Scottish Government
Riaghaltas na h-Alba

Paternal perinatal mental health: evidence review

HEALTH AND SOCIAL CARE

social research

Contents

Executive Summary

The transition to parenthood is often a time of significant psychological adjustment for parents, that brings heightened risks of mental health concerns. While there is a relatively broad body of evidence that explores the mental health implications of becoming a parent for mothers, it is only in recent years that there has been an increasing focus on the mental health needs of fathers during the perinatal period. Research highlights the psychological, and physiological changes men may undergo during the perinatal period and that their mental health needs at this time can be distinct from maternal mental health concerns. In addition, it has been observed that there is a lack of mental health support specifically for men during the perinatal period and that men experience barriers when trying to access support.

This evidence review covers the findings of a rapid appraisal of research about paternal perinatal mental health. It addresses the following research questions:

- What are the factors affecting paternal perinatal mental health?
- Who is most likely to be impacted by paternal perinatal mental health problems?
- What sources of mental health support do men use during the perinatal period?
- What barriers might impede men accessing paternal perinatal mental health support?

Key Findings

There is a relative lack of attention in research, policy and service provision around the mental health implications of the transition to parenthood for fathers. There is an increasing acknowledgement of the mental health needs of fathers during this time. Evidence shows that there may be an elevated risk of depression and anxiety amongst fathers in the perinatal period, which impacts fathers' wellbeing, as well as their relationships with their partners and children. Paternal mental health is associated with child mental health and developmental outcomes starting from infancy and continuing through the lifespan.

Paternal mental health challenges in the perinatal period are related to psychological, physiological, and social factors which can influence how fathers respond to becoming parents. These factors include:

- Stress related to pregnancy and childbirth
- Lifestyle changes due to increased responsibilities, financial concerns, lack of sleep, reduced social life, and lack of confidence in a new role as a father
- Hormonal changes which have been linked to fathering stress, paternal depressive symptoms and intimate partner aggression following the birth of a child
- Emotional changes, including feelings of inadequacy

- Societal gender constructs, which can lead to men feeling increased pressure as “providers” for their families, less able to ask for help and conflict between more traditional versus contemporary expectations of fatherhood
- Changing relationships with partners

Experiences of paternal perinatal mental health vary across the population and some groups may have specific needs. Currently, there is limited and unclear evidence about the impact of equalities characteristics on paternal perinatal mental health, particularly around the representation of minority ethnic groups in the available UK literature. Fathers from low income groups may be at higher risk of depression and anxiety during the perinatal period, thought to be related to financial stress and poorer job security. Evidence also shows that prior experiences of mental ill health and difficult and traumatic life experiences can negatively influence the mental health of fathers during the perinatal period. Separated and divorced fathers may be more likely to experience perinatal depression.

The review identified some of the potential support needs for fathers during the perinatal period, and highlighted some of the key existing sources of support:

- There is a current lack of research into what constitutes ‘support’ for fathers, but we know that the types of support men seek and access may be different to those sought by mothers, and that many men prefer not to seek support.
- Support for men’s mental health needs are required from multiple sources including partners, family, peers, employers, policy makers and health services.
- Options such as antenatal classes, small group discussions with experienced fathers, healthcare professional support and promotion of mental health information have been discussed as ways to develop father-inclusive models of support.
- Research has highlighted that partners are an important source of support to fathers, but that this can cause challenges as they risk being unsupported by other sources and may attempt to hide their feelings from their partners to avoid overburdening them during the perinatal period.
- Family and friends can provide practical and emotional support to fathers, and many men prefer informal support. However, a lack of peer support, particularly for first time fathers, can have a negative impact on mental health.
- There were mixed findings about experiences of healthcare services, including perinatal health professionals, in providing mental health support to men during the perinatal period. While there were positive experiences, studies show that healthcare professionals sometimes overlook the mental health needs of fathers. Research with healthcare professionals highlights a lack of training and confidence working with fathers.
- GPs are a preferred route for fathers accessing mental health services, but many will often only contact their GP once their symptoms become severe or unmanageable.

The review highlighted several key barriers to men accessing mental health support during the perinatal period, these include:

- Lack of perinatal mental health services specifically tailored to the needs of men, including:
    - A lack of evidence relating to the effectiveness of different interventions and treatments for men during the perinatal period.
    - Current perinatal mental health services overlooking the mental health needs of men, with low levels of practical accessibility (for instance, in the availability of appointments outside of working hours) and lack of awareness and training amongst workforce.
- Lack of awareness or acknowledgement of mental health needs amongst men during the perinatal period
    - Men often have poorer mental health literacy than women, and there is a lower general awareness of paternal perinatal mental health in the general public, compared to awareness of maternal perinatal mental health.
    - Fathers have been found to be more likely to conceal or not disclose their mental health concerns, which may be due to a reluctance to seek help amid concerns this could detract from the needs of the partners or children.
- Gender-based stigma and gender roles
    - Stereotypes of masculinity and normative expectations around fathers' mental health can be a barrier in seeking support, which can be due to stigmatising views relating to mental health.

1. Introduction

1.1. Policy context

Looking after the health and wellbeing of new parents and their babies is paramount. As part of this, the Scottish Government is committed to supporting the wellbeing of fathers and partners during the perinatal period. Since 2019, the Scottish Government has overseen a significant investment in improvements to mental health services and support for parents, infants and families across Scotland. This includes investment into the development of specialist community perinatal mental health services, maternity & neonatal psychological interventions services, infant mental health, mother and baby units and services provided by the third sector such as counselling and befriending. Each of these has a remit to consider the needs of fathers/partners in the provision of services. Through the Perinatal and Infant Mental Health Fund and Small Grants Fund, funding is provided for both father specific and whole family work, including funding for peer support groups for new fathers, which can provide a valuable source of support. A variety of information and advice is provided on Parent Club, including content specifically focussed on the needs of new fathers.

1.2. The perinatal period and perinatal mental health

There are varying definitions used in research regarding what constitutes the perinatal period in relation to mental health. Some studies include the first year following childbirth (Conteh et al., 2022; Leach et al., 2016) or up to the second- or third-year post-birth (Canário & Figueiredo, 2017). This report uses the definition from the Scottish Intercollegiate Guidelines Network's (2012) National Clinical Guidance on the Management of Perinatal Mood Disorder, which defines the perinatal period as encompassing both the antenatal and postnatal stages (i.e. from conception to the end of the first postnatal year).

Perinatal mental health refers to the emotional wellbeing of women, their children, partners and families during the perinatal period. Mental health problems during the perinatal period are recognised as a public health concern which can have a significant and lasting impact on the whole family (Bauer et al., 2014).The perinatal phase is especially significant for parents' mental health because becoming a parent can adversely affect both their mental health and the health of the family unit (Darwin et al., 2017).

1.3. Men's perinatal mental health

While the mental health needs of mothers during the transition to parenthood have received increasing attention in research, policy and service provision, the needs of fathers have not been examined to the same extent. (Fisher et al., 2021). There is also limited awareness of the topic of paternal perinatal mental health amongst both men and women in the general public, compared to awareness of maternal perinatal mental health (Swami et al., 2019). In recent years, however, the mental health needs of fathers have been increasingly recognised, with research showing that men's mental health can be adversely impacted by the transition to parenthood and they can develop specific mental health needs.

To support men's mental health and wellbeing during their transition to fatherhood it is essential to understand their experiences and the specific needs they may have during this period. This is important both in terms of the impact on fathers themselves as well as their partners and children. For example, fathers have an elevated risk of depression and anxiety disorders during the perinatal period that is associated with maternal depression. Paternal mental health is also associated with child mental health and developmental outcomes starting from infancy and continuing through the lifespan (Fisher et al., 2021). However, fathers are infrequently screened, diagnosed, and treated for mental health conditions during the perinatal period due to a lack of relevant awareness and training about paternal perinatal mental health among healthcare staff (Musser et al., 2013; Singley & Edwards, 2017).

2. Methodology

The articles included in this rapid review were identified by searching several electronic databases. All searches were limited to articles written in English. The publication search period used was 2010-2023. Additional references published outwith this time span were included if they were of particular relevance. This review draws on research from Scotland and the wider UK, Europe, North America, Australia and New Zealand. The inclusion criteria for eligible studies were:

- Studies of first-time or experienced fathers of healthy full-term babies.
- Studies focusing on the perinatal period.
- Studies exploring the experiences, needs and perceptions of fathers relating to paternal mental health during the perinatal period.
- Studies referring to physiological, and/or psychological changes experienced by men in the perinatal period.

2.1. Limitations

There are several limitations to this review. It does not explore in detail the relationships between paternal perinatal mental health and maternal mental health or the mental health of others within the family unit. It also does not include studies on psychological interventions for paternal perinatal mental health. This review does not discuss the mental health of fathers with severe and enduring mental disorders, such as schizophrenia or personality disorders, during the perinatal period. The research on this area is noted to be limited (Baldwin et al., 2019). Lastly, this review does not consider the perinatal mental health experiences of non-biological fathers, (biological and non-biological) gay and lesbian partners or transgender and non-binary individuals.

3. Overview of paternal perinatal mental health

Perinatal mental health conditions in men are less understood than perinatal mental health conditions experienced by women (Pedersen et al., 2021). It is recognised that the symptoms experienced often vary between men and women (Mangialavori et al., 2021). This section provides a brief overview of paternal perinatal depression and anxiety, including their prevalence, symptoms, impacts and interaction with maternal perinatal mental health.

3.1. Paternal Perinatal Depression

The prevalence and impacts of postpartum depression amongst mothers is well established within research and healthcare services. It is now increasingly understood that fathers can also experience depression during the perinatal period (Wee et al., 2011). However, the incidence and epidemiology of paternal perinatal depression (PPD) is not fully understood. This is reflected in the varying prevalence rates of PPD documented in research, which fluctuate, for example, from 4% to 25% in first-time fathers (Cameron et al., 2016; Da Costa et al., 2017; Paulson & Bazemore, 2010; Spry et al., 2018). These figures do, however, indicate that new fathers may report depressive symptoms at higher rates than men in the general population (Craig et al., 2014; Gettler & Oka, 2016; Paulson & Bazemore, 2010).

Maternal and paternal perinatal depression are interdependent. Maternal depression is one of the most common predictors of paternal perinatal depression. Mothers whose partners are depressed are more than four times more likely to have worsened depressive symptoms by six months postpartum (Paulson et al., 2016). PPD has also been shown to adversely affect children's social and emotional development, behaviour, and attachment (Field et al., 2004; Fletcher et al., 2011; Giallo et al., 2013; Rominov et al., 2016).

Risk factors for PPD include being a first-time father, having birth concerns, low partnership satisfaction, a history of depression and father's concerns for their own and their family's future (Gawlik et al., 2014; Fisher et al., 2012; Ramchandani & Psychogiou, 2009). Common symptoms of PPD include depressed mood, restlessness, irritability, impaired concentration and work performance, social isolation, changes to appetite, reduced libido, and insomnia (Berg & Ahmed, 2016). Men suffering from PPD may also experience higher rates of anger, substance use, low job satisfaction and poor physical health (Epifanio et al., 2015; Speisman et al., 2011). Symptoms of PPD differ from those seen in maternal perinatal depression, with milder depressive symptoms and increased comorbidity with anxiety, hostility or anger attacks, substance use or other high risk behaviours (Mangialavori et al., 2021).

Despite these distinctions, PPD is mostly assessed by measurements developed to identify maternal perinatal depression (Mangialavori et al., 2021). As such, because these symptoms are often not recognised as PPD, they can go unnoticed in men (Pedersen et al., 2021). Fathers may also hide symptoms of PPD from their immediate family, friends, or health professionals, as their disclosure is felt to be taboo (Pedersen et al., 2021). Misconceived notions about the intensity and

features of fathers' symptoms of PPD may prevent fathers with moderate depressive symptoms from seeking support (Felder et al., 2017; Pedersen et al., 2021).

3.2. Paternal Perinatal Anxiety

As with PPD, there is a need for more evidence about paternal perinatal anxiety (PPA) (Fisher et al., 2022). Prevalence estimates for PPA range between 3.4% and 25% antenatally, and 2.4% and 51% postnatally (Philpott et al., 2019). The discrepancies in these figures have been attributed to underreporting and variance between outcome measures (Fisher et al., 2022).

A systematic review of risk factors for PPD and PPA by Chhabra, McDermott and Li (2020), identified several for PPA. These included parenting stress, maternal depression, marital distress, lack of social support, and work-family-conflict. Like depression, fathers are more likely to develop anxiety during the perinatal period if they are a new father and have not taken care of a baby previously.

Experiencing PPA can adversely affect fathers, their partners and their children. Reported adverse outcomes for PPA include poor mental health for both parents, relationship dysfunction, disordered attachments and short- and long-term child development issues (Ayano et al., 2021).

4. Factors affecting paternal perinatal mental health

The perinatal period is complex and life changing as people prepare for the birth of their child and experience the subsequent adjustment to parenthood. It can be a stressful time, with changes to lifestyles and routines sometimes significantly impacting on the mental wellbeing of both parents (Pinto, 2015). The following section reports on some of the factors that can affect paternal mental health during the perinatal period. These include, how men experience childbirth, lifestyle changes, hormonal changes and experiences of gendered social expectations and norms.

4.1. Fathers' experiences of childbirth

There has been a recent increase in research exploring how giving birth can affect the mental health of mothers. Recent studies, for example, have found that unplanned caesareans are associated with psychological distress and a higher risk of women developing postnatal depression (Dekel et al., 2019; Tonei & Valentina, 2018). The potentially stress-causing nature of childbirth has also been found to have negative mental health implications for fathers during the perinatal period.

Multiple studies have noted that fear of childbirth can impact on the mental health of fathers (Shibli-Kometiani & Brown, 2012; Etheridge & Slade, 2017; Schytt & Bergström. 2014; Hildingsson et al., 2014). Findings from the UK Born and Bred in Yorkshire (BaBY) study – a long-term study of the health and wellbeing of babies born in Yorkshire and their parents from pregnancy onwards - showed that anxieties about childbirth were a source of stress for men during pregnancy (Darwin et al., 2017). This was particularly the case for fathers who had experienced a previous difficult birth.

Research has also shown that fathers can develop symptoms of PTSD from witnessing their partner having a traumatic birth and other perinatal traumas (Daniels et al., 2020). Other aspects of childbirth that can affect fathers mental health include sudden changes to the birth plan, emergency caesarean, post-birth complications and feelings of inadequate care received from staff. A feeling of a lack of control around the unfolding of the birth may also increase the likelihood of it being perceived as traumatic by fathers (Daniels et al., 2020).

4.2. Lifestyle changes

The changes to lifestyles and routines that follow becoming a parent can significantly impact on the mental wellbeing of parents (Saxbe et al., 2018). Becoming a father commonly necessitates lifestyle changes due to increasing responsibilities while caring for the new baby, financial concerns, changes in marital/partner lifestyle, reduced or disrupted sleep, reduced social life and experiencing uncertainty in a new role as a father. Becoming a father can also alter how men perceive their place in the family (Pedersen et al., 2021) and lead to shifts in family dynamics (Kowlessar et al., 2015).

The lifestyle changes that accompany becoming a parent can also be a source of stress for fathers (Darwin et al., 2021). Fathers have reported difficulties balancing the competing demands of family, work and their own needs, and struggling with impaired relationships and breakdowns in communication with their partners (Edhborg et al., 2016).

A driver of these stresses may be that men are unprepared for the changes to their lives that follow becoming a father. For example, research has found that men's expectations of parenthood can be unrealistic and that the changes they experience to their lives were accompanied by feelings of frustration, disappointment, distress, and disruption to other aspects of their lifestyle (Goodman, 2005). It may also be the case that the mental health impacts of becoming a father are more confined to first time-parents. Ferketich and Mercer (1995), for example, studied fetal attachment in experienced and inexperienced fathers as a predictor of paternal-infant attachment over the first 8 months after birth. They found that fathers with older children reported fewer symptoms of depression and anxiety than first-time fathers. They suggest this was due to existing fathers being able to adjust more easily on account of knowing what to expect once their child was born.

Parents commonly have to adjust their sleep patterns in the weeks after their child is born and some may experience problems with their sleep such as poor sleep quality, interrupted sleep or no sleep at all, which may result in potential mood disorders such as depression and anxiety. A qualitative study by Darwin et al. (2017) based on fathers' views and experiences of their own mental health during pregnancy and the first postnatal year described how men attributed changes to sleep as one of the demands of early parenting that resulted in greater stress. A quantitative study from Australia by MacDonald et al. (2021) reported on 204 fathers from four independent cohorts. They noted how self-reported sleep problems in the first three years postpartum were consistently associated with concurrent symptoms of depression, anxiety and stress. Using both qualitative and quantitative data, a study by Chhabra, Li and McDermott (2022) on the potential risk factors associated with paternal perinatal mental distress in a sample of Australian men, identified sleep disturbances as a risk factor for PPD and PPA.

For men who are vulnerable to depression, anxiety or stress, the disruption to sleep patterns when an infant is in the home may contribute to the onset or maintenance of symptoms of mental ill health (Da Costa et al., 2019). A 2019 scoping review of paternal sleep up to 12 months postpartum and fathers' wellbeing identified evidence of associations between fathers' sleep problems and poorer mental health, disrupted relationships with partners, and reduced safety compliance at work (Wynter et al., 2020). Similarly, toddler sleep disruption is associated with lower marital satisfaction and higher parenting stress among fathers (Bernier et al., 2013).

4.3. Hormonal changes

While female hormones have long been known to change during pregnancy, there is now growing evidence of how changes to men's hormones may impact their behaviour and mental health during the perinatal period (Edelstein et al., 2015; Grebe et al., 2019). Testosterone, for example, has been shown to decline during the transition to parenthood (Saxbe et al, 2017). Research suggests that changes in paternal testosterone levels may be indicative of fathers' investment in pair-bonding and caregiving and, therefore, may be associated with maternal and familial well-being. For example, in comparison to those who offer little or no care for their children, fathers who actively take greater care of their children's needs were shown to have lower testosterone levels (Edelstein et al., 2015; Grebe et al., 2019).

Changes in paternal testosterone levels, both increasing and decreasing, have also been linked with both maternal and paternal depressive symptoms, fathering stress, and intimate partner aggression following the birth of a child. A study by Saxbe et al. (2017) looked at testosterone samples from fathers when infants were approximately nine months old and reported postpartum depressive symptoms from both parents at two, nine and 15 months postpartum. The findings described how higher paternal testosterone predicted adverse family outcomes, specifically fathering stress and intimate partner aggression at 15 months postpartum, as well as depression risks among partners.

4.4. Emotional changes

While impending fatherhood may be viewed as a positive experience before birth (Hambidge et al., 2021), the arrival of a baby can cause fathers to feel unhappy, inadequate and overwhelmed, as becoming a father may not result in the improvements and personal growth they had hoped for or anticipated (Hambidge et al., 2021; Pedersen et al., 2021). Expectations among fathers that they should be strong enough to manage challenges when becoming a parent can lead to feelings of inadequacy (Pedersen et al., 2021).

Emotional changes during the perinatal period can have physical and behavioural manifestations and may include difficulty concentrating at work and experiencing headaches (Darwin et al., 2017). Men often do not associate these symptoms with mental health difficulties experienced during the perinatal period, instead attributing them to general fatigue (Darwin et al., 2017).

4.5. Gender social constructs

Research has shown that some fathers may find it difficult to engage with their infant children, especially their sons, due to prevalent stereotypes that attribute activities, such as playing and cooing, to mothers, and to avoid being considered "feminine" or "weak" (Singley & Edwards, 2017). Men can also experience difficulties if they feel a disconnect between a more traditional male gender role and contemporary expectations of fathering behaviour, which in some cases may lead

to the development of mental health concerns including anxiety and depression (Singley & Edwards, 2015).

Many men consider their roles during the perinatal period as being primarily about providing financial and emotional support to their partners (Benoit & Magnus, 2017; Singley & Edwards, 2017). When combined with long-standing observations about how masculinity norms, stereotypes, and ideologies that are related to reduced help-seeking behaviour among men – often associated with feelings relating to the importance of self-reliance, physical toughness, and emotional control (Addis & Mahalik, 2003) - this can mean that men are at greater risk of masking symptoms of poor mental health through anger, irritation, substance use and withdrawal (Rabinowitz & Cochron, 2008).

A qualitative study by Ghaleiha et al. (2022), explored how fathers navigated their transition to fatherhood and whether and how they sought help and advice. It showed how fathers viewed their role as being defined by the financial, emotional, and psychological support they offered to their partners and children. This perspective resonates with the findings from other studies showing how fathers viewed themselves as "protectors," "providers," and "role models" for their families (Benoit & Magnus, 2017; Darwin et al., 2017). The pressure of these roles can make balancing work and family life during the perinatal period challenging for men. For example, research has shown that some fathers spend more time at work to help manage feelings of added pressure to provide for their family financially (Chhabra et al., 2022; Cooklin et al., 2015; Ghaleiha et al., 2022; Singley & Edwards, 2017).

4.6. Relationships with partners

How parents adjust to parenthood is heavily influenced by the nature of their relationship with one another (Singley & Edwards, 2017). Positive coparenting relationships – which are characterised by shared decision-making, sensitivity and respect for each other's viewpoints - have been found to correlate with a reduced incidence of depression symptoms (Giallo et al., 2013; Herman & Newland, 2022). Likewise, research suggests that satisfaction in the spousal relationship contributes to less anxiety during the transition to parenthood for both men and women (Don et al., 2014). Contrastingly, relationship dissatisfaction has been identified as a risk factor for PPD (Gawlik et al., 2014; Singley & Edwards, 2017).

5. Characteristics affecting experiences of paternal perinatal mental health

As noted, the impact that becoming a father can have on men's mental health can stem from how men experience childbirth and the myriad of changes in lifestyles, relationships, hormones that often accompany becoming a parent. Some men also develop specific mental health needs relating to depression and anxiety during the perinatal period. It is also the case that factors relating to men's backgrounds and personal circumstances can influence their mental health during the perinatal period.

However, there is currently limited evidence on how the mental health of men with different characteristics, including those in different equality groups, are impacted during the perinatal period. Although there were studies that described equality group characteristics included in this review, the impact of equalities characteristics was frequently not discussed in the findings. Age and income are the most commonly discussed characteristics within the literature reviewed.

This section considers how age, socio-economic disadvantage, ethnicity, pre-existing mental health conditions and experiences of trauma and separation/divorce can influence paternal perinatal mental health.

5.1. Age

There is mixed evidence concerning the influence of the age of fathers on paternal mental health during the perinatal period. A meta-analysis on 74 studies reporting paternal depression between first trimester and one-year postpartum from 1980 to 2015 found that depression prevalence was not conditional on the father's age. However, it was suggested that the lack of significant findings could be due to the limited data available on different groups (Cameron et al., 2016).

Other evidence suggest that fathers who are younger may be at higher risk of mental health conditions. A population-based study with expectant fathers identified four PPD profiles including 'not depressed', 'anxious-worried', 'depressed' and 'anhedonic' (the loss of ability to feel pleasure). Those in the 'anxious-worried' depression profile were more likely to be younger, compared to those in the 'not depressed' profile (Garthus-Niegel et al., 2020).

A quantitative study by Bergström (2013) investigated depressive symptoms in men 3-months after their first baby was born. Use of the Edinburgh Postpartum Depression Scale, a questionnaire originally designed to screen women for symptoms of emotional distress during pregnancy and the postnatal period, revealed that fathers aged 28 years and younger had more than a twofold increased risk of depressive symptoms three months after the birth compared with men aged 29–33 years, while men aged 34 years and older had no significant increased risk. Young age being a risk factor for depressive symptoms remained even after considering sociodemographic characteristics such as employment and income and other risk factors, such as partner's depression and low satisfaction in the partner relationship.

Contrastingly, Carlberg, Edhborg and Lindberg (2018) used the Edinburgh Postnatal Depression Scale and the Gotland Male Depression Scale - which includes symptoms of depressive disorders including those commonly experienced by men, such as anxiety, anger, irritability and antisocial behaviour (Sigurdsson et al., 2015) - to study fathers three to six months after their child was born and found no associations between depression and the fathers age.

Other evidence shows that older fathers may be at risk of experiencing mental health conditions during the perinatal period. A quantitative study investigating the prevalence of depressed mood in first-time fathers reported that older age of fathers was more associated with depressive symptoms at two months postpartum (Da Costa et al., 2019). A cross-sectional study by Nilsen et al (2013) with 14,832 men in Norway revealed that men aged over 35 when their first child was born were more likely to have experienced previous depressive symptoms, one of the risk factors for PPD, compared to those younger than 35 years. Older fathers were also more likely to have sleeping problems than other age groups. However, psychological distress was not associated with more advanced age.

Studies investigating experiences of childbirth also indicate that older fathers have more negative experiences than younger fathers, such as feeling more fearful (Schytt & Bergstrom, 2014; Eriksson et al., 2005). These negative experiences may be explained by the fact that, in most cases, the partners of older men were also of older maternal age, meaning an increased risk of complications and interventions during labour and birth. A study by Stramrood et al. (2013) reported that higher paternal age was associated with more symptoms of PTSD and depression among partners of women with pregnancy complications.

5.2. Socio-economic disadvantage

Research on paternal perinatal mental health has focused mostly on fathers from high-income families (Baldwin et al., 2018). However, low income can be a predictor of both PPD and PPA. In Carlberg, Edhborg and Lindberg's (2018) study that sought to assess prevalence and risk factors for PDD three to six months after birth, both the Edinburgh Postnatal Depression Scale and Gotland Male Depression Scale indicated that the proportion of fathers with PPD was higher among those in areas with generally lower income.

Similar findings were reported by Da Costa (2017) where fathers of lower household income scored higher on the Edinburgh Depression Scale during the third trimester. Low household income has been associated with an increased risk for depressive symptoms in men three months after their first baby was born, with similar effects on fathers in all age groups (Bergström, 2013). Likewise, a longitudinal study identified low household income as a predictor of postpartum depression in fathers (Leung et al., 2017).

Financial worry and financial stress have also been associated with a higher risk of depression for fathers during the perinatal period (Bergström, 2013; Da Costa et al., 2019; Wang et al., 2021). A study by Henshaw et al. (2023), which investigated depressive and anxiety symptoms in mothers and their partners during a two-day

post-partum stay in a hospital, found a significant negative relationship between income and partner anxiety, suggesting that lower income was associated with more anxiety in partners.

Job security stemming from a high-earning profession is positively associated with better mental health in the perinatal period (Cooklin et al., 2015). Conversely, unemployment has been shown to increase the risk of depression symptoms in men during the perinatal period (Underwood et al., 2017; Wang et al., 2021; Da Costa et al., 2017). Contextual factors including the status of fathers' employment, job quality (including workplace conditions, such as control of workload and working hours, job security and access to paid family leave) and occupational prestige were the strongest predictors of psychological distress observed in a quantitative study of 3,219 fathers with children 0 -12 months (Giallo et al., 2013). These associations remained after accounting for other risk factors including parental age, socioeconomic status, stressful life events, child temperament and sleep problems.

5.3. Ethnicity

There was an underrepresentation of minority ethnic groups within the literature included in this review. Most studies from the UK which collected data on ethnicity lacked ethnic diversity (Baldwin et al., 2018). A UK qualitative study with men from various ethnic backgrounds (e.g. Black African, Spanish, and White British) observed that some participants cited difficulties admitting experiencing mental health concerns because these were seen to be less culturally and socially acceptable due to stigma around mental health (Baldwin et al., 2019). A systematic review of studies looking at psychosocial factors associated with PPD in the US reported that fathers who self-identified as African American or Hispanic and who had frequent daily experiences with racism had an increased risk of depression during the perinatal period (Recto & Champion, 2020).

5.4. Pre-existing experiences of trauma and mental ill health

Difficult and traumatic experiences, such as parental substance abuse, domestic violence, separation and divorce, parental imprisonment, and having been a looked after child can negatively influence the mental health of fathers during the perinatal period (Dayton et al., 2020; Schuppan et al., 2019). Perinatal depression in fathers has been found to be associated with a having history of depression (Areias et al., 1996). Several studies also highlight that the level of neuroticism (the degree to which a person experiences the world as distressing, threatening, and unsafe) in fathers is related to their mood and rates of distress in the perinatal period (Matthey et al., 2000; Wong et al., 2016).

5.5. Separated/divorced fathers

Available research indicates that mental health may differ by marital status. For example, research suggest that depression is higher in persons who are separated or divorced (Beach et al., 2003; Whisman, 2007). Evidence shows that being separated or divorced can also be an important factor in fathers experiencing mental health difficulties. A widely cited quantitative study of depression among fathers of infants based on data from the Fragile Families and Child Wellbeing

Study, which included a sample of 5000 families in the US, found that separated or divorced fathers reported a higher prevalence of depression compared to cohabiting fathers (Bronte-Tinkew et a., 2007). This finding is reflected in a range of studies (Pinto et al., 2019; Chhabra et al., 2020; Chen et al., 2023).

6. Support needs and current sources of support for men in the perinatal period

Fathers can experience distress, anxiety and uncertainty during the transition to parenthood, the negative implications of which can impact upon their partners and children. For example, fathers' perinatal mental health problems can create strain on the couple's relationship, and can significantly impact children's emotional, social, and cognitive development and well-being (Buist et al., 2003; Connell & Goodman, 2002; Giallo et al., 2013; Ramchandani et al., 2005; Ramchandani et al., 2008). Therefore, it is important to understand what men's mental health support needs are during the perinatal period and where they most commonly seek support. While there is relatively little research available on fathers' help-seeking behaviour and attitudes during the transition to fatherhood, what research exists points to fathers accessing support from both formal services and informal sources (Venning et al., 2021) .

Existing research shows that some men prefer not to seek help with mental health concerns during the perinatal period and instead seek to cope on their own (Baldwin et al., 2019; Leahy-Warren et al., 2022). When men do seek mental health support during the perinatal period, they tend to rely on their partners, family, friends, wider social networks (e.g. colleagues) and community-based support over formal support from healthcare services.

The following sections explore men's support needs and some of the sources that men draw on for mental health support during the perinatal period. These sources include their partners, family and friends, and healthcare services.

6.1. Men's support needs

A scoping review by Leahy-Warren et al. (2022) of literature relating to fathers' perceptions and experiences of support during the perinatal period identified several key messages. These included how there are few studies that have explored what constitutes 'support' for fathers, that the types of support fathers seek and access might be different to the kinds of support sought by mothers, and how previous research has tended to focus on the challenges and barriers fathers face to accessing mental health support in the perinatal period. The review concluded that men required and should be able to access support from multiple sources, that includes recognition and support from partners, family, peers, employers, policy makers and health services.

While there is still a limited understanding of support needs for fathers during the perinatal period, a systematic review of qualitative studies by Shorey & Chan (2021) reported that fathers thought that support could enhance their mental health, using opportunities provided through antenatal classes, small group discussions led by experienced fathers, healthcare professional support, and promotion of mental health information. Other reviews have also highlighted the need for father-inclusive models of support for men so that they feel acknowledged and adequately supported during the transition to fatherhood (Baldwin, 2019).

6.2. Support from partners

Research has highlighted that most fathers regard their partners as an important source of support during the perinatal period, compared to friends, other family members and healthcare professionals (Forsyth et al., 2011; Chalmers et al., 1996), and the most effective support for fathers is likely to come from their partner (Wee et al., 2013). However, relying solely or exclusively on their partners, may put men at risk of not seeking or being unsupported by other sources of support.

An in-depth qualitative study by Davenport and Swami (2023), based on the lived experience of one father with postnatal depression and the support he received from his partner, offers some granular insight into how men can devalue their own needs during the perinatal period and the role that partners can play in supporting fathers to seek and access help. In the study, the participant described his emotional experiences of fatherhood, which included suicidal thoughts, frequent bouts of anxiety, debilitating sadness, and anger at himself and others. The participant contextualised his own feelings and needs as 'unimportant' when compared to those of his partner and son. This partly stemmed from his needs being somewhat trivialised by healthcare professionals, but also from shame associated with admitting he needed help. Despite encouragement from his partner to seek help, this only occurred when his partner made his GP appointment and accompanied him to it, and then spoke with him afterwards to ensure that his feelings had been accurately articulated to the GP. The participant described the actions taken by his partner as an act that saved his life.

A reason for partners being such an important source of support for fathers could be that, as both parents increase their focus on the needs of their new child, men are often less proactive about seeking out social support from sources other than their partners because of increased demands managing a new baby (Patulny, 2011). Being more reliant on partners for support than other sources, however, presents risks for the mental health of fathers during the perinatal period. For example, research shows that during the perinatal period, couples are likely to spend less time together and fathers are less likely to receive support from their partners (Darwin et al., 2017). Several sources also highlight fathers wanting to support their partners (Baldwin et al., 2019), and the feelings of guilt that can arise when feeling unable to do so (such as when returning to work) (Darwin et al., 2017), which can result in fathers minimising or delegitimising their own struggles. Fathers may attempt to hide their symptoms from their partner to avoid worrying them or may feel uncomfortable about relying on their partner for support while they are coping with pregnancy and new parenting themselves (Ghaleiha et al., 2022).

6.3. Support from family and friends

The wider families of fathers beyond their partners, including parents and siblings, can also be sources of mental health support during the perinatal period, giving them a sense of security or stress relief (Persson et al, 2012). For example, qualitative research has highlighted the role of extended family, including mothers and mothers-in-law, who can provide support, having been parents themselves (Marrs et al., 2014).

In addition to family, friends can also provide practical and emotional support to fathers (Ghaleiha et al., 2022; Darwin et al., 2017). Multiple studies have observed that fathers would like to be able to share their experiences with peers in an informal manner to help them learn from each other's experiences, and so that they can support each other as they are going through the same phase in life (Ross et al., 2012; Rominov et al., 2018; Persson et al., 2012; Shorey & Ang, 2019; Carlson et al., 2014; Nash, 2018; Hrybanova et al., 2019).

Fathers in a qualitative study from Australia (Rominov, et al., 2018), which explored men's experiences of seeking support for their mental health and parenting in the perinatal period, expressed a preference for informal support sources, such as friends, family, work colleagues, and online information. Relating to support among friends, there was an inclination towards seeking support from those who were also fathers (Rominov, et al., 2018; Ross et al., 2012). Support from friends who were also fathers was seen as valuable on account of men feeling more comfortable opening up to them (Letourneau et al., 2011), providing reassurance (Rominov et al., 2018) and connecting with someone they could look to model their behaviour on (Harringon et al, 2010).

Contrastingly, research about the experience of new fathers found that they lacked support from some of their peers who were not fathers, including work colleagues, due to a lack of understanding about the challenges associated with their new role as fathers, and that some men had started to drift apart from their friends (Finnbogadottir et al., 2003). The lack of peer support available to first time fathers specifically was reported on in a systematic review by Baldwin et al. (2018). This finding was linked to research noting the positive impact that social support can have for fathers as a protective factor against depression and distress (Castle et al., 2008) and how poor social support is associated with symptoms of PPD (Da Costa et al., 2015). The absence of social support has been shown to have a negative impact on fathers' mental health; fathers with effective social networks are less likely to experience parenting and marital conflicts (Nomaguchi & Milkie, 2020).

6.4. Support from healthcare services

There is evidence that healthcare services, including perinatal health professionals, have been found to overlook the mental health needs of men during the transition to parenthood (Darwin et al., 2017; Daniels et al., 2020; Mayers et al., 2020). However, this is not an exclusive finding. Research has found instances where some fathers have had positive experiences (Persson et al., 2012; Poh et al., 2014; Premberg et al., 2011; Salzmann-Erikson & Eriksson, 2013), from a wide range of support sources including midwives and nurses (Eriksson & Salzmann-Erikson, 2013; Persson et al., 2012; Poh, et al, 2014; Rominov et al., 2018; Shorey et al., 2017), lactation consultants (Majee, et al, 2017; Shorey et al., 2017), breastfeeding clinics (Persson et al., 2012), and GPs (Letourneau et al., 2012).

Studies show that the provision of effective support from healthcare services can reduce distress for fathers and their partners during and after pregnancy. They can also be an important source of knowledge about mental health for fathers (Ghaleiha et al., 2022; Hambidge et al., 2021). Men may also use father and baby groups as a

source of mental health support during the perinatal period, although studies have shown that men can feel uncomfortable in these groups and when accessing other services, such as birth classes (Darwin et al., 2017). In some cases, when men feel less comfortable asking for support, studies show that health information helplines can be as important (Ghaleiha et al., 2022).

GPs have been shown to be fathers' preferred healthcare professionals to approach for support with perinatal mental health issues (Baldwin et al., 2019). However, fathers will often only contact their GP if their symptoms are unmanageable (Darwin et al., 2017). Evidence suggests that fathers only seek help with their mental health needs after they experience severe symptoms or with encouragement from family members, because of the barriers they experience when accessing mental health support (Pedersen et al., 2021).

There is also evidence which shows how healthcare professionals have relatively limited experiences of working with first time fathers. Qualitative research with health visitors highlighted concerns relating to a lack of training and confidence in working with fathers (Whitelock, 2016). The predominantly female workforce within perinatal healthcare services has been highlighted as a potential challenge to building the trust and confidence required to address fathers' mental health needs (Whitelock, 2016; Darwin et al., 2021).

Research shows that older fathers may be more likely to engage with perinatal mental health services. For example, in one study trialling a text message service that supported men as they transitioned to fatherhood, older fathers (25 and above) were much more likely to engage in the service than younger fathers (Fletcher et al., 2017).

Approaches to improving how healthcare services could meet the mental health needs of fathers during the perinatal period include offering regular mental health screenings for men, father-focused birth groups, and maternity services that provide men with counselling and information regarding the perinatal period (Fisher et al., 2021; Fletcher et al., 2015). Screening may be particularly impactful, with research showing that men perceive it as beneficial in helping normalise their experiences, reducing the stigma attached to seeking support for their mental health, and could help some recognise they have PPD (Schuppan et al., 2019).

7. Barriers to men accessing mental health support during the perinatal period

Increased mental health support for men during the perinatal period could be beneficial in helping fathers better understand some of the mental health challenges and needs they can experience and develop when becoming a parent. Understanding barriers to appropriate mental health support for fathers during the perinatal period is important because accessing support during this time may reduce stress and the possible negative impacts on mental health in the longer-term (Mayers et al., 2020).

A further need for supportive services is demonstrated by studies showing that fathers often feel they lack essential knowledge or skills to manage the demands of the perinatal period, which may negatively affect their mental health (Da Costa et al., 2017; Daniels et al., 2020; Darwin et al., 2017; Domoney & Trevillion, 2021; Lever Taylor et al., 2017; Schuppan et al., 2019). Moreover, if men do not receive support with their mental health needs during the perinatal period there is a risk of harmful implications for their partners and children (Sweeney & MacBeth, 2016).

The following section explores barriers identified in the literature to fathers accessing mental health support during the perinatal period. These include a lack of perinatal mental health services for fathers, fathers feeling excluded from perinatal services, a lack of self-awareness about mental health needs among men during the perinatal period, and stigma and gender-based barriers.

7.1. Lack of perinatal mental health services for fathers

A lack of perinatal mental health services for fathers is a key barrier for men experiencing difficulties in the perinatal period. This includes an overall lack of access to effective, evidence-based treatments and other appropriate services (Fisher et al., 2021). In part, this is due to the limited research assessing the effectiveness of treatments or interventions for men with mental health needs during the perinatal period (Goldstein et al., 2020).

While there are more generalised evidence-based treatments for men, such as psychological interventions (e.g. cognitive behaviour therapy) that could address core symptoms and problems that men encounter at other points in the life course, and treatments designed for perinatal women that could be utilised, there are likely other elements relating to the specific transition to fatherhood that need to be accounted for to allow existing treatments and interventions to be adapted. Examples of this could include how fathers' own experiences of being parented might influence their own parenting identity, how they are preparing for and anticipating change to their social and familial relationships, and the formation of their own personal values stemming from who they want to be as a father (Deave & Johnson, 2008).

A Delphi study[1] by Domoney et al. (2020) unpacked this further, relating to specifically developing a CBT intervention for PPD. It concluded that support for fathers should be framed around learning about becoming a father rather than depressive symptoms. The study found that approaches should provide information about infant development and the importance of social support and encourage social connections and good physical health.

7.2. Lack of inclusion in perinatal mental health services

As well as a lack of specific services for men, research has reported that existing perinatal mental health services can be un-inclusive towards men or that their mental health is overlooked or ignored by perinatal health professionals. Among the services that are available, few are tailored to the specific needs of fathers and many are less accessible to men for structural reasons, such as appointments only being available during standard business hours (Wells & Sarkadi, 2012; Wynter et al., 2015).

Studies have found that fathers can feel ignored and side-lined by perinatal health professionals (Fletcher et al., 2006; Gervais et al., 2016). Examples of this include: fathers feeling excluded when attending appointments with their partners to address perinatal mental health difficulties; healthcare services and staff not asking or seeking the opinion of fathers or listening to what they have to say; and healthcare professionals being unconcerned about fathers' mental health or only including them by explaining what a mental health problem means for their partners (Darwin et al., 2017; Hambidge et al., 2021; Lever Taylor et al., 2017; Schuppan et al., 2019).

A meta-synthesis of 23 qualitative studies of fathers' experiences of maternity care in high income countries found that they felt 'left out', like 'bystanders' or 'invisible parents' (Steen et al., 2012). Fathers have also reported being unaware of where or how to seek mental health support (Darwin et al., 2017). The cumulative consequences of this, as noted by Hambridge et al (2021), is that if fathers do not expect to receive support with their mental health during the perinatal period and are less likely to know it exists or where to look for it, mental health needs may be left unaddressed and could potentially escalate.

7.3. Lower awareness and recognition of mental health needs among men during the perinatal period

In general, men are less likely to recognise possible mental health needs or concerns than women, as well as having typically poorer mental health literacy (Wilhem, 2014). For example, men are less likely to interpret depressive symptoms (such as moodiness and irritability) as signs of mental illness.

Specific to the perinatal period, fathers have been found to be more likely to conceal or not disclose mental health needs or concerns (Wagner et al., 2007;

[1] A Delphi study typically involves rounds of survey questions in which experts are invited to provide their opinions on a particular topic anonymously and to generate a consensus.

Berger et al., 2013). Qualitative research by Hambidge (2017) found that fathers could be unaware of mental health problems that relate or are attributable to experiences during the perinatal period. This lack of awareness meant fathers questioned the legitimacy of their mental health concerns, a situation compounded by, as noted above, fathers reporting that services did not cater for or had little awareness of the mental health needs of fathers during the perinatal period. Other research also finds that men may be reluctant to express their support needs or seek help amid concerns that doing so would detract from their partner's needs (Darwin et al., 2017).

7.4. Stigma and gender barriers to fathers seeking mental health support

Masculine stereotypes and normative expectations around fathers' mental health can be an important barrier to seeking support from services (Domoney et al., 2020; Pedersen et al., 2021). Fathers may be reluctant to seek support for their mental health because they perceive help seeking as stigmatising or because seeking support contradicts their own or other people's views on masculinity (Rominov et al., 2018, Venning et al., 2021). A qualitative study from Switzerland which described first-time parents' formal social support needs in the early postpartum period found that mothers' and fathers' needs were different, with fathers more often considering their own needs to be less of a priority compared to those of their partner and child (Schobinger et al., 2022). The same study also found that fathers did not want to burden services by asking for support, a finding reported in several other studies (Shorey et al., 2017; Baldwin et al., 2019; Hodgson et al., 2021). This phenomenon can be explained by fathers experiencing an inner conflict between being more involved and not wanting to take the support away from their partners (Darwin, 2017). Some fathers report that asking for support is socially unacceptable (Baldwin, 2019). This highlights some of the traditional and cultural norms of men as fathers and does not necessarily mean that they do not need support. Studies in the neonatal context show that fathers tend to hide their own worries and have difficulties talking about feelings and requesting support (Hugill et al., 2013).

In a qualitative study by Davey et al. (2006), fathers attending a parental support group reported that they felt the need to remain stoic, and not reveal that they were having mental health difficulties as a parent. There was also reluctance and embarrassment among participants to disclose to others that they were attending a men's support group, despite finding the experience valuable and enjoyable. Related to this is evidence that men are more inclined to minimise symptoms of mental health risk (Galdas et al., 2005) and are often reluctant to disclose mental health symptoms (Farrimond, 2012; Isacco et al., 2016; Oliffe et al., 2016).

There is limited evidence on how stigma and gender barriers may impact men from different equality groups from seeking mental health support. In a UK, qualitative evidence involving fathers from minority ethnic backgrounds found that some participants reported that it was culturally and socially unacceptable to admit experiencing difficulties due to stigma around mental health (Baldwin et al., 2019). Qualitative research about health visitor interactions with fathers noted that some

did not feel comfortable engaging with fathers about their mental health for out of fear of causing offence or distress due to individual cultural, religious or personal beliefs (Whitelock, 2016).

Conclusions

Mental health problems and needs during the perinatal period are recognised as a public health concern which can have a significant and lasting impact on the whole family. The perinatal period constitutes a time of heightened risk of adverse mental health for fathers, which is an important issue that remains under-researched. The perinatal period is a time of significant psychological adjustment for men, which can lead to changes in their lifestyle and identity, and relationships with partners and peers. There is an elevated risk of fathers developing symptoms associated with depression and anxiety during the perinatal period, which can have consequences for the wellbeing of fathers, as well as their ability to support their partners and bond with their children. Paternal perinatal mental health conditions can be associated with maternal perinatal depression and anxiety but are seen to have varying symptoms and experiences.

This review explored some of the key factors which influence the mental health of men during the transition to parenthood, including changes to lifestyles and relationships with partners, increased stress and lack of sleep and pervasive gender stereotypes about the role and expectations of fathers. These factors can also influence men's abilities to reach out for support from partners, peers, family and healthcare services. There are also varying levels of awareness and ability to recognise mental health concerns amongst men, which can act as a barrier to accessing support.

There is a particular lack of research into the mental health risks during the perinatal periods for fathers who are part of different equalities groups, including a lack of evidence relating to fathers from minority ethnic backgrounds, and a lack of clear findings relating to fathers of different ages. This makes it challenging to draw conclusions about the mental health needs and required approaches to provide support. This review did not include evidence relating to fathers and partners from LGBTI groups or non-biological fathers, who may also have specific mental health needs during this period.

Research also highlights varied experiences with accessing mental health support through healthcare services. While some positive experiences are reported, research highlights that healthcare services are not always inclusive of fathers' mental health needs, and there may be a lack of information available. Healthcare staff report lack of training, awareness and confidence to provide required support. There is some evidence of potential approaches which may be valuable to men during the perinatal period, such as more standardised screening of fathers for mental health conditions, as well as father-inclusive peer and professional support and training and increased informational services.

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