

The profile of consumers and their partners of a Perinatal and Infant Mental Health (PIMH) Service in Australia

Abstract

The perinatal period is a time of great vulnerability for many women, in particular those with a range of psychosocial vulnerabilities and mental health risk factors. This paper outlines the psychosocial and mental health profile of consumers and their partners of a Perinatal and Infant Mental Health (PIMH) service in Australia. To establish the consumer profile we analysed client vulnerabilities and demographical information maintained over a six year period for 406 consumers. Consumer information, including mental health problems, psychosocial vulnerabilities and demographical information, was entered into a standalone database by the allocated clinicians upon service allocation and throughout treatment. The women accepted by PIMH presented with an average of nine different vulnerabilities. Frequently endorsed risk factors included depression (72.66%), anxiety (71.43%), comorbid depression and anxiety (58.13%), self-harm (past, 7.88%, present, 16.26%), a history of family mental health issues (39.66%), childhood trauma (57.88%), limited support (68.84%), relationship conflict with partners (38.92%) and financial stress (47.29%). The women's partners also presented with a range of vulnerabilities, in particular childhood trauma (34.11%) and mental health issues (30.81%). This study

contributes to our understanding of the profile of vulnerable women in the perinatal period, and in particular contributes to the literature by highlighting that in addition to depression, anxiety, self-harm, and trauma are also significant in PIMH service delivery.

Keywords: perinatal and infant mental health services, service evaluation, trauma-focussed care, postnatal depression, psychosocial vulnerabilities, antenatal anxiety

What is known about this topic:

- For many women the perinatal period is a time of great social, emotional and physical vulnerability that can impact profoundly on their sense of identity, mental health and wellbeing.
- The most recognised mental health issue commonly experienced during the perinatal period is postnatal depression.
- Poor maternal mental health and wellbeing can impact negatively on the mother's ability to parent and decrease her ability to form an attachment to the infant.

What this paper adds:

- The most commonly reported mental health problems were depression and anxiety, often experienced comorbidly.
- Nearly a quarter of women reported a current or previous history of self-harm (24.14%).
- The women's partners presented with a range of vulnerabilities, in particular childhood trauma and mental health issues.

Perinatal and Infant Mental Health (PIMH) is an emerging speciality that focuses on the psychiatric wellbeing of pregnant women and their families during the perinatal period. The perinatal period refers to the period immediately before and after birth, and generally includes pregnancy and the first 12 months after birth (Austin et al., 2012, Khan, 2015, beyondblue, 2008). For many women the perinatal period is a time of great social, emotional and physical vulnerability that can impact profoundly on their sense of identity, mental health and wellbeing (Austin et al., 2007a, Doucet et al., 2012, Healey et al., 2013, Monzon et al., 2014).

Perinatal mental health problems are estimated to affect up to 20 per cent of women (Bauer et al., 2014, Khan, 2015). In Australia it is estimated that nine per cent of women have pre-natal depression and 16 per cent develop postnatal depression (beyondblue, 2008). Across Australia and the United Kingdom perinatal mental health problems is the leading cause of indirect maternal death (AIHW, 2015, Khan, 2015). The Australian Institute of Health and Welfare reports on the key causes of maternal death in Australia in 2008–2012 and notes that out of 16 psychosocial-related deaths, 12 were suicide (AIHW, 2015). The susceptibility to psychosocial distress and mental health problems during the perinatal period is higher for women with vulnerabilities, in particular a history of mental health problems, substance use disorder, childhood abuse and domestic violence (Grant et al., 2012, Blegen et al., 2012, Price & Cohen-Filipic, 2013, Muzik & Borovska, 2010, Khan, 2015, Monzon et al., 2014, Healey et al., 2013).

The mental health and wellbeing of women during the perinatal period impacts on women themselves, (Yelland et al., 2010), their infants (Siegenthaler et al., 2012) and their family life (Edge et al., 2004, Meltzer-Brody, 2011, Sampson et al., 2013). Poor maternal mental health and wellbeing can impact negatively on the mother's ability to parent and decrease her ability to form an attachment to the infant (Kenny et al., 2013, Lavi et al., 2015, NSW Department of Health, 2009c, Jonas et al., 2015, Loman & Gunnar, 2010, Mercer, 2015). Poor maternal mental health and mother-infant attachment can substantially affect the infant's own mental and physical health, as well as their projected emotional and psycho-social development (Curley & Champagne, 2015, Kundakovic & Champagne, 2015, Loman & Gunnar, 2010, Numan & Young, 2016, Bee et al., 2013). The adverse outcomes for the infant can continue throughout childhood and adulthood (Howe et al., 2012, Siegenthaler et al., 2012, Bee et al., 2013, Curley & Champagne, 2015, Kundakovic & Champagne, 2015, Numan & Young, 2016).

Pregnant women with multiple psychosocial risk factors are in need of early intervention services to reduce their level of vulnerability and improve mental health outcomes for the women themselves, their infant and the family as a whole (Doucet et al., 2012, Hall & van Teijlingen, 2006, Rothera & Oates, 2008, Austin et al., 2007a, Mares et al., 2011, Siegenthaler et al., 2012, beyondblue, 2008). Increasingly, interventions during the perinatal period demonstrate positive outcomes in terms of maternal mental health and women's confidence in their ability to care for their infant (Tandon et al., 2011, Tandon et al., 2014, Myors et al., 2014, Coates et al., 2016, Rothera & Oates, 2008). In response to this increased recognition, early intervention

programs for perinatal mental health has become a priority internationally (Bauer et al., 2014) and nationally (beyondblue, 2008).

In Australia, at a national level, this increased recognition has led to the development of the National Perinatal Depression Initiative (NPDI) in 2008 which is a *national* approach to promotion, prevention, early intervention and treatment through the implementation of routine screening and services for those women at risk of, or experiencing perinatal mental health disorders (Highet & Purtell, 2012). At a State level, in 2009 the NSW Health/Families NSW Supporting Families Early Safe Start initiative was introduced to promote an integrated approach to the care of women, their infants and families in the perinatal period. Safe Start includes the universal psychosocial risk assessment and depression screening which identifies women at risk of perinatal depression and infant attachment problems antenatally and postnatally. Within this framework, in NSW, all women receive routine psychosocial assessment and depression screening during the perinatal period to assist health professionals identify and refer women who are at risk of poor perinatal mental health outcomes to specialised or secondary services (NSW Department of Health, 2009c, Austin et al., 2012, NSW Department of Health, 2009a). These initiatives have contributed to the establishment of perinatal and infant mental health (PIMH) services in NSW. PIMH services provide a range of interventions with regard to mental health and attachment to enhance maternal wellbeing and functioning and support the development of a positive parent-infant relationship (NSW Department of Health, 2009c, NSW Department of Health, 2010). This paper outlines the profile of consumers of the Gosford PIMH service in NSW, Australia.

Service Setting

The Gosford PIMH service is a perinatal mental health service governed by the Central Coast Local Health District (CCLHD) for at-risk women, their partners and infant. The team provides an outreach service that is strengths-based, trauma-informed and family focussed. The interventions provided are informed by the individual needs of woman and her family, and the management of mental health in the perinatal period, preparation for birth in the context of managing mental health symptoms, support for the transition to parenting, psych-education and parenting training, the promotion of a secure parent-infant attachment, support around the strengthening of family relationships, enhancement of protective factors, and a range of individualised therapeutic interventions. PIMH clinicians work closely with a range of services, including GPs, maternity services, child and family health services, adult mental health services, non-government services, drug and alcohol services and child protection services. The PIMH service is staffed by four clinicians from multidisciplinary backgrounds who have access to a perinatal psychiatrist as required. Treatment can be provided up to the infant's first birthday, with an average service involvement of nine months.

There are two different referral pathways into the PIMH service. Clients of the acute mental health service of Central Coast Mental Health can be referred at any point during the perinatal period, antenatally or postnatally. The second, and more common, pathway is through maternity services. Women can be referred to the service through maternity if they are identified as at-risk following the Safe Start psychosocial risk and depression screening during the routine antenatal booking in

visit. PIMH prioritises women who present with high levels of complexity including a history of mental health problems. Given high demand and limited resources, of those women who meet PIMH service criteria approximately two thirds are able to be allocated, with the remainder referred to other services or private practitioners.

The Gosford PIMH service has a strong commitment to service evaluation and improvement, and a previous evaluation highlights the effectiveness of this service from the perspective of consumers (Coates et al., 2016). It remains unclear what the profile of women accepted by this service is, and this needs to be established to inform ongoing PIMH service development. To determine the consumer profile we analysed consumer demographical information and vulnerabilities, including information about current and past mental health and substance abuse, as well as partner vulnerabilities. This is the focus of this paper.

Method

Consumer data was collected by the PIMH service over a six year period, between July 2010 and June 2016. Over this period, for reporting purposes, consumer information was entered into a standalone database after the consumer was accepted by the service and at various stages of treatment, as the information became available. Upon PIMH service allocation, the allocated PIMH clinician entered the information obtained during the screening and referral process (as documented in the referral documentation), including demographical information, into the database. To create a database that could adequately capture the range of vulnerabilities women presented with, a comprehensive list of vulnerabilities was compiled based on the examples and guidelines provided in the Families NSW-

Supporting Families Early Package (NSW Department of Health, 2009a, NSW Department of Health, 2009b) (see Table 1). To capture partner vulnerabilities, a list of key vulnerabilities were created based on their perceived clinical significance (i.e. to help identify a partner's capacity to support the mother and infant) (see Table 2). The PIMH clinician selected true or false against the listed vulnerabilities for every consumer and partner at service allocation, and updated this information throughout treatment as new consumer or partner information became available.

To collect the information entered into the database a number of different methods were used. Information specific to the mother was collected through: a) the Edinburgh Postnatal Depression Scale (EPDS) completed by the consumer at routine antenatal booking in visit, b) the maternal Safe Start psychosocial assessment also completed at antenatal booking in, and c) clinical assessment conducted by the allocated clinician and/or perinatal psychiatrist. Information specific to the partner consists of observations made by the clinicians and self-reports of the partner himself throughout treatment.

The Edinburgh Postnatal Depression Scale (EPDS)

As part of the Safe Start screening process, women are screened for depression using the Edinburgh Postnatal Depression Scale (EPDS). It is a ten item self-report questionnaire in which women are asked to rate how they felt over the past seven days. Each question is scored 0-3, producing a total score out of 30. An antenatal EPDS score of 13 or greater indicates probable minor depression, and a score of 15 or greater indicates probable major depression.

The EPDS is the most widely used screening tool for postpartum depression (Gibson et al., 2009), and has appropriate psychometric characteristics for screening of depression in the antenatal period (Cox et al., 1987, Murray & Carothers, 1990, Kozinszky & Dudas, 2015). A systematic review by Kozinszky and Dudas (2015) identified that out of eleven antenatal validation studies sensitivity (correctly identifying true cases) and specificity (correctly identifying people without the condition) varied between 64-100% and 73-100% respectively.

Safe Start maternal psychosocial assessment

In addition to the EPDS, during the routine antenatal booking in visit women are screened with the Safe Start psychosocial assessment tool. The psychosocial assessment captures a women's level of vulnerability through the consideration of risk and resilience factors (NSW Department of Health, 2009a, NSW Department of Health, 2009b). During this assessment, risk factors are considered across a number of domains and categorised as into three levels of risk: Level 1: no vulnerabilities detected; Level 2: predominantly social issues such as a lack of social support, unemployed partner, and unstable housing; and Level 3: complex risk factors such as maternal mental health problems, domestic violence and drug and alcohol abuse. Given the complexity of risk and resilience factors in determining a women's level of service need, any woman with multiple Level 2 or any Level 3 vulnerability are discussed at a Safe Start multi-disciplinary meeting where recommendations for service referral, including to the PIMH team, are made. From this meeting, women can be referred to the PIMH Gosford service if clinically indicated and allocated to a clinician.

Clinical observations at assessment and throughout treatment

While in first instance the allocated clinician populated the database based on the information gathered during the screening process, this information was updated and added to as additional information is uncovered during the PIMH assessment and ongoing treatment. Clinical judgement is integral to interpreting EPDS scores and the Safe Start psychosocial assessment outcomes, and where appropriate, clinicians, in consultation with the perinatal psychiatrist, amended the information entered into the database to reflect clinical assessment outcomes and treatment observations.

Additional clinical information, such as information around previous and current experience of the birth and breastfeeding, was entered into the database at various points throughout care. Collecting this information was considered important given that current and previous birth experience and breastfeeding have been implicated in the development of mental health issues in the postnatal period (NSW Department of Health, 2009b).

Partner vulnerabilities were entered into the database as they were uncovered. As the PIMH team provides support to the entire family (where appropriate or possible), as to develop appropriate treatment plans that meet the needs of the family as a whole, assessing partner vulnerability was considered important. Partner information entered into the database consists of observations made by the clinicians and self-reports of the partner himself throughout treatment.

The dataset, which was managed in Microsoft Access, was extracted to a Microsoft Excel file and analysed descriptively using Microsoft Excel 2010.

Ethical approval was not required as the project was reviewed by the CCLHD Research Governance Office to be exempt from ethical review by a Human Research Ethics Committee and deemed as a Quality Assurance or Evaluation Activity as per criteria set by NSW Health (2007). The project was reviewed and authorised by the delegated representative of the organisation, the Director of Clinical Governance, in line with the Health Records and Information Privacy Act (HRIP Act) (2002), Ethical Considerations in Quality Assurance and Evaluation Activities developed by the National Health and Medical Research Council (NHMRC) (2014) and the National Statement on Ethical Conduct in Research (2015).

Results

Over a six year period (between July 2010 and June 2016), data was captured for 406 consumers. While this data is representative of the PIMH consumer cohort and captures the vast majority of PIMH consumers during this time, it does not necessary capture every single consumer and partner that has been seen by this service during this time period. As this data was collected in a health setting, there are variable rates of missing data.

Women accepted by the service were aged between 14 and 47 years of age, with an average age of 26 years (N= 391; SD= 6.36). The mean gestational age at the point of referral was 22 weeks (N=266; SD= 7.03), ranging from 5 to 39 weeks. In addition, fourteen women (5.26%) were accepted postnatally. Just under a quarter of women

were pregnant with their first child (N=173, n=43, 24.86%). The remainder already had one child (n=65, 37.57%), two children (n=41; 23.70%), or between three and five children (n=24; 13.87%). The majority of the women were in a defacto relationship (51.42%; n=127; N=247) or married (23.48%; n=58; N=247). The remaining were either separated (7.69%; n=19; N=247) or single (17.41%; n=43; N=247).

The women accepted by PIMH presented with a range of vulnerabilities. On average women presented with just under nine different vulnerabilities, but some presented with as many as 26. The vast majority of women presented with three or more vulnerabilities (96.06%), with the majority of these having at least five vulnerabilities (78.33%).

Insert Table 1: Prevalence of vulnerabilities for PIMH Gosford consumers.

The vast majority of PIMH consumers reported current mental health problem(s) (93.10%). Only a very small minority reported no experience of mental health problems (3.69%) or only a past experience (3.20%). The most commonly reported mental health problems at the clinical interview were depression (72.66%), closely followed by anxiety (71.43%). As noted, the women's risk factors or vulnerabilities were primarily identified through the Safe Start psychosocial assessment and the PIMH clinical assessment, and, in addition, the EPDS measure was used to screen for depression. For those women accepted by PIMH, the mean EPDS score was 13.0 (N=293; SD= 5.87; range: 1 to 28). Over half of this sample were identified as

having depression, either probable minor depression (score >13) (8.19%; n=24) or probably major depression (score >15) (46.08%, n=135).

The data indicates high levels of psychiatric comorbidity. Of those women with a current episode of mental ill health, 20.63% experienced only one mental health problem, 40.48% experienced two, and 38.89% reported three or more mental health problems. In particular, the findings indicate high rates of comorbid anxiety and depression. The majority of women in this sample with depression as assessed at clinical interview (n=295) also reported anxiety (80.00%, n=236). For over half of these (57.63%) their level of depression as well as anxiety is classified as moderate to severe.

Nearly a quarter of women reported a current or previous history of self-harm (24.14%). Thoughts of self-harm was captured by question 10 of the EDPS which asks women to rate if they have considered self-harm on a scale from 'yes, quite often' to 'never'. Responses to this question were recorded for 70 women, of which 50% said 'never', 30% 'hardly ever', 17.14% 'sometimes', and 2.86% (2) 'quite often'. During the clinical assessment and treatment PIMH clinicians identified that 16.26% engage in current actual self-harm.

In terms of Intergenerational vulnerabilities, nearly 40% reported a family history of mental health problems and nearly 60% reported a history of childhood trauma (52.71% emotional trauma, 28.08% childhood physical trauma, 26.53% childhood sexual trauma).

Women also reported significant social and relationship vulnerability. Nearly 70% had limited practical and/or emotional support, with nearly half of these (49.77%) having neither practical nor emotional support. This is interesting given that almost three quarters of these women lived with a partner, who was, for the vast majority, the biological father. A high number of those women with a partner reported relationship conflict (38.92%), and current (21.48%) or previous domestic violence (26.35%). These rates may be even higher given the tendency of women to underreport domestic violence.

Furthermore, as per Table 2 below, the partners themselves presented with a range of vulnerabilities, impacting on their ability to provide support.

Insert Table 2: Prevalence of partner vulnerabilities

The women in this sample also experienced significant socioeconomic vulnerabilities. Almost half (47.29%) reported financial stress. Many of these were single parent households, or women who lived with partners who were unemployed. Over eight percent of partners were unemployed. Just under a third of women reported geographical isolation (30.05%), and limited access to transport (31.58%). Just under a quarter lived in unstable housing, and lived either in a refuge, with parents, friends or relatives.

In terms of vulnerabilities related to birth experiences and breastfeeding, 35.81% of those in the sample who have had previous births (N=148) reported a negative birth experience. In terms of the current birth experience, of the women in this sample that

we have data for regarding the delivery method (N=177), 67.61% had a vaginal birth (including assisted delivery) and 32.39% a caesarean section. There were few neonatal complications, with the exception of premature birth for 7.64% of babies (N=157). Seventeen percent the current sample did not breastfeed at all. Only 41.48% (N=135) breastfed for over 4 weeks.

Discussion

The findings show that the women accepted by PIMH presented with a wide range of vulnerabilities and health mental issues, in particular depression (72.66%), anxiety (71.43%), and comorbid depression and anxiety (58.13%). The vast majority of PIMH consumers experience mental health problem(s) (93.10%), with eighty percent of those experiencing multiple mental health problems. While this level of comorbidity is much higher than population estimates which indicate that about one quarter of people with mental health problems have more than one mental health problem (Commonwealth of Australia, 2009), high levels of comorbid anxiety and depression in this population is consistent with the literature (Reck et al., 2008, Wenzel et al., 2003).

The prevalence of depression (Healey et al., 2013, Williams et al., 2014) as well as anxiety during the perinatal period (Reck et al., 2008, Wenzel et al., 2003) is well established in the literature. While estimates vary, evidence indicates that anxiety disorders in the perinatal period are as, or even more, prevalent than depressive disorders (Wenzel et al., 2003, Glasheen et al., 2009, Williams et al., 2014, Yelland et al., 2009), but are often under reported (Highet et al., 2011). Despite increasing

evidence, the prevalence of perinatal anxiety continues to be less recognised, by health professionals as well as the wider community, than the likelihood of depression, in particular postnatal depression (Highet et al., 2011). This is of concern, in particular given that antenatal anxiety is an identified risk factor for postnatal depression (Austin et al., 2007b, Robertson et al., 2004).

The tendency for mental health screening to focus on depression, for example, as per the use of the EPDS as the standard mental health screening tool used by Safe Start, obscures the likelihood that comorbidities such as anxiety are adequately identified (Yelland et al., 2009). One of the critiques of the EPDS depression screening tool is that it lacks sensitivity and fails to differentiate adequately between anxiety and depression (Rowe et al., 2008, Gibson et al., 2009). While our study identified high rates of anxiety, the way in which this was identified was not only through the Safe Start psychosocial screening but also the assessment conducted by a PIMH clinician following allocation. Nonetheless, despite this additional assessment process, it is possible that the prevalence of anxiety is still underreported in comparison to depression. Population data indicates that the prevalence of anxiety for women (13%) is slightly higher than depression (10.4%) (Australian Bureau of Statistics, 2014-2015). Highet et al. (2011) calls for a need to increase awareness of perinatal anxiety and our local data supports this agenda.

The prevalence of self-harm in this sample is also of note with around a quarter reporting experience of self-harm. The high rates of self-harm reported here is consistent with other studies (Healey et al., 2013, Myors et al., 2015). Myors et al. (2014) reported that 22.5% of women reported self-harm during the antenatal

psychosocial assessment to maternity staff, increasing to 31.6% during the assessment completed by a PIMH clinician following allocation. Similarly, Healey et al. (2013) reported that initial screening identified 10% of women who disclosed a history of self-harm, with this number increasing to 50% once the women were accepted by the PIMH service.

The prevalence of self-harm in this population is significantly higher than the lifetime prevalence of self-harm in the Australian general population of around 8.1% (Martin et al., 2010). While there is evidence that suggests that pregnant women are generally less likely to self-harm compared to age-matched, non-pregnant women (Lindahl et al., 2005, Shadigian & Bauer, 2005), our findings make sense given that for this population self-harm is experienced comorbidly with anxiety and/or depression. It is well established that deliberate self-harm commonly occurs comorbidly with anxiety and depression or other mental health issues (Martin et al., 2010). Consistent with our findings, Healey et al. (2013) also reported depression, anxiety and a history of self-harm as the most common mental health problems at referral to a PIMH service in the UK. Healey et al. (2013) argue that despite an increased recognition around the prevalence of self-harm in the perinatal period, there is a paucity of research on perinatal self-harm, and there is need for further investigation.

Our study also identifies high rates of intergenerational vulnerability. A high percentage of the sample reports a family history of mental health issues, as well as childhood trauma. As noted previously, it is well established that family mental health problems increases an individual's risk of developing mental health problems

themselves (Hosman et al., 2009, Dean et al., 2010, Reupert et al., 2012). This increased risk is mediated by both genetic and environmental factors, with studies showing adverse outcomes for children of parents with mental health problems in both adoptive and biological families (Reupert et al., 2012, Siegenthaler et al., 2012). Parents with mental health problems may struggle to cope with their parental roles, which can impact negatively on a child's development (Reupert et al., 2012, Pape & Collins, 2011). The high rate of childhood trauma reported by this sample suggests that for many of the women in this sample this may have been their experience.

Consistent with the increasingly recognised relationship between mental health issues and childhood trauma (Coates, 2010, Bateman et al., 2013), nearly 60% of this sample reported a history of childhood trauma, mostly experienced comorbidly with mental health issues. The high level of childhood trauma reported by this sample is consistent with, but higher than, findings reported by other studies. For example, Myers et al. (2014) reported that 34% of PIMH consumers had a history of childhood trauma. The adverse impact of childhood trauma on parenting behaviour, and in turn on outcomes for children is well established (O'Dougherty Wright et al., 2012, Coates, 2010, Zvara et al., 2015, Ammerman et al., 2012). The significance of trauma in PIMH service delivery was also identified by a qualitative study of this PIMH service that captured the perspectives of discharged consumers (Coates et al., 2016). This study found that discharged consumers identified trauma, in particular dealing with past trauma through their engagement with the service, as most significant to their experience of care (Coates et al., 2016). The importance of delivering mental health interventions that are trauma-informed is increasingly

recognised and critical to mental health reform agendas (Mental Health Commission, 2014).

The women in this study also experienced significant social and relationship vulnerability. A large percentage of women reported limited support and relationship conflict including current and previous domestic violence. Furthermore, the partners themselves presented with a range of vulnerabilities, impacting on their ability to provide support. Many of the women in this sample are “being supported” by partners who are themselves vulnerable and in need of services. Not only does such limited support put these women at increased risk of developing postnatal depression (Highet et al., 2011), the absence of a supportive father who can buffer the negative impact of maternal depression further increases the level of risk that children are exposed to (Reupert et al., 2012).

In terms of socioeconomic vulnerability, almost half of this sample reported financial stress. While high rates of poverty and social disadvantage is reflective of the local government area (Council of Social Service of New South Wales, 2014), the unemployment rate (over 8% of partners are unemployed) is around double that of local (4-5%) and national (3.7%) estimates (Australian Bureau of Statistics, 2014-2015, Australian Bureau of Statistics, 2011). Nonetheless, the unemployment rate of this sample is on par with unemployment rate for people with a mental or behavioural condition (8.4%) (Australian Bureau of Statistics, 2014-2015). Over thirty percent did not have a vehicle, which is much higher than estimates which indicate that 8.75% of people in this local government area do not have a vehicle (Australian Bureau of Statistics, 2011). Also adding to socioeconomic vulnerability is the young age of the

women in this sample. The average age of 26 reported here is lower than the average age of birthing women in NSW and nationally, which is approximately 30 (Li et al., 2013). Maternal age is an important risk factor for negative perinatal outcomes, with younger mothers at increased risk (Li et al., 2013).

In terms of vulnerabilities related to previous birth experience and breastfeeding, around one third of women reported a negative previous birth experience, which is higher than general population estimates. A Canadian study found that out of a sample of 6421 women, 9.3% reported perceived negative birth experiences (Smarandache et al., 2016). Complicated and traumatic previous birth experience can lead to high childbirth-fear and other mental health problems (Toohill et al., 2014, NSW Department of Health, 2009b).

Relatedly, our data pertaining to the current birthing method and breastfeeding experience of PIMH consumers is mostly consistent with population data. As noted, 67.61% had a vaginal birth (including assisted delivery) and 32.39% a caesarean section. This is consistent with Australian data of 67.1% and 32.9% respectively (Li et al., 2013). The prevalence of neonatal complications in this sample (7.64%) is also on par with national data that shows that 7.6% of all births in New South Wales in 2013 were premature (less than 36 weeks) (Australian Institute of Health and Welfare 2016). The rates of breastfeeding in this sample (17.04% did not breastfeed) is slightly lower than general population estimates of 9.9% (Centre for Epidemiology and Evidence, 2016). Around 40 percent breastfed for over four weeks, which is also lower than Australian general population data of 74.6% (Australian Institute of Health and Welfare, 2011).

Limitations

One of the limitations of this study is that the data was collected in a clinical setting, so there are variable rates of missing data. While as far as we are aware clinicians diligently entered the data as information became available, as this data was collected over a six year period there may be variations in the way in which the data was entered or data fields interpreted, in particular around vulnerabilities.

Furthermore, this data is limited to the extent that is dependent on what consumers reported, and certain data points may be limited in their reliability. For example, issues such as alcohol or drug use or domestic violence may be underreported as consumers may be reluctant to disclose this information out of fear of child protection involvement. For example, less than three percent of women reported current alcohol use, which is questionable given that evidence indicates that around 42% of women consume alcohol while pregnant (Australian Institute of Health and Welfare, 2014). Nonetheless, most of the data seems reliable, for example, the prevalence of reported illicit drug (11.08%) seems reasonable given that, as expected, this is much higher than national estimates of 2.2% (Australian Institute of Health and Welfare, 2014) or 6% (Ludlow, 2010).

Conclusion

The high prevalence of vulnerabilities reported by this study highlights the significance of early intervention services and supports the importance of routine screening during pregnancy with regard to psychosocial vulnerabilities and mental health risk.

The findings show that the women accepted by PIMH present with a range of risk factors, in particular a personal or family history of mental illness health problems and a history of childhood trauma. More specifically, our data shows that anxiety is as significant a vulnerability as depression for this population, and often experienced comorbidly with depression. While the importance of screening for depression during the perianal period is well recognised and established, less established is the significance of anxiety for this population. It may be valuable to screen specifically for anxiety, in particular given that higher levels of anxiety during pregnancy are predictive of postpartum depressive symptomology.

This study also highlights the prevalence of self-harm in the perinatal period and calls for greater consideration of this risk factor in service development and further research in this area. The high rates of childhood trauma reported in this study echo previous calls for PIMH services to be trauma-informed in practice, and provide further evidence in support of the mental health reform agenda towards recovery oriented and trauma informed mental health care.

This study contributes to our understanding of the profile of vulnerable women in the perinatal period and helps inform service development and delivery. Insight into the nature and prevalence of vulnerabilities of PIMH consumers and their partners can help inform the development of PIMH models of care and interventions that adequately meet the needs of this population.

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