Risk factors in predicting paternal postnatal depression and social support in Ireland

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Abstract

There is mounting evidence that fathers experience depressive symptoms following the birth of a child with the prevalence of depression ranging from 1.2-25.5%. A cross-sectional, mixed-methods design was used to investigate the rate of paternal postnatal depression and examine its associated risk factors. Fathers above the age of 18, residing in Ireland and who had a child in the last 12 months were recruited (n=40). The quantitative part included self-reported questionnaires and the qualitative part focused on feelings regarding support and other experiences. Results yielded that 22.5% of fathers were above the cut-off point for major depression with support showing a negative correlation. Relationship, employment status and shame indicated to be depression predictors while income revealed a significant negative correlation with depression. The thematic analysis revealed four themes: preparation for fatherhood, support, uncertainty and openness with key findings highlighting a lack of education and support, thus suggested as interventions.

Keywords: postnatal depression, support, education, information

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Introduction

General introduction

Becoming a parent is considered one of the most significant and meaningful experiences in a person's life with rapid changes in many aspects of the parent's life such as psychological, biological and social. The parents experience overwhelming joyous emotions and love but also faces challenges in daily life with increased demands, routine changes and other significant changes (Wilson, 2008). While for most parents, the positive emotions of love and bonding exceed the negative components, such as lack of sleep and exhaustion, however, for certain parents, the birth of a child can result in emotional distress and mental health issues resulting in a difficulty in looking after yourself and sometimes even the baby. One such difficulty reported is postnatal depression (PND), which is defined as a non-psychotic depressive disorder following the birth of a child (Massoudi, 2013).

Diagnosis

The diagnosis of PND has always proved difficult, and there are two major classifications that diagnostic criteria follow: the World Health Organization's (2018) *International Statistical Classification of Diseases and Related Health Problems*, (11th ed.; ICD-11) and the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM–5;* American Psychiatric Association, 2013). According to ICD-11, the disorder is included in *"mental or behavioural disorders associated with pregnancy, childbirth or the puerperium, without psychotic symptoms"* (code 6E20, p. 196) and is an associated syndrome of pregnancy or puerperium involving significant behavioural and mental features, commencing within six weeks of delivery and does not include psychotic symptoms. According to the DSM-5, PND shares the same diagnostic criteria as Major Depressive Disorder with the addition of

postpartum onset, *"episode of major depression if onset of mood symptoms occurs during pregnancy or in the four weeks following delivery"* (p. 186). This time limitation has been criticised as the reflection of epidemiological research does not support such a short time, with many clinicians referring to PND up to 12 months postpartum (Wisner, Moses-Kolko, & Sit, 2010). A further difficulty is the lack of definition and assessment criteria for paternal postnatal depression (PPND) leaving the maternal definition being commonly used (Musser, Ahmed, Foli, & Coddington, 2013).

Literature review

The impact of childbirth regarding psychological and physical changes is mainly aimed at informing prospect mothers which may result in a lack of knowledge among fathers (Tiedje & Darling-Fisher, 2003) and health professionals have described PND in men as vague and difficult to detect (Hammarlund, Andersson, Tennenbaum, & Sundler, 2015). Men have reported feeling unacknowledged during prenatal visits, unprepared of childbirth from a father's perspective, postnatal childcare and family-work balance (Deave, Johnson, & Ingram, 2008; Bäckström & Wahn, 2011). Moreover, Edhborg, Carlberg, Simon and Lindberg (2016) noted that the fathers reported a deterioration in their relationship with difficulty in balancing other aspects of life such as work, family and their own needs and felt excluded and invisible as parents with a lack of support provided. These findings were also noted by Johansson, Benderix and Svensson (2020) who additionally found that men experienced a feeling of inadequacy. Fathers receiving a lack of information are at risk of higher distress which suggests that more information and knowledge needs to be given concerning pregnancy, childbirth and the care of a new-born (Boyce, Condon, Barton, & Corkindale 2007). The experience of depression following the birth of a child and its research have mostly been associated with mothers and O'Hara and Swain (1996) suggested that PND is the most common complication of childbearing with 13% of mothers suffering from the illness, while a recent meta-analysis

by Hahn-Holbrook, Cornwell-Hinrichs and Anaya (2018) found the global prevalence rate at 17.7%. Due to the extensive research on mothers, fathers have received little attention resulting in the area being under-researched and under-explored (Musser et al., 2013). Paulson and Bazemore (2010) found that in the years 1980-2009, the issue had only been mentioned 256 times with the correct research criteria only being met by 60 studies. However, this field of research has seen growth in the last 10 years (Philpott & Corcoran, 2014).

Traditionally, fathers have mainly been viewed as support for their partners and breadwinners, however, a shift in society has put a higher focus on the father and his role in the upbringing (Kim & Swain, 2007; Veskrna, 2010) with Johansson et al. (2020) finding that fathers found it very important to be a part of the upbringing and to be involved in the daily care of the child. Men have been taught through societal norms that they are to be strong, resilient and independent and depression may be seen as a failure and vulnerability, thus, the acknowledgement of the disorder may not be easily attained and denial may be seen as a further strength (Veskrna, 2010). Despite these differences, Tuszyńska-Bogucka and Nawra (2014) discussed how men are equally affected by PND though they receive much less support while also being considered to be responsible for providing proper living conditions and a sense of security. The prevalence of PPND has shown wide differences, from 1.2% to 25.5% (Kim & Swain, 2007), however, Cameron, Sedov and Tomfohr-Madsen (2016) found a prevalence rate of 8.4 % while Philpott and Corcoran (2018) found the prevalence to be 12% among Irish fathers.

Mental illness and effects

The impact of parental mental illness has been widely researched and studies have confirmed cognitive, behavioural and attachment difficulties in children of depressed parents (Beardselee, Versage, & Gladstone, 1998; Ramchandani, Stein, Evans, O'Connor, & ALPSAC

Study Team, 2005). A longitudinal study spanning over 30 years (Weissman et al., 2016) found that children of parents suffering from depression showed a threefold increase in developing depression with poorer functioning, more emotional problems and an increase in mortality. Though these findings are for both parents, Kane and Garber (2004) found that there is a significant correlation between internalising and externalising psychopathology and father-child conflict if the father suffered from depression. A further study by Lewis, Neary, Polek, Flouri, and Lewis (2017) noted that there was a significant increase in adolescent depression if the father had experienced depression which also highlighted the need for early intervention to reduce this prevalence. Furthermore, Ramchandani et al. (2005) conducted a large community study of 12884 fathers and found support for adverse effects in 3-5-year olds. These effects were behavioural such as conduct, hyperactivity and emotional outcomes with an increased effect noted in the male offspring and this finding of paternal influence on children, and boys, in particular, was also found in a longitudinal study by Hanington, Ramchandani and Stein (2010). The study suggested that depressive symptoms at time point one led to a more difficult temperament at time point two, a difference only noted in boys, and possibly explained by the interference of depression in providing responsive parenting. However, research has shown that becoming a father can have positive behavioural changes for example self-reflection and responsibility while also showing protective effects on mental health (Garfield, Isacco, & Bartlo, 2010). These protective effects can be a decline in chronic pain, gastrointestinal problems and a lower risk of dying from cardiovascular diseases (Eisenberg et al., 2011) while fathers also found their coping ability to be strengthened by the rewarding and positive experiences of fatherhood (Darwin et al., 2017). As discussed above, the mental well-being of both parents during this crucial period of a child's development is vital to the parent-infant bonding and future attachment. Attachment is an *"ethological approach to personality development"* (Ainsworth & Bowlby, 1991, p. 333) and is a connectedness within any form of

relationship. In distress, infants would seek proximity to their main caregivers as they experience them as secure and responsive to their needs (Bowlby, 1969). The cost is not only that of the future development of the child and the family well-being, but PND also has a financial cost.

Financial cost

Edoka, Petrou and Ramchandani (2011) looked at the financial healthcare cost of treating and looking after fathers who may experience PND. The cost of paternal healthcare during this time was increased if the father had depression while also showing an increase in cost for high-risk individuals such as previous experiences with mental illness. This finding can also be attributed to mothers suffering from PND and the cost differences were mainly attributed to an increase in contact with general practitioners and psychologists. Another report found that the annual cost of perinatal depression in the UK was £73 822, where 70 % was attributed to adverse impacts of the child (Bauer, Knapp, Iemmi, & Adelaja, 2014).

Awareness

As the potential deleterious outcomes mentioned above; for the parent, the child and the society, it is vital to target PPND through an increase in scientific interest and level of public health awareness. Despite these figures, there is no mention or inclusion of fathers being affected by PND and only mothers are mentioned on the Health Service Executive's website (HSE, 2018). Letourneau et al. (2012) found that fathers who had experienced PPND or been affected by it from a partner who suffered it, mentioned that professional and public awareness of the disorder should be increased to identify the symptoms quicker and improve understanding. This knowledge will also dispel false and negative beliefs about the disorder and as one father noted: *"education is the key"* (p. 76). One father reported that his physician

failed to recognise his depression and was reluctant to refer him for further support by saying he just needed more sleep.

As the research previously has focused on the exploration, investigation and diagnosis of mothers (Musser et al., 2013; Paulson & Bazemore, 2010), the diagnostic tools and definition have resulted in a lack of consistent assessment criteria for fathers. This may prove a challenge in diagnosing fathers as men may show and experience depression differently to women with more anxiety and anger than sadness, lessened stress tolerance, aggressive behaviour and alexithymia. Men may also show withdrawal from social situations and use avoidance behaviour such as extramarital affairs, drug use and partner violence (Rutz, von Knorring, Philgren, Rihmer, & Wålinder 1995; Winkler, Pjrek, & Kasper 2005, Veskrna, 2010). Men are also more likely to not report depression due to stigma and the contradiction of the concept of masculinity (Fisher, 2017) which was also noted by Darwin et al. (2017) who found that men referred to difficulties as stress rather than mental health. The same reference to stress instead of depression and mental health was also highlighted in a study by Johansson et al. (2020) and the causes of PPND are varied.

Contributing factors and support

Distress and depression among fathers can be caused by many different factors and it has a high co-morbidity with other mental health disorders. The most prevalent and common factor being maternal depression (Goodman, 2004) and the study found that men who had a partner suffering from depression showed an incidence rate of 25-50% compared to 1.2-25.5% of fathers in the community sample. This correlation between maternal and paternal depression was also noted by Kamalifard, Bayati Payan, Panahi, Hasanpoor and Babapour Kheiroddin (2018) who also found that the number of pregnancies and the family's living situation to be a contributing factor. Kim and Swain (2007) argued that the most comorbid other psychiatric

illness co-occurring during the postnatal period is that of anxiety and Obsessive-Compulsive Disorder. The review also found that the influential factors are lack of social support, the stress of becoming a parent, feeling excluded from mother-child bonding and marital stress. A qualitative study on fathers affected by PPND by Letourneau et al. (2012) emphasised the support from others and one father reported that his friends and family were surprised at his desire to talk about parenting with other men as this went against the traditional view of masculinity. The study also noted that fathers felt that the information given regarding PPND during the prenatal and postnatal period was not enough and felt that the healthcare professionals lacked awareness of the symptoms of the disorder. This was also supported by Johansson et al. (2020) where fathers stated that postnatally, the healthcare providers never asked how they felt or asked about their mental health. Darwin et al. (2017) found that men spoke more about the cognitive aspects of their stress and its nature, in particular guilt, and its effect on their ability to support their partner and some mentioned guilt in terms of their feelings and that they should not be struggling.

Social networks and social support can through acting as a buffer show a reduction of PPND (Philpott & Corcoran, 2014) which was previously found by Boyce et al. (2007). They found that among new fathers, the influences of distress were particularly attributed to poor marital relationship and poorer social support. This study also showed correlations with higher levels of alcohol use, immature ego defences and lower quality of life. A further study by Philpott and Corcoran (2018) investigated the prevalence of PPND and its contributing factors in Ireland and found that some of the contributing factors which showed an increase in PPND were poor economic circumstances, support, level of education and paternal leave. The economic challenges showed a big difference in percentage with fathers who struggled financially reported 44% of PPND compared to 18.7% if financially stable with another big difference being the level of education. Fathers with a third level education reported an 8.9%

rate of PPND compared with primary and secondary level education who reported 23.8%. This can be attributed to a difficulty in gaining information and access services, resulting in a lack of information and lack of preparation of the changes that occur following the birth of a child (Oladosu, 2012). Age has also shown to be a factor of PPND as younger fathers showed an increase in depressive symptoms if compared to older fathers (Bielawska-Batorowicz, & Kossakowska-Petrycka, 2006). The unawareness and inexperience among new parents to recognize PND combined with a lack of education during pregnancy can result in the choice to live with the disorder rather than seeking help (Shresta, Hazrah, & Sagar, 2015). An additional finding in the study by Philpott and Corcoran (2018) revealed a large difference in PPND and paternal leave with employed fathers who received paternal leave indicated a lessened prevalence at 4.2% compared to 19.4%.

Paternal leave

Paid paternal leave has shown to be important for the father and his adjustment to life as a family (Philpott, 2016) and it is one of the ways in which governments can influence the paternal behaviour (Radcliffe & Cassell, 2015). It has been shown to have an important positive influence on parenting with longer paternal leave increasing positive attitude to parenting while shorter leave decreases the adaptation at work and lowers the quality of childcare (Feldman, Sussman, & Zigler, 2004). Research has shown that countries with longer periods of parental leave, such as Norway and Sweden, increases the paternal involvement compared to countries with shorter leave, like Great Britain (Sullivan, Coltrane, McAnnally, & Altintas, 2009). Currently, the parental leave in Ireland is 110 days unpaid leave up until their 12th birthday according to The Parental Leave Act, 1998 (Department of Employment Affairs and Social Protection, 2019) while in comparison, Sweden has a total parental leave of 480 days. Each parent gets two months each guaranteed and then the parents may divide the leave up as they see fit with an 80 per cent pay of each parent's earning. This comprehensive and egalitarian

parental leave sees 90% of fathers taking parental leave, though, most leave days are taken by the mother (Wells & Sarkadi, 2012). The paternal leave can be both a protective factor as well as an intervention and there are many areas and time-points where intervention, education and information can occur.

Adaptation

Fathers are usually aware of the big transition of becoming a father and the difficulties in adapting to the role, however, many fathers are not fully prepared and aware of the impact a baby will have on their lives (McKellar, Pincombe, & Henderon, 2009; Deave et al., 2008; Bäckström & Wahn, 2011). Despite an increase in awareness of paternal involvement in the upbringing of a child, the father still feels undervalued and unsupported regarding antenatal support (Kowlessar, Fox, & Wittkowski, 2015). Kowlessar et al. highlighted the experiences of the father and one superordinate theme was that of separation during pregnancy, with one man conveying this as a sense of being separated from his partner and the pregnancy, possibly due to his inability to experience pregnancy first-hand. Fathers also reported that the antenatal classes were aimed at mothers and the birth resulting in unpreparedness and undervalue.

The antenatal period is a time when support and engagement can be given to men to act as an early intervention for the family but also reduce the long-term financial cost of healthcare. The partner of the father is the most important support as the sharing of responsibilities of the parenting role includes the father, resulting in a lowered feeling of isolation (Philpott, 2016) while also suggesting a lowered feeling of jealousy towards the infant. Darwin et al. (2017) found that fathers, though being excluded from services and education, questioned their entitlements from an already under-resourced and pressured service. They felt that this should be focused on the mother instead and their feelings of psychological distress was questioned as a legitimate experience due to this. This gave an evident feeling of conflict as they wanted

to be more involved, however, did not want to detract from their partner's support. They spoke about the importance of support from their network and highlighted the fact that there is a lack of peer support groups for new fathers.

Education

The prenatal childbirth education programs have a higher focus on women which may result in men lacking in information as suggested by Boyce et al. (2007). As this illness can have a huge impact on the family, prevention and early interventions are vital. These can include educational programs, support from the partner, professional treatment and policy for paid paternal leave to increase the support and the bonding (Kim & Swain, 2007). Prenatal childbirth classes should be attended by both parents and aimed at getting both involved as this may aid in the support following childbirth and improve paternal mental health. A meta-analysis by Suto, Takehara, Yamane and Ota (2017) looked at prenatal childbirth education for partners of pregnant women and the outcome on their postnatal mental health and relationship and found that fathers in the intervention groups reported lower parenting stress and postnatal anxiety, increased likelihood of participation in the delivery room and improvement of couples' relationship. Interventions can be done through many ways and Li et al. (2009) administered Lamaze classes to partners of pregnant women through information on delivery and labour, concerns regarding this and how to support the mothers and ability to relax. The fathers were assessed shortly after birth and were found to have significantly lower postnatal anxiety than the control group.

Another study by Wöckel, Schafer, Beggel and Abou-Dakn (2007) focused on the emotional suffering and psychological and physical reaction to stress if a medical complication would occur while also being informed on a partner's possible behaviour such as crying, rejection and shouting during delivery. This resulted in a significant increase in satisfaction

with their role and support they provided to their partner during delivery. Other interventions can focus on the couple's relationship and a study by Daley-McCoy, Rogers and Slade (2015) discussed realistic expectations about becoming parents, parenthood and effective problem-solving and found that fathers reported improvement in psychological distress and less of a deterioration of couple communication compared to control group. Transition to parenthood was also targeted by Gambrel and Piercy (2015) who gave education on this alongside relational mindfulness and found that men showed a significantly improved relationship satisfaction, mindfulness and negative effect.

A different type of approach can be the use of technology. A qualitative study by Shorey, Yang and Dennis (2018) investigated the benefits of a mobile health app-based postnatal educational program. The function of such an app, not only in administering advice, but also to aid the parents in their self-efficacy where the parent is learning independently by building confidence and attains mastery which is in accordance with Bandura's theory of self-efficacy (Bandura, 1977). The study revealed that the parents found the app to be a good source of communication and support and that the different modes of delivery such as video and audio, helped in the gaining of information while the midwife, the communicator for the platform, showed to be a trustworthy source. Another benefit revealed was that of belongingness to a wider community who experiences the same obstacles and worries as themselves and the possibility to recap the information. An app like this gives easy access to information and advice, thus helping the parents to better deal with challenges and issues faced daily as home visits, though being beneficial, is not as feasible due to staffing and cost and the access to a nurse during this time can be vital, for both parents and child. Nurses are usually the healthcare professionals that come in contact with parents following birth, during the home visit, the Child Health Centres and other healthcare facilities. Hammarlund et al. (2015) studied paternal depression and the hindrance of noting the symptoms and found that there was limited

experience in recognising depression in fathers by healthcare professionals as they found it difficult to grasp and identifying. Fathers were not as willing to talk about the depressive symptoms, possibly because they seldom met the fathers regularly during this time, however, the nurses found that they sometimes could understand the health status of the father through the mother. The study also highlighted that the care is mainly focused on mother and child and not the family as an entity with a need for the screening to be extended to fathers as well as mothers.

Interventions

For families affected by PPND, Letourneau et al. (2012) found in their qualitative study that men tended to prefer one-on-one therapy due to its greater personal connection and that therapy should be offered as long as the requirement was there. The second most favoured intervention was telephone contact as it could both give anonymity and an easy option for contacting parents with the least popular intervention being the use of the internet, however, one of the reasons for this being considered desirable was due to its anonymity.

Rationale

The current study is aimed at investigating PPND among fathers in Ireland and the factors that may contribute to an increase in this issue. It also aims at investigating the social support for the father as a protective factor while also exploring guilt and shame as a contributing factor. There is limited research conducted on fathers' mental well-being if compared to mothers and most studies have been quantitative (Musser et al., 2013; Paulson & Bazemore, 2010; Philpott & Corcoran, 2018) so this mixed methods study may increase the awareness and highlight possible factors. This aim of increasing the awareness is essential if looking at the long-term effects on the family, the child and the society, and shows the need to address these issues in an efficient manner to reduce these effects. As research has previously

mainly been focused on mothers, the education and information for fathers during pregnancy and following birth has been lacking, possibly resulting in an unawareness of the effects of birth can have on the father. The lack of the acknowledgement of the father and his mental well-being is also evident in HSE's website in relation to PND that only mentions mothers (HSE, 2020). There is a hope that the results may influence healthcare systems in the importance of education and acknowledgement of the fathers in the prenatal discussion to avoid any later complications. These complications have shown to impact the child long-term (Ramchandani et al., 2005; Weissman et al., 2016) while also having a cost to the family as a whole and society (Edoka et al., 2011; Bauer et al., 2014). The researcher is optimistic that the learnings gained from this present study will not only add to the limited evidence on fathers in the literature but specifically Irish fathers. The findings of this study furthermore have real world practical benefit of providing a baseline of PPND, support and cognitive factors such as shame and guilt within the Irish paternal population.

Hypotheses

As evidence, support is a key component in the well-being of fathers (Philpott & Corcoran, 2018; Boyce et al., 2007) and thus, it is therefore the first hypothesis is that fathers who have a stronger support network will show a decrease in PPND.

Previous research has shown different contributing factors to PPND, such as paternal age (Bielawska-Batorowicz & Kossakowska-Petrycka, 2006), educational status (Oladosu, 2012), relationship situation (Kim & Swain, 2007), income and employment (Philpott & Corcoran, 2018) with an added possible contributing factor for investigation being the age of the youngest child. Hence, it is hypothesised that these factors will predict differences in PND among the fathers.

As found by Darwin et al. (2017), the cognitive aspects of the father's well-being, especially guilt, were highlighted during this time as well as support, therefore, the third hypothesis is that support, guilt and shame will have a predictive effect on depression.

Philpott and Corcoran (2018) found that education and income will show differences in PPND, so the fourth hypothesis is that income and education will have a negative correlation with depression.

Lastly, Boyce et al. (2007) found that poor marital circumstances can lead to PPND which is why the final hypothesis is that relationship status will influence the rate of PPND.

The qualitative section focused on the father's personal experience, education and support received during the perinatal period and studies have found that there is a lack of support and education for fathers during this time and even a lack of acknowledgement from healthcare providers (Bäckström & Wahn, 2011; Edhborg et al., 2016; Letourneau et al., 2012; Johansson et al., 2020). Due to this previous found lack of support and education was noted, the first question asked was "What could have benefited you more during the peri-natal period (information, support, education etc.) and who could have helped here?"

The second question related to the ability to share and talk to others and while some studies has found that some father's would like to share (Letourneau et al., 2012) while others suggested support groups (Darwin et al., 2017), thus, the question asked to the father was "Who did you talk to during this challenging time (friends, male, female, partner, family, healthcare setting etc.) and why this person?"

The last question asked were in relation to the difficulties in talking about this period as stigma, perceived weakness, legitimacy of feelings and a perceived threat to masculinity is a feeling many fathers may experience (Veskrna, 2010; Fisher, 2017; Darwin et al., 2017), thus, the question asked was "Did you find it difficult to talk about it and if so, why?"

Methods

Design

To investigate the aim of the research, a cross-sectional part-correlational descriptive mixed methods design was used. A mixed method design mixes and integrates both quantitative and qualitative research methods into a meaningful whole (Creswell & Plano Clark, 2011) with the aim of better capturing details of situations and feelings and when used in combination, the two methods provide a more comprehensive view of the research problem (Johnson, Onwuegbuzie, & Turner, 2007). In the first phase, the quantitative data was analysed with the analysis of the qualitative data occurring in the second phase. The quantitative data was used to identify certain predictors and demographics that may have a meaningful impact on the fathers while the qualitative was used to explain, elaborate and clarify. The priority of the study was given to the qualitative approach due to its focus on the experiences, feelings and thoughts of the father while the quantitative results aided in the analysis of the qualitative data and supported the findings, therefore, using the quantitative method as an overview and the qualitative as an in-depth explanation.

Participants

The recruitment of participants was conducted through a non-probability and purposive sampling using social media, thus aiming at a snowball effect. The survey target sample and inclusion criteria were males who had become fathers in the last 12 months, residing in Ireland and who were over the age of 18 with recruitment being conducted between 25th February and 29th June 2020. Originally, 47 responses were received, however, seven participants were excluded due to the criteria not being met or multiple responses, resulting in a final sample size of 40 participants between the ages of 28-46 (M = 35.97).

Procedure

Before the start of the project, ethical considerations were in accordance with Psychological Society of Ireland's Code of Ethics (PSI, 2011) and Dublin Business School's Ethics. A detailed research proposal was submitted to Dublin Business School ethics committee outlining the proposed study and the research proposal was reviewed, and approval was granted before the survey commenced. The appointed supervisor reviewed the survey before administration to participants following a pilot test. The questionnaire comprised of 66 questions including consent, demographics, standardised scales and qualitative questions. The targeted population was done through the snowballing sample through a link on social media such as Facebook, WhatsApp, Instagram and shared with friends for distribution. The primary sheet of information contained the details of the study, the outline of the purpose and the aim, the researcher information and the estimated time of 10-15 minutes to complete the study. The survey explained that participation was completely voluntary, anonymous and confidential with an initial question being that of consent to advance. If consent was not given, the participant was taken to a debrief sheet, however, if consent was given, the participant was taken to the survey. Once the participant had completed the study, a debrief sheet appeared including contact information should any questions have caused upset or distress as well as the email for the researcher. See appendix for the full survey, consent form and after-care contact details.

Ethical considerations

The approved research proposal included ethical considerations following the guidelines of Psychological Society of Ireland (PSI, 2011)

and DBS before the initiation of the research. The focus of the primary information sheet was that of informed consent, voluntary participation and anonymity. The possibility of

retracting the responses was informed as once submitted, due to the anonymity of the study, this was not possible. All files were and will be kept on a password-protected device and will be in accordance with GDPR.

Materials (refer to Appendices)

The online survey creator "Google Forms" was used to develop the questionnaire and used for distribution. The questionnaire was constructed over seven sections with the first section containing the letter of introduction containing information regarding the survey, it's purpose, it's aims and the contact details of the researcher (see Appendix A). This section also contains a question regarding consent which requires a response to advance in the survey. The second section contains eight demographic questions: age, gender (obligatory questions as the participant must be over 18 and a male), relationship status, number of children, age of the youngest child, employment status, income, and education status (see Appendix B). Section three introduced the first scale, the Edinburgh Postnatal Depression Scale (Cox, Holden, & Sagovsky, 1987), a well-validated scale (see Appendix C), the fourth section had the Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988) which is another well-validated scale (see Appendix D). Section five contained a modified version of the Test of Self-Conscious Affect-3 (TOSCA-3) (Tangney, Dearing, Wagner, & Gramzow, 2000) as guilt and shame were only of interest for the current study (see Appendix E) and the sixth section contained the qualitative questions relating to the experiences of the father (see Appendix F). The qualitative questions were open-ended to encourage elaborate answers. The first question "What would have benefitted you more during the perinatal period?", the second question "Who did you talk to regarding this challenging time (friends, male, female, partner, family, healthcare setting etc.)?" and the third question "Did you find it difficult to talk about it and if so, why?". The seventh and last section following completion of

the questionnaire had the debrief sheet with relevant information to help organisations if any upset was caused (see Appendix G).

Postnatal depression

To assess postnatal depression, the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987) was used. The scale is a screening tool only and not for diagnostic use. It comprises of ten statements relating to depressive symptoms where the participant is asked to self-report through multiple choice answers how they have felt in the last seven days. Examples of the questions are "I have been able to laugh and see the funny side of things" with the choice of answers being "As much as I always could", "Not quite so much now", "Definitely not so much now" and " Not at all" with another example being "I have felt sad or miserable" with the choice of answers being "Yes, most of the time", "Yes quite often", "Not very often" and "No, not at all". Each item is scored from 0-3 thus yielding a total range of 0-30. The initial study, (Cox et al., 1987), suggested that a score above the threshold of 12/13 identified all women suffering from probable depression and a cut-off score of 9/10 for possible depression and showed a Cronbach's alpha of .87. Differences among cultures and languages have been shown with detection as low as 8.5 in Greece (Vivilaki, Dafermos, Kogevinas, Bisios, & Lionis, 2009) and 6/7 in Thailand (Pitanupong, Liabsuetrakul, & Vittayanont, 2007). Although the EPDS was developed for mothers, it has been well validated in men (Matthey, Barnett, Kavanagh, & Howie 2001; Lai, Tang, Lee, Yip, & Chung, 2010; Edmondson, Psychogiou, Vlachos, Netsi, & Ramchandani 2010; Massoudi, Hwang, & Wickberg, 2013). Massoudi et al. (2013) suggested the paternal cut-off point of 12 for major depression, with a sensitivity and specificity of 100% and 94.9% respectively, and a cut-off point of 9 for minor depression (as previously supported by Matthey et al., 2001). The study showed a good internal consistency with a Cronbach's alpha of .81, thus, the cut-off point for the present study was set as suggested by previous research, 9 for minor and 12 for major depression.

Support

The Multidimensional Scale of Perceived Social Support, (MSPSS), (Zimet et al., 1988) was included to assess support and is a scale that has been widely used and validated. The 12-item scale is designed to measure the support received from three different sources: family, friends and significant other with four items in each subscale. The scoring is conducted through a 7-point Likert scale with scores 1-7 for each answer resulting in a range of 12-84 with each subscale having a maximum of 28. The individual is asked to indicate how they feel about each statement. Some examples of questions are: "I get the emotional help and support I need from my family", "There is a special person who is around when I am in need" and "I can count on my friends when things go wrong". The Likert scale answers range from very strongly disagree to very strongly agree. Each sub-scale is added and then divided by four and the full scale is divided by 12 to get the mean score. Low support is considered 1-2.9, moderate support 3-5 and high support 5.1-7. The Cronbach's alpha in the original study for the full scale was .88 and each subscale; significant other, family and friends achieving .91, .87, and .85 respectively. The original study also highlighted gender differences in support with women perceiving more support from significant other, friends and overall compared to men.

Guilt and shame

A modified version of the Test of Self-Conscious Affect-3 (TOSCA-3) (Tangney et al., 2000) was used. The full 16-item scale measures construct of guilt, shame, detachment, externalisation, alpha pride and beta pride in positive and negative situation in daily encountered situations. As the study only required to investigate shame and guilt, the responses to items relating to the other constructs were removed. The participant is asked about a scenario, for example, "You make plans to meet a friend for lunch. At 5 o'clock, you realize you stood your friend up" and the shame response is "You would think: I'm inconsiderate" and

the guilt response is “You would think you should make it up to your friend as soon as possible”. The individual is asked to respond on a 5-point Likert scale ranging from “not likely” to “very likely”. The range of answers in each of the construct was 16-80 and the Cronbach’s alpha has been shown to range between 0.77-0.88 for the shame-proneness scale and 0.70-0.83 for the guilt-proneness scale (Tangney & Dearing, 2002).

Qualitative questions:

The qualitative open-ended research questions asked in the survey were: “What could have benefitted you more during the perinatal period?”, “Who did you talk to regarding this challenging time (friends, male, female, partner, family, healthcare setting etc.)”? The third question “Did you find it difficult to talk about it and if so, why”?

Quantitative analysis

A descriptive, cross-sectional and correlation design was used for the current study and the data collected from the electronic questionnaire was coded and entered onto the computer program Statistical Package for Social Sciences (SPSS) version 26 for analysis.

Qualitative analysis

After reviewing the responses, the qualitative data analysis software program Nvivo-12 was utilised to organise the data and perform thematic analysis (TA) (Braun & Clarke, 2006). TA was selected as being the appropriate method of analysis due to the structure of the questions and the fit of them into the study. Braun & Clarke (2006) define TA as *“a method for identifying, analysing and reporting patterns (themes) within data…. (which) minimally organizes and describes your data set in (rich) detail”* (p.79). The analysis was further chosen due to its flexibility and variety of analytic options; essentialism versus constructivism and is not limited to a specific framework and the researcher assumed a realist stance in the current study. This method is utilised to summarise the data of the answers and is not used to formulate

and develop a new theory or approach to the research. The analysis was conducted using a "top-down" approach and the first step was the immersion of the data. The responses were read multiple times and initial important and significant thought occurred. Following this, the data were given descriptive labels through coding and categorised by linking data together. Thirdly, the emergence of themes and sub-themes ensued and were identified using an inductive approach, not restricting the data to anticipated themes. Themes were noted from the prevalence of responses given by the participants and following this, the themes were reviewed and refined, some were merged through its relatedness and the accuracy of the codes in the theme was considered. Finally, the themes were clearly named and defined with direct quotes being linked, giving a further understanding of the theme.

Results

Quantitative results

Data preparation

Upon closing the participant collection, initially, the participants who did not meet the criteria of the survey were excluded from the sample as well as participants with multiple responses. All scales were analysed for reliability (see table 1) which yielded that the Edinburgh Postnatal Depressions Scale (EPDS) reported a Cronbach's alpha of .90 and that the Multidimensional Scale of Perceived Social Support (MSPSS) showed an alpha of .96 with each subscale of significant other (SO), family (FAM) and friends (FRI) showing .93, .92, and .91 respectively. Finally, the internal consistency between the two scales of TOSCA, shame and guilt, revealed an alpha of .83. with each of the subscales showing alphas of .79 and .65 respectively.

Table 1

Cronbach's alpha for each scale

Scale	Number of items	N	Cronbach's Alpha
EPDS	10	40	.898
MSPSS	12	40	.957
Subscale SO	4	40	.934
Subscale FAM	4	40	.917
Subscale FRI	4	40	.907
TOSCA (two scales)	32	39	.827
Subscale Shame	16	39	.788
Subscale Guilt	16	39	.647

Validity

A principal factor analysis was conducted to investigate the validity of the scales which yielded that all but one scale was suitable for factor analysis (see Appendix H for full break down on factor analysis).

Descriptive statistics

A series of descriptive and inferential statistics were performed on the data. The survey was initially completed by 47 fathers; however, 6 respondents were removed due to duplicate answers and not meeting criteria. This resulted in a total sample size of (n = 40). The age of participants ranged from 28-46 (M = 35.97, SD = 4.08), the age of the youngest child ranging from 1-11.5 months (M = 5.93, SD = 3.49) which showed a non-normal distribution with a negative kurtosis of -1.43 (SE= .778) while the income ranged from €10 500 to €102 000 (M = 60241.89, SD = 22321.63). Participants employment status were varied with 2.5% (n = 1) being unemployed, 82.5% (n = 33) in a full-time position and 15% (n = 6) in self-employment while the education status were explained as 17.9% (n = 7) having completed leaving-certificate, 12.8% (n = 5) some college, 43.6% (n = 17) college degree and 25.6% (n = 10) having completed a post-graduate degree. The number of children the fathers had were explained as follows; 1 child (n = 24) with 60%, 2 children (n=14) with 35% and finally 3 children (n = 2) with 5%.

The EPDS (M = 7.85, SD = 5.28) revealed a wide range of responses ranging from 0-24 from the possible range of 0-30.The total score of the MSPSS showed a range between 1.42-7 (M = 5.60, SD = 1.20) and the scale revealed a non-normal distribution with a negative skewness of -1.52 (SE = .374) and a positive kurtosis of 3.05 (SE = .73) (see figure 1). The three subscales of support scored as following: significant other (M = 5.6, SD = 1.20), family (M = 5.58, SD = 1.30) and friends (M = 5.23, SD = 1.26). The two subscales shame (M =

45.46, SD = 9.85) and guilt (M = 62.67, SD = 7.33) also revealed a wide range of responses ranging from 25-70 for shame and 48-79 for guilt from possible ranges of 16-80. The descriptive for all scales are shown below in table 2.

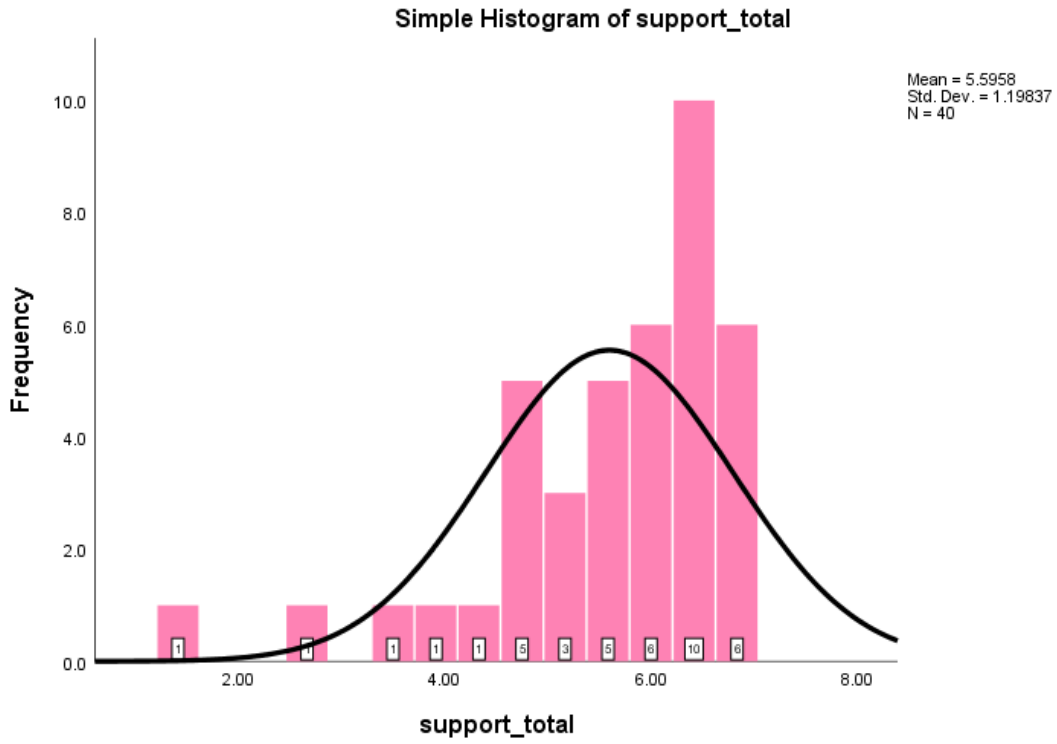

Figure 1. Histogram displaying the total support frequencies and the bell curve.

Table 2

Descriptive statistics for the scales used in the research

	Mean	Median	SD	Skewness	Kurtosis	Range	Possible Range
EPDS	7.85	7.00	5.28	.731	.906	0-24	0-30
Support TOT	5.60	5.96	1.20	-1.52	3.05	1.42-7	12-84
Support SO	5.98	6.38	1.35	-2.19	5.53	1-7	1-7
Support Fam	5.58	6.00	1.30	-1.26	1.56	1.5-7	1-7

Support FRI	5.23	5.63	1.26	-.661	.085	1.75-7	1-7
Shame	45.46	43	9.85	.510	.395	25-70	16-80
Guilt	62.67	62	7.33	.292	-.204	48-79	16-80

Prevalence

Finally, a recoding was produced to investigate the prevalence of depression as per the cut-off points. This revealed that 57.5% (n = 23) scored in the no depression group while 20% (n = 8) scored in minor depression and 22.5% (n = 9) scored in major depression (see figure 2). This reveals that 42.5% scored above the cut-off point of postnatal depression for both minor and major.

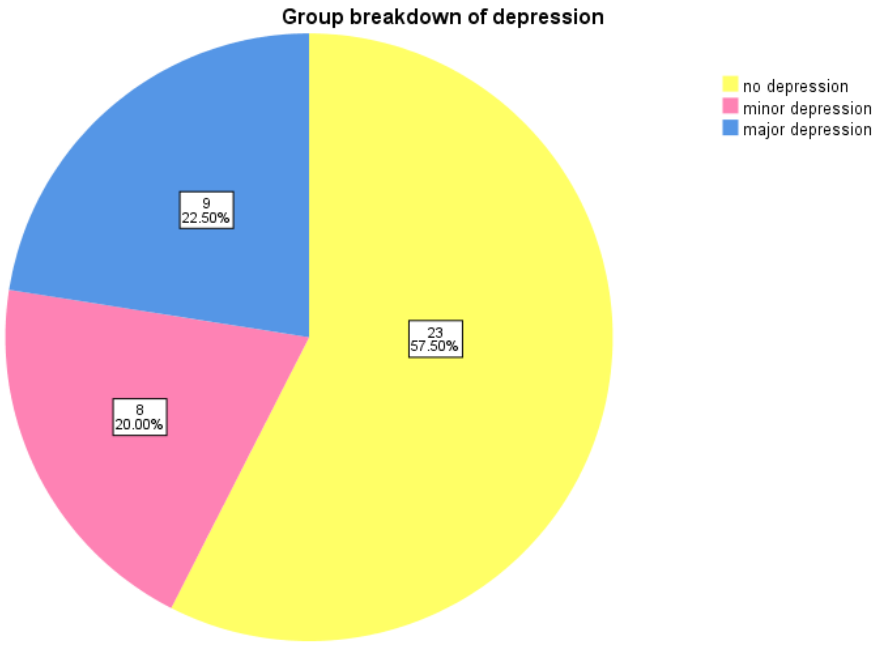

Figure 2. Pie chart showing the different numbers and percentages of participants in each group according to the cut-off points.

Inferential statistics

Hypothesis 1:

To measure the correlation between postnatal depression and support, an initial test of assumptions was conducted which revealed that though postnatal depression met the assumptions, support did not, resulting in the non-parametric test Spearman's rho being utilised. The test yielded a moderate negative significant relationship between support (M = 5.60, SD = 1.20) and postnatal depression (M = 7.85, SD = 5.28) ($rs(40) = -.439$, $p = .005$) with family showing the biggest effect on depression (M = 5.58, SD = 1.30) ($rs(40) = -.415$, $p = .008$).

Hypothesis 2:

To test the influence of multiple predictors; age, income, employment, education, relationship status and age of youngest child on postnatal depression, a multiple regression analysis was conducted. The test revealed that six predictors explained 51% of the variance ($R^2 = .51$, $F (6, 27) = 6.74$, $p < .001$). It was found that two factors, employment status ($\beta = -.52$, $p < .001$, 95% CI = -7.79, -2.54) and relationship status ($\beta = -.53$, $p = .001$, 95% CI = -6.31, -1.85) significantly predicted postnatal depression, however, age ($\beta = .05$, $p = .687$, 95% CI = -.27, .41), age of the youngest child ($\beta = .11$, $p = .428$, 95% CI = -.26, .59), education ($\beta = .04$, $p = .780$, 95% CI = -1.20, 1.59) and income ($\beta = -.26$, $p = .097$, 95% CI = .00, .00)

Hypothesis 3:

A multiple regression was used to test the predictive influence of support, shame and guilt on postnatal depression. The results of the regression indicated that three predictors explained 30 % of the variance ($R^2 = .30$, $F (3, 35) = 6.41$, $p = >.001$). It was found that shame ($\beta = .58$, $p = >.001$, 95% CI = .14, .49), guilt ($\beta = -.34$, $p = .042$, 95% CI = -.48, -.01) and support ($\beta = -.32$, $p = .024$, 95% CI = -2.60, -.19) all predicted postnatal depression.

Hypothesis 4:

To test the hypothesised negative correlation of income and education on postnatal depression, a Spearman's rho was conducted. It was found that there was a significant negative correlation between postnatal depression and income ($r_s(37) = -.439$, $p = .007$) while there was no significant association between postnatal depression and education ($r_s(39) = -.061$, $p = .710$).

Hypothesis 5:

To investigate the differences in postnatal depression and relationship status, a one-way analysis of variance was conducted. The test revealed that postnatal depression differed significantly between the three relationship status groups ($F(2, 37) = 5.77$, $p = .007$). More specifically, Tukey HSD highlighted that the married status showed a lower depression score than the single (Mean Difference = -8.23, p = .020, CI 95% = -15.33, -1.12,) and so did partner (Mean Difference = -3.09, p = .048, CI 95% = -7.76, -.03).

Qualitative results

The thematic analysis of the responses identified four super-ordinate themes relating to the father's experiences: Preparation for fatherhood, support, uncertainty and openness. The analysis also yielded a word cloud for the most frequently expressed words as per below (figure 3)

Figure 3. A word cloud of the most frequently used words from the qualitative questions

Theme 1: Preparation for fatherhood

This theme of preparation yielded four sub-themes: information/education from healthcare settings, breastfeeding, family situation and paternal targeted support. Many of the father's responses involved an unpreparedness of becoming a father, both regarding the antenatal, the delivery and the postnatal period which involved many different aspects, such as mental and physical preparation. This preparation can be conducted both privately but should also be given through the healthcare system. Preparation is very important to be equipped and ready for a future event and can be the difference between reactive and proactive problem-

solving in the face of difficulty. By not being prepared, the fathers lacked organisation and ability to better deal with the transition of becoming a father. This preparation was mentioned by two fathers who highlighted their abilities and possible preparation, one mentioning his lack of preparation while the other his involvement and engagement in preparing:

> *"I should have prepared better (reading)"*
>
> *(father 1)*

> *"Education and information outside of the prenatal classes…..You have to be willing to learn and research and engage with the problem"*
>
> *(father 2)*

Another father mentioned this unpreparedness, however, also his willingness to learn and educate himself about the transition through his engagement and preparation:

> *"I don't think anything could have prepared me for being a dad. I read a really good book for new dads which was aimed at the dad and how they are part of the journey too, yet all the focus is on the mother. It really helped me as I felt bad for being scared, I suppose I felt selfish as it wasn't me going through the changes, but it was (mentally)"*
>
> *(father 3)*

While another father who had been through becoming a father previously, highlighted the difference he felt after the birth of his second child compared with his first by stating:

"As this was our second child, I felt that was better prepared this time around."

(father 4)

Subtheme 1: Information/education from healthcare settings

An overwhelming response from the father's involved some form of a wish for more or further information and education from healthcare facilities as they felt that this had been a lacking component in their preparation of becoming a father. The information and education should involve both parents which would have aided in some of the uncertainty and doubt that they experienced during this time and can involve many different aspects and periods. This education can be provided online, through courses, healthcare settings and groups and a lack thereof were discussed by this father who indicated the ante-natal period to be a focus of education for the benefit of preparing for fatherhood:

"Education is always a benefit. If there was a course for new fathers to go on. That might help. More information is also a plus for new parents. Maybe an online course of a course that you could go to, to prepare yourself for fatherhood."

(father 5)

This information can also be very helpful during possible stressful and difficult experiences during delivery which can affect both parents and is a wish of one father:

"Information surrounding a difficult birth"

(father 6)

One father felt that the information that he received was contradictory to other sources so could lead to confusion:

> *"Information, conflicting information between books and the different courses we attended"*
>
> *(father 7)*

Subtheme 2: Breastfeeding

This theme involves the father's feelings surrounding breastfeeding and the emotions related to this. Breastfeeding is often mentioned as being an important part in both feeding and bonding following birth and something that hospitals want to encourage; however, it can prove difficult for some mothers and babies to accomplish for different reasons. As this theme was mentioned by multiple fathers, it is an area that requires information, support and guidance as specifically expressed by this father:

> *"Better (or any) effective support for my partners breastfeeding. The HSE say they want to encourage it, but don't really do anything to do so"*
>
> *(father 8)*

Subtheme 3: Family situation

The family situation and relationship that is between the parents can have a big influence on the preparation for parenthood and if the father finds himself in a strained relationship with the other parent, this can lead to a lack of information. This can have an impact on the father's accessibility to appointment and information but can also determine their own engagement in the perinatal period. This can lead to further future estrangement and can have huge impacts on the father-child bonding. One father who was in such a situation

mentioned:

> *"Myself and my ex-partner were not speaking through the latter stages of pregnancy, so I didn't have much information regarding what was going on"*
>
> *(father 9)*

Subtheme 4: Paternal targeted support

It was evident through the many similar responses that fathers felt that they would benefit more from specific and targeted support aimed at them as they felt that the support and education during this period were mainly aimed at mothers. This lack of resources and support for fathers needs to be available and tailored to a paternal perspective, through their experiences, feelings and support needs. These resources and education are suggested to be ongoing support, not short-term, as this period of a parent's life can be tumultuous, chaotic and life-changing which may require more support and help:

> *"Some more support targeted at the father or to know what resources are available"*
>
> *(father 10)*

> *"Apart from information and education, there is no support offered to the father of a child"*
>
> *(father 4)*

> *"A lot more support from a male perspective and working support too"*

(father 11)

This was mentioned by this father who stated that the support structure is not only beneficial to the father but the whole dynamic of the family by saying:

> *"Additional supports for fathers to help them grow, learn and develop, to know how to support their partner, and how you connect with your child….. I feel a support structure for fathers is key to the development of dads and the family structure"*

(father 12)

Theme 2: Support

The second superordinate theme is that of support with its sub-themes; prior experience, partner/wife, interpersonal support and supporting the mother. This theme was highlighted through much of the qualitative data and responses and was both mentioned as a presence for some while others experienced it as an absence. To support each other is to give strength to, encourage, and bring comfort to and through this sharing of thoughts and feelings, the relationship becomes strengthened. Support can come in many ways and many participants underlined the people closest to them but also others who were around them during parts of the day. A different approach to this can be seen by these two fathers who accessed support very different:

> *"Partner and family, because we're in it together"*

(father 13)

> *"Some family members in passing. Some friends a little bit. Have not talked about the hard bits too much"*
>
> *(father 8)*

Support may not always come from people close to us but can also come from work, institutions and governments as mentioned by one father:

> *"Support and information, more time off work to spend with my partner and new child"*
>
> *(father 14)*

The feeling of functioning as a team was mentioned by another father who also wanted to involve others in case a need would be there for some support at a later stage:

> *"I spoke to my wife the most as we are a team and I needed her to know how I was feeling. I also spoke to friends and family so that they may be able to support if needed"*
>
> *(father 15)*

One father also highlighted the benefits of sharing with many different friends and family to gain a better insight and to resolve things better:

> *"I spoke to a wide variety of friends, family, colleagues and client/acquaintances. I found having multiple viewpoints was helpful"*
>
> *(father 16)*

Subtheme 1: Prior experience

This theme was recurrently discussed as many fathers mentioned the experience of others as a support to be able to share, gain insight and get support from. Experience is gained from involvement or exposure to an event, feeling or emotion and leaves acquired skills to draw from at a future stage. We turn to others if in doubt or in need and the fathers reached out to their friends, families and colleagues depending on the advice needed. One father mentioned:

> *"Family and friends who have also had children as they have experienced challenging times in the past"*
>
> *(father 4)*

Another father reached out to friends for a male viewpoint but also talked to his wife as he said:

> *"Male friends with children and my wife. Friends had experience from a male perspective and my wife just knew more than me"*
>
> *(father 17)*

Subtheme 2: Partner/wife

Many of the responses of the fathers involved his partner/wife and though there were many support structures to which the fathers reached out; partner/wife was the most common response. This can be attributed to a few factors such as being the closest person to the father daily, both emotionally and physically and their similar experiences with their child during this time. The union of the two and the sharing was expressed by this father:

> *"Wife – she was going through the same thing so understood"*

(father 18)

Subtheme 3: Interpersonal support

This subtheme relates to the ability to share and trust in people who are close to us and our closest social circle are usually the people with whom we share our ups and downs which can be friends, family, and colleagues among others. These types of different relationships were mentioned frequently as support and show the wide variety of people in our lives. The feeling of being able or unable to talk about difficult issues was mentioned by these two fathers with two very different experiences of support, possibly to their willingness to share:

"Sometimes I did find it difficult to talk to friends as my relationship with my partner at the time was very confusing for me"

(father 19)

"Parents, can talk to them about anything"

(father 20)

Subtheme 4: Supporting the mother

This subtheme expresses the father's intent and endeavour to be strong and supportive for their partner during this time which led to some difficulties in sharing their thoughts and feelings. A feeling of being strong for others can influence help/support-seeking behaviour as the mother's feelings and emotions were the focal point. This can lead to burying these feelinbgs as well as querying its legitimacy as expressed by these two fathers in this way:

"I also felt the need to be strong for her as it was her who was at home with the child 24/7"

(father 14)

"Sometimes it is difficult to talk to my partner (mum) about me finding things tough because I felt I needed to be a strong support for her"

(father 16)

Theme 3: Uncertainty

This theme contains two sub-themes; mental health and stigma which can be felt and experienced through uncertainty. This uncertainty is influenced by the massive changes to life, both on an emotional and a physical level, and throws the parent into an unknown situation and one that can cause confusion, ambiguity and unpredictability. This unpredictability can change the way they view their daily life and their feelings and can lead to doubts about their actions as a father as expressed by this father:

"Coming across being unsure makes me feel like I'm doing something wrong"

(father 21)

This father mentions areas to improve for a better understanding of this period of uncertainty, however, also underlines the difficulties in doing this:

"Having clearer guidelines on the right and wrong things to do, what's normal, what's not, etc, but I understand that this is not plausible/possible as there are very few definites in this period"

(father 16)

Subtheme 1: Mental health

This uncertainty can lead to mental health difficulties as doubt and worry are present and fathers mentioned certain mental health issues, fear and a sense of loneliness during this period. One of the mental health difficulties that can be experienced during this uncertainty is that of anxiety, a natural response to stress which can lead to unpleasant feelings, such as fear and apprehension. As previously mentioned, fathers want to provide support and strength for their partner and a father's anxiety can arise from how his partner and baby are feeling:

> *"As a father, my anxiety all comes from how my baby and partner are feeling"*
>
> *(father 8)*

Fathers also discussed the difficulties they had faced and the possible tools and support that could have aided them during this time if having been made available while also emphasising the lack of focus on the father's experience:

> *"The focus is on the female and often the man is forgotten about. I didn't know or wasn't tools of any support for me. I heard about male postnatal depression on a podcast however no one in the health system spoke to me about it"*
>
> *(father 10)*
>
> *"No one as I did not know how, I was terrified alone and scared"*
>
> *(father 12)*

Subtheme 2: Stigma

This subtheme is reflecting feelings of stigma and masculinity being under threat. Stigma is usually a negative view of someone and can lead to feelings of shame and devaluation within the person due to fear of negative judgement. Stigma can express itself as public: stereotyping, prejudice and discrimination but also as self-stigma where a person may start believing what is said about them and this experience which can impact help-seeking. The influence of culture among the participants was mentioned as being a hindrance, highlighting the physical aspects of becoming a father instead of the emotional:

> *"Didn't really talk to friends. Unlikely they would understand and there is a macho culture among Irish males on fatherhood. Most conversations drift to "how much sleep are you getting" rather than "how are you feeling"*
>
> *(father 2)*

This experience of not sharing feelings was also expressed by this father who mentions that there is no difference between the sexes in emotions and mental health:

> *"Yes, always. If I knew why that would help. I suppose is a pride thing and the stigma of "being a man" and we're not supposed to have feelings or be affected by these things, but the truth is we really are. We have the same feelings as women with the added pressure to not have these feelings"*
>
> *(father 3)*

Theme 4: Openness

This theme concerns the openness of which the participants wanted to be and felt that they could be with others during this time. This experience relates to a lack of secrecy and restriction and involves a frankness, honesty and truth. While some mentioned that they had no issues in sharing, others mentioned that this was a hindrance and a difficulty as these two fathers indicated:

> *"I usually don't share feelings except with very very close people"*
>
> *(father 1)*

> *"Don't want to create as big panic of drama. The tone of the advice and the articles etc is everything is a phase and it will pass"*
>
> *(father 8)*

This feeling of sharing was also stressed by another father who mentioned closeness as difficulty in sharing by saying:

> *"The hardest people to talk to are the ones that mean the most to you"*
>
> *(father 22)*

Subtheme 1: Groups

Some fathers mentioned the availability of having access to different support groups to be able to share and discuss experiences. This was mentioned as a tool to help gain insight and learn from others while also bonding with your child and strengthening the bond. This feeling

of group work to be beneficial was expressed by this father who expressed a wish for a place where support and help were given:

> "*I really wish there was a location that I could have accessed as a father, we men have never been great about asking for help of support"*
>
> *(father 12)*

Subtheme 2: Private emotions

This theme conveys the difficulty in sharing the most private emotions that we may have as these feelings may not always come across sounding decent, though, the feelings are still there and valid. This was expressed by one father particularity that was dealing with very private emotions as though he felt that they could not afford another child, they did anyway, resulting in a feeling of being stuck as he shared below:

> *"Yes, because she wanted another baby, but I didn't, and I'm stuck in this situation now and it doesn't sound good to other people to share you didn't want another child. It's like my opinion doesn't matter. I feel very down over it all"*
>
> *(father 23)*

Discussion

Postnatal depression has previously been viewed as a maternal issue leaving the fathers experiences under-explored, however, there is growing evidence that men can suffer from this illness as well. The findings of this mixed methods study add to the limited research surrounding this area and emphasise the impacts and effects of PPND on the father which ultimately affect the whole family. The aim of the study was to investigate the rate of paternal postnatal depression, the effects of support and the cognitive aspects in the life of a new father while through qualitative questions, uncover thoughts and feelings they may experience during the first year of their child's life.

The main finding of this study suggests that when using the EPDS cut-off score of 12 as suggested by Massoudi et al. (2013), it is revealed that the prevalence of PPND in Irish fathers is 22.5%. This is greater than the 8.4% that was previously found in the meta-analysis by Cameron et al. (2016) and greater than the 12% found in a recent Irish study (Philpott & Corcoran, 2018). Furthermore, if including minor depression, this figure increases to 42.5%.

The attributing factors of depression can be many with one such factor being that of support. The current study revealed the importance of support, as an increase of support showed a decrease in depression which is in line with previous studies (Boyce et al., 2007; Philpott & Corcoran, 2018). The support can come from a variety of sources such as partner, family, friends, co-workers and the healthcare system. The fathers' perceptions of received support varied widely among the participants with some receiving a great deal of support while others receiving very little. This can be partly explained by their family situation, both their relationship status as well as their family's support. Most fathers would talk to their partner about their experiences and feelings, due to both the closeness of the relationship and the feeling of unity but also the feeling that the partner was more knowledgeable. It was also found

that many fathers talked to their families which was visible as family support yielded the largest decrease in depression amongst the fathers. The qualitative data discovered that prior experience had a huge influence in the support seeking as fathers approached others who had the experience of having children as well as previously dealing with challenging times.

Moreover, the study revealed a lack of information and education for the preparation of fatherhood which is supported by previous studies (Tiedje & Darling-Fisher, 2003; Kowlessar et al., 2015). It became evident that many fathers experienced this deficiency from the healthcare system, both during the ante-natal period, the birth and the post-natal period. A need that was highlighted by several fathers was that of targeted support from a male perspective as support aimed at mothers may not be equally applicable to men due to their possible different views on experiences (Veskrna, 2010). Fathers also felt forgotten about and un-informed of any support tools for them during this period which was previously noted by Edhborg et al. (2016) and fathers suggested support groups and courses they could attend to improve this aspect. This feeling of being forgotten about and unaware of support was mentioned by a father who had not been educated or informed by the healthcare system about PPND, a finding he made on his own through a podcast. This deficiency by the healthcare professionals in not informing the father of PPND has previously been found by Letourneau et al. (2012) who also noted an unfamiliarity of the disorder by the healthcare professionals. This unawareness being felt by the fathers can have an impact on their mental well-being as well as their bonding with the child due to a feeling of uselessness, inadequacy and unpreparedness (Johanssson et al., 2020). The study also found that several fathers felt that even though breastfeeding is expected of the healthcare professionals, the support and information surrounding this was inadequate and may result in pressure on the new parents. There were also suggestions of education regarding a difficult birth which Wöckel et al. (2007) found to be of importance as the father

can support the mother through emotional, psychological and physical suffering, resulting in an increase in their satisfaction of their role during delivery.

Though support is a common factor, further factors to influence PPND has shown to be relationship status/poor relationships with the mother as well as a poor economy (Philpott & Corcoran, 2018). These previous findings were supported by the current study as relationship status was a predictive factor of depression while also demonstrating that married people indicated the highest decrease in depression compared to fathers in a partner relationship and the least decrease was noted by fathers who were single. Fathers also expressed a lack of information if the relationship was strained, resulting in their engagement and knowledge decreasing. While employment status was a predictive factor of depression, income was not, however, increased income revealed decreased depression. This financial impact on depression and well-being was discussed by one father who revealed his unwillingness to have another child due to the financial strain which resulted in him feeling stuck and feeling like his opinions did not matter.

Though some studies report younger paternal age to be a risk factor, (Bielawska-Batorowicz & Kossakowska-Petrycka, 2006), this was not supported by the current study possibly due to the participants older age as the youngest fathers were 28. Additional factors previously found to be predictive of depression, though not supported in the current study, were education (Oladosu, 2012) The age of the youngest child was also not a predictor.

As suggested by Philpott and Corcoran (2018), paternal leave can be a contributing factor to depression and though the participants were not directly asked this question, it was revealed that some fathers wanted more time off work to spend with their partner and child. Johansson et al. (2020) found that fathers wanted to be a part of the upbringing and this paternal leave has previously shown to be an important influence on parenting (Feldman et al., 2004).

Darwin et al. (2017) found that guilt had a strong influence on the father's mental health, a finding that was not supported by this study, though, it was shown that shame and depression had an increasing effect on each other. Shame can be regret and sadness and is a negative feeling of oneself, which may be explained by the fathers perceived lack of ability to support their partner which brought up queries of the legitimacy of their feelings and experiences that yielded a sense of selfishness. This finding of feelings of illegitimacy was however previously supported by Darwin et al. who suggested that fathers questioned their entitlements to support and their feelings of distress as legitimate.

Fathers also reported feelings of stigma, a feeling that they described both down to the Irish culture but also the stigma of being a man. This entailed not revealing emotions or asking for support, however, fathers mentioned that the feelings experienced are the same as a mother's but with an added pressure of not having them. This feeling and experience of stigma were also noted by Fisher (2017) who said that this feeling was a contradiction of masculinity. This inability to share and being open about feelings were noted by multiple fathers and for some, the sharing only occurred amongst the closest people in their social circle.

Strengths and limitations

The strength of this study, due to its mixed methods approach, reveals a wide variety of information regarding a father's experience and feelings during the first twelve months of their baby's life. Though the sample was relatively small, all but one responded to all scales giving a good indication of the quantitative findings which is further highlighted and supported by the qualitative analysis, thus strengthening the validity of these findings. A further strength is the additional findings to add to this under-researched area, an area previously dominated by quantitative research, which may aid in the understanding of the effects on the mental well-being of a father and to develop better tools to define, diagnose and inform both fathers, healthcare professionals and society. The study supports previous findings on some of the risk factors involved in predicting PPND while also supporting some statistical differences in mental health through the hypotheses suggested by the researcher.

The limitations that should be considered is its smaller sample size. A larger sample is better to gain a more comprehensive understanding of PPND as well as a stronger power in the statistical analysis. A further limitation is the homogeneity of the sample as it mostly consisted of fathers who were in a relationship and mostly employed. The homogeneity of the sample was also reflected in age as the youngest father was 28 years old which removed the age as a predictive factor, thus, a wider variety of sample would be beneficial. Furthermore, self-reported questionnaires can reveal biases in their responses as participants may not reveal their feelings, though due to the high prevalence of depression in this sample, this fear of biases is limited. This prevalence of PPND can also be problematic as the study is anonymous, so possible clinical assistance and interventions are not possible. The high rate of depression may also be attributed to the Covid-19 pandemic that occurred three weeks following the start of the recruitment and where a national lock-down ensued. The pandemic left people unemployed or fearful of losing their jobs and with an uncertainty for the future and the financial situation

may have resulted in an increase in mental health issues. A further limitation may be that of the focus being on Ireland solely as countries have different healthcare systems, parental leave allowance, and mental health policies.

Future research and recommendations

The field of research surrounding PPND is limited so future research is crucial. The diagnostic criteria and tools that are commonly used are not adapted for fathers, so trying to identify different expressions of maternal and paternal behaviour indicating postnatal depression is essential. The development of a definition and a diagnostic tool applicable to fathers is a crucial step towards better diagnosis and future research in the field. As mentioned previously, the Covid-19 pandemic occurred during this study so this may have affected the rate of depression, thus, a longitudinal study on fathers having a baby during this time would be beneficial to investigate the pandemic's effect on the family. A further implication of these mental health issues of a parent is its effects on the child so a longitudinal study on fathers and their children growing up would be beneficial. As the paternal leave in Ireland is different to other countries, a study comparing different paternal leave policies across the globe and the different rates of PPND might be valuable in finding what influences this and if anything can be learnt and adapted from other countries.

It is critical that the healthcare settings in Ireland recognise studies like the present study to better understand and engage with different mental health issues that may occur in a family, not only regarding the mother. An amendment to the HSE website is suggested as it is important to include both parents as there is no mention of paternal postnatal depression, only maternal (HSE, 2018). Further guidance suggested by the current study is that healthcare professionals need to have an improved and better understanding of PPND to improve its detection. If fathers feel like they are forgotten about, a change is needed to include all parents to minimise any possible mental health issues. This can be tackled through information and education programs of prospect and new fathers and an increase in their involvement is fundamental for a better experience for everyone involved.

Possible interventions and education programs should involve both parents, for support and information. These can involve prenatal childbirth classes, information on psychological suffering during birth, relationship focused education, support groups but can also be technology such as an app. As the healthcare setting might not always have time for home visits and phone calls, an app where questions can be asked of a mid-wife or another healthcare professional has shown to be beneficial (Shorey et al., 2018).

Conclusion

Postnatal depression is a mental health issue that not only affects mothers but also fathers and has been an under-explored field of research. This study revealed a high prevalence of depression among the fathers with support showing to be a protective factor against depression. The multiple sources of support available to the fathers during this period such as healthcare services, social circle and partner can all act as a buffer against as well as care for fathers suffering from depression. The father has many times been forgotten about and has been left on the side-lines, thus, education is essential by providing prospective and new fathers with relevant information, including PPND, breastfeeding, support groups and how to best support each other. This support would benefit from being targeted to a male perspective as the sexes might experience situations differently. This information can have a huge impact on the family unit and the mental wellbeing of all involved. A further finding was that fathers question the legitimacy of their feelings, possibly as their focus is on supporting the mother. The study also found that income, relationship status and shame were influential factors of depression as a higher income indicated a decrease in depression, single fathers presented with higher rates of depression compared to their married counterparts and a simultaneous increase was noted between shame and depression.

Dissemination

The purpose of the dissemination plan is to add to the current literature through distribution and circulation to an audience of mental health professionals, organisations within the field of the research, healthcare settings, government and to the general public. This is of importance as to ensure that the research and its findings are made available for relevant organisations and individuals to better educate and inform them about the importance of paternal mental well-being during the first twelve months of a baby's life.

A letter containing the study and its findings will be written and sent to the Department of Health for the attention of the Minister for Health. The letter will outline any possible areas of improvement such as education, support groups and the non-inclusion of fathers in the postnatal depression section of the HSE's website. Further dissemination will be aimed at organisations within the field and following my engagement with two of these organisations, Lads to Dads and Archway, the study will be sent to them for partaking in the findings with the hope it may be of benefit to them. Furthermore, a shortened paper will be produced and will be put forward for publication to journals including BMC Public Health and Journal of Applied Psychology.

The aim is also to be available on the college repositories of Dublin Business Schools library base (eSource) for open access to other students, staff and researchers. There is also a plan to distribute the study on social media through a link on websites like Twitter, Linkedin and Facebook, including appropriate hashtags for suitable and targeted audience, with a hope that the study will aid fellow researchers with their studies, both with results and future directions.

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Appendices:

Appendix A

Information sheet

"Mental well-being and support among new fathers in Ireland."

My name is Madeleine Balogi and I am currently completing a Master of science in Applied psychology at Dublin Business School. I am conducting research in the Department of Psychology that examines the mental well-being and the role of social support in residents of Ireland over the age of 18. The purpose is to add to the limited literature regarding this subject and if any findings, suggest areas of improvement. This research is being conducted as part of my studies and will be submitted for examination, will be presented to fellow students and lecturers and may be published.

You are invited to take part in this study and participation requires that you are over the age of 18, have become a father in the last 12 months and are currently residing in Ireland. It involves completing and returning the attached anonymous survey and will take around 15 minutes to complete. While the survey asks some questions that might cause distress and negative feelings, it has been used widely in research. If any of the questions do raise difficult feelings for you, there is a debrief sheet at the last page that contain contact information for support services.

Participation is completely voluntary with no obligation to participate and there will be no judgement if deciding to refuse or withdraw.

Participation is anonymous and confidential thus responses cannot be attributed to any one participant so for this reason, it will not be possible to withdraw from participation once the questionnaire has been submitted.

The surveys will be securely stored on password protected devices and will be destroyed according to GDPR and will not be used for other purpose than that stated and will not be shared unless required to do so by law.

It is important that you understand that by completing and submitting the questionnaire that you are consenting to participate in the study.

Should you require any further information about the research, please contact:

Madeleine Balogi, 10332725@mydbs.ie

My supervisor is Ronda Barron and she can be reached on ronda.barron@dbs.ie

Thank you for taking the time to complete this survey.

Are you over 18 years old and consent to participate in this study?*

Yes

No

Appendix B

Demographics

What is your gender* (males only)

_ Female

_ Male

What age are you?

_____

Which of the following best describes your current relationship status?

_ Single

_ Partner

_ Married

_ Separated

_ Divorced

_ Widowed

How many children do you have?

_ 1

_ 2

_ 3

_ 4 or more

What is the age in months of your youngest child? (youngest child needs to be under 12 months)

_____

What is your current employment status?

_ Student

_ Unemployed

_ Part-time employed

_ Full-time employed

_ Self-employed

_ Retired

What is your yearly income?

_____

What is your education status?

_ Leaving-cert

_ Some college

_ College degree

_ Postgraduate degree

Appendix C

Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden, & Sagovky. 1987)

The EPDS consists of 10 questions. The test can usually be completed in less than 5 minutes. Responses are scored 0, 1, 2, or 3 according to increased severity of the symptom. Items marked with an asterisk (*) are reverse scored (i.e., 3, 2, 1, and 0). The total score is determined by adding together the scores for each of the 10 items.

Instructions for Users

1. The caregiver is asked to underline 1 of 4 possible responses that comes the closest to how s/he has been feeling the previous 7 days.
2. All 10 items must be completed.
3. Care should be taken to avoid the possibility of the caregiver discussing her/his answers with others.
4. The caregiver should complete the scale her/himself, unless s/he has limited English or has difficulty with reading.

Please choose the best suitable answer in regard to how you have felt in the PAST 7 DAYS, not just how you feel today.

1) I have been able to laugh and see the funny side of things:

   As much as I always could
   Not quite so much now
   Definitely not so much now
   Not at all

2) I have looked forward with enjoyment to things

   As much as I ever did
   Rather less than I used to
   Definitely less than I used to
   Hardly at all

3) *I have blamed myself unnecessarily when things went wrong*

   Yes, most of the time

   Yes, some of the time

   Not very often

   No, never

4) I have been anxious or worried for no good reason

No, not at all

Hardly ever

Yes, sometimes

Yes, very often

5) *I have felt scared or panicky for no very good reason*

Yes, quite a lot

Yes, sometimes

No, not too much

No, not at all

6) *Things have been getting on top of me*

Yes, most of the time I have not been able to cope at all
Yes, sometimes I haven't been coping as well as usual
No, most of the time I have been coping quite well
No, I have been coping as well as ever

7) *I have been so unhappy that I have had difficulty sleeping*

Yes, most of the time
Yes, quite often
Not very often
No, not at all

8) *I have felt sad or miserable*

Yes, most of the time
Yes, quite often
Not very often
No, not at all

9) *I have been so unhappy that I have been crying*

Yes, most of the time
Yes, quite often
Only occasionally
No, never

10) *The thought of harming myself has occurred to me*

Yes, quite often
Sometimes
Hardly ever
Never

Appendix D

Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet & Farley, 1988)

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**

Circle the "2" if you **Strongly Disagree**

Circle the "3" if you **Mildly Disagree**

Circle the "4" if you are **Neutral**

Circle the "5" if you **Mildly Agree**

Circle the "6" if you **Strongly Agree**

Circle the "7" if you **Very Strongly Agree**

1.	There is a special person who is around when I am in need.	1	2	3	4	5	6	7	SO
2.	There is a special person with whom I can share my joys and sorrows.	1	2	3	4	5	6	7	SO
3.	My family really tries to help me.	1	2	3	4	5	6	7	Fam
4.	I get the emotional help and support I need from my family.	1	2	3	4	5	6	7	Fam
5.	I have a special person who is a real source of comfort to me.	1	2	3	4	5	6	7	SO
6.	My friends really try to help me.	1	2	3	4	5	6	7	Fri
7.	I can count on my friends when things go wrong.	1	2	3	4	5	6	7	Fri
8.	I can talk about my problems with my family.	1	2	3	4	5	6	7	Fam
9.	I have friends with whom I can share my joys and sorrows.	1	2	3	4	5	6	7	Fri
10.	There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7	SO

11.	My family is willing to help me make decisions.	1	2	3	4	5	6	7	Fam
12.	I can talk about my problems with my friends.	1	2	3	4	5	6	7	Fri

The items tended to divide into factor groups relating to the source of the social support, namely family (Fam), friends (Fri) or significant other (SO).

Scoring Information:

To calculate mean scores:

Significant Other Subscale: Sum across items 1, 2, 5, & 10, then divide by 4.

Family Subscale: Sum across items 3, 4, 8, & 11, then divide by 4.

Friends Subscale: Sum across items 6, 7, 9, & 12, then divide by 4.

Total Scale: Sum across all 12 items, then divide by 12.

Any mean total scale score ranging from 1 to 2.9 could be considered low support; a score of 3 to 5 could be considered moderate support; a score from 5.1 to 7 could be considered high support.

Appendix E

The Test of Self-Conscious Affect (TOSCA-3) (Tangney, Dearing, Wagner, & Gramzow, 2000)

Instructions

Below are situations that people are likely to encounter in day-to-day life, followed by several common reactions to those situations.

As you read each scenario, try to imagine yourself in that situation. Then indicate how likely you would be to react in each of the ways described. We ask you to rate all responses because people may feel or react more than one way to the same situation, or they may react different ways at different times.

Questionnaire

1. You make plans to meet a friend for lunch. At 5 o'clock, you realize you stood your friend up.

a) You would think: "I'm inconsiderate 1 - - 2 - - 3 - - 4 - -5

not likely very likely

b) You'd think you should make it up to your friend as soon as possible.

1 - - 2 - - 3 - - 4 - -5

not likely very likely

2. You break something at work and then hide it.

a) You would think: "This is making me anxious. I need to either fix it or get someone else to."

1 - - 2 - - 3 - - 4 - -5

not likely very likely

b) You would think about quitting. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

3. You are out with friends one evening, and you're feeling especially witty and attractive. Your best friend's spouse seems to particularly enjoy your company.

a) You would think: "I should have been aware of what my best friend was feeling."

1 - - 2 - - 3 - - 4 - -5

not likely very likely

b) You would probably avoid eye contact for a long time. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

4. At university or work, you wait until the last minute to plan a project, and it turns out badly.

a) You would feel incompetent. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

c) You would feel: "I deserve to be reprimanded for mismanaging the project."

1 - - 2 - - 3 - - 4 - -5

not likely very likely

5. You make a mistake at your student and find out a co-worker is blamed for the error.

a) You would keep quiet and avoid the co-worker. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

b) You would feel unhappy and eager to correct the situation. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

6. For several days you put off making a difficult phone call. At the last minute you make the call and are able to manipulate the conversation so that all goes well.

a) You would regret that you put it off. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

b) You would feel like a coward. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

7. While playing around, you throw a ball and it hits your friend in the face.

a) You would feel inadequate that you can't even throw a ball. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

b) You would apologize and make sure your friend feels better. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

8. You have recently moved away from your family, and everyone has been very helpful. A few times you needed to borrow money, but you paid it back as soon as you could.

a) You would feel immature. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

b) You would return the favour as quickly as you could. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

9. You are driving down the road, and you hit a small animal.

b) You would think: "I'm terrible." 1 - - 2 - - 3 - - 4 - -5

not likely very likely

b) You'd feel bad you hadn't been more alert driving down the road

1 - - 2 - - 3 - - 4 - -5
not likely very likely

10. You walk out of an exam thinking you did extremely well. Then you find out you did poorly.

a) You would think: "I should have studied harder." 1 - - 2 - - 3 - - 4 - -5

not likely very likely

b) You would feel stupid. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

11. You and a group of college students worked very hard on a project. Your professor singles you out for a better grade than anyone else.

a) You would feel alone and apart from your colleague-students. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

b) You would feel you should not accept it. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

12. While out with a group of friends, you make fun of a friend who's not there.

a) You would feel small . . . like a rat. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

b) You would apologize and talk about that person's good points. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

13. You make a big mistake on an important project at work. People were depending on you, and your boss criticizes you.

a) You would feel like you wanted to hide. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

b) You would think: "I should have recognized the problem and done a better job."

1 - - 2 - - 3 - - 4 - -5

not likely very likely

14. You volunteer to help with the local Special Olympics for handicapped children. It turns out to be frustrating and time-consuming work. You think seriously about quitting, but then you see how happy the kids are.

a) You would feel selfish, and you'd think you are basically lazy. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

b) You would think: "I should be more concerned about people who are less fortunate."

1 - - 2 - - 3 - - 4 - -5

not likely very likely

15. You are taking care of your friend's dog while your friend is on vacation, and the dog runs away.

a) You would think, "I am irresponsible and incompetent." 1 - - 2 - - 3 - - 4 - -5

not likely very likely

b) You would vow to be more careful next time. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

16. You attend you're a student's housewarming party and you spill red wine on a new cream-colored carpet, but you think no one notices.

a) You would stay late to help clean up the stain after the party. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

c) You would wish you were anywhere but at the party. 1 - - 2 - - 3 - - 4 - -5

not likely very likely

Interpretation

This modified TOSCA-3 is composed of 11 negative and 5 positive scenarios yielding indices of Shame-Proneness, Guilt-Proneness. The scale scores are the sum of responses to relevant items (e.g., the score for the Shame scale equals the respondent's answer to 1a, plus the answer to 2b, etc.). The scoring for the TOSCA-3 is as follows:

1. (Negative Scenario)	a) Shame	b) Guilt
2. (Negative Scenario)	a) Guilt	b) Shame
3. (Positive Scenario)	a) Guilt	b) Shame
4. (Negative Scenario)	a) Shame	b) Guilt
5. (Negative Scenario)	a) Shame	b) Guilt
6. (Positive Scenario)	a) Guilt	b) Shame
7. (Negative Scenario)	a) Shame	b) Guilt
8. (Positive Scenario)	a) Shame	b) Guilt
9. (Negative Scenario)	a) Shame	b) Guilt
10. (Negative Scenario)	a) Guilt	b) Shame
11. (Positive Scenario)	a) Shame	b) Guilt
12. (Negative Scenario)	a) Shame	b) Guilt

13. (Negative Scenario) a) Shame b) Guilt

14. (Positive Scenario) a) Shame b) Guilt

15. (Negative Scenario) a) Shame b) Guilt

16. (Negative Scenario) a) Guilt b) Shame

Appendix F

Qualitative questions

In this section you are asked to elaborate on three questions regarding the peri-natal period (the period during pregnancy and following birth and up to one year after birth).

Question 1:

What could have benefited you more during the peri-natal period (information, support, education etc.) and who could have helped here?

Question 2:

Who did you talk to during this challenging time (friends, male, female, partner, family, healthcare setting etc.) and why this person?

Question 3:

Did you find it difficult to talk about it and if so, why?

Appendix G:

Debrief sheet

Thank you for participating in the study "Mental well-being and support among new fathers in Ireland".

As you have been informed, following submission of the survey, withdrawal is not possible due to the anonymity. If you wish to request findings of the study, please do not hesitate to contact me on the email below.

If the questionnaire has raised some negative feelings, distress and/or upset, here are some contact numbers for support services within the field. If these are not sufficient, please contact your GP if more support is needed.

Pieta House:	www.pieta.ie	Free phone number: 1800 247 247
Aware:	www.aware.ie	Free phone number: 1800 80 48 48
Samaritans:	www.samaritans.org	Free phone number: 116 123 Email: jo@samaritans.ie

If you have any further questions following this questionnaire, please don't hesitate to contact me on my email: 10332725@mydbs.ie

Thank you so much for your participation

Madeleine Balogi

Appendix H:

Factor analysis

The validity of the scales was checked through a principal component analysis. The factorability of the ten items of the EDPS showed a KMO test value of .805 which is above the .5 that is recommended (Yong and Pearce, 2013) and the Bartlett's test of sphericity was significant (y2(45) = 210.82, p < .001, therefore, the assumptions passed. Ten coefficients in the component matrix were above .3, thus meeting the factorability assumptions. Based on an Eigenvalue above 1, 62.78% of the variance were explained by two factors with factor one having a large Eigenvalue of 5.25, explaining 52.5% of the variance with factor two having an Eigenvalue of 1.03, explaining 10.29% of the variance. This suggest that though two factors were over an eigenvalue of 1, a one factor solution is evident.

The principal component analysis for the twelve items relating to support across the three subscales (significant other, family and friends) revealed a KMO of .887 and a significant result in the Bartlett's test of sphericity (y2(66) = 477.77, p <001). The component matrix met the factorability assumptions as twelve coefficients of the component matrix were above .3. The analysis generated two factors above the Eigenvalue of 1 resulting in an explanation of 77.32% of the variance. Factor one showed a value of 8.19 explaining 68.29% and factor two 1.09, explaining 9.04% of the variance which suggest that though two factors were over the Eigenvalue of 1, a one factor solution is evident.

The analysis was conducted on the 16 items relating to the shame subscale which yielded a KMO of .560 and a significant result in the Bartlett's test of sphericity (y2(120) = 201.89 = p < .001). The component matrix revealed that thirteen coefficients were above .3 and the analysis generated five factors above the Eigenvalue of 1 which explained a total of 64.81% of variance. Factor one had a value of 4.21 explaining 26.31% of variance, factor two 1.98

explaining 12.37%, factor three 1.76 explaining 10.98%, factor four 1.41 explaining 8.81% and factor five displaying just above an Eigenvalue of 1 with 1.01 explaining 6.33%. This suggest that a five factor solution is evident.

The final factor analysis conducted related to the sixteen items of the guilt subscale of TOSCA which revealed a KMO of .333 and a significant Bartlett's test of sphericity ($y(120) = 210.18, p > .001$). Nine coefficients were above .3 and the analysis yielded six factors above an Eigenvalue of 1 which explained 70.16% of variance. Factor one showed a value of 3.16 which explains 19,76% of variance, factor two 2.29 explaining 14.30%, factor three 1.97 explaining 12.31%, factor four 1.44 explaining 9.01%, factor five 1.3 explaining 8.12% and finally, factor six 1.06 explaining 6.65% of variance. This reveals that the data may not be suitable for factor analysis as the results contradict each other.