

Determinants of Contraceptive Use Among Postpartum Adolescents in Western Kenya:

A Qualitative Analysis

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Abstract

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Objective: To examine influences of contraceptive access and use pre- and postpartum among a group of postpartum adolescents. **Design/Setting/Participants:** This qualitative study utilizing focus group discussions (FGDs) was conducted between October and November 2013 at 2 public sector hospitals in western Kenya. Participants were postpartum adolescents attending infant immunization clinics (n=26) and health care providers (n=28). Emergent themes related to contraceptive knowledge, access, use, and social relationships were analyzed. **Methods:** 4 FGDs with postpartum adolescents were stratified by study site and age (14-18 and 19-21). 2 provider FGDs were stratified by site. Transcripts were analyzed using a grounded theory approach. **Results:** Influences on adolescent contraceptive decision-making and use were shaped by social norms of adolescent sexual behavior, the transition to motherhood, misinformation and knowledge sources, method preferences, and provider and health system capacity to offer services to adolescents. **Conclusion:** Given the increased risk of pregnancy-related morbidity and mortality among adolescents and postpartum women, increasing and improving targeted, effective services is critical to better understanding the influences for contraceptive access and use among postpartum adolescents.

Keywords: postpartum, adolescents, contraception, family planning, Kenya, focus groups

Background

Adolescent pregnancy is common in Kenya with 40% of adolescent girls initiating childbearing by age 19, and over 22% in the Nyanza region (1). Pregnancy in younger women can present health risks for both mothers and infants, including maternal and infant morbidity and mortality, low birth weight, and prematurity (2). In addition, pregnancy during adolescence can lead to social stigma, lower educational attainment, early marriage, and reduced earnings for them and their children (3-7).

Modern contraceptive use can substantially reduce maternal and child health risks by preventing unintended pregnancies, but unmet need for contraception is high among sexually active Kenyan adolescents. Contraceptive prevalence rates (CPR) are low (37%) even among married adolescents (age 15-19) (8). The majority use injectables (74%), while only 15% use LARC, almost universally implants. Low condom use (2%) among adolescent girls is concerning, due to the high risk of HIV infection in sub-Saharan Africa (9), and may be due to their inability to negotiate consistent condom use with partners (1, 10). High HIV risk may also be related to injectable contraception (11-13), which has led WHO to recommend expanding the contraceptive method mix (14). However, offering adolescents a broad spectrum of contraceptive methods has many challenges.

Adolescents are often offered limited contraceptive choices due to provider attitudes and misconceptions about medical eligibility and consent requirements (15, 16). They may also have misconceptions regarding contraception that are reinforced by social norms and interactions with community members. Many studies have shown that fears about side effects deter women from using family planning (FP) (17, 18), and fears may be more pronounced among adolescents who have limited FP experience. Other individual and social determinants influencing contraception remain poorly understood specifically among adolescents.

Postpartum adolescents have distinct needs and barriers to receiving FP services, which could differ from nulliparous adolescents and/or adult mothers. They have demonstrated sexual risk by becoming pregnant, and are also disproportionately impacted by morbidity and mortality risks associated with repeat pregnancy and short birth intervals (19), but may lack knowledge of and support to use FP from parents, communities, and providers. In addition, adolescents' own experience as a parent may modify their perception of FP. However, factors that influence adolescent use of FP before and after initiating childbearing have not been characterized. We conducted a qualitative study with postpartum adolescents and providers to understand adolescents' knowledge and experience with contraception, and identify determinants of contraceptive use among postpartum adolescents. In addition to having the greatest unmet need, postpartum adolescents

Methods

Study Design, Setting and Population

We conducted a qualitative study between October and November 2013 at two maternal-child health (MCH) clinics located within public hospitals in the Nyanza region of western Kenya. HIV prevalence is high in this region, with estimates exceeding 15% in 2012 (20). Postpartum adolescents (age 14-21 years) attending six-week infant immunization visits were recruited by MCH clinic staff to participate in a focus group discussion (FGD). Adolescent FGDs were stratified by site and age (14-18 or 19-21 years); purposeful sampling ensured appropriate age distribution. Adolescents interested in study participation were referred to study nurses and were screened for eligibility: HIV-negative as indicated on their MCH card, age 14-21 years, postpartum, attending six-week infant immunization visits, and willing to participate. Adolescents were asked to return at a later date for the FGD.

We also recruited FP providers to participate in separate FGDs. One FGD with providers was conducted at each site. Health care providers who were employed at MCH clinics or hospitals at the study sites, provided FP services, and ≥ 18 years were eligible for FGD participation. Clinic administrators referred eligible providers to study staff.

All FGDs were led by a female Kenyan behavioral scientist trained in qualitative methods, with the assistance of a note taker, using a discussion guide with prompts to elicit clarification or additional details as needed. FGDs were facilitated in the preferred language of study participants. Adolescent FGDs were conducted predominately in Dholuo with some Kiswahili, while provider FGDs were in English. Each FGD lasted approximately 1.5 hours. FGDs were audio recorded, transcribed, and translated into English (if needed) by the facilitator. All participants provided written informed consent prior to enrollment and participation was voluntary. Study participants received 600 Kenyan shillings (KSH) as compensation for their time and effort and refreshments during FGDs.

Study materials were approved by the Institutional Review Board (IRB) at the University of Washington (UW) and Kenya National Hospital (KNH) Ethics and Research Committee (ERC) prior to study initiation.

Analysis

We used a grounded theory approach for the analysis to advance understanding about determinants of FP among postpartum adolescent women in western Kenya. We employed an iterative, open-coding constant comparative method (21) to develop a codebook of contraceptive knowledge and use with Atlas.ti (22). Our codebook included 70 codes relating FP preferences, benefits, knowledge; interpersonal influences; and provider relationships. After reviewing the codes, we organized themes according to a modified socio-ecological model (23, 24) with individual, interpersonal, societal, and structural levels (Appendix 1). A secondary content analysis explored potential differences in influences between younger (age 14-18 years)

and older (age 19-21 years) adolescents. A second researcher coded the transcripts, and they were compared for intercoder agreement. Any discrepancies were resolved through consensus.

Results

A total of 26 postpartum adolescents (n=13 age 14-18 and n=13 age 19-21) and 28 providers participated in 6 FGDs in the study. We explored the factors influencing adolescent FP-seeking behavior related to social norms and support, identity shifts, formal knowledge sources, individual preferences and provider and health system capacity.

Adolescent use of FP conflicts with social norms of abstinence and fertility

Adolescent girls described immense community pressure to remain abstinent until they were married, and by extension, to not seek contraception. Influential community leaders, their families, and society disapproved of sex outside of marriage and for purposes other than procreation. Teachers, traditional healers, and religious figures were described as unsupportive of adolescent FP use. They perpetuated misinformation about FP, avoided discussing FP, actively deterred FP seeking behavior, or advocated abstinence. Parents were not typically actively engaged in adolescents' FP seeking behavior, and adolescents avoided asking for information or assistance from them for fear of their reactions.

“Somebody saw that you had gone [for FP], you know he is going to tell your parents, you know if you are still at your parents you do it secretly... so you know after your parents have known [you have gone for FP] it will be known that...my child is like this [sexually active and promiscuous]...” (Ahero, 14-18)

Social norms discourage sexual activities, but they did not overcome adolescent desire to engage in these activities. However, social norms did prevent adolescents from openly seeking FP before marriage or childbearing. Some adolescents sought FP secretly so others would not discover they were sexually active, since seeking FP services would be perceived by the

community as planning for, and enjoying, sexual activities. However, internalization of social norms often discouraged adolescents from using FP and resulted in an unintended pregnancy. Many felt FP was inappropriate to use prior to childbearing and proving their fertility, despite being sexually active and not yet wanting to become pregnant.

The decision to use or not use FP after getting married was also affected by social pressure. Adolescents were no longer expected to remain abstinent, but instead felt pressure from their mother-in-law to prove their fertility, produce grandchildren (particularly grandsons), pressures that inhibited many adolescents from seeking FP services.

“Even the mother-in-law wants grandchildren, so if you go for the one [FP method] for 12 years or for five years, and the mother-in-law, if you give birth to a girl...she will say I want a boy, I want a boy, so that will prevent you [from using family planning].” (Ahero, 14-18)

Unsupportive partners and expectations for fertility also drove FP decision-making. Adolescents described partners who questioned their fidelity, forbade them from using FP, sabotaged their FP method, or withheld funds to purchase FP commodities. Among adolescents who did use FP, their choice of method was often influenced by partner support and led them to use methods they could conceal.

“Condoms, sometimes boyfriend doesn’t allow...even using they will not agree, so if he refuses, injection you can hide once in a while and you go and get.” (Ahero, 14-18)

Motherhood shifts social identities and support for FP

After having their first child, adolescents often noted a societal shift in acceptance for FP use as their social identity transitioned from adolescents to mothers. Communities became supportive of adolescent mothers using FP to limit family size; having many children close together was a cause for embarrassment. One adolescent acknowledged FP could confer educational benefits, and reported that parents may become more supportive of FP use and assist with childcare to help adolescents stay in school after the birth of a first child.

“Other parents just have to agree [to FP] because there are no parents that... [want to] have a kid in school and the next day this child has given birth to a child, so she [the mother] is going to tell her go for family planning and finish years because ‘I cannot take you to school and I also feed your child...if one day you finish school and you have gotten your work, you can leave it [FP].” (Ahero, 14-18)

As mothers, young women were more motivated to seek FP to delay future pregnancies and achieve their personal and family goals. After becoming mothers, embarrassment and reluctance to use FP was diminished; adolescents had an increased appreciation of the benefits of FP, including the responsibility of providing for and raising healthy children, and economic and social impacts of repeated unplanned pregnancies.

“What you should look at first, you should look at the spacing of the children before getting another one...you have gotten your first born child, it will force you to look for a way to get it [FP]...you can’t go for family planning if that’s the first one God has given you.” (Ahero, 14-18)

“It [FP] makes us have good spacing of children and also makes us to educate them [children] well.” (Ahero, 14-18)

Adolescents also described that some partners were aware of these benefits, which helped support FP use.

“The person that I am staying with can allow me to go for family planning. I can go because it’s like he is planning for our future well.” (Bondo, 19-21)

Adolescent mothers recognized FP as a strategy to space and limit births to achieve their desired family size, which would allow them to breastfeed longer, provide better nutrition to their child or children, and increase financial household resources.

“You cannot give birth to kids close to one another, because if you get pregnant immediately it’s going to force you to remove this one from breastfeeding and then you have another one here...and sometimes you are going to work and you can’t ask for permission every year that you are pregnant.” (Ahero, 14-18)

Adolescents lack formal, accurate sources of FP information

Overall, adolescents lacked knowledge about FP and received little formal education on specific methods. Many relied on knowledge dispersed throughout the community, which was often inaccurate. Providers also believed that many side effect myths originated from peers and community. The majority of adolescents, and even a few providers, inaccurately believed that use of certain FP methods prior to childbearing, or for an extended time, could result in difficulty conceiving or infertility when methods are discontinued. Older adolescents described seeking FP information from peers who conveyed their own experiences using FP, but also said that discussing FP with peers was not always a positive interaction if they felt judged or their confidentiality was not maintained.

While method specific myths and misconceptions were common, knowledge about condoms was widespread, likely due to HIV prevention campaigns. While adolescents did know condoms could prevent both HIV transmission and pregnancy, the primary reason they might use them is for HIV prevention. However, condom use was dependent on each partner's HIV status. They were thought to be most appropriate to use in serodiscordant relationships, rather than when HIV status was unknown or in concordant negative relationships.

“You use condoms after you have gone and all of you know your status, so if one person has [HIV] and the other person doesn't have [it] and you still want to go on, you can use the condom but if you all have it you can work without anything and if all of you don't have it, you can do it without anything.” (Ahero, 14-18)

Adolescents expressed a desire for better FP education, and wanted partners and community members to understand the benefits of FP use so they could provide support to use FP. Providers were identified as the best source of FP information and adolescents overwhelmingly trusted information given by providers, but acknowledged that providers needed to take the time to provide FP education to empower them to use FP.

“What can prevent me from coming [for FP], if I’ve not been taught about family planning. But if I can get a doctor who can sit with me down and teach me that it is done like this and this and this, then I think I can do it. But because...a lot of issues I hear outside, it can prevent me. So if I find the doctor who can teach me then I can do.” (Ahero, 14-18)

Schools were not a source of FP or other sexual education and teachers rarely discussed FP. Any information received in schools was limited to promoting abstinence. However, one adolescent thought schools would be a good place to provide adolescents with FP education.

“The doctors should be free with teachers to tell the students in school, just to tell them, if you feel you cannot abstain, it’s good to go for family planning.” (Ahero, 14-18)

Other sources of information adolescents thought could be useful to increase FP knowledge included the radio and community outreach with providers. These activities could provide education to women, partners, and the community, which could also help combat prevalent FP myths and rumors and increase acceptability.

Concealability, reversibility, and fear of side effects guide individual FP preferences

Postpartum adolescents preferred FP methods that are concealable, require infrequent dosing, and have a short return to fertility. Potential side effects, including disruption of menses (i.e., amenorrhea, spotting, or heavier menses), pain, and changes in weight, were common concerns that inhibit contraceptive use. Some adolescents were aware of these side effects prior to starting methods, while others were alarmed when they unexpectedly experienced them. Pain was a concern with most methods, including insertion pain with IUCD and implant, headaches or abdominal pain with hormonal methods, and discomfort with condoms. Adolescents wanted to maintain regular menses, which provided reassurance that they were not pregnant and helped them conceal FP use from partners. Some also erroneously believed painful side effects were directly related to ‘unnatural’ suppression of menses.

Prior experience and incomplete method knowledge underlie the overwhelming preference for injectables among postpartum adolescents using FP. Adolescents were most familiar with injectables, and had more experience using this method than any other method. However, they inaccurately believed injectables had a shorter return to fertility than other hormonal or LARC methods. Despite having preferences for methods that do not disrupt menses, and awareness that menstrual changes are side effects of hormonal contraception, these concerns did not deter them from selecting injectables as their preferred method of contraception. The quarterly dosing schedule was preferred over other short-term dosing schedules, but was also challenging, particularly for school-age girls:

“I will forget, like the date of the injection will just go because sometimes I am in school doing exams and the date will just go like that...” (Bondo, 19-21)

Other short-term FP methods were not as popular among adolescents due to sub-optimal dosing schedules, need for partner involvement or potential for method disclosure, and perceptions of use associated with medical conditions. Neither condoms nor oral contraceptive pills (OCPs) fulfilled adolescents' desire for concealability. Per coital use of condoms required planning and active partner cooperation while OCPs required adhering to daily dosing, which made adolescents feel like they were receiving treatment for a medical illness. They were also concerned that people could mistake OCPs as medical treatment for diseases, such as HIV, which stigmatized use. Providers echoed the need for adolescents to have access to discrete methods, and supported by offering them methods, usually injectables, they could conceal and use without their partners' knowledge. Providers did encourage adolescents to involve partners or disclose their FP use when possible.

In contrast, while one-time dosing for user independent LARC methods was appealing, adolescents were not ready to use them. Adolescents did not want to commit to using a method for 5-10 years, and many were unaware that LARC can be removed before the maximum

duration of coverage is reached with a rapid return to fertility. They also had concerns about access to and cost of removing LARC if they experienced intolerable discomfort, undesirable bleeding changes, or decided to become pregnant. Adolescents were largely unfamiliar with LARC methods and had many misconceptions about these methods, which were also barriers to use. For example, they feared that LARC move around inside the body.

“They [adolescents] believe that if it [IUCD] is inserted it can go up to the chest. That is a very big issue...also a baby can be born with the IUCD in the hand.” (Bondo, Providers)

Providers are unprepared and unequipped to offer services to adolescents

Both health facility limitations and personal beliefs of providers about adolescent FP use contributed to providers' abilities to serve adolescents' FP needs. Provider training was a significant barrier to offering high quality, comprehensive FP counseling to adolescents. Many providers only received FP training in school. Additional FP training was infrequent, and only offered to a limited number of providers at a facility, typically nurses whose primary responsibility is delivering FP services. Thus, providers who offer other services in maternity or prevention of mother-to-child transmission of HIV (PMTCT) programs were often not selected to receive updated training and were ill equipped to offer comprehensive, integrated FP services. For example, many were unaware that failure rates vary by method and failed to include failure rates as part of their FP counseling.

“I think all these methods are effective depending on how we use them. We have had cases of somebody becoming pregnant with implant but when you get history on how the implant was inserted, you find that it was inserted after somebody had conceived.” (Ahero, Provider)

Providers described themselves as being overworked, and having competing priorities in multiple departments of the hospital which led to limited time to offer tailored FP counseling and service provision, or receive updated FP training. Time to provide FP counseling was also limited when the queue for FP services was lengthy. At times, adolescents said they gave up

waiting and went home without receiving FP services, or sought a private provider at another facility when wait times were long. Some providers acknowledged providing limited FP counseling, only discussing short-term FP methods that could be administered quickly. When queues were shorter, counseling was expanded to include a broader range of FP options, including LARC.

“If I am only one health provider in a dispensary or clinic, I have overwhelming work, and I am doing other services and family planning as well. Aah, I will not provide those methods that take a lot of my time because I have some other things to do, some competing tasks, so for me to provide such a service I will not tell the client about IUCD and maybe implants. So I will counsel the client on pills, Depo and condom so that they have that option only, so that I will clear the queue so maybe some other time if they come and I am quite free I will give [more counseling]...” (Bondo, Provider)

Providers generally reported spending more time on FP counseling than adolescents recalled receiving. Adolescents described receiving limited counseling, primarily focused on dosing requirements of the requested method; counseling on side effects of the method was uncommon unless adolescents made inquiries. A few adolescents recalled receiving virtually no counseling at all.

“When I went I was told nothing, they only gave me the drug.” (Bondo, 14-18)

Providers focus on short-term methods during FP counseling perpetuated adolescents' lack of knowledge of LARC methods. Usually, providers only offered short-term methods because they were confident administering these methods, and avoided offering implants and IUCDs.

“Also lack of skills...not all of us can insert IUCD and maybe let's say she [the qualified provider] is on leave...clients are either being referred or chose another method.” (Bondo, Provider)

If providers were unable to offer an adolescent who desired LARC, they made a referral to another department or provider within the facility. This referral process is not transparent and

creates confusion about when and where to go and lengthened wait times to receive the desired FP method. Often adolescents who initially asked about LARC methods, instead opted for a short-term method that could be administered to avoid these lengthy referrals.

Providers and adolescents both mentioned that negative provider attitudes towards adolescents seeking FP, resulted in poor quality of counseling and diminished motivation for adolescents to seek FP services.

“You can go and the sister will talk to you badly and you get angry and go back home.” (Ahero, 19-21)

Both adolescents and providers cited provider characteristics as important in determining whether adolescents were comfortable seeking FP services. Older providers described as ‘motherly’ were perceived to be judgmental and may deter FP seeking, while women were uncomfortable receiving IUCDs if the provider is male.

Provider misconceptions about FP and personal feelings about adolescent sexual activity led to adolescents being denied FP services. Both adolescents and providers described inappropriate deferrals and refusals to provide FP based on postpartum status, parity, age, and provider beliefs about hormonal methods for adolescents. Misconceptions about IUCDs for adolescents were particularly prevalent, including believing that IUCDs are inappropriate while adolescents continue to develop or prior to sexual debut.

“The virgins...are not coming for family planning methods (laugh) but if they come I wouldn’t go on breaking their virginity because I want to put [in] an IUCD.” (Ahero, Provider)

One adolescent recalled asking for a LARC method, but being questioned and directed away from that choice based on the provider’s opinion of how she should behave.

“He [the provider] asked me ‘why?’ And I told him that I want to go to college that’s when I can get another child. And then he asked me, ‘can you not abstain till the end of those ten years?’” (Ahero, 19-21)

Access to clinics, cost of FP services, and supply of FP methods were identified as structural barriers to FP for adolescents. Some adolescents expressed difficulty getting to a clinic or seeking services on days other than child health days. Others did not find it challenging to attend clinics for FP, and even described traveling to clinics farther away to maintain discretion and prevent negative perceptions associated with community assumptions about sexual activity or HIV care. Overall, providers perceived clinic distance as a more important barrier for accessing FP and ongoing management of FP-related side effects than adolescents. While cost and availability of FP did not meaningfully affect adolescent FP seeking behavior, they were determinants of access to the full range of FP methods. Adolescents were typically offered (and selected) methods that were free or low cost, and readily available.

“I went to the hospital I asked...and that doctor told me that now it’s not there but the one that is there are the pills, that is what you can get.” (Ahero, 19-21)

In some cases, when injectables were out of stock, adolescents bought an injectable at a private pharmacy and returned to the clinic to have it administered by the provider.

Discussion

Adolescents’ opinions on FP use were influenced by social norms, interpersonal relationships and structural factors. Adolescents in our study, especially younger adolescents, felt they had not been able to discuss sensitive topics relating to sexual activity, fidelity, and contraceptives with partners, families, peers, and teachers prior to their pregnancies. While adolescent contraceptive use was not supported by society until after the first child, the community also disapproved of large family sizes and short birth intervals. Social norms stigmatizing contraceptive use frequently limited adolescents from using modern FP methods to control their fertility, which led to failure and often resulted in pregnancy. Cultural, traditional and religious opposition to adolescent contraceptive use in Kenya has been illustrated in studies that

have shown lack of support for adolescent FP use, myths perpetuated in the community, and expectations of adolescent abstinence (15, 25, 26). In a Kenyan study where women were offered comprehensive youth-friendly post-abortion contraceptive services from a well-trained provider, contraceptive uptake was >4-fold higher among women >21 years (95% CI 2.73-6.41) than among adolescents (27). The disparity in contraceptive uptake in this study and our own findings were attributable to adolescents' internalization of the strong prevailing social norms against adolescent FP use before childbearing. We found that postpartum adolescents experienced a substantial shift in identity as they transitioned from their roles as adolescent girls to that of young mothers, which affected FP behavior. Adolescent mothers became more open to using FP and recognized additional benefits. Other studies of young Kenyan mothers have also found interest in FP use was modified by understanding responsibilities associated with child rearing (28) and having demonstrating fertility to society (25). Young mothers experienced more support from partners and families than they had prior to the birth. This increased support reflected community acceptance for contraceptive use as a strategy to space births. Young women continued to struggle with accessing and using FP services due to lack of information about methods and limitations with providers and the health system.

Key determinants of both FP use and method choice among adolescents in our study included inaccurate fears of infertility, concerns about side effects, and limited knowledge. Similar fears were supported by a study conducted among young urban Kenyan women which also noted concerns about FP use due to worries about infertility and contraceptive side effects, including undesired menstrual changes (26). Dispelling the many community contraceptive myths is critical to increasing FP use in adolescents and reducing repeat unintended pregnancies. Although most of our participants knew basic information about FP, they considered condoms to be primarily a HIV prevention method and they were largely unfamiliar with highly effective LARC methods. Condom use was low in our population and perceived to be for purposes of HIV prevention only, specifically among known serodiscordant couples, not for

FP. The previous study among Kenyan women also discussed perceptions of condom use for HIV prevention, with many self-reported condom users did not consider themselves to be FP users (26). The perceptions of condom use in both studies likely reflect the impact of HIV prevention messaging in many Kenyan communities. Our findings about knowledge are similar to a Tanzanian study of female college students that found that despite women's basic knowledge about contraceptives, knowledge was not sufficient for high levels of contraceptive use (29).

In order to avoid social stigma, the adolescents also had strong desires for concealable products and infrequent dosing schedules, leading to higher knowledge and use of injectables compared to other methods. LARC methods can also fulfill desires for concealability and ease of use, and are safe, effective methods of contraception for adolescents and postpartum women, supported for these populations by WHO and Kenyan guidelines (14, 30). Knowledge and use of LARC were low in our study; however, adolescents desired more information on LARC and indicated they would be willing to try them if they learned more. Many of the perceived drawbacks regarding discontinuation and side effects of LARC would be reduced by improved information. In one Kenyan study, nearly one-quarter of young women seeking short-term FP chose to use implants after receiving counseling on short-term methods and implants. None of the implant users had an unintended pregnancy during the 18-month follow-up period and discontinuation rates were lower among implant users than OCP/injectable users (21% vs. 43%, $p=0.001$) (31). Additionally, method satisfaction has been shown to be higher among adolescents who use LARC in other studies, with superior continuation rates for LARC compared to other methods (32). LARCs can be excellent choices for adolescents who want to delay childbearing following sexual debut or to prevent repeat unintended pregnancies.

Some providers perpetuated stigma and misinformation about contraceptive use for adolescents. Negative provider attitudes, as well as assumptions and misperceptions of FP need due to age or parity deterred adolescents in our study from seeking FP services. In other

studies, providers and health information messaging often referenced FP as suitable for 'mothers', which served as another way to implicitly exclude adolescents from conversations about FP (26). Providers sometimes refused to offer specific FP methods based on inaccurate age-related or postpartum contraindications, including side effect profiles of methods and misconceptions about infertility, but did not require parental or partner disclosure. Our results are in contrast to a study conducted in Uganda finding that over a third of providers requested parental or partner consent before providing contraceptives to adolescents (16). Other studies have also found providers' opinions on the morality of adolescent FP use (15) are a barrier to delivering FP services. Despite experiencing challenges with provider attitudes, adolescents in our study preferred FP information from providers. They requested more opportunities to interact with providers in a less rushed and more open manner. However, other studies noted a lack of reliance on provider-sourced information in favor of social sources (26). Important roots of the strained provider-adolescent relationship stem from structural barriers including the lack of continued provider training and staff shortages. Providers, especially those providing FP services ancillary to their primary department, did not feel confident in their own knowledge and administration of a comprehensive method mix, nor in strategies for offering services to adolescent populations. Their hesitation perpetuated misconceptions and promoted short-acting contraceptive methods that were considered easier and quicker to dispense. Without up-to-date training on FP and LARC methods, providers are unable to properly integrate counseling on the full range of methods, address effectiveness and side effects in advance, and offer quick start FP in their practice. Currently, providers' infrequent offering of LARC perpetuates low adolescent LARC knowledge and use (33). Adolescents may also need more assistance from providers with complex decisions like FP method choice, and need more counseling time than experienced FP users and older women due to their developmental stage (34). National policies and international adolescent-friendly service guidelines seeking to reduce unintended pregnancies outline many strategies (35), but are not sufficiently supported with funding to

deliver provider training and supervision, or provide adequate time and space to offer tailored services for adolescents (15).

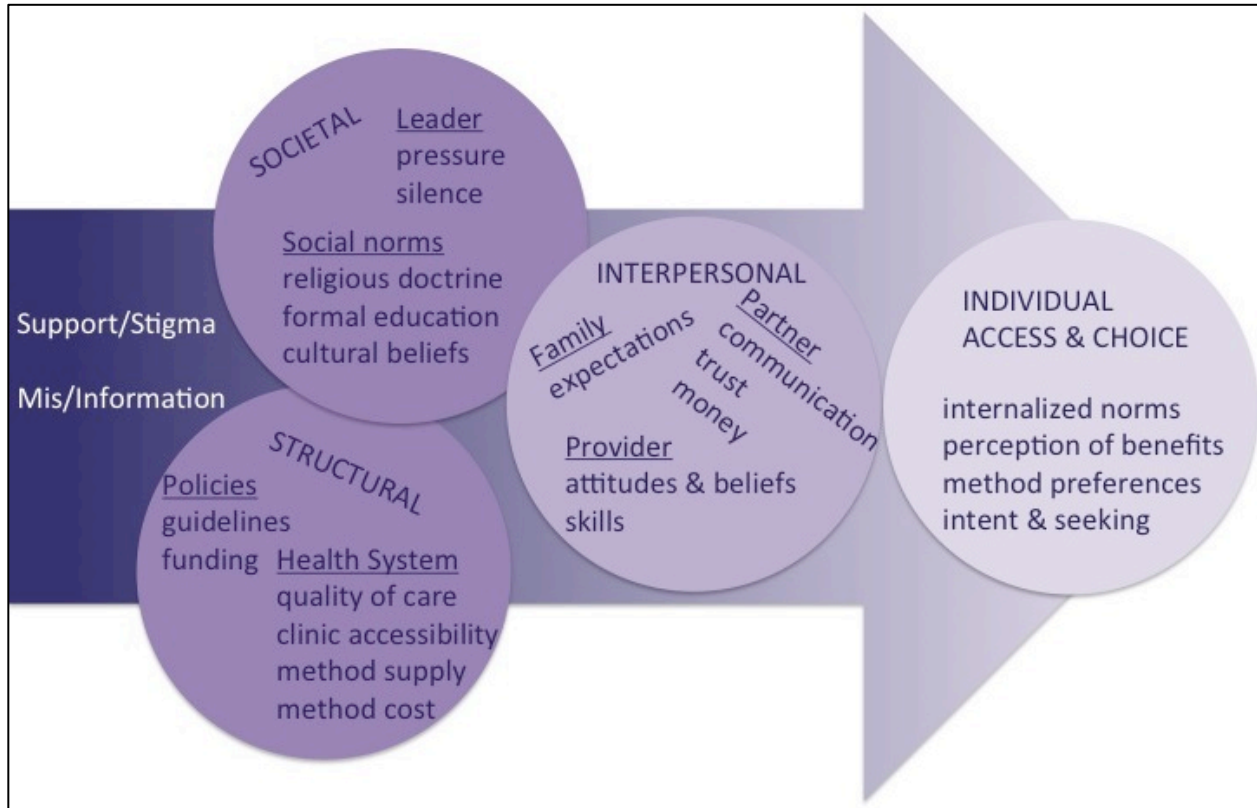
Unlike nulliparous adolescents, postpartum adolescents are engaged in the health care system for antenatal, postnatal, and infant care, providing an opportunity to assess and meet FP needs. Adolescents in our study had increased motivation for and interest in FP after pregnancy. In a large study in five low-income countries, nearly all (95%) postpartum women desired to delay or prevent future pregnancies in the first year after giving birth (36). Despite this desire, about 50% of women were not using a modern contraceptive method during the postpartum period. Adolescents under 20 years were at greatest risk for having unmet need for postpartum family planning (PPFP), compared to women over 30 (aRR=1.24; 95% CI: 1.16-1.33) (36). In our study, postpartum adolescents noted that they had little information about FP method use postpartum, and providers frequently deferred or refused FP requests during this period despite being eligible for multiple methods (14). PPFP is a missed opportunity to increase FP coverage, and postpartum adolescents are more likely to remain disconnected to FP services than older mothers.

Our study had several strengths. The qualitative design allowed us to gain deep insight into how relationships contribute to promoting and discouraging FP use. While adolescent girls may be influenced by factors that are common with adult women, they also have unique experiences and perceptions of FP, and it is important to characterize these factors to meet adolescent FP needs. Yet, these issues have not been widely explored, in part due to adolescents' exclusion from research studies and many DHS surveys. In our study, we focused specifically on postpartum adolescents, who have insight on adolescent FP use and decision-making before and after they became mothers. The inclusion of providers' views on adolescent FP use further supported adolescent views and offered insight to provision of FP services to adolescents.

There are some limitations to our study. Postpartum adolescents were from Western Kenya and study findings may not be generalizable to other postpartum or adolescent populations. Adolescents were recruited from infant immunization clinics, and were engaged in the public sector health system, and thus may be more likely to utilize other services such as FP (37). Providers were selected by hospital staff as individuals who provided any FP services. However, there was substantial variation in the frequency and types of FP services they provided; only a few providers were primarily responsible for FP services.

Our study highlights how postpartum adolescents may be particularly responsive to FP interventions due to their recent transition to motherhood, but they have a lack of knowledge, misconceptions shape their FP preferences, and relationships with their partners, families, communities, and providers are important influences on their views. There are few high quality, low-resource strategies using adolescent-specific engagement modalities to improve contraceptive access, use, and integrated counseling; development and implementation research is critical. Successful strategies needing expansion seek to reduce the burden on providers by augmenting implementation of appropriate training and offering comprehensive counseling interventions including decision aids, audiovisuals, and telephone follow-up (38). Additionally, behavior change communication (BCC) through schools (39), media, and provider outreach to engage the wider community in addressing the entrenched social norms suppressing adolescent contraceptive use will increase adolescent self-efficacy in contraceptive use.

Appendix 1: Conceptual Model of Adolescent Method Access and Choice



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