Fathers' Worries During Pregnancy: A Qualitative Content Analysis of Reddit

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ABSTRACT

Qualitative investigations into the emotional needs of expectant fathers have been limited by difficulties with recruitment. This study aimed to unobtrusively obtain insights into fathers' worries during pregnancy by analyzing the content of posts on the Internet forum Reddit. The majority of worries related to infant well-being (50.8%), particularly the potential for perinatal loss (23.0%). Concerns relating to partner well-being and the couple relationship were also common, comprising 17.0% of posts. Several posts related to individual factors, such as apprehension about the father role (16.3%). Finally, situational factors such as work–family conflict accounted for 15.9% of posts. These findings contribute to the growing literature on fathers' experiences of pregnancy and can inform the development of father-inclusive perinatal education.

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INTRODUCTION

The transition to parenthood is a significant life event. It is understandable that for many new parents, pregnancy elicits a range of fears and worries. For a proportion of men and women, these worries become excessive: 2.6%–39% of women (Leach, Poyser, & Fairweather-Schmidt, 2015) and 2.4%–16.3% of men (Leach, Poyser, Cooklin, & Giallo, 2016) experience clinically significant levels of anxiety during the perinatal period. Although extensive research has been conducted into women's experiences of anxiety during the perinatal period (e.g., Rowe & Fisher, 2015), the literature on fathers' emotional needs and experiences during pregnancy is only emerging.

The aim of this study was to identify the types of worries and concerns that men report during pregnancy by conducting a qualitative analysis of an online community of expectant fathers. Understanding the content of worries experienced by men during pregnancy is important so that health professionals can engage fathers in dialogue about their feelings about pregnancy and childbirth and provide relevant information (Hildingsson, Haines, Johansson, Rubertsson, & Fenwick, 2014). Improved understanding of the fears and worries of expectant fathers is also important given the potential negative consequences for the father and their family if these worries escalate into clinical anxiety. Hildingsson, Haines, et al. (2014) found that fear of childbirth

was associated with increased parental stress and poorer physical and mental health. Clinical distress in fathers is associated with adverse impacts on child development, increased risk of attachment problems, and child internalizing problems (Kane & Garber, 2004; Kowalenko et al., 2013).

The Internet is an ideal context within which to qualitatively investigate men's experiences of fatherhood. Fathers are notoriously difficult to engage via traditional research methods, such as face-to-face interviews and focus groups (Phares, Lopez, Fields, Kamboukos, & Duhig, 2005). Furthermore, men's support needs are often overlooked by perinatal health services, and it can be difficult for men to attend antenatal classes and appointments because of work commitments (Alio et al., 2011). Consequently, an increasing number of men are seeking emotional and informational support online (Plantin & Daneback, 2009). Ammari and Schoenebeck (2015) interviewed 34 fathers about their social media use and found that they were motivated to use social media to document fatherhood, learn how to be a father, and access social support. Men may also seek out online forums as an avenue to anonymously express their feelings and fears about fatherhood to other fathers in similar situations (Nyström & Öhrling, 2008; Salzmänn-Erikson & Eriksson, 2013).

Few researchers have recognized the potential benefits of analyzing online communities to obtain insights into the views and experiences of men transitioning to parenthood (Pedersen, 2015). Fletcher and StGeorge (2011) conducted a small-scale study of posts to a fathers' chat room on an Australian government-supported parenting information website. They found that fathers' social exchanges on the forum were characterized by humor and self-disclosure and tended to focus on encouraging one another in their fathering roles. StGeorge and Fletcher (2011) conducted further analysis of the same chat room and found that fathers were concerned about a lack of formal and informal support for men navigating the transition to parenthood. Although these findings provide some insight into the nature and content of fathers' online interactions, the narrow scope of the study significantly limits the generalizability of the findings: Of the 80 topics posted in the chat room over an 18-month period, only 9 were included in the analyses, and only 24 fathers contributed to the chat room.

A larger online forum such as Reddit could provide more extensive and rich qualitative data on the

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attitudes and experiences of fathers. Reddit is one of the fastest growing communities on the Internet (Singer, Flöck, Meinhart, Zeitfogel, & Strohmaier, 2014). In 2015, it was frequented by 542 million people per month, making it the 14th most visited website in the United States. Reddit enables registered users (also known as *Redditors*) to submit posts containing website links, text, and images. In 2015, 73.2 million posts were submitted by 8.7 million users from 186 countries. Posts are organized into 638,959 subcommunities referred to as *subreddits*. Subreddits focus on a particular topic or category, such as news, politics, music, and fitness.

In addition to being highly frequented, Reddit provides rich, qualitative textual content characterized by high levels of self-disclosure (Shelton, Lo, & Nardi, 2015). Given the dissociative anonymity afforded by Reddit, users tend to express intimate thoughts and experiences more openly than on other forms of social media (Balani & De Choudhury, 2015; De Choudhury & De, 2014). These characteristics make Reddit an ideal setting to unobtrusively investigate men's perspectives of pregnancy.

This study analyzed the subreddit *PreDaddit* to identify fathers' worries during the antenatal period. This subreddit provides a community for expectant fathers to discuss their experiences and access emotional and informational support from one another. It is described by the moderators as the male-oriented version of *BabyBumps*, a subreddit focused on women's experiences of pregnancy. Although previous studies have analyzed Reddit to investigate other aspects of health such as the impact of social feedback on weight loss (Cunha, Weber, Haddad, & Pappa, 2016), the informational and emotional support needs of individuals with cancer (Eschler, Dehlawi, & Pratt, 2015), and the linguistic characteristics of posts in smoking and drinking abstinence communities (Tamersoy, De Choudhury, & Chau, 2015), to our knowledge, this is the first study to draw on Reddit data to investigate fathers' experiences.

Reddit is one of the fastest growing communities on the Internet.

METHOD

A qualitative analysis of the Reddit community *PreDaddit* was conducted to explore fathers' worries during pregnancy.

Data Collection

The first author (PP) retrieved all posts submitted to the *PreDaddit* subreddit since its inception. The posts were retrieved from the Reddit corpus via BigQuery (<http://www.bigquery.google.com>). Ethics approval was not obtained because this is not needed for content analysis of publicly available information. The Reddit corpus data set comprises all posts submitted to Reddit since its inception on December 28, 2011 to November 30, 2015. The data set was uploaded for public use by Reddit user *Stuck_In_The_Matrix*. Data retrieved included time and date posted, post title, post content, username, number of comments, number of "upvotes" and "downvotes," and overall score. Users "upvote" or "downvote" submissions to show the extent to which they like the post, and this determines how prominently the posts are placed on the site's pages.

Following extraction to Microsoft Excel, the posts were filtered to those containing one or more of the following words: anxiety, anxious, nervous, scared, terrified, fear, worry, worries, and worried. Posts were excluded from the content analysis based on the following criteria: (a) The post author indicated that she was a female; (b) the post did not refer to a specific worry or concern held by the post author; (c) the post author was not currently expecting an infant; or (d) the post consisted of a hyperlink or image, with no accompanying text.

Content Analysis

The first author (PP) coded the posts into themes to capture the types of worries disclosed by fathers. The theme definitions were developed by the first author (PP) and refined through discussion with the second author (HR). The following content themes and subthemes were identified: (a) infant factors: perinatal loss, childbirth, well-being of infant following birth, gender of infant, genetic or chromosomal abnormalities, appointments, and naming the child; (b) partner factors: maternal well-being, partner relationship problems, and sexual relationship; (c) situational factors: financial pressure, concerns regarding family and friends, work-family conflict, and pets; and (d) individual factors: father role, feeling unprepared, and changes to daily life

following childbirth. Table 1 provides theme definitions and representative examples of posts coded within each subtheme.

The use of clear theme definitions facilitated a transparent approach to the analysis. To further increase the dependability and trustworthiness of the findings, the second author (HR) coded approximately 50% of the included posts, which were randomly selected using Excel's random number function. The initial level of agreement was 81%. Discrepancies were resolved through discussion until consensus was reached. A word cloud was generated using *NVivo 11* (QSR International, 2012). More than 85% of posts referred to the number of weeks or stage of the pregnancy. These were coded into trimesters to allow for exploration of whether worries differed across the different stages of pregnancy.

RESULTS

The original data set of all posts submitted to *PreDaddit*, prior to applying the exclusion criteria, consisted of 6,567 posts. Of these, 2,485 were excluded because they contained a hyperlink or image only. Of the remaining 4,082, there were 838 posts that contained words relating to anxiety and were screened for eligibility and coded. After excluding 303 posts, 535 posts were included in the final content analysis. Of the excluded posts, 248 posts were excluded because the author did not disclose a fear or worry, 30 posts were authored by men that were not currently expecting, and 25 were posts by female users.

Characteristics of the Posts

Four-hundred twenty-six unique users submitted the 535 posts in the final data set, which averaged a median length of 140 words. Figure 1 provides a word cloud to illustrate the most commonly occurring words across all of the posts (with common words such as prepositions removed). The most frequently occurring words were *baby*, *weeks*, and *wife*, which are consistent with the *PreDaddit* community's focus on pregnancy, whereas words such as *exciting*, *feel*, *worrying*, and *hoping* reflect that the posts often contain emotive language.

The posts with the greatest number of upvotes tended to be briefer and were more likely to focus on fears around infant well-being. The posts with the least number of upvotes tended to focus on situational factors such as financial pressure and work-family conflict.

TABLE 1
Theme Definitions and Representative Post Excerpts

Themes and Subthemes	Focus of Worry	Representative Post Excerpts
Infant factors		
Perinatal loss	Potential for miscarriage	"The fear of miscarriage has really put a major buzz kill on the whole thought of bringing a little 'us' into the world."
Childbirth	Labor and/or childbirth	"I'm nervous, I should probably be sleeping but my mind is racing, my wife is 39 weeks and we are getting induced in the morning around 7 . . . Wish me luck guys."
Well-being of infant following childbirth	Child's physical and emotional well-being following childbirth	"I'm getting fixated on the thought that someone's going to just walk by and smack our baby on the top of the head. I will do my best to protect him or her, but there's only so much I can do, and I can't be there all the time . . . I don't know how to shake this feeling . . . I'm increasingly unable to stop worrying about it."
Gender of infant	Child's gender elicits fears, or fear that the child is not the gender the father would prefer	"Now that I know it's a girl, I'm nervous as can be. Boys are easy, girls are terrifying. My wife couldn't be more excited (she's one of 4 girls) but I feel lost (one of 4 boys). . . ."
Genetic or chromosomal abnormalities	Genetic or chromosomal abnormalities such as Down syndrome	"Our genetic counselor came in after the test saying everything was "good." She didn't lead us to believe anything was wrong or there was anything to worry about. However, after doing some research online, I can't help but be a tad bit paranoid."
Appointments	Upcoming contact with health professionals, such as ultrasound appointments	"I've read up through month 3 in all the books, watched a ton of videos on what the first appointments are like, but was hoping to get some reassuring/calming words from actual people who have been through it. . . ."
Individual factors		
Father role	Not being a "good father," not feeling excited about becoming a father, or fathering being judged by others	"I don't know how to raise a child! My biggest fear my entire life is I wouldn't be a good father and my child would have to go through some experiences I did."
Feeling unprepared	Not being ready to have a baby for reasons such as the nursery not being finished	"The thing that's making me nervous right now is just trying to get the house in order."
Changes to daily life following childbirth	The changes and losses associated with parenting an infant, such as sleep deprivation and less time for leisure and social activities	"Most of what worries me are practical things, and questions like 'Will I ever have the time to do . . . again' . . . I'm afraid of having the rug pulled away from under me, just when I have a good thing going."
Situational factors		
Concerns regarding family and friends	Concerns regarding family and friends, relationships, such as announcing the pregnancy, maintaining personal boundaries, and the impact of others on the well-being of the infant	"Welp, told the first family member—her mum. It was at 9 weeks. It went pretty good but now I just realized I'm nervous about them jumping into our lives too much."
Financial pressure	Financial status is not adequate for the costs associated with parenthood.	"We don't live together at the moment, I live away from home, while she is still with her parents. We're going to find a place together ASAP although we are getting a little bit worried about money."
Work–family conflict	Negotiating work and family, including the impact of work on family life and vice versa	"I had a lot of anxiety about telling the boss but I was just being paranoid. He's really excited and supportive."
Pets	Introducing a baby to a household with a pet animal	"I'm an expecting dad here, and I'm a little worried about my dog once the baby comes. In the past, every toddler my dog has come in contact with has attacked her and she's become very skittish towards them . . . Has anyone had a similar experience with the family dog, and how did the dog react once the baby was born?"

(Continued)

TABLE 1
Theme Definitions and Representative Post Excerpts (Continued)

Themes and Subthemes	Focus of Worry	Representative Post Excerpts
Partner factors		
Sexual relationship	Changes to the sexual relationship during pregnancy and following childbirth	"The whole first trimester, we have been terrified to have sex, we're worried about knocking something loose. I think it's because it took us so long to get pregnant. Anyone else go through this?"
Partner relationship problems	Changes or difficulties with the partner relationship, such as conflict	"Not scared of having a kid, although I am terrified, I'm scared of her hating me. We are both 20 years old and not ready. She is being incredibly distant so I'm attempting to give her the space she needs."
Maternal well-being	Partner's physical or emotional well-being	"I can't stop worrying about my wife. She is 12 weeks along. Smooth pregnancy so far but everything is getting to me. I don't want to put any pressure on her so I just keep it to myself. Any guys feel the same? What is keeping you up at night about her?"

Worries and Concerns Disclosed by Expectant Fathers on PreDaddit

The types and frequency of worries and fears disclosed by expectant fathers on the *PreDaddit* subreddit are presented in Figure 2.

Infant Factors. The majority of posts referred to fears and worries centered on the infant (50.8%). These primarily related to fear of perinatal loss (23.0%) and labor and childbirth (15.7%). A minority of posts related to the well-being of the infant following birth (4.0%), the possibility of genetic or chromosomal abnormalities (2.8%), concerns about the gender of the infant (2.3%), upcoming appointments with health professionals (2.1%), and naming the child (1.0%).

Partner Factors. The second most common type of worries was concerns about the author's partner (17.0%). These fears related to maternal well-being (10.8%), partner relationship problems (4.2%), and concerns about changes to the sexual relationship (1.9%).

Individual Factors. Individual factors accounted for 16.3% of worries. These included concerns around not being a “good father” (8.7%), feeling unprepared for becoming a parent (5.3%), and fears around the anticipated changes to daily life following childbirth (2.3%).

Situational Factors. Finally, a proportion of posts referred to worries about situational factors (15.9%), such as financial pressure (7.0%), difficulties with family and friends (4.7%), work–family conflict (2.4%), and having both a pet and an infant in the same household (1.8%).

The Most Common Worries in Each Trimester of Pregnancy

The five most common types of worries and fears disclosed by expectant fathers at each trimester of pregnancy are presented in Figure 3. Perinatal loss was overwhelmingly the most commonly cited fear across both the first and second trimesters. Other common concerns in the first trimester were maternal well-being, financial pressure, the father role, and feeling unprepared. In the second trimester, the possibility of genetic or chromosomal abnormalities

Figure 1. Word cloud analysis of posts on *PreDaddit* on fathers' worries during pregnancy.

Figure 2. Frequency of worries organized by themes and subthemes.

and concerns around the gender of the infant were also frequently disclosed. Finally, in the third trimester, concerns about childbirth and labor were, understandably, the most common.

DISCUSSION

The aim of this study was to identify the content and type of fathers' worries across pregnancy by analyzing posts on the Internet forum Reddit. Fathers described a wide range of worries and fears at each trimester of pregnancy. Some studies have described pregnancy as the most stressful stage

of the perinatal period for men because of the intense psychological reorganization and an increasing sense of uncertainty (Buist, Morse, & Durkin, 2003; Condon, Boyce, & Corkindale, 2004; Hallgren, Kihlgren, Forslin, & Norberg, 1999). Findings of this study reflect this sense of uncertainty for fathers via the breadth of themes that were identified in the analysis.

Previous research has shown that anxiety is prevalent in men during the perinatal period (Leach et al., 2016). This study extends these findings by providing insight into the content of this distress.

Figure 3. The five most frequently cited worries of fathers on *PreDaddit* by trimester.

Fathers' worries and fears were not limited to one or two general concerns but rather they were captured by 17 distinct categories grouped together into the broader themes of infant well-being, maternal factors, situational factors, and individual factors. These results show the scope of fathers' worries during pregnancy and support the need for father-inclusive practice and research. However, it must also be acknowledged that out of the 4,082 posts comprising the *PreDaddit* subreddit, a minority (approximately 20%) of posts related to worries. This suggests that men's discourse around pregnancy and childbirth is generally not dominated by fears or concerns.

Implications for Practice

The findings provide insights into the type of worries that some fathers experience during pregnancy which can inform the development of father-specific resources and perinatal education. Antenatal education is an effective approach to facilitating the healthy adjustment to parenthood. Previous research has found that fathers provided with insufficient information about pregnancy and childbirth are at increased risk of being distressed (Boyce, Condon, Barton, & Corkindale, 2007). In contrast, providing new fathers with information and strategies for problem solving can potentially lower the risk of postnatal anxiety (Tohotoa et al., 2012). Although antenatal classes have traditionally focused on the physiological aspects of pregnancy and childbirth, the findings suggest that there is a need for perinatal education to cover psychosocial concerns such as partner well-being (e.g., Pilkington, Rominov, Milne, Giallo, & Whelan, 2016), navigating perinatal loss, transitioning to the father role, financial pressure, and work–family conflict. Increasing antenatal educators' awareness of fathers' worries may also increase their sensitivity to the emotional needs of men who are expecting an infant.

Our finding that fathers' worries changed over the course of pregnancy is consistent with a recent strategic framework presented in a report by Beyondblue (2015) which argues that men have different needs at different stages of the perinatal period. The finding that fathers' dominant concerns shift as pregnancies progress also has implications for the timing and nature of antenatal support. The results indicated that fathers' primary concern during the first and second trimesters was the potential for perinatal loss. Previous research suggests that fathers report fewer grief and anxiety symptoms following perinatal bereavement

(Barr, 2004) and perinatal loss services tend to focus on supporting women, and neglect men's emotional needs. However, fear of perinatal loss was overwhelmingly the most common fear reported by expectant fathers in this study, and this fear tended to stem from a history of perinatal loss. Father-inclusive services and resources that start in early pregnancy, or even pre-conception, are likely to be beneficial in helping men manage these fears.

In the third trimester, the worries of fathers in this study were dominated by concerns about labor and childbirth. Given that previous research indicates that fear of childbirth is associated with negative outcomes for father and child (Hildingsson, Johansson, Fenwick, Haines, & Rubertsson, 2014), there is a need for antenatal education to acknowledge men's anxieties around labor and childbirth and provide information and support to reduce these fears.

This study supports Ammari and Schoenebeck's (2015) call for more research that aims to understand fathers' experiences and how they may be supported through online technologies. It is evident that for many expectant fathers, the *PreDaddit* subreddit provides a space to anonymously seek advice and disclose their fears. Given that men often have little contact with health services during the perinatal period (Fletcher, Matthey, & Marley, 2006), government and professional health organizations could leverage online platforms to supplement traditional services. As suggested by StGeorge and Fletcher (2011), an online forum moderated by health professionals with expertise in pregnancy and early parenthood could provide a cost-effective and easily accessible context for men to obtain information and support from other fathers as well as accessing evidence-based information from the moderator. This would have the added benefit of reducing pressure on underresourced perinatal services.

Strengths and Limitations

The study had several strengths. First, qualitative investigations into the concerns and worries of expectant fathers have been limited by difficulties

An online forum moderated by health professionals with expertise in pregnancy and early parenthood could provide a cost-effective and easily accessible context for men to obtain information and support from other fathers as well as accessing evidence-based information from the moderator.

with recruitment, with sample sizes rarely exceeding 20 participants (e.g., Deave & Johnson, 2008; Poh, Koh, Seow, & He, 2014; Rowe, Holton, & Fisher, 2013; Widarsson, Kerstis, Sundquist, Engström, & Sarkadi, 2012). The methodology adopted for this study was an unobtrusive way to obtain insights from a large sample of fathers. Second, results from this study contribute to the literature advocating the importance of recognizing fathers' mental health concerns during the perinatal period. This is in line with recent calls for more father-inclusive approaches to perinatal mental health (May & Fletcher, 2013; Pilkington, Whelan, & Milne, 2015). Finally, the results may be less likely to be affected by social desirability bias given the anonymous nature of Reddit.

Despite these strengths, this study also has several limitations. First, the ethical implications of analyzing public data need to be acknowledged. Although the Internet is a public space, we did not obtain written consent and the authors of the posts included in this study may not have intended for their posts to have public visibility beyond the Reddit website. Nonetheless, Reddit affords greater anonymity of other forms of social media particularly given that many users often use "throwaway" accounts, which they may use once or twice and then discard (Shelton et al., 2015). Furthermore, we presented the broad themes of the posts rather than focusing on individual users. Another key limitation of the study is that the findings do not include the worries of fathers who do not use Reddit. It is possible that fathers with certain sociodemographics are more likely to use Reddit, and the findings may not generalize beyond contributors to *PreDaddit*. For example, there is evidence that online users tend to be more highly educated (Andersson & Titov, 2014), and it is therefore possible that the viewpoints of men from certain socioeconomic groups, who may be more vulnerable to antenatal anxiety, are not captured in this study. Finally, it is important to acknowledge the limits of the data, as the findings provide insights into the types of worries experienced by fathers, but conclusions about the prevalence of worries or antenatal anxiety in men cannot be drawn.

Future Research

Future research may benefit from a mixed methods approach to support our content analysis with interviews of the fathers posting in *PreDaddit*. This would allow for a more in-depth investigation of how and why fathers access support online. In addition,

comparing the *PreDaddit* subreddit with the *Baby-Bumps* subreddit could allow an evaluation of gender differences in worries and fears during pregnancy. Finally, future research could compare *PreDaddit* concerns with a postnatal subreddit to explore how fathers' worries and fears change following childbirth.

CONCLUSION

This study has made a significant contribution to the knowledge base about fathers' perinatal mental health by identifying the specific types of worries and concerns expressed by expectant fathers in a large online community. In particular, fathers' differing concerns at each trimester of pregnancy provide insight into the psychological journey that men experience during the transition to fatherhood. This information is critical to consider in the development of antenatal education and services targeting the well-being of fathers and their families.

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