> <tr><td>1</td><td>Sometimes</td></tr> <tr><td>2</td><td>Often</td></tr> <tr><td>3</td><td>Always</td></tr> </table> Custom alignment: LH | 0 | Never/rarely | 1 | Sometimes | 2 | Often | 3 | Always | | | | | | | |
| 0 | Never/rarely | | | | | | | | | | | | | | | | | |
| 1 | Sometimes | | | | | | | | | | | | | | | | | |
| 2 | Often | | | | | | | | | | | | | | | | | |
| 3 | Always | | | | | | | | | | | | | | | | | |
| 101 | q67_comm_pract | 67. Please add any other comments you wish to share related to any of the questions in this section | notes Custom alignment: LH | | | | | | | | | | | | | | | |
| 102 | q68_wrk_supp | Section Header: 95% SECTION 5: Support needs The questions in this section relate specifically to any additional supports and/or resources you may need to support you in screening and managing PNDA 68. My colleagues provide me with the support I need to screen and manage women for PNDA | radio <table border="1"> <tr><td>1</td><td>Always</td></tr> <tr><td>2</td><td>Often</td></tr> <tr><td>3</td><td>Sometimes</td></tr> <tr><td>4</td><td>Rarely</td></tr> <tr><td>5</td><td>Never</td></tr> </table> Custom alignment: LH | 1 | Always | 2 | Often | 3 | Sometimes | 4 | Rarely | 5 | Never | | | | | |
| 1 | Always | | | | | | | | | | | | | | | | | |
| 2 | Often | | | | | | | | | | | | | | | | | |
| 3 | Sometimes | | | | | | | | | | | | | | | | | |
| 4 | Rarely | | | | | | | | | | | | | | | | | |
| 5 | Never | | | | | | | | | | | | | | | | | |
| 103 | q69_more_training | 69. I would like further training in (please select ALL that apply) | checkbox <table border="1"> <tr> <td>1</td> <td>q69_more_training__1</td> <td>How to screen for PNDA</td> </tr> <tr> <td>2</td> <td>q69_more_training__2</td> <td>How to manage and support women with/ at risk of PNDA</td> </tr> <tr> <td>3</td> <td>q69_more_training__3</td> <td>Culturally appropriate ways of screening and responding to culturally and linguistically diverse women experiencing or at risk of PNDA</td> </tr> <tr> <td>4</td> <td>q69_more_training__4</td> <td>Culturally appropriate ways of screening and responding to Aboriginal and/or Torres Strait Islander women experiencing or at risk of PNDA</td> </tr> <tr> <td>5</td> <td>q69_more_training__5</td> <td>Other (please specify)</td> </tr> </table> Custom alignment: LV | 1 | q69_more_training__1 | How to screen for PNDA | 2 | q69_more_training__2 | How to manage and support women with/ at risk of PNDA | 3 | q69_more_training__3 | Culturally appropriate ways of screening and responding to culturally and linguistically diverse women experiencing or at risk of PNDA | 4 | q69_more_training__4 | Culturally appropriate ways of screening and responding to Aboriginal and/or Torres Strait Islander women experiencing or at risk of PNDA | 5 | q69_more_training__5 | Other (please specify) |
| 1 | q69_more_training__1 | How to screen for PNDA | | | | | | | | | | | | | | | | |
| 2 | q69_more_training__2 | How to manage and support women with/ at risk of PNDA | | | | | | | | | | | | | | | | |
| 3 | q69_more_training__3 | Culturally appropriate ways of screening and responding to culturally and linguistically diverse women experiencing or at risk of PNDA | | | | | | | | | | | | | | | | |
| 4 | q69_more_training__4 | Culturally appropriate ways of screening and responding to Aboriginal and/or Torres Strait Islander women experiencing or at risk of PNDA | | | | | | | | | | | | | | | | |
| 5 | q69_more_training__5 | Other (please specify) | | | | | | | | | | | | | | | | |
| 104 | q69_other Show the field ONLY if: [q69_more_training(5)] = '1' | | notes Custom alignment: LV | | | | | | | | | | | | | | | |

| | | | | | | | | | |
|-----|--|--|---|---|------------|---|------------|---|----------|
| 105 | q70_lga | 70. Please name the LGA(s) where you primarily work | text | | | | | | |
| 106 | q71_add_comments | 71. Please describe other workplace supports you need to screen for and manage all new mothers at risk of, or experiencing, PNDA | notes Custom alignment: LH | | | | | | |
| 107 | q72_contact | 72. I am willing to be contacted for the second part of this study, to partake in an (approximately 30 minute) telephone interview. I have provided my details below and ask that they only be used for this purpose and not for other purposes. | radio <table border="1"> <tr> <td>0</td> <td>No</td> </tr> <tr> <td>1</td> <td>Yes</td> </tr> </table> Custom alignment: LH | 0 | No | 1 | Yes | | |
| 0 | No | | | | | | | | |
| 1 | Yes | | | | | | | | |
| 108 | q72a_name Show the field ONLY if: [q72_contact] = '1' | 72 (a) Name | text, Required Custom alignment: LH | | | | | | |
| 109 | q72b_email Show the field ONLY if: [q72_contact] = '1' | 72 (b) Email | text, Required Custom alignment: LH | | | | | | |
| 110 | q72c_ph1 Show the field ONLY if: [q72_contact] = '1' | 72 (c) contact number 1 | text, Required Custom alignment: LH | | | | | | |
| 111 | q72d_ph2 Show the field ONLY if: [q72_contact] = '1' | 72 (d) Contact number 2 | text Custom alignment: LH | | | | | | |
| 112 | last_comments | Please provide any additional comments you might have regarding any part of this survey. | notes Custom alignment: LH | | | | | | |
| 113 | mch_nurse_survey_complete | Section Header: <i>Form Status</i> Complete? | dropdown <table border="1"> <tr> <td>0</td> <td>Incomplete</td> </tr> <tr> <td>1</td> <td>Unverified</td> </tr> <tr> <td>2</td> <td>Complete</td> </tr> </table> | 0 | Incomplete | 1 | Unverified | 2 | Complete |
| 0 | Incomplete | | | | | | | | |
| 1 | Unverified | | | | | | | | |
| 2 | Complete | | | | | | | | |

| Examining the postnatal depression and anxiety screening practices of MCH Nurses in Victoria | | |
|--|---|---|
| This research is being carried out by Noushin Arefadib, in partial fulfilment of PhD under the supervision of Dr Touran Shafiei; Dr Amanda Cooklin; and Professor Jan Nicholson. The following researchers will be conducting the study: | | |
| Role | Name | Organisation |
| Student | Noushin Arefadib | Judith Lumley Centre, La Trobe University |
| Primary supervisor | Dr Touran Shafiei | Judith Lumley Centre, La Trobe University |
| Co-supervisor | Dr Amanda Cooklin | Judith Lumley Centre, La Trobe University |
| Co-supervisor | Professor Jan Nicholson | Judith Lumley Centre, La Trobe University |
| Research funder | This research is supported by in kind support by La Trobe University. | |

1. What is the study about?

We are conducting a study of MCH nurses (enhanced and/or universal) in Victoria, to help us better understand your attitudes, knowledge and practices regarding postnatal depression and anxiety (PNDA) screening. PNDA is a significant public health issue (impacting around 22% of all new Australian mums) which, if left undetected and untreated, can lead to many negative outcomes for new mothers, their infant and extended family.

Victorian MCH nurses play a significant role in facilitating early detection and intervention for PNDA. As such, it's really important that we understand your PNDA screening (and management) practices, and the supports and resources you need to be able to continue this important work well into the future.

2. Do I have to participate?

Being part of this study is voluntary. If you want to be part of the study, we ask that you read the information below carefully. You can read the information below and decide at the end if you do not want to participate. If you decide not to participate, this won't affect your relationship with La Trobe University or with any MCH coordinator. MCH Coordinators will not have any knowledge of whether or not their team members have participated (or not participated) in this study.

3. Who is being asked to participate?

All Enhanced and/or Universal maternal and child health nurses in the state of Victoria who **a)** have been practicing as an MCH nurse for at least 6 months; **and b)** who regularly conduct Key Ages and Stages (KAS) visits as a central part of their role.

4. What will I be asked to do?

This survey asks you about your usual practice and views on screening and managing new mums who may be experiencing (or are at greater risk of) PNDA. It also asks you about what influences can make this task easier or more challenging, as well as some questions about you. The answers you provide will be used to help all nurses better support new mums experiencing, or at risk of, PNDA in the future.

If you want to take part in this study, we will ask you to complete an online survey through the link provided. The survey will take approximately 20 minutes of your time.

At the end of the survey, you will be invited to provide contact details (email and mobile/work number) if you are willing to be contacted for the second part of this study- a 30 minute telephone interview, 2-3 months following the survey closing date.

5. What are the benefits?

Your participation in this project may not be of direct benefit to you, but it will help us understand current PNDA screening and management practises, and inform us about the support and training opportunities that can better facilitate PNDA screening and management. The expected benefits to society in general are that this research will generate new knowledge to address the burden of PNDA in new mothers and help inform future policy and practice directions.

6. What are the risks?

We believe there are no foreseeable risks or harms associated with your participation in this project. You may refuse to answer any question.

7. What will happen to information about me?

If you agree to partake in this study, we will collect and store information about you in ways that will not reveal who you are. This means you cannot be identified in any type of publication from this study.

Results from this project may be published in relevant professional journals and/or presented in seminars and conferences. Research data will also be used as part of a thesis for the completion of a post graduate research degree at La Trobe University. In any and all publications and/or presentations, information will be provided in such a way that you cannot be identified.

Any information obtained for the purpose of this research project that can be used to identify you, will be treated as confidential and securely stored. All paper data will be stored in locked filing cabinets in a locked office at Level 3, Judith Lumley Centre, La Trobe University. Only the research team will have access to the information. Electronic information will be password protected and stored on a secure database at La Trobe University. We will keep your information for 5 years after the project is completed. After this time we will destroy all of your data.

We will collect, store and destroy your data in accordance with La Trobe Universities Research Data Management Policy which can be viewed online using the following link: <https://policies.latrobe.edu.au/document/view.php?id=106/>.

8. Will I hear about the results of the study?

We will provide a summary of the study results upon request (email details provided below).

9. What if I change my mind?

If you no longer want to complete the questionnaire, simply close the web browser. If you change your mind after clicking on the 'Submit' button, we cannot withdraw your responses, unless you have provided us with your contact details at the end of the survey.

10. Who can I contact for questions or want more information?

If you would like to speak to us, please use the contact details below:

| Name/Organisation | Position | Telephone | Email |
|--|---------------|-----------|----------------------------------|
| Noushin Arefadib Judith Lumley Centre, La Trobe University | PhD candidate | | 19976749@students.latrobe.edu.au |

11. What if I have a complaint?

If you have a complaint about any part of this study, please contact:

| Ethics Reference Number | Position | Telephone | Email |
|-------------------------|--------------------------------|-----------------|--|
| HEC18512 | Senior Research Ethics Officer | +61 3 9479 1443 | humanethics@latrobe.edu.au |

Appendix 8: Emails sent to the Municipality Association of Victoria (MAV) which were then sent to MCH Coordinators and MCHNs

Email from the Municipal Association of Victoria (MAV) to MCH coordinators

Dear MCH coordinators,

A team of researchers from the Judith Lumley Centre, at La Trobe University, are conducting a study on Victorian MCH nurses (enhanced and/or universal) attitude, knowledge and practices around postnatal depression and anxiety (PNDA) screening and management.

PNDA is a significant public health issue which, if left undetected and untreated, can lead to many negative outcomes for new mothers, their infant and extended family.

Victorian MCH nurses play a significant role in facilitating early detection and intervention for PNDA. As such, it's really important that there is an evidence-based understanding of MCH nurses PNDA screening (and management) practices, and the supports and resources they need to be able to continue this important work well into the future.

Attached is an email, which along with information about the study, contains a link to the study survey that we hope all MCH nurses across Victoria will be able to complete. We would appreciate it greatly if you could please forward the attached email to all MCH nurses (enhanced and/or universal) within your respective LGA, and encourage them to complete the survey at their earliest convenience. **Please note that the survey is open for only 3 weeks.**

If you have any questions about this study, please do not hesitate to contact Noushin Arefadib on:
or Dr Touran Shafiei at: t.shafiei@latrobe.edu.au

Thank you very much for your kind cooperation.

Sincerely,

(MAV contact person)

Email from MCH coordinators to MCH nurses in respective LGAs.

Dear MCH nurses,

A team of researchers from the Judith Lumley Centre, at La Trobe University, are conducting a study on Victorian MCH nurses (enhanced and/or universal) attitude, knowledge and practices around postnatal depression and anxiety (PNDA) screening and management.

PNDA is a significant public health issue which, if left undetected and untreated, can lead to many negative outcomes for new mothers, their infant and extended family.

Victorian MCH nurses play a significant role in facilitating early detection and intervention for PNDA. As such, it's really important that there is an evidence-based understanding of MCH nurses PNDA screening (and management) practices, and the supports and resources they need to be able to continue this important work well into the future.

Being part of this study is voluntary and involves the completion of an online survey, estimated to take approximately 20 minutes of your time. This survey asks you about your usual practice and views on screening and managing new mothers who may be experiencing (or are at greater risk of) PNDA. It also asks you about what influences can make this task easier or more challenging, as well as some questions about you. The answers you provide will be used to help all nurses better support new mothers experiencing, or at risk of, PNDA in the future.

Further details about the study can be found on the participant information statement and consent form, which is provided before survey commencement, to help you decide whether or not you wish to partake in this study. To find out more, and to view the survey, please click here: **[link to be provided](#)**

All responses to the survey are anonymous, and will come directly to the research team at JLC. The data collected in this survey is the first of its kind and necessary for our capacity to deliver evidence-based services to all new mums across Victoria. Your participation will help inform us about the support and training opportunities that can better facilitate PNDA screening and generate new knowledge to address the burden of PNDA in new mothers. We encourage you to please take some time to complete the survey.

If you have any questions about this study, please do not hesitate to contact Noushin Arefadib on:
or Dr Touran Shafiei at: t.shafiei@latrobe.edu.au

If you are willing to participate, please complete the survey online **[here](#)**.

Thank you very much for your kind cooperation.

Sincerely,

JLC research team

Ethics ID: HEC18512

Appendix 9: Interviews Participant Information Statement



Participant Information Statement and Consent Form

| Examining the postnatal depression and anxiety screening practices of MCH Nurses in Victoria | | |
|--|---|---|
| This research is being carried out by Noushin Arefadib, in partial fulfilment of PhD under the supervision of Dr Touran Shafiei; Dr Amanda Cooklin; and Professor Jan Nicholson. The following researchers will be conducting the study: | | |
| Role | Name | Organisation |
| Student | Noushin Arefadib | Judith Lumley Centre, La Trobe University |
| Primary supervisor | Dr Touran Shafiei | Judith Lumley Centre, La Trobe University |
| Co-supervisor | Dr Amanda Cooklin | Judith Lumley Centre, La Trobe University |
| Co-supervisor | Professor Jan Nicholson | Judith Lumley Centre, La Trobe University |
| Research funder | This research is supported by in kind support by La Trobe University. | |

1. What is the study about?

We are conducting a study of MCH nurses (enhanced and/or universal) in Victoria, to help us better understand their attitude, knowledge and practices regarding postnatal depression and anxiety (PNDA) screening. PNDA is a significant public health issue (impacting around 22% of all new Australian mums) which, if left undetected and untreated, can lead to many negative outcomes for new mothers, their infant and extended family.

Victorian MCH nurses play a significant role in facilitating early detection and intervention for PNDA. As such, it is really important that we understand their PNDA screening (and management) practices, and the supports and resources they need to be able to continue this important work well into the future.

This is the second phase of the study, where we aim to gain a more in-depth understanding about your PNDA screening and management experiences, views and support needs.

2. Do I have to participate?

Being part of this study is voluntary. You are being contacted because during the first phase of this study (the survey), you specified that you were willing to be contacted for the second phase of the study and provided us with your contact information.

If you are still willing to be part of the study, we ask that you read the information below carefully. You can read the information below and decide at the end if you do not want to participate. If you decide not to participate this will not affect your relationship with La Trobe University.

3. Who is being asked to participate?

A small number of E/MCH nurses in Victoria, who completed the online survey and agreed to be contacted for a follow-up telephone interview.

4. What will I be asked to do?

You will be phoned at your convenient time to participate in a telephone interview. You will also be asked about what influences can make this task easier or more challenging, and be invited to provide any other comments you may wish to share with us. We anticipate that this conversation will take approximately 30 minutes of your time. The answers you provide will help us gain a better understanding of practices, challenges and opportunities that can inform future PNDA policy and practice.

5. What are the benefits?

Your participation in this project may not be of direct benefit to you, but your participation will help us to understand the current PNDA screening and management practise, and help to inform us about the support and training opportunities that can better facilitate PNDA screening. The expected benefits to society in general are that this research will generate new knowledge to address the burden of PNDA in new mothers and help inform future policy and practice directions.

6. What are the risks?

We believe there are no foreseeable risks or harms associated with your participation in this project. You may refuse to answer any question at any time during the interview and you may withdraw from the project at any time.

7. What will happen to information about me?

You will be asked to provide your verbal consent that you agree to partake in the interview and for the interview to be audio recorded and transcribed. Interviews will be de-identified using codes and no names will be used. These measures will ensure that no participant can be identified in any notes, transcriptions, [publication](#) or report from the research. It is anticipated that no questions will cause adverse consequences.

Results from this project may be published in relevant professional journals and/or presented in seminars and conferences. Research data will also be used as part of a thesis for the completion of a post graduate research degree at La Trobe University. In [any and all](#) publications and/or presentations, information will be provided in such a way that you cannot be identified. We will collect, [store](#) and destroy your data in accordance with La Trobe University's Research Data Management Policy.

Any information obtained for the purpose of this research project that can be used to identify you, will be treated as confidential and securely stored. All paper data will be stored in locked filing cabinets in a locked office at Level 3, Judith Lumley Centre, La Trobe University. Only the research team will have access to the information. Electronic information will be password protected and stored on a secure database at La Trobe University. We will keep your information for 5 years after the project is completed. After this [time](#) we will destroy all of your data.

We will collect, store and destroy your data in accordance with La Trobe Universities Research Data Management Policy which can be viewed online using the following link: <https://policies.latrobe.edu.au/document/view.php?id=106/>.

8. Will I hear about the results of the study?

We will provide a summary of the study results upon request (email details provided below).

9. What if I change my mind?

If you no longer want to partake in the interview, simply inform the person with whom you are speaking. You can choose to discontinue the interview at any time you wish.

10. Who can I contact for questions or want more information?

If you would like to speak to us, please use the contact details below:

| Name/Organisation | Position | Telephone | Email |
|--|---------------|-----------|----------------------------------|
| Noushin Arefadib Judith Lumley Centre, La Trobe University | PhD candidate | | 19976749@students.latrobe.edu.au |

11. What if I have a complaint?

If you have a complaint about any part of this study, please contact:

| Ethics Reference Number | Position | Telephone | Email |
|-------------------------|--------------------------------|-----------------|--|
| HEC18512 | Senior Research Ethics Officer | +61 3 9479 1443 | humanethics@latrobe.edu.au |

Appendix 10: Consolidated criteria for Reporting Qualitative Research (COREQ)

COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

| Topic | Item No. | Guide Questions/Description | Reported on Page No. |
|--|----------|--|----------------------|
| Domain 1: Research team and reflexivity | | | |
| <i>Personal characteristics</i> | | | |
| Interviewer/facilitator | 1 | Which author/s conducted the interview or focus group? | |
| Credentials | 2 | What were the researcher's credentials? E.g. PhD, MD | |
| Occupation | 3 | What was their occupation at the time of the study? | |
| Gender | 4 | Was the researcher male or female? | |
| Experience and training | 5 | What experience or training did the researcher have? | |
| <i>Relationship with participants</i> | | | |
| Relationship established | 6 | Was a relationship established prior to study commencement? | |
| Participant knowledge of the interviewer | 7 | What did the participants know about the researcher? e.g. personal goals, reasons for doing the research | |
| Interviewer characteristics | 8 | What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic | |
| Domain 2: Study design | | | |
| <i>Theoretical framework</i> | | | |
| Methodological orientation and Theory | 9 | What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis | |
| <i>Participant selection</i> | | | |
| Sampling | 10 | How were participants selected? e.g. purposive, convenience, consecutive, snowball | |
| Method of approach | 11 | How were participants approached? e.g. face-to-face, telephone, mail, email | |
| Sample size | 12 | How many participants were in the study? | |
| Non-participation | 13 | How many people refused to participate or dropped out? Reasons? | |
| <i>Setting</i> | | | |
| Setting of data collection | 14 | Where was the data collected? e.g. home, clinic, workplace | |
| Presence of non-participants | 15 | Was anyone else present besides the participants and researchers? | |
| Description of sample | 16 | What are the important characteristics of the sample? e.g. demographic data, date | |
| <i>Data collection</i> | | | |
| Interview guide | 17 | Were questions, prompts, guides provided by the authors? Was it pilot tested? | |
| Repeat interviews | 18 | Were repeat interviews carried out? If yes, how many? | |
| Audio/visual recording | 19 | Did the research use audio or visual recording to collect the data? | |
| Field notes | 20 | Were field notes made during and/or after the interview or focus group? | |
| Duration | 21 | What was the duration of the interviews or focus group? | |
| Data saturation | 22 | Was data saturation discussed? | |
| Transcripts returned | 23 | Were transcripts returned to participants for comment and/or | |

| Topic | Item No. | Guide Questions/Description | Reported on Page No. |
|--|----------|--|----------------------|
| | | correction? | |
| Domain 3: analysis and findings | | | |
| <i>Data analysis</i> | | | |
| Number of data coders | 24 | How many data coders coded the data? | |
| Description of the coding tree | 25 | Did authors provide a description of the coding tree? | |
| Derivation of themes | 26 | Were themes identified in advance or derived from the data? | |
| Software | 27 | What software, if applicable, was used to manage the data? | |
| Participant checking | 28 | Did participants provide feedback on the findings? | |
| <i>Reporting</i> | | | |
| Quotations presented | 29 | Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number | |
| Data and findings consistent | 30 | Was there consistency between the data presented and the findings? | |
| Clarity of major themes | 31 | Were major themes clearly presented in the findings? | |
| Clarity of minor themes | 32 | Is there a description of diverse cases or discussion of minor themes? | |

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

Once you have completed this checklist, please save a copy and upload it as part of your submission. DO NOT include this checklist as part of the main manuscript document. It must be uploaded as a separate file.

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