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A Pilot Qualitative Case Study of Women's Experiences with Fertility Awareness-Based Methods

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Abstract

This pilot qualitative case study was able to elicit rich data enabling a description of how women went through the journey of achieving pregnancy using fertility awareness-based methods. Findings underscore that women preferred using natural ways to detect ovulation and would recommend other women to do so, but with healthcare providers' guidance. The findings of this case study can serve as a starting point to provide a framework to understand women's experiences of enduring trial and error with multiple fertility awareness-based methods before discovering their effective method. Findings emphasize the importance for healthcare providers to guide women in using fertility awareness-based methods.

Keywords

Cervical mucus, fertility awareness, fertility awareness-based methods, fertility health, NFP, preconception counseling

Introduction

A woman and her partner's journey to achieve the desired pregnancy is unique, multifaceted, and often complex. This complexity is amplified when fertility problems are present during her journey to conceive. Fertility issues are common and affect a substantial number of women in the United States. The Center for Disease Control and Prevention (CDC) reported in 2019 that 12.1 percent of women aged fifteen to forty-four years in the United States have difficulty getting pregnant or carrying a pregnancy to term (Infertility | Reproductive Health | CDC 2020). Fertility awareness-based methods (FABMs) can be used to enhance the likelihood for women to conceive (Bouchard, Fehring, and Schneider 2018; Hilgers et al. 1992; Johnson et al. 2020; Marshall et al. 2021; Mu and Fehring 2014; Robinson, Wakelin, and Ellis 2007; Thijssen et al. 2014). Several FABMs with robust evidence allow women to

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predict ovulation and estimate peak fertility (Duane et al. 2022). These include cervical mucus methods, sympto-thermal methods, sympto-hormonal methods, and modern calendar methods. The Practice Committee of the American Society for Reproductive Medicine in collaboration with the Society of Reproductive Endocrinology and Infertility states that devices designed to determine or predict the time of ovulation may be useful for people trying to conceive (Pfeifer et al. 2017). Successful use of FABMs depends on accurate instructions that women can follow, correct and consistent charting, and the woman's adherence to the principles of her chosen method (Pallone and Bergus 2009). However, the literature has identified low levels of knowledge regarding the menstrual cycle, ovulation, and the fertile window among infertile women and women seeking pregnancy (Blake et al. 1997; Hampton, Mazza, and Newton 2013; Mahey et al. 2018; Perez Capotosto 2021; Righarts et al. 2017). Consequently, if women are unable to identify the time in their cycle when conception is most likely (fertile window) then they may be referred to assisted reproductive technology (ART) unnecessarily. Examples of ART include in vitro fertilization, intra-uterine insemination, gamete intrafallopian transfer, pronuclear stage tubal transfer, tubal embryo transfer, and zygote intrafallopian transfer. It is problematic that women may be referred to ART before efficacious, natural, and simpler interventions are explored, especially considering that ART services are not without significant health risks and cost. Little is known about women's journey of using FABMs to achieve pregnancy. It is essential that healthcare providers understand women's experiences and perceptions of using a variety of FABMs to achieve pregnancy during this special and important period of time for women and their partners.

Purpose of the Case Study

The purpose of this qualitative pilot case study was to ascertain and understand women's experiences using FABMs to naturally achieve pregnancy. It is important to note that Natural Family Planning (NFP) is often referred to as FABMs, but there are anthropological and methodical differences. Sexual abstinence during the fertile phase is the main difference in this definition, as NFP requires abstinence whereas FABM may be combined with other contraceptives (Obelenienė, Narbekovas, and Juškevičius 2021). Because the study's aim was to explore methods used to achieve, rather than contracept, technically we could have chosen to use the term "NFP" to describe these methods. However, we chose to use the term "FABM" throughout as "FABM" has been used more currently in scientific and health literature to describe natural ways to identify the fertile window and is the term preferred by the World Health Organization (WHO), the American College of Obstetricians and Gynecologists (ACOG), and CDC to describe the observation of the fertile days in the menstrual cycle (Obelenienė, Narbekovas, and Juškevičius 2021).

Methods

Ethical Consideration

This study was exempted by the institutional review board at the first author's university. Informed consent was obtained from all participants.

Design

A qualitative design with a narrative interviewing method was employed to link the experiences of the women "in time and in meaning" (Anderson and Kirkpatrick 2016; DelVecchio Good et al. 1994; DelVecchio Good, 1995; Qiu and DelVecchio Good 2020). The narrative interviewing method was used because humans by nature make sense of their lives through stories (Anderson and Kirkpatrick 2016). A woman's story using FABMs to achieve pregnancy has a temporal context. The woman is the main character and her supporting characters may include a spouse, family members, friends, or healthcare providers. As such, the use of the narrative interviewing method is the optimal way

Table 1. Topic Guide for Narrative Interviews.

Opening Questions
• Please tell me the story of how you and your partner came to the decision to start a family.
Focused Interview Questions
• I would like to know more about what influenced you in the process of selecting your fertility tracking method. Please give some examples of people and situations that might have influenced your decision to use the FABM of your choice.
• Please tell me at which point and how you arrived at the decision to track your cycle using … (her chosen FABM).
• Please share with me your experience using your chosen FABM.
• Given what your family looks like now, if you had the option of doing it all again, please describe whether you would pursue the same FABM to track fertility.
• If a woman was hoping to achieve a pregnancy, trying to decide if (her method of FABM) is the right method for her, what piece of advice would you give her?
• Do you have anything that you want to share that I have not asked you?

to understand the intricacy of women's experiences and perceptions through their personal stories (Anderson and Kirkpatrick 2016; Good MJDV, 1994; Good MJDV, 1995; Qiu and DelVecchio Good 2020).

Sample and Setting

A purposive sample of two women who exemplified the experience of FABMs to achieve pregnancy was recruited for this qualitative case study. The first author, through word of mouth, asked colleagues if they knew of potentially eligible women and if so, if they could share the first author's contact information. Interested prospective participants contacted the first author via email, and if eligibility criteria were met, those women were sent a study invitation via email which briefly described the purpose of the study. The inclusion criteria were: (1) female between ages twenty one to forty-four years old; (2) had a history of using at least one FABM or natural family planning method to conceive a pregnancy without the use of any assisted reproductive technology, such as in vitro fertilization or intrauterine insemination.

Data Collection

Data were collected using semi-structured virtual interviews in which the first author began the interview with an open-ended question to allow the women to control the direction and content of their stories. An interview topic guide was developed to elicit data on topics of interest. The first author conducted individual face-to-face virtual interviews with the participants via Zoom Version 5.3.1 in November 2020. The interview began with the open-ended question: "Please tell me the story of how you and your partner came to the decision to start a family." Probes (e.g., "Please tell me more about that …") and questions related to topics of interest were used to encourage more detailed information (Table 1). The interviews lasted about 40 min and were transcribed professionally.

Data Analysis

An iterative and inductive thematic data analysis method was used to analyze the narrative data with attention to maintaining the temporal elements within the women's stories (Fu et al. 2008; Fu and Rosedale 2009; Qiu and DelVecchio Good 2020). Box 1 presents the

seven steps of this iterative data analysis method. Through this data analysis procedure, the meanings and experiences associated with a women's journey of using a variety of FABMs to achieve pregnancy were reflected into essential themes to interpret the women's experiences (Anderson and Kirkpatrick 2016; Fu et al. 2008; Fu and Rosedale 2009; Qiu and DelVecchio Good 2020).

Box 1. An Iterative and Inductive Thematic Data Analysis Method

(1) Interview transcripts were read multiple times to gain a broad understanding of the data;
(2) Important statements from the transcripts were identified related to the phenomenon;
(3) Quotations that expressed similar meanings were categorized and meaning was given to those quotations;
(4) Steps 1–3 were repeated to determine essential themes;
(5) An exhaustive list and description of themes and quotations were compiled;
(6) Transcripts were reviewed again with descriptions obtained in Step 5 to validate themes;
(7) Discussion with the expert qualitative researcher (i.e., the second author), to achieve consensus and confirm credibility. The authors independently reviewed all transcripts and coded the data collaboratively.

Rigor and Trustworthiness

The rigor of the qualitative case study was ensured in terms of credibility; transferability; dependability; and confirmability (Lincoln and Guba 1985). Credibility was achieved through reflective journals, field notes, and verbatim transcriptions. Credibility was also assured by the participants' confirmation of the accuracy of transcriptions. Transferability was supported by rich and detailed descriptions from the participants. Evidence for dependability was supported by the emergence of similar data from the two interviews. Confirmability was achieved by inter-rater reliability among researchers.

Findings

Two women in their thirties participated in this qualitative case study. The women had graduate degrees in nursing, were married, and were employed. The women had endured a previous pregnancy loss (spontaneous abortion and ruptured ectopic pregnancy) prior to conceiving their first live birth. They had used FABMs for approximately eleven to thirteen months before achieving their first successful pregnancies resulting in a live birth. At the time of the case study, both women had healthy children; one participant had two children and one participant had one child.

The journey to pregnancy began when the women and their partners (husbands) felt that the timing to start a family was right. The women emphasized their appeal for a natural approach to conception with reasons including a desire for the least invasive approach and an overall belief in their body's capabilities. The narratives ended with the women describing the happy moment when she had found out she had successfully conceived. Five themes emerged from the data that illuminated the description of the women's stories of using FABMs to achieve pregnancy: (1) having a sense of control; (2) experimenting with different methods; (3) overcoming self-doubt; (4) enduring pressure; and (5) lack of guidance from healthcare providers. Table 2 provides additional supporting quotes for the five essential themes.

Having a Sense of Control

The process of learning to track the menstrual cycle and how to identify ovulatory signs offered the women a sense of control. The activity of tracking and charting provided a sense of self-efficacy as well as a confidence in one's own body. The women were not passive participants in their journeys to conceive, but rather were dynamically involved

Table 2. Essential Themes and Supporting Quotes.

Having a Sense of Control	"I think I was fairly against using artificial technology. I'm Catholic but I don't know if it was necessarily a religious reason. I think it was more of a just a self-efficacy thing. Of like, 'I can do this. My body can do it. I got pregnant once before. And I'm young. And my mom is 1 of 12. So, I believe that there are fertile people around me. So again, I was sort of steadfast in my method'." (Participant 1)	"Ok, so the cervical mucus was … I wanted to start least invasive. And I knew that there was no way that I would be able to do the basal body temp at the exact same time every single morning. So, I chose to do my cervical, to check my cervical mucus. I'm comfortable with my body and have no issues or qualms with checking my cervical mucus every day." (Participant 2)
Experimenting with Different Methods	"My cycles were also fairly irregular during that time so I was struggling with when I might be ovulating and if we were timing things correctly. And so, I started using like assessment of the cervical mucus. And trying to see like if it was sticky, if you could pull it apart. And also trying to kind of sense in my body like when I would feel maybe some ovulation type symptoms … like I don't know like cramping in my lower quadrant and having a sense that like maybe it would be, you know, 10 or 15 days after my last period so sort of timing it on a calendar. And I did that for about 3 more cycles, so 3 more months. And still then it was like 6 months and we still weren't pregnant. And then at the time also other people around me were starting to get pregnant. And so, I was feeling like, wow I have to really kick this into gear! (laugh) So I started using a fertility tracker app on my phone. I don't actually remember which one, and this was about 5, no, 7 years ago. So, I don't even know if it's the same one. And then I started using the ovulation sticks." (Participant 1)	"I decided to get the LH strips, because even though I felt like my cervical mucus was changing, it felt like it wasn't changing enough." (Participant 2)
Overcoming self-doubt	"Like you know that you're trying to conceive in your fertile window and you're not. And just sort of a sense that like 'What was I doing wrong?' And I felt like I was tracking all the right things but maybe there were something wrong with my body?" (Participant 1)	"Like I felt like I was pretty sure in the beginning of when I was monitoring it and then after a little bit of time, I was like, 'Oh is this, is this it? Is it egg white? Is it?' You know and I just kind of went back and forth." (Participant 2)

(continued)

Table 2. (continued)

Enduring Pressure	"So, it was mostly some medical providers and then like people in my family that knew I had the miscarriage saying like, 'What's, what's holding you up? Why aren't you getting pregnant again?' So not sort of pushing me to seek help but more like more pressure around what's taking her so long or did they change their minds. And just people being kind of nosy." (Participant 1)	"I guess there have been some, some family and friend pressures of 'Ok, when are you going to have a kid? Come on, you've been married for how many years? Like come on, when is it going to happen?' Which is really obnoxious. But I chose to not take it to heart. Because it's just a choice that I feel like I have to consciously make. To thrive. And survive." (Participant 2)
Lack of Guidance from Healthcare Providers	"I remember when I was seeing my provider, like after trying for a little while, and they checked my thyroid. I remember them not asking me what I had been doing to try to conceive. And I remember them just saying they could just send me to somebody and me being frustrated. Like, 'You haven't even asked what I have been doing'. And I felt like, again, like that sense that I know my body pretty well and like nobody … there was just a knee-jerk reaction for me to see somebody instead of like trying to bolster ways that I could track my cycle or things I didn't know about or and not necessary a support for the natural approach. I felt a little pressure to like take the next step. And when I asked like, 'Why would you have me see somebody?' They were like, 'Well because you seem worried about it. Because you seem concerned'. And I'm like, 'Well I am but I'm not I don't want to do that yet'."(Participant 1)	"I feel like there is a lot more, well there is more money in IVF and IUI then there is in teaching people how to take of their own bodies." (Participant 2)

in their daily tracking practices, and with that, gained reassurance.

> You know rather than just feeling like months were going by and I wasn't getting pregnant, I think I felt like that I had more a sense of why that might be. Like maybe I didn't ovulate that month. Or you know, that we didn't have intercourse at the right time. And so, I feel like it, it helped me understand what was happening with my body more. (Participant 1)

Experimenting With Different Methods

For the women, the journey to finding the method that ultimately allowed them to detect ovulation and conceive was a journey of trial and error through testing multiple fertility awareness methods. The women eventually came to the decision to use the ovulation predictor urinary luteinizing hormone (LH) strips after six months of trialing cervical mucus, timed coitus, and fertility tracking apps. Of note, participants were also prescribed either Metformin or Levothyroxine by their health care providers for cycle irregularity, but did not use medications for ovulation stimulation such as Clomiphene or Letrozole.

> I started tracking my periods. I have PCOS (polycystic ovarian syndrome) so my periods are very irregular. The bleeding is very irregular. We started … I feel like tracking, just tracking my periods, probably in May. At the time, I feel like my cycles were between 35 and 45 days. I was using cervical mucus to predict ovulation at that point. And then we were timing coitus every other day and nothing was happening. So, I gave that 3 months. Yea, so in August, I started being more proactive in it. So, I was very meticulous about checking my cervical mucus every single day. I started seeing an acupuncturist. I also started Metformin. And so, when I started Metformin, I also added Vitex. And then in November when we still weren't pregnant, I was like, "This is exhausting." And so, I bought the LH strips. (Participant 2)

Overcoming Self-Doubt

Although the process of learning how to track their fertility allowed for a sense of control, there were also periods of uncertainty. When conception was not achieved after a few months of using a particular method, the women began to question (1) if they were using the method correctly, and (2) the method's effectiveness. In overcoming this self-doubt, each woman sought a method to alleviate some of the uncertainty, and both women found that with the detection of LH using urinary strips.

> Even though I felt like I was kind of sure, I was like I might as well, you know, like a few days after I end my cycle, just to see what was happening (use the strips). And so, LH typically surges in the afternoon so I was using that, so I was testing every afternoon starting probably day 10 of my cycle to see. But I felt very confident in those strips, I guess. I felt more confident in the strips than I did with checking my cervical mucus probably because it was quantifiable, I guess. (Participant 2)

Enduring Pressure

The women recalled experiences of feeling pressure from either husbands, friends, family, or self. Although they kept their fertility tracking for the purposes of achieving pregnancy relatively private, the women still sensed internal and external pressure from others during their journey to pregnancy. The women described fielding questions and comments, such as "when are you going to have a kid?," and "why not pursue assisted reproductive technology?" from family members and friends as obnoxious and intrusive. The women had to overcome a sense of judgment and pressure from the people close to them at times.

> I also think like towards the end of the year before I got pregnant like I was starting to get kind of depressed about it. Like "Why? Why aren't I getting pregnant?" And again, like

everybody around me getting pregnant and I remember being very hard. (Participant 1)

Lack of Guidance From Healthcare Providers

Each woman made strong statements regarding the lack of guidance from healthcare providers regarding natural methods. The women felt that they were on their own in their journey of choosing fertility methods and that healthcare providers did not provide guidance on how to use natural methods. The women stated that they got more of a sense that they would be referred to a fertility specialist instead of counseled on what to look for regarding their chosen FABMs. The women both felt as if there is more discussion and knowledge regarding assisted reproductive technology, such as in vitro fertilization than there are about natural ways to conceive.

> It did very much feel like I was on my own. Like this wasn't something that was endorsed by my medical providers to really give me guidance or to say "Well maybe, you know, you want to look for this" or "Maybe you want change this time where you using the kits." There wasn't any guidance on that. I can't say I really sought it out. But there wasn't a sense. The sense I got when I had gone for my visit was that, you know was, we can send you to someone else. It wasn't sort of a discussion of like what I could do on my own. (Participant 1)

Discussion

The process of achieving a pregnancy is often endured by women and their partners privately. This qualitative pilot case study used the narrative interview approach that enabled the development of an overarching timeline of decision-making on fertility and FABMs, and gained insights into the process of fertility tracking and the use of a variety of FABMs from the women's perspective. Findings support the use of the narrative interviewing method as a research and clinical tool. The nature of a pilot study presents limitations in data saturation and participant homogeneity, yet the five essential themes are a starting point to provide a framework to understand women's experience of going through trial and error with multiple FABMs and their endurance of internal and external pressure during the journey of achieving pregnancy.

The essential themes of experimenting with different FABMs and lack of guidance from healthcare providers have a particular importance for clinical practice. Our participants identified that there is a vital need for healthcare providers' guidance on using FABMs. It is important to meet the needs of women in their journey to achieve pregnancy, especially knowledge about different FABMs and ways to effectively cope with internal and external pressure. There is abundant literature regarding healthcare providers' lack of knowledge and skills in FABM (Danis, Kurz, and Covert 2017; Fehring 1995). There is an opportunity for more research to be conducted to elucidate (1) how to increase healthcare provider knowledge and skill in teaching FABMs, (2) the optimal time when women should receive this education, and (3) the type of visit (routine annual exam or pre-conception counseling visit).

Interestingly, a theme that did not emerge in our study, yet is prevalent in the literature regarding family planning, was a theme regarding marital dynamics. VandeVusse et al. (2003) found both positive and negative effects of family planning on marital dynamics. The positive themes that emerged from their study were "relationship enhancements," "knowledge improvements," "spirituality enrichments," and "method successes." The negative themes that emerged were "strained sexual interactions," "worsened relationships," and "method problems" (VandeVusse et al. 2003). Barroilhet et al. (2018) examined marital functioning in couples who used natural family planning methods as well as couples who used artificial methods of contraception and found that among healthy couples, natural family planning users showed better relationship functionality, comparatively (Barroilhet et al. 2018).

Similarly, Fehring and Manhart (2021) found that the use of natural family planning methods among married women was associated with 58 percent lower odds of divorce than women who never used natural methods and that the use of periodic abstinence is thought to strengthen the marital relationship (Fehring and Manhart 2021). There are two potential causes to why this theme did not emerge in our study. The first possibility is related to the limited sample size secondary to the pilot nature of the study, and perhaps with more participants, a theme regarding martial dynamics would have arisen. The second possibility is that our participants were asked about their use of FABMs solely to achieve, and not avoid, pregnancy. The interviews did not delve into what methods if any, women use when they are avoiding pregnancy with their husbands. There is an area for future research to explore marital dynamics specifically among the couple dyad who is actively trying to achieve, and not avoid pregnancy, and their use of FABMs.

It is important to note that the process of progressively experimenting with multiple methods to discover the effective method elicited self-doubt and stress for the women in our pilot study. A review of the literature revealed that (1) daily perceived stress was not adversely associated with time to pregnancy among women with proven fertility (Park et al. 2019), and (2) that there is no difference in levels of stress between women using digital ovulation tests to time intercourse compared with women who were trying to conceive without any additional aids (Tiplady et al. 2013). Furthermore, the use of fertility tracking provided benefits to participants, such as an increased understanding of the menstrual cycle as well as reassurance and confidence in focusing conception attempts on the correct time in the cycle (Tiplady et al. 2013). Recent literature has also shown that using fertility-tracking software, like the ovulation test strips our participants used, increased the likelihood of conceiving faster (Johnson et al. 2020). Although our participants reported stress and self-doubt, they also noted that they felt a lack of support from healthcare providers regarding fertility awareness methods. Most healthcare providers are not experienced in modern FABMs and therefore less likely to provide information to women, as information about FABMs are rarely provide in medical education (Duane et al. 2022; Stanford, Thurman, and Lemaire 1999). This is further complicated by widespread outdated and inaccurate information regarding FABMs, specifically the numerous fertility tracking apps that are not based in evidence (Duane et al. 2022). Therefore, it is essential that women are trained by an accredited teacher of the FABM they choose. Such education may mitigate stress and self-doubt, and improve emotional well-being in women during this special time.

The interview topic guide elicited the focused, rich data needed to answer this important clinical and research question. It can be used by healthcare providers to initiate conversations with women regarding natural methods of conceive (Table 1).

Conclusion

This qualitative pilot case study was able to elicit rich data enabling a description of how women went through the journey of achieving pregnancy using FABMs. Findings underscore that women preferred using natural ways to detect ovulation but need professional guidance. Yet, we recommend that the study be replicated to reach data saturation and with a more diverse set of participants to see if the same findings and themes emerge. The essential themes that emerged from this qualitative pilot case study can serve as a starting point to a framework to understand women's experiences of enduring trial and error with multiple FABMs before discovering their effective method (Lowe 2019). It would be interesting to see if the same themes emerge among women with different socioeconomic and academic backgrounds. Ultimately, the findings emphasize the importance for healthcare providers to guide women in using FABMs.

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