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Future Pregnancy Considerations after Premature Birth of an Infant Requiring Intensive Care: A Qualitative Study



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A B S T R A C T

Background: Postpartum contraception counseling and method use vary widely among patients who had a preterm birth. We performed this study to explore what issues and concerns individuals with preterm infants requiring intensive care describe as influencing their postpartum contraceptive choices.

Methods: We conducted a qualitative study using semi-structured interviews with participants who gave birth to a singleton preterm infant admitted to the neonatal intensive care unit (NICU). We explored pregnancy, childbirth, postpartum care, and NICU experiences, as well as future reproductive plans and postpartum contraceptive choices. Two coders used a constant-comparative approach to code transcripts and identify themes.

Results: We interviewed 26 participants: 4 (15%) gave birth at less than 26, 6 (23%) at 26 to 27 6/7, 8 (31%) at 28 to 31 6/7, and 8 (31%) at 32 to 36 6/7 weeks of gestation. We identified three main themes related to future pregnancy plans and contraception choice. First, participants frequently described their preterm birth and their infants' NICU hospitalization as traumatic experiences that affected plans for future pregnancies. The loss of control in predicting or preventing a future preterm birth and uncertainty about their premature child's future medical needs resulted in participants wanting to avoid going through the same experience with another child. Second, participants chose contraception based on previous personal experiences, desired method features, and advice from others. Last, having a preterm birth did not result in any ambivalence among those who desired permanent contraception.

Conclusions: Preterm birth influences future pregnancy plans. When discussing reproductive goals with patients, clinicians should be aware of potential trauma associated with a premature birth, assess for whether patients want to discuss contraception, and center the conversation around individual needs if patients do desire contraceptive counseling.

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Approximately 10% of U.S. births in 2020 were preterm (<37 weeks gestation), which contributes to significant neonatal morbidity and mortality (Hamilton, Martin, & Osterman, 2021).

Short interpregnancy intervals increase the risk of recurrent preterm birth, and delaying conception for at least 12 months after a preterm birth can decrease the risk of recurrence (DeFranco, Stamilio, Boslaugh, Gross, & Muglia, 2007). The use of effective postpartum contraception can help to achieve optimal interpregnancy intervals (Rodríguez, Chang, & Thiel de Bocanegra, 2015); however, both receipt of postpartum contraception counseling and method use vary widely among patients with a recent preterm birth (Dude, Matulich, Estevez, Liu, & Yee, 2018). A population-based survey from 2009 to 2011, including more than 6,000 women with a recent preterm birth from nine U.S. states, found that most chose user-dependent methods, such as short-acting hormonal or barrier methods, and those who had an extremely preterm birth (≤ 27 weeks gestation) were more

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likely to report contraception non-use compared to women who gave birth at more than 28 weeks gestation and at term (Robbins, Farr, Zapata, D'Angelo, & Callaghan, 2015).

Our understanding of what factors influence contraceptive decisions of patients who had a preterm birth remains limited. Previous studies suggest that some may desire another pregnancy soon after having an infant who is unlikely to survive an extremely preterm birth or may prioritize providing their own milk to their hospitalized preterm infants over initiating postpartum contraception (Robbins et al., 2015; Rossman et al., 2019). Given the multiple priorities that patients balance in the postpartum period and the need to provide patient-centered counseling and recommendations, we conducted this qualitative study to better understand the considerations and concerns that contribute to future pregnancy planning and contraceptive decisions among patients who gave birth to a preterm infant requiring intensive care.

Methods

We performed a qualitative study using semi-structured interviews with individuals who gave birth to a premature infant requiring intensive care at the study site. This qualitative approach allows in-depth exploration of one's experiences, perceptions, feelings, and beliefs without investigator-imposed limitations and assumptions. Individual interviews were chosen to allow us to focus on each participant's personal experiences, reflections, and opinions (Giacomini & Cook, 2000; Patton, 2015). We chose our study site for the potential to include diverse participant perspectives as this regional unit receives high acuity patients from throughout the region. We recruited participants using posted advertisements and health care provider referrals. We assessed eligibility of interested individuals with a screening script; entry criteria included age 15–45 years, singleton birth before 37 weeks gestation of an infant requiring neonatal intensive care unit (NICU) admission, 2–8 weeks postpartum at the time of enrollment, and English speaking. We excluded individuals who had infants deemed unstable or critical by NICU staff. We reviewed and obtained informed consent before completing a baseline questionnaire regarding demographic and childbirth information. The principal investigator then conducted semistructured, in-depth interviews with each individual. At the beginning of the interview, the interviewer indicated that she was a doctor at the hospital who was interested in learning more about how to better support mothers of preterm infants in the NICU. Participants received a \$50 gift card for compensation. We planned to enroll participants until we reached thematic saturation, or until no new themes were discovered from the interviews (Giacomini & Cook, 2000). Although thematic saturation could occur in most studies with as few as 12 interviews (Guest, Bunce, & Johnson, 2006), we anticipated we would reach thematic saturation with closer to 30 interviews because of our plan for heterogenous sampling to include a diversity of perspectives based on age, race/ethnicity, and parity (Patton, 2015). The University of California, Davis Institutional Review Board approved this study.

The semistructured interviews began with open-ended questions about the pregnancy, childbirth, and NICU experiences (Appendix). We also asked about postpartum care, including topics participants felt would be important to discuss at their postpartum visit, what aspects of their postpartum visits were helpful, what parts could be improved, and their feelings about discussing postpartum depression. We inquired about reproductive plans after this pregnancy, their thoughts about

resuming intercourse postpartum, and their process for choosing a postpartum contraceptive method, including their experiences with contraception counseling during pregnancy or postpartum, previous contraceptive use, preferred method features, and any factors that affected their decisions about both contraception selection and use. We also asked about their previous and current experiences with infant feeding and their goals, challenges, and support for breastfeeding. In this paper, we focus on the participants' perspectives and decision-making processes regarding postpartum contraception.

We chose a qualitative description design as we were interested in obtaining full descriptions of the participants' experiences and aligning the interpretation of the data as closely as possible to their own intent. This approach is often useful for learning from participants and subsequently using the findings to influence practices or policy (Bradshaw, Atkinson, & Doody, 2017; Sandelowski, 2000). After the interviews were audio-recorded, transcribed verbatim, and reviewed for accuracy, two investigators individually reviewed and coded all transcripts. Investigator #1 is an Asian female obstetrician/gynecologist (OBGYN) with subspecialty training in family planning who provides care for patients requesting postpartum contraception, and Investigator #2 is a White female pediatrician who specializes in newborn care and breastfeeding medicine. Neither investigator had any prior relationships with study participants. We used an editing organizing style for qualitative analysis, meaning that we developed and updated the codes as we progressed rather than using predefined codes (Crabtree & Miller, 1992). The coders met after every three to four transcripts to discuss the codes and refine the codebook through a constant-comparative approach. After the codebook was finalized, the transcripts were recoded using the final codes.

We then reviewed all codes for relationships and patterns and identified preliminary themes that we reviewed and refined with the full team, which consisted of an OBGYN with qualitative research expertise, an internist who specializes in women's health, and an OBGYN with expertise in family planning research. Final themes were used to develop an overarching framework for factors that contribute to postpartum contraceptive decisions (Vaismoradi, Turunen, & Bondas, 2013). We used NVivo 12 software (QSR International) for organizing identified codes from the transcripts into the codebook.

Results

Participant Characteristics

We enrolled and interviewed 26 participants from January 2018 through February 2019, at which time we determined that we had reached thematic saturation. The participants were diverse with respect to age, parity, health insurance, and gestational age at time of childbirth (Table 1). The interviews occurred a median of 23.5 days postpartum (range, 14–55 days). At the time of the interview, 8 (31%) had attended a postpartum visit, 14 (54%) had an upcoming appointment, and 4 (15%) had missed their visit. At the time of the interview, 14 (54%) were providing only breastmilk to their infants via breastfeeding or pumping. Participants were planning or already using various methods for postpartum contraception: permanent contraception ($n = 5$ [19%]), intrauterine device (IUD) or implant ($n = 11$ [42%]), pills ($n = 2$ [8%]), vaginal ring ($n = 1$ [4%]), condoms ($n = 3$ [12%]), fertility awareness-based methods ($n = 2$ [8%]), and withdrawal ($n = 1$ [4%]). One participant was not using contraception because of a history of infertility.

Table 1
Participant Demographic and Obstetric Characteristics (N = 26)

Characteristic	n (%) or Median (Range)
Age (years)	30.5 (18–41)
Race/ethnicity	
Hispanic White	7 (26.9)
Non-Hispanic White	10 (38.5)
Asian or Pacific Islander	5 (19.2)
Black	2 (7.7)
Mixed	2 (7.7)
Education	
High school or less	7 (26.9)
Some college	11 (42.3)
College graduate or more	8 (30.8)
Work status	
Employed full time	11 (42.3)
Employed part time	6 (23.1)
Not employed	9 (34.6)
Insurance	
Public insurance	14 (53.8)
Private insurance	11 (42.3)
Military insurance	1 (3.8)
Relationship status	
Partnered, living with partner	17 (65.4)
Partnered, not living with partner	4 (15.4)
Single	5 (19.2)
Parity	
1	14 (53.8)
2	5 (19.2)
≥3	7 (26.9)
Prior preterm birth	4 (15.4)
Gestational age at birth*	
<26 weeks	4 (15.4)
26 0/7 to 27 6/7 weeks	6 (23.1)
28 0/7 to 31 6/7 weeks	8 (30.8)
≥ 32 0/7 weeks	8 (30.8)
Cesarean birth	17 (65.4)
Gave birth at study site	16 (61.5)

* Gestational age ranged from 25 to 35 weeks gestation.

Themes

We identified three main themes related to future pregnancy plans and factors that influenced postpartum contraception choices following preterm birth: 1) Having a preterm birth could be an emotionally and/or physically traumatic experience that affected decisions about future pregnancies; 2) Contraceptive method choice was influenced by other factors, such as previous personal experiences, desired method features, and advice from others, rather than the preterm birth experience itself; and 3) Having a preterm birth did not result in any ambivalence among those desiring permanent contraception.

The following sections describe the themes and illustrative quotes with a brief description of the participant using the number of pregnancies (gravidity [G]), number of births, including the recent preterm birth (parity [P]), and gestational age at childbirth (<28 weeks, 28–32 weeks, >32 weeks gestation). However, these themes also apply to participants without the specific identifiers listed.

Delaying Subsequent Pregnancy Owing to Traumatic Experience of Preterm Birth

Participants described multiple factors contributing to the traumatic experience of a preterm birth, including the indication that led to giving birth early, the childbirth event itself, and the subsequent neonatal hospitalization, which motivated

participants to delay or even avoid a subsequent pregnancy altogether. For example, one person (G2P2, <28 weeks) recounted the experience of giving birth using the following words: “They were like, if you had come like even 1 or 2 minutes later. Like you and your child probably wouldn’t have made it. So like I mean I almost died... And so did my daughter. So, it’s like too soon to even like think like my body could go through that all over again.”

When asked about their experience in the NICU, participants used words such as “anxious,” “scared,” “intimidated,” and “overwhelmed” to describe different aspects of their infants’ medical care, including witnessing their children have difficulty breathing, episodes of bradycardia, or multiple procedures or monitors (“But it was very scary. Like, there were a few times where she turned blue and stopped breathing.” – G2P2, >32 weeks). During the NICU admission, participants had immediate fears about their infant’s risk of mortality as well as concerns about the long-term health outcomes for their children. One participant noted:

I mean the first week that she was in the NICU was the hardest week of my life because the first thing they told me is, okay, I’m standing there, and I’m looking at her, and tears are just twirling down my eyes. You know, she’s skin and bones. You could see the bones in her forehead, you could see everything. And I’m like, oh my God, is my baby going to die? – G4P3, <28 weeks

Participants expressed frustration about not being able to identify the cause of their preterm birth and that this unexpected outcome occurred even if they had no health concerns during the pregnancy.

As one person shared:

Well, as far as preterm, because with our son we still don’t know why he was IUGR [intrauterine growth restriction] and have no information about my placenta, so I guess that’s kind of scary to think about — and the fact that, like, it’s just so unknown, that we don’t know if it is going to happen again... So, I mean, we used to want to have, like, three, four, five kids, but then now we’re, like, kind of scared about getting pregnant again because we just don’t know if it’s going to happen again. – G2P1, 28–32 weeks

This loss of control in predicting or preventing a future preterm birth coupled with the uncertainty about their premature child’s future medical needs influenced participants to delay or even reconsider any future pregnancy to avoid experiencing another preterm birth. These concerns about the infant’s health and potentially delaying a future pregnancy were common and shared by participants who gave birth across the range of gestational ages, from the very preterm to late preterm. Furthermore, this theme persisted with respect to age, parity, and mode of childbirth. One person concluded:

I’ve always wanted more kids, but I don’t know if I could handle this more than once, and they say that once you’ve had a preterm baby, it’s possible for you to do it again because of the cervix, because of the incompetent cervix. So, it makes me nervous, and that’s the only reason why I’ve considered birth control. – G1P1, <28 weeks

Contraceptive Method Choice Varies Based on Personal Experiences, Desired Method Features, and Advice from Others

Despite intending to delay a subsequent pregnancy, participants’ postpartum contraception plans varied due to previous

personal experiences, method features, and input from health care providers, family, friends, and the internet. Some participants considered not using contraception because of prior negative experiences with using contraception or because of difficulties getting pregnant in the past due to infertility. As one participant (G2P1, <28 weeks) stated: “So I honestly do not like birth control. Before her, every time I’ve been on it, something has gone wrong. My body rejects all birth controls.”

Participants who were using or planning to use a contraceptive method listed important considerations when choosing a method, including duration of use, effectiveness, convenience, bleeding changes, hormonal side effects, and safety. When asked about how their breastmilk feeding goals affected their contraception choice, participants acknowledged that they would not use anything that would affect their milk supply (“If the IUD affected by breastmilk supply, then I would choose something different until I was done breastfeeding.” – G6P4, >32 weeks) However, most participants reported that they did not know about any specific methods that affected lactation; few affirmed that they were counseled regarding hormonal contraception and breastfeeding:

We talked about the low-dose pill that I’m on and also specifically Mirena [hormonal IUD] ... I don’t remember exactly what she said, but she talked a little bit about the different types of hormones and basically that it shouldn’t have any significant impact [on milk supply]. – G1P1, <28 weeks

Contraception counseling experiences varied from brief (“They didn’t really bring up birth control. They just asked me what did I use before I was pregnant? And I told them condoms or nothing at all most of the time.” – G1P1, 28–32 weeks) to persistent (“I discussed it all the time with my doctor while I was pregnant. She loves to bring it up. How are we going to fix this next time? I mean it—I mean every time I went, she would ask me about it.” – G6P3, 28–32 weeks) When asked what they liked about their counseling experience or what they would prefer, participants expressed a preference for clinicians to be informative and supportive of decisions as opposed to feeling pressured to use a method. For example, one participant (G4P3, <28 weeks) stated, “You know, she was very informative. So, it made me feel like she knew what she was talking about enough that I trusted her and it made me feel better...Like I probably would have gone back on Depo even though it doesn’t really help me,” whereas another (G1P1, <28 weeks) shared, “Some of the doctors kind of not force it on you, but they really, like, push the fact that they want everyone to be on birth control after.” In addition, participants noted that some providers were bringing up contraception because it was part of their job, implying that contraception counseling was more of a task for health care providers to complete rather than a topic that the participants wanted to discuss.

A resident came and woke me up. It was like 5:00 in the morning or something when she was doing her rounds, and said, “Hi. My name is so-and-so. Have you thought about what birth control you want to start again yet?” and at this point in time, I didn’t know if my baby was going to make it. I didn’t know how long I was going to be in the hospital. I was not thinking about birth control and that question came across as like, well, let’s wrap this up and move on. I did not appreciate that. – G1P1, <28 weeks

In addition to obtaining information from health care providers about contraception, participants also relied on the

experiences of their friends, family members, and community groups on the internet when considering a contraceptive method. One participant (G2P1, <28 weeks) said, “I refuse to use the implants because my sister and my friend had one and they had to get them surgically removed because they moved, stuff went wrong. My aunt had the Mirena IUD ring and she got pregnant with twins. So, hey, I just—I stay away from all of that.”

Preterm Birth Does Not Diminish Certainty for Permanent Contraception Decisions

Patients who had prenatally planned to use permanent postpartum contraception still intended to use a permanent method regardless of having had a preterm birth. Reasons for choosing permanent contraception included reaching their desired family size, convenience of not having to keep up with a contraceptive method, effectiveness, being medically high risk, disliking being pregnant, and lack of partner support. The preterm birth experience was referenced as an additional motivator to avoid having another birth with the same, or worse, outcome and to focus on caring for their current premature infant.

Well, I mean I think for other people, too, even like we’ve had discussions in the mom groups, even the preterm baby mom groups, and a lot of the women having their tubes tied and things like that because they just can’t deal with this again. And then there’s people that question how do you cope or deal with having another child after you’ve been through this kind of thing. So, I think people probably do decide to have their tubes removed or a more permanent method because of preterm situations. – G6P3, 28–32 weeks

Despite planning for permanent contraception, participants brought up barriers they encountered at birth that were either administrative (signed paperwork not in hospital files) or from the provider (the doctor had other concerns during the emergency childbirth or wanted patients to have a clear head when making the decision). Only one of five participants who planned tubal surgery for permanent contraception received a peripartum procedure. This participant (G2P2, >32 weeks) recounted, “And they were like, are you sure, if this baby dies do you still want your tubes tied. And the answer was 100% yes.” One participant (G7P5, <28 weeks) relayed this was her second unfulfilled request for permanent contraceptive method during her Cesarean birth: “I was so mad. So, now I have to have another surgery. So, yeah, yeah, he didn’t do it even though I did the paperwork like months ago... Yeah with the other baby that died, they were supposed to take out my tube(s) then, too.”

Discussion

This qualitative study demonstrates that having a traumatic experience due to a preterm birth may be a strong contributor to decisions to delay subsequent pregnancy among parents whose infants require NICU hospitalization. In these obstetric circumstances, we found that trauma could result from events (e.g., having the pregnancy end earlier than expected, the childbirth event, and the NICU hospitalization) that the individual experiences as emotionally or physically harmful (e.g., the uncertainty about their children’s futures, the loss of control in predicting or preventing future preterm birth) and creates long-lasting adverse effects (i.e., decision to delay or avoid subsequent pregnancy when they previously wanted or imagined having more children) (Lasiuk, Comeau, & Newburn-Cook, 2013;

O'Donovan & Nixon, 2019; Substance Abuse and Mental Health Services Administration, 2014). A trauma-informed approach to health care requires clinicians to realize that trauma exists, appreciate the impact of trauma, and respectfully communicate this recognition to survivors. Further, clinicians must recognize the signs of trauma, and integrate knowledge of these signs into policies, procedures, and practices, with the goal of preventing retraumatization (Substance Abuse and Mental Health Services Administration, 2014). This trauma-informed care approach is relevant to pregnancy and childbirth settings (American College of Obstetricians and Gynecologists, 2021; Sobel et al., 2018; Sperlich, Seng, Li, Taylor, & Bradbury-Jones, 2017). Specifically, in the context of discussing postpartum contraception, clinicians should acknowledge that a preterm birth can be a traumatic experience; offer to discuss the events leading to the early birth and the potential impact of these experiences on future pregnancies; provide information about various contraceptive methods to those who are interested; address any concerns related to contraception use, such as effects on lactation; and support decisions regarding contraceptive use. Because the uncertainties of the neonatal course can often shape the parent's experience and capacity for consideration of their own health needs, asking patients whether they want to discuss contraception, especially during the birth hospitalization, may be preferable than assuming that all patients need or want discussion immediately postpartum (Flink-Bochaki et al., 2018). An early assessment within three weeks postpartum followed by a comprehensive visit by 12 weeks after birth allows the opportunity to readdress any concerns that arise, including contraception choice (American College of Obstetricians and Gynecologists, 2018). Additional research may identify whether these additional visits and support lead to changes in future pregnancy planning considerations and contraception choices over time.

We found that the specific contraceptive method choice varied based on desired method features, such as effectiveness or side effects, personal experiences, and contraceptive counseling or information received from various sources despite a shared intention to delay subsequent pregnancy; these considerations are similar to ones reported by other people seeking contraception (Hirth, Dinehart, Lin, Kuo, & Patel, 2021; Madden, Secura, Nease, Politi, & Peipert, 2015). Notably, decisions regarding contraception were not centered explicitly around method effectiveness to achieve adequate interpregnancy intervals as a preventive measure for subsequent preterm birth. Similar to other studies of people who gave birth prematurely, approximately one-third of participants chose less effective methods (Leaverton et al., 2016; Dude et al., 2018). These findings underscore that some individuals prioritize other features when choosing a method. For instance, the potential impact of a contraceptive method on breastmilk supply was an important consideration for some participants. However, only a few reported receiving any counseling about methods that could affect lactation, and none reported using or planning to use the lactational amenorrhea method despite exclusive breastfeeding or pumping. Progesterone withdrawal after placental birth triggers the second stage of lactogenesis, and exogenous progestins could theoretically impact onset of milk production and overall breastfeeding performance, especially if initiated immediately after birth (Stuebe, 2014). Although the summary of evidence suggests that progestin-only hormonal contraception does not affect lactation, these studies primarily included participants who gave birth to healthy, term infants (Phillips et al., 2016), and

few data are available to guide counseling on the effects of hormonal contraception in patients with risk factors for lactation difficulty, including those who give birth prematurely (Berens, Labbok, & Academy of Breastfeeding Medicine 2015). Therefore, it is important for clinicians to review the available evidence, as well as the gaps in knowledge, with patients who are concerned about the impact of hormonal contraception on lactation. This counseling should occur in the context of individual lactation goals and the parent's prioritization of breast milk for their premature infant's health (Rossman et al., 2019). Because patients who had a preterm birth have multiple other priorities during the peripartum period, clinicians should tailor contraceptive counseling to each person's experiences, goals, and preferences and remain sensitive to the timing of postpartum contraceptive counseling (Thiel de Bocanegra, Kenny, Sayler, Turocy, & Ladella, 2020; Yee & Simon, 2011).

Barriers to postpartum permanent contraception are well-documented, including invalid federal consent, anesthesia or operating room availability, or maternal comorbidities, such as obesity (American College of Obstetricians and Gynecologists, 2012; Flink-Bochacki, Flaum, & Betstadt, 2019; Wolfe, Wilson, Hou, & Creinin, 2017). In addition, patients who give birth prematurely face an additional barrier of clinicians not performing requested tubal surgery because of the urgency of the childbirth or potentially because of concern for patient regret (wanting them to have a clear head). In a survey of obstetrician-gynecologists, preterm birth was a reported reason for declining to perform a requested permanent contraceptive procedure (Arora, Castleberry, & Schulkin, 2018). The American College of Obstetricians and Gynecologists also recommends revisiting the permanent contraception decision later "if there are unexpected neonatal complications for which a contingency plan has not been discussed in advance," which could be interpreted to include a premature birth (American College of Obstetricians and Gynecologists, 2017). However, rather than creating ambivalence about permanent contraception, we found that those who had wanted permanent contraception before giving birth continued to do so after giving birth prematurely; further, a preterm birth experience was an additional reason for some participants to choose a permanent method. Additional exploration of permanent contraception decisions in patients with infants who are considered unstable or critical would be needed, as these individuals were excluded from study participation.

Our participants were sampled from one clinical site and were all English-speaking individuals, limiting the generalizability of the findings to other settings. Different themes would likely emerge with samples including non-English-speaking individuals or participants from other clinical settings. Additionally, although our sample was racially diverse, we focused our analysis to identify cross-cutting themes among our heterogeneous sample; our sampling did not allow us to compare themes across races. However, we were able to identify shared themes across participants whose infants varied in their gestational age at the time of birth, from the very preterm to late preterm. Last, participants were aware that the interviewer was a physician at the hospital, which may have influenced their responses.

Implications for Practice and/or Policy

Multiple aspects of a preterm birth, including the pregnancy ending early, childbirth event, or NICU hospitalization, can

contribute to a traumatic experience for patients, which requires clinicians to be aware of and responsive to patients' needs when discussing future pregnancy plans shortly after giving birth. Centering these discussions around the individual's personal experiences, preferences, and goals is a critical component of providing support in the postpartum period. Last, having prenatal discussions with patients about whether they would still desire permanent contraception should they experience a preterm birth may increase some clinicians' comfort in performing requested procedures following preterm birth.

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Supplementary Data

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References

- American College of Obstetricians and Gynecologists. (2012). Committee Opinion no. 530: access to postpartum sterilization. *Obstetrics & Gynecology*, 120(1), 212–215.
- American College of Obstetricians and Gynecologists. (2017). Committee opinion no. 695: sterilization of women: Ethical issues and considerations. *Obstetrics & Gynecology*, 129(4), e109–e116.
- American College of Obstetricians and Gynecologists. (2018). Committee opinion no. 736: Optimizing postpartum care. *Obstetrics & Gynecology*, 131(5), 949–951.
- American College of Obstetricians and Gynecologists. (2021). Committee opinion no. 825: Caring for patients who have experienced trauma. *Obstetrics & Gynecology*, 137(4), e94–e99.
- Arora, K. S., Castleberry, N., & Schulkin, J. (2018). Obstetrician-gynecologists' counseling regarding postpartum sterilization. *International Journal of Women's Health*, 10, 425–429.
- Bradshaw, C., Atkinson, S., & Doody, O. (2017). Employing a qualitative description approach in health care research. *Global Qualitative Nursing Research*, 4, 2333393617742282.
- Berens, P., Labbok, M., & Academy of Breastfeeding Medicine (2015). ABM clinical protocol #13: Contraception during breastfeeding, revised 2015. *Breastfeeding Medicine*, 10(1), 3–12.
- Crabtree, B., & Miller, W. (1992). *Doing qualitative research*. Newbury Park, CA: Sage Publications.
- DeFranco, E. A., Stamilio, D. M., Boslaugh, S. E., Gross, G. A., & Muglia, L. J. (2007). A short interpregnancy interval is a risk factor for preterm birth and its recurrence. *American Journal of Obstetrics and Gynecology*, 197(3), 264.e1–264.e6.
- Dude, A., Matulich, M., Estevez, S., Liu, L. Y., & Yee, L. M. (2018). Disparities in postpartum contraceptive counseling and provision among mothers of preterm birth. *Journal of Women's Health*, 27(5), 676–683.
- Flink-Bochacki, R., Hamm, M. E., Borrero, S., Chen, B. A., Achilles, S. L., & Chang, J. C. (2018). Family planning and counseling desires of women who have experienced miscarriage. *Obstetrics and Gynecology*, 131(4), 625–631.
- Flink-Bochacki, R., Flaum, S., & Betstadt, S. J. (2019). Barriers and outcomes associated with unfulfilled requests for permanent contraception following vaginal delivery. *Contraception*, 99(2), 98–103.
- Giacomini, M. K., & Cook, D. J. (2000). Users' guides to the medical literature: XXIII. Qualitative research in health care A. Are the results of the study valid? *JAMA*, 284(4), 478–482.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, 18(1), 59–82.
- Hamilton, B. E., Martin, J. A., & Osterman, M. J. K. (2021). Births: Provisional data for 2020. Available: www.cdc.gov/nchs/data/vsrr/vsrr012-508.pdf. Accessed: July 15, 2021.
- Hirth, J. M., Dinehart, E. E., Lin, Y.-L., Kuo, Y.-F., & Patel, P. R. (2021). Reasons why young women in the United States choose their contraceptive method. *Journal of Womens Health*, 30(1), 64–72.
- Lasiuk, G. C., Comeau, T., & Newburn-Cook, C. (2013). Unexpected: An interpretive description of parental traumas associated with preterm birth. *BMC Pregnancy & Childbirth*, 13(Suppl 1), S13.
- Leaverton, A., Lopes, V., Vohr, B., Dailey, T., Phipps, M. G., & Allen, R. H. (2016). Postpartum contraception needs of women with preterm infants in the neonatal intensive care unit. *Journal of Perinatology*, 36(3), 186–189.
- Madden, T., Secura, G. M., Nease, R. F., Politi, M. C., & Peipert, J. F. (2015). The role of contraceptive attributes in women's contraceptive decision making. *American Journal of Obstetrics and Gynecology*, 213, 46.e1–6.
- O'Donovan, A., & Nixon, E. (2019). "Weathering the storm:" Mothers' and fathers' experiences of parenting a preterm infant. *Infant Mental Health Journal*, 40(4), 573–587.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.) Newbury Park, CA: Sage Publications.
- Phillips, S. J., Tepper, N. K., Kapp, N., Nanda, K., Temmerman, M., & Curtis, K. M. (2016). Progestogen-only contraceptive use among breastfeeding women: A systematic review. *Contraception*, 94(3), 226–252.
- Robbins, C. L., Farr, S. L., Zapata, L. B., D'Angelo, D. V., & Callaghan, W. M. (2015). Postpartum contraceptive use among women with a recent preterm birth. *American Journal of Obstetrics and Gynecology*, 213(4), 508.e1–9.
- Rodriguez, M. I., Chang, R., & Thiel de Bocanegra, H. (2015). The impact of postpartum contraception on reducing preterm birth: findings from California. *American Journal of Obstetrics and Gynecology*, 213(5), 703.e1–6.
- Rossman, B., Asiodu, I., Hoban, R., Patel, A. L., Engstrom, J. L., Medina-Poelin, C., & Meier, P. P. (2019). Priorities for contraception and lactation among breast pump-dependent mothers of premature infants in the neonatal intensive care unit. *Breastfeed Medicine*, 14(7), 448–455.
- Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, 23(4), 334–340.
- Sobel, L., O'Rourke-Suchoff, D., Holland, E., Remis, K., Resnick, K., Perkins, R., & Bell, S. (2018). Pregnancy and childbirth after sexual trauma: patient perspectives and care preferences. *Obstetrics & Gynecology*, 132(6), 1461–1468.
- Sperlich, M., Seng, J. S., Li, Y., Taylor, J., & Bradbury-Jones, C. (2017). Integrating trauma-informed care into maternity care practice: Conceptual and practical issues. *Journal of Midwifery & Women's Health*, 62(6), 661–672.
- Stuebe, A. M. (2014). Enabling women to achieve their breastfeeding goals. *Obstetrics and Gynecology*, 123(3), 643–652.
- Substance Abuse and Mental Health Services Administration. (2014). SAMHSA's concept of trauma and guidance for a trauma-informed approach. HHS Publication No. (SMA) 14-4884. Available: https://ncsacw.samhsa.gov/userfiles/files/SAMHSA_Trauma.pdf. Accessed: January 26, 2021.
- Thiel de Bocanegra, H., Kenny, J., Saylor, K., Turocy, M., & Ladella, S. (2020). Experiences with prenatal and postpartum contraceptive services among women with a preterm birth. *Women's Health Issues*, 30(3), 184–190.
- Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: implications for conducting a qualitative descriptive study. *Nursing & Health Sciences*, 15(3), 398–405.
- Wolfe, K., Wilson, M. D., Hou, M. Y., & Creinin, M. D. (2017). An updated assessment of postpartum sterilization fulfillment after vaginal delivery. *Contraception*, 96(1), 41–46.
- Yee, L., & Simon, M. (2011). Urban minority women's perceptions of and preferences for postpartum contraceptive counseling. *Journal of Midwifery & Women's Health*, 56(1), 54–60.

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