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Barriers to Intrauterine Device Uptake in a Rural Setting in Ghana

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Abstract

Long-acting reversible contraception is an underutilized method in low-resource areas. Our study aims to: (a) assess knowledge and attitudes around contraception; (b) identify barriers to intrauterine device (IUD) uptake; and (c) develop interventions to address this gap in contraceptive care. We conducted focus group discussions with pregnant, postpartum, and reproductive-aged women, males, and health care workers in rural Ghana. Lack of IUD-specific knowledge, provider discomfort with insertion, and incomplete contraceptive counseling contribute to lack of IUD use. Participant- and provider-related barriers contribute to poor uptake of IUDs within the community. Targeted interventions are necessary to improve IUD use.

Based on our qualitative study we address barriers to intrauterine device (IUD) uptake in rural Ghana. Suggestions are offered for the design of a multilayer intervention to increase interest in and ultimately use of the IUD in resource-poor settings such as the study site. Site-specific adaptations to the intervention can be made to broaden the generalizability of this work to similar settings in other parts of the developing world or to low-resource settings in the developed world.

Reliable contraception is an effective primary prevention strategy to decrease maternal morbidity and mortality worldwide (Cleland, Conde-Agudelo, Peterson, Ross, & Tsui, 2012; Stover & Ross, 2010). Access to reliable contraception has served to reduce fertility rates and decrease unwanted pregnancies and unsafe abortions in the developed world, contributing to a decline in pregnancy-related complications (Konje & Ladipo, 1999). The

availability, affordability, and acceptability of contraceptive methods in resource-rich countries is high, and clients have a range of methods from which to choose, including the IUD (Jacobstein, 2007). The uptake of reliable contraception in sub-Saharan Africa is still low, however, especially IUD use (Jacobstein, 2007). Low contraceptive prevalence in resource-limited settings is attributed to poor access and limited method choice, poor quality of family planning services, fear of side effects, economic barriers, and cultural or religious biases (Greene & Stanback, 2012; Konje & Ladipo, 1999; World Health Organization [WHO], 2009). While some developing nations face challenges in meeting the unmet contraceptive needs of the population, other resource-poor countries have been successful at significantly increasing contraceptive uptake (Jacobstein, 2007; WHO, 2012). Making contraceptive devices and supplies available is an essential part of this process, as well as rendering them affordable to indigent populations. In addition, cultural sensitivity and local perceptions need to be considered and addressed in order to design socially and locally appropriate interventions in resource-poor settings.

Many options for modern contraception exist; however, long-acting reversible contraception (LARC), such as the IUD and the subdermal contraceptive implant, offer unique advantages over other options because of their cost effectiveness, ease of use, and low maintenance, making them ideal for use in low-resource settings (American College of Obstetricians and Gynecologists [ACOG], 2011; Jacobstein, 2007). Additionally, the timing of initiation of LARC is flexible; the IUD and implant can be inserted at any point during a woman's menstrual cycle or immediately postpartum and, once inserted, they provide immediate efficacy (ACOG, 2011). The use of LARC in the developing world, however, is low in comparison with that of developed countries despite sound evidence that LARC is highly effective, safe, easy to use, and has broad eligibility criteria (Jacobstein, 2007; WHO, 2009; Winner et al., 2012).

Longstanding beliefs regarding the IUD's poor side-effect profile, as well as myths and misconceptions about this method, are largely responsible for underuse of IUDs in the developing world (Jacobstein, 2007). Perceptions surrounding possible undesired side effects of the IUD are plentiful, including risk of infection and resulting infertility. Infertility concerns are pervasive despite evidence negating the commonly held belief that use of the IUD results in future infertility. In reality, there is no increase in sterility amongst women who have used the copper IUD in the past (Grimes, 2000; Hubacher, Lara-Ricalde, Taylor, Guerra-Infante, & Guzman-Rodriguez, 2001; WHO, 2009). To the contrary, one of the benefits of the IUD is that upon removal women experience a relatively rapid return to fertility (Espey & Ogburn, 2011). This is true for both the hormone and copper bearing IUDs; however, the copper IUD is the only one available in Ghana and is marketed for up to 10 years of use (Espey & Ogburn, 2011).

Researchers who examined the declining use of the IUD in Ghana found that while family planning knowledge was considered to be high overall, knowledge levels varied between contraceptive methods, and IUD-specific knowledge was relatively low (Osei, Birungi, Addico, Askew, & Gyapong, 2005). Researchers have demonstrated additional barriers to IUD uptake, in addition to lack of knowledge, including the impact of provider bias, community influence, upfront costs, and limited or lack of method choice (Greene &

Stanback, 2012; Osei et al., 2005; Ross, Hardee, Mumford, & Eid, 2002). These barriers result in underutilization of a highly effective method of contraception.

According to a recent review of Ghana's family planning policy, Ghana has acknowledged the importance of the need for population control since 1969 (Gyimah, Jones, & Coffie, 2011). Early attempts at establishing a family planning policy in 1970 as a collaboration between the Ministry of Finance and Economic Planning yielded minimal success. A revised policy was instituted in 1994 with the goal of reducing the total fertility rate (TFT) by increasing the use of contraceptives. Specific benchmarks of the policy included a reduction of the TFT from 5.5 to 5 by 2000, from 5 to 4 by 2010, and from 4 to 3 by 2020. Efforts by the Ghana Social Marketing Foundation, the Planned Parenthood Association of Ghana, and other programs have led to improved knowledge among Ghanaians about the importance of family planning and, as result, contraceptive use increased and the TFT decreased to 4 prior to the targeted year.

For the past 5 years, the Earth Institute's Millennium Village Project (MVP) Bonsaaso cluster in the Amansie West district of Ghana has been working to promote reproductive health for the women in the community, including the implementation of several family planning initiatives. The MVP data indicate, however, that the women living in the Bonsaaso cluster have a 27% rate of modern contraceptive use 5 years after initiation of the MVP. While this is nearly double both the national rate of modern contraceptive use in Ghana and the MVP baseline, which is 14% and 13%, respectively, it is well below the MVP goal of 40% (GSS, 2009). More specifically, use of the IUD among all Ghanaian women was noted to be 0.2% which significantly trails the use of oral contraceptives (4%), injectables (4%), and implants (0.7%; Ghana Statistical Service [GSS], Ghana Health Service [GHS], & ICF Macro, 2009). In Bonsaaso, an estimated 45% of contraceptive users are using LARC; however, the 5-year Levonorgestrel contraceptive implant accounts for 100% of this use. While implant use is high, women who desire LARC but find the implant not appealing or who have complications with this method currently have no alternative.

Given that one of the key aims of the MVP is to improve maternal health within the communities—in part by providing universal access to health care, including family planning services—additional efforts must be promoted to ensure a wider uptake of safe contraception. Therefore, our purpose in this article is to understand the reasons for poor IUD uptake in the Bonsaaso cluster and to suggest a community-based intervention that may contribute to increased use in Bonsaaso and other rural communities in the developing world. Our objectives in this article are to: (a) assess community and provider knowledge and attitudes around contraception, including LARC; (b) identify barriers for IUD uptake within the cluster; and (c) use the evidence from this article to develop targeted interventions to address this gap in contraceptive care.

METHODS

Setting

The Bonsaaso cluster consists of 30 communities in rural Ghana with a catchment population of 35,000. Seven primary health clinics (PHCs) service this area and each is

staffed by a nurse midwife, a community health nurse (CHN), and at least one Community Health Extension Worker (CHEW). As part of trained Ghana Health Service staff, the midwives and CHNs in the clinics are trained to provide family planning and methods counseling. Additionally, midwives received training on method insertion during their midwifery schooling; however, refresher courses on method insertion, such as the IUD, have not occurred since the MVP began operating in Bonsaaso. Conversely, the 5-year dual-rod contraceptive implant is a relatively new offering in Bonsaaso, having only been approved for use in Ghana in 2005, and thus insertion training has occurred for both midwives and CHNs during the MVP time span. The additional advantage for clients living within the cluster is that family planning commodities are provided to them free of charge. Short-term contraceptive commodities such as the oral contraceptive pill and injectables are obtained at no cost from Ghana Health Service. The LARC methods are obtained from Marie Stopes International at MVP's expense. Women living outside Bonsaaso cluster and the rest of Ghana, however, must purchase their method of choice at their own expense.

Data Collection

Five focus group discussions (FGDs) were conducted in three communities by a bilingual facilitator in the local language of Twi. Discussion guides were used that contained questions aimed at exploring the following: (a) how decisions regarding family planning are made at a household level; (b) general knowledge and availability of modern contraceptive methods; (c) information pertaining to method advantages, disadvantages, and side effects; (d) prior experience with contraceptive methods; and (e) barriers to use of the IUD. Probes were also used to gain a greater understanding of participant responses. These responses were translated simultaneously into English and documented by an English-speaking member of the study team. Simultaneous translation was utilized to decrease study costs. Focus group content was sequentially analyzed throughout the data collection period to refine questions and to follow up on emerging themes (Pope, Ziebland, & Mays, 2000). Following completion of all of the FGDs, an inventory of the points discussed was created (Bertrand, Brown, & Ward, 1992). In addition, the text data were reread and analyzed by two people independently (the facilitator and study coordinator) and using a conventional approach to content analysis, categories and themes were identified (Hsieh & Shannon, 2005).

Participants

Women, men, and health care providers from three of the Bonsaaso communities were identified and recruited by CHEWs for study participation. A portion of the community members who then presented were approached for study participation. Using this form of cluster sampling, we chose a representative number of cluster members. Community participants were divided into reproductive-life and gender-specific groups, allowing for separation of pregnant women, postpartum women (12 months postpartum), reproductive-aged women (ages 15–49) and men. None of the groups were co-ed. For the purposes of our article, the female participants are categorized as potential and current users and the men as male participants, given that they are not direct users of LARC methods. None of the male study participants were partners of the female study participants. Forty-one community members participated in the groups, including nine pregnant women, 13 postpartum women,

11 reproductive-aged women, and eight men. Recruitment of study participants was done by CHEWs during routine visits to homes within their assigned communities. Four midwives and three CHNs jointly participated in an FGD specifically for providers. The health care workers were identified by the study team from several PHCs and invited to participate.

Ethical approval for the study was obtained from the University of Illinois, Chicago, and the Ghana Ethics Board. Informed consent was obtained from all of the participants.

Results

In Table 1 the authors summarize the characteristics of the potential and current users and male participants. Of the 41 focus group participants, more than half of the women were ages 21–30 (54.5%), and 75% of the men were aged 41 years or more. Forty-two percent of women were either nulliparous or para 1, while 87.5% of the male participants reported fathering four or more children. The majority of the participants were married (85.3%), and an equal number of participants were either non-literate or had completed junior secondary school (41.4% each). In total, seven providers participated in the study: four nurse midwives and three CHNs.

Several topics were explored in detail during the FGDs including knowledge, attitudes, and barriers to contraceptive use. Themes emerging from the discussions are presented.

Lack of Knowledge of Contraceptive Methods

The majority of participants displayed knowledge of modern methods of contraception. The lack of IUD-specific knowledge emerged as an important factor relating to interest in and selection of the method.

Potential and current users—All of the potential and current users reported some awareness of modern methods of contraception. These included condoms, oral contraceptives, injectables, implants, tubal ligation, and foam barriers. Traditional methods of contraception using herbal concoctions were also mentioned. While the majority of women reported using some form of modern contraceptive method either currently or in the past, this was not true for the focus group consisting of pregnant women. Of the nine pregnant participants, only one had ever used any method of contraception—the 3-month injectable. When asked why knowledge had not translated into use, pregnant respondents reported a lack of need for contraception. One pregnant respondent stated, “My menstruation was delayed after the last delivery so I didn’t feel like I needed it.”

When directly asked about knowledge of the IUD, a small number of pregnant and reproductive-aged women had heard about the IUD. In contrast, all of the postpartum women were familiar with this method. Of those who were aware of its existence, none had ever used this method, and most had been misinformed about the possible side effects and the target population for the IUD.

Male participants—The male participants were able to name a few methods of modern contraception, including condoms, oral contraceptives, injectables, implants, and female and male sterilization. One of the traditional methods, the calendar method, was also mentioned.

None of the men had ever heard of nor knew anything about the IUD. Description of the method by the interviewer did not assist with respondents' recognition of this method.

Six of the eight male participants' female partners were currently using a modern method of contraception at the time of the FGD. Participants reported this had not always been the case, however, and credited recent health education initiatives in the community with replacing their ignorance about family planning methods with knowledge. The following quote serves as an example of the shift in knowledge base among the participating men:

I am young and have only delivered three. I did not know much about family planning, but now that I've heard about it, we will seek it.

Providers—All of the providers reported awareness of modern methods of contraception, including the IUD. Specific knowledge content about the IUD, however, varied among providers. The theoretical aspects of IUD use, such as its nonhormonal properties, the length of time it can be used, where in the uterus it should lie, the need for a pelvic exam to rule out infections, and clean insertion technique were universally known, yet knowledge of its mechanism of action, the eligibility criteria for use, and contraindications for use were not known. When asked how the IUD works, one of the CHNs stated: “[The IUD] blocks the fallopian tubes after insertion into the uterine cavity.”

Attitudes About Contraception

The use of contraception, or lack thereof, was related to the way participants thought and felt about family planning in general and about the various methods more specifically.

Potential and current users—While the majority of participants reported family planning was useful in general, attitudes surrounding the IUD specifically were quite mixed. For instance, more than three-fourths of the post-partum participants stated that they had not heard anything positive about this method.

Conversely, the implant was considered an overall favorable contraceptive option. The most frequently cited reason for the popularity of the implant was a desire to actively engage in birth spacing. One respondent stated, “My husband wants my child to grow and when the child gets to 2 years, then he will allow me to take out the Jadelle [implant].”

Male participants—The male participants' attitudes (positive and negative) around family planning were largely shaped by past experiences, desired family size, and reproductive goals. For instance, one participant whose wife was using contraception said the following:

My father delivered 13 children and did not take care of any of the children. So when I grew up, I had the mind that I would not follow after my father. So I had three because I wanted to cater to my children. When I myself got three, I told my wife that is it.

While another participant, whose wife was not using family planning, related his experience:

I didn't plan my family because if I plan and deliver a small family size, we have the intention of farming in the various communities and the intention is to use the

children in the farming. So labor costs will be high if you only have few children. If you don't deliver plenty, you wouldn't know—some might be thieves, armed robbers... so if you deliver plenty, you may get some good ones, but if you just deliver few, you won't be able to sample out the good ones from the bad ones.

When asked their views on the implant, one man responded, "I like the 5 years [method]." He went on to elaborate by saying that he felt there was widespread misconception about family planning in general. He therefore encouraged his wife to use the implant so they could watch for the side effects reported in the community, such as dizziness, bloated abdomen, and high blood pressure. Their intention is to advocate for its use if she does not have any complaints at the end of the 5 years.

Providers—Similar to the participants, providers spoke positively about the importance of community use of family planning and contraceptive options. Concern for side effects about the IUD in particular, however, impacted the positive opinions providers held about contraception in general.

When asked for suggestions about how to improve community members' impression about the IUD, it was suggested that the best way to accomplish this is through role modeling, as one midwife stated: "If a woman does it and keeps it for some time without having a problem, other women will be interested."

Male Factor Limitations

Several women indicated that their ability to use contraception was dependent on their husbands' permission. All of the pregnant women reported that their husbands make the decisions about frequency of intercourse and ideal number of children. Conversely, the bulk of women in the postpartum and reproductive-aged groups stated that they were the primary decisionmakers regarding initiation and maintenance of family planning methods. The caveat, however, is that many did so without their partner's knowledge. For example, in the postpartum group, more than half of the 13 women were using family planning methods without their husband's knowledge. When asked why their partners were not interested in engaging in family planning, the respondents had varying answers. These included unclear reasons are demonstrated by these two quotes: "[My husband says] if I do it [family planning], then I should pack my things and go," and "My husband becomes angry [with mention of family planning] and just doesn't like it."

In agreement with some of the responses by female participants, men stated that they are the ones in the relationship who dictate when and with what frequency sex occurs. The majority of the men in the focus group supported the use of family planning and suggested this was a similar sentiment shared by men in the community. In response to the females' claims that male partners sometimes prevented their using family planning, however, several of the male participants acknowledged that ignorance surrounding the importance of family planning contributed to their negative attitudes and lack of support for their female partners' desires to use contraception. One respondent stated, "At first, no [men did not support family planning], but recently they've understood family planning and so they would not tell the woman no or hold her back."

Fear of Side Effects

During each FGD, conversation arose about the risk of side effects of contraception. Potential and current users feared the possibility of side effects for themselves, the male participants expressed worry for the way their partners could be affected, and providers conveyed concern for the safety of their clients.

Potential and current users—Female focus group participants frequently mentioned fear of side effects as a concern with modern contraceptive use. Fear contributed to a lack of interest in contraceptive use and added to the gap between knowledge and use of contraception for potential and current users. Methods that do not guarantee regular menstruation, for example, were thought to be dangerous, as one woman stated: “Without regular menstruation, people will die or fall sick.” Another woman expressed concern that modern methods of contraception can lead to women growing “lean,” which is looked upon unfavorably. Some women did not support the use of the implant out of concern for side effects such as dizziness. One woman in the postpartum group said, “I fear it [implant]. My sister did it and has gone for removal because [she] had dizziness with Jadelle.”

Participants generally felt that IUDs were unsafe. Some women reported worry about undesired side effects such as possible development of fibroids, high blood pressure, and sterility. The perception that the IUD leads to sterility was the most common negative sentiment expressed by postpartum participants.

Male participants—While none of the male participants were aware of the IUD prior to the FGD, throughout the discussion, the IUD was mentioned by the facilitator and its use explained. Resulting discussion regarding opinions pertaining to the IUD were mixed. One of the male respondents stated that his concern would be that the IUD might give his wife an infection and that if the wife starts having any kind of problem after insertion, it would be difficult to determine the etiology of the concern and thus to treat her. Another participant said, “If the Ministry of Health says it is very good and safe, I would be okay with it.”

Providers—The overarching sentiment expressed by providers regarding IUD use in particular was concern for the potential harm IUDs can cause. Providers echoed community member concerns about IUD safety, namely, possible migration of the IUD from the uterus to the heart resulting in death.

Barriers to IUD Use

Beyond the previously mentioned safety concerns regarding the IUD, the barriers identified by potential and current users and providers included concern for insertion timing and technique, gender of the provider, provider bias, eligibility criteria misconceptions, and lack of IUD availability.

Insertion timing—Insertion of the IUD was perceived as being cumbersome and invasive, requiring multiple tools and a pelvic exam as opposed to the ease of inserting an implant. With regards to the perceived inconvenience associated with insertion, women stated that they would be more apt to use the IUD if it were inserted immediately postpartum when

they were already exposed and therefore did not have to incur the inconvenience and embarrassment of undressing for an interval insertion that generally is performed while the woman is menstruating. In contrast, the ease of inserting the implant into a woman's arm contributed to its popularity in the community.

In agreement with the potential and current users' responses, providers mentioned "exposure of their nakedness" to be a significant factor affecting IUD uptake. Culturally, women are not used to exposing the genital region for any purpose outside of sexual activity or delivery. One of the midwives further explained this sentiment: "For a woman to voluntarily come to the clinic and lift up her dress when she may not be feeling clean, that is tough."

When asked whether insertion following delivery would be more accepted, a midwife said, "Yes, that one is different because she is already undressed."

Insertion technique—Additionally, knowledge of the practical aspects of insertion were lacking among all of the providers, largely due to lack of experience. Only one participating midwife had ever inserted an IUD, and none had received refresher training on IUD insertion in recent years. Discomfort with IUD insertion impacted the providers' ability to effectively counsel women regarding IUD as a contraceptive option.

Gender of the provider—Gender of the provider was mentioned as a possible barrier to IUD use by potential and current users. The female participants felt more comfortable with a female provider rather than a male provider performing the insertion.

The male participants reported indifference with regard to the provider's gender. They expressed a greater interest in ensuring that the provider had been adequately trained to insert IUDs as the following quote suggests:

Don't have any problem with it [provider accessing the vagina during an exam to insert the IUD]. Once the person is a doctor and has the training, it is fine.

Provider bias and eligibility criteria misconceptions—One of the primary barriers to IUD use from the provider side centered around their discomfort with offering IUDs to women who were not in monogamous relationships. One of the midwives suggested that the IUD was not safe for women involved in polygamous relationships and instead could only be used in the setting of monogamous marriages.

Participating providers readily admitted that their personal biases about the method contribute to incomplete contraceptive counseling, often omitting the IUD from the list of contraceptive options. Additionally, they were less likely to discuss this method with women who they felt would not be ideal candidates for use—specifically women in polygamous relationships.

Similarly unclear about the population of women eligible for IUD use, postpartum FGD participants, while familiar with the IUD, were under the impression that its use was ideally for women who had already birthed many children and no longer desired fertility.

Lack of IUD availability—Lack of availability of the IUD and the lack of availability of trained providers was a concern expressed by providers. If the IUD was mentioned during counseling, therefore, providers reported refraining from engaging the woman in an in-depth conversation about the method given its lack of availability in the cluster.

DISCUSSION

Having done this study, we realized that there are myriad user-dependent as well as provider-dependent factors that contribute to the underutilization of modern contraception and especially to the lack of IUD use within the Bonsaaso cluster. Common themes identified from both community and provider group discussions regarding the IUD include lack of knowledge regarding both the existence of the IUD and content-specific IUD knowledge, misconceptions regarding eligibility criteria, provider bias, fears of IUD use and concern for its side effect profile—including increased infection risk and resulting sterility—burden of insertion, provider discomfort with insertion, male factor limitations, and lack of availability of the method.

In contrast, the expressed desire for birth spacing, increased knowledge about the implant, provider and client comfort with insertion, and its availability in the cluster all contribute to the popularity of the implant in Bonsaaso. In fact, when LARC use among all women in Ghana is compared with that of women in the Bonsaaso cluster, women in the cluster are using the implant at a much higher rate than their counterparts (GSS et al., 2009). This suggests that there is a demand for long-term reversible methods. The current environment within the cluster, however, facilitates implant use over IUD use. Women who desire long-term reversible methods yet who may experience complications such as dizziness with the implant, who are poorly tolerant of the menstrual irregularities related to its systemic hormonal properties, or who are dissatisfied with the implant for other reasons and choose not to use it, have no alternative (Sivin, 2003). Thus, it is important to create an environment that is informative, supportive, and inclusive of IUD use. This can be accomplished by designing an intervention that directly addresses many of the issues raised in this study. The emerging themes from our research are further explored below.

Lack of Knowledge

The majority of focus group participants were aware of some modern contraceptive options. This is consistent with findings from the Demographic Health Survey data that indicate that the vast majority of Ghanaians (98% of all women and 99% of all men) have heard of at least one method of contraception (GSS et al., 2009). Similar to researchers of prior studies, we found IUD-specific knowledge regarding its existence and its risk and benefit profile was sparse (Greene & Stanback, 2012; Osei et al., 2005). Interestingly, however, women in the postpartum group were the most knowledgeable of all the potential and current users regarding the existence of IUDs. Similar knowledge was not seen in the pregnant participants. The reason for this discrepancy is not readily apparent yet may indicate that shared contraceptive knowledge either amongst women or from the larger community may be greatest during the course of pregnancy and in the postpartum period.

Client Eligibility, Misconceptions, and Provider Bias

The lack of IUD specific knowledge among the majority of the study participants can perhaps be attributed to incomplete contraceptive counseling, which often omits discussion of the IUD due to provider bias or presumed client preference. Researchers who have examined provider bias have documented this bias as an influential factor in methods counseling and client access and adoption of contraception in developing countries (Bertrand, Hardee, Magnani, & Angle, 1995; Speizer, Hotchkiss, Magnani, Hubbard, & Nelson, 2000). Specifically in Ghana, researchers conducted several situational analyses and identified provider-imposed barriers to contraceptive access such as marriage, parity, and age requirements (GSS, 1997; Stanback & Twum-Baah, 2001). Authors of a follow-up study on provider behavior suggested outdated knowledge with regards to side effects of and eligibility criteria for modern contraception, client mistrust, and personal morals are largely responsible for access restriction to clients (Stanback & Twum-Baah, 2001).

Common misconceptions about client eligibility for the copper IUD based on medical and social history, as well as the risks of IUDs in general, were prevalent among all of the study participant groups. Despite having completed a formalized contraceptive training curriculum in midwifery and nursing school, the providers' reported understanding of potential side effects associated with IUD use mirrored the communities' misconceptions about the safety of this method. While these concerns are largely anecdotal and are not supported by scientific findings, they highlight the impact that strongly held beliefs and outdated method-specific knowledge can have on behavior. For instance, while it is true that, historically, IUD insertion was reserved for multiparous women who were in monogamous relationships, the WHO no longer limits its use for this particular subset of the population (ACOG, 2011; Espey & Ogburn, 2011). Authors of several studies have indicated that nulliparous women and even adolescents who desire contraception may be appropriate candidates for IUD use (ACOG, 2011). An additional benefit of LARC methods, including the copper IUD, is that they are contraindicated for very few women based on their medical histories (ACOG, 2011). According to the WHO medical eligibility criteria for contraceptive use, nearly every woman of childbearing age is eligible for the IUD (ACOG, 2011; WHO, 2009). Exceptions include women who have a distorted uterine cavity, a copper allergy, or Wilson's disease—a disease in which excess copper exists in a person's body, active sexually transmitted infection, or uterine or cervical cancer (WHO, 2009).

Addressing misconceptions and improving general community and provider knowledge as well as updating providers on current WHO eligibility criteria and updated safety information about the copper IUD may affect uptake within the Bonsaaso cluster.

Fear of Side Effects

Also contributing to safety concerns is historical memory of infectious complications associated with older IUDs, such as the Dalkon Shield which was used in the 1970s. Modern IUDs, however, are not linked to the risk of pelvic infection, and data show that a temporal relationship exists between IUD insertion and upper genital tract infections. Beyond the first 20 days postinsertion, the risk of infection in users is no different from that in nonusers (Farley, Rosenberg, Rowe, Chen, & Meirik, 1992). Care must be taken, however, to avoid

inserting devices in the setting of active cervical infection. Thus, the prevalence of STIs in the area where the insertion will occur and a woman's individual risk for STI is important to consider prior to IUD insertion. This is of paramount importance in low-resource settings such as Bonsaaso where routine preinsertion testing for STIs is not available. Authors of prior studies examining eligibility of IUD insertion in the absence of STI testing availability, however, suggest that this should not serve as a barrier to IUD insertion since a pelvic exam and provider checklist to assess STI risk can be used in settings where routine STI testing is not feasible (Greene & Stanback, 2012). Additionally, Morrison and colleagues (2007) developed an algorithm for candidate selection based on STI risk category, which can be used in developing countries to assist providers in triaging women for insertion.

Insertion Concerns

Study participants perceived the necessary below-the-waist exposure for the purposes of IUD insertion as an inconvenience and a burden to method selection. More acceptable, however, was the idea of IUD insertion immediately after a birth, when women are already undressed. Postplacental IUD insertion, defined as insertion within 10 minutes of placental delivery, has been proven to be safe, yet it garners a higher risk of expulsion than the risk with interval insertion (Grimes, 2000). Complications associated with IUD insertion, such as uterine perforation or infection, have not been shown to increase with postplacental insertion (WHO, 2009). Thus, interventions targeting pregnant women in the cluster may yield the most beneficial when considering the population who may be most likely to accept this method given insertion concerns.

Role of Men in Contraception Uptake

The role of the male partner in contraceptive use and decision making is of paramount importance. The evidence in our article suggests that the male partner's attitudes, experiences, and knowledge regarding contraceptive methods can both positively and negatively affect a woman's contraceptive choice. While the etiology of reticence on behalf of some of the male partners of the female respondents in this study is unclear, we query whether lack of knowledge regarding contraceptive benefits and method options may have contributed in some way. Including male partners in contraceptive counseling discussion and education may assist with decreasing opposition to contraceptive use and even IUD use.

Authors of a study conducted in the United States demonstrated how increased IUD knowledge can positively affect client attitudes toward the IUD and consequently increase IUD utilization (Whitaker, 2010). To this end, comprehensive family planning counseling is needed to increase knowledge, awareness, and interest in contraceptive options (Arrowsmith, Aicken, Saxena, & Majeed, 2012). In order to accomplish this goal, an emphasis on provider-specific education as well as community-focused education that dispels common myths and misconceptions, along with sensitization, is essential.

Limitations

While our study findings suggest the existence of significant barriers to IUD uptake in Bonsaaso, these should be interpreted in the context of the study's limitations. First, the community sample who participated in this study was not as varied as would be ideal. For

instance, the male participants tended to be older, married, and have many children. These factors may have impacted the way in which men responded to the questions asked within the focus groups. Second, the FGDs were spot translated rather than audio recorded, thus preventing future review to verify accuracy of the data collected. Our study team's decision to proceed with spot translation, rather than audio recording with subsequent transcription and translation, was based on financial and human resource constraints.

In addition to the study limitations, the lack of availability of IUDs within the cluster and lack of provider experience with insertion were challenges that became apparent throughout the course of the study. IUDs were not available in the cluster at the time that this study was conducted, although they have been accessible to the MVP and could be procured through the same means as the other family planning commodities. Providers reported there being no demand for IUDs within the cluster, and consequently they have not been part of the requested commodities during the span of the MVP. The lack of IUDs at the PHCs may contribute to the way in which midwives provide method counseling as well as to method selection by potential clients and their male partners given that authors of prior research have indicated that method use is positively correlated to its availability (Ross et al., 2002). Additionally, the majority of midwives in the cluster had never inserted an IUD in a client beyond that which was required during their schooling. The lack of recent practical experience, in comparison to more recent training in implant insertion, may also contribute to the biases that providers expressed regarding the IUD as a favorable LARC option.

Recommendations for Next Steps

In the context of the study setting, the limitations, and challenges discussed, there are a number of ways to address the issues raised during the FGDs. Most importantly, providers require IUD training. Ideally, training will eliminate the reticence that some providers express with counseling women on a contraceptive option that they do not feel comfortable delivering. By gaining an increased comfort level with insertion, it is hoped that this provider-dependent barrier will be removed. Additionally, lack of availability of the IUD within the cluster needs to be remedied. Despite the cluster having the means to obtain IUDs from Marie Stopes International, they are not procured due to provider-reported lack of demand. Research shows a strong relationship, however, between availability of methods and the prevalence of their use (Ross et al., 2002). Thus, making the commodity available within the cluster is an important factor to consider while promoting method choice and in facilitating IUD use. It also would be ideal if IUDs were available at the time of delivery for postpartum insertion, which would address potential users' concerns expressed regarding burden of insertion.

Peer counseling and role modeling is known to be effective in health promotion and behavior change (Glanz, Rimer, & Viswanath, 2008). Similarly, community worker counseling has been shown to be effective in increasing IUD uptake (Arrowsmith et al., 2012). The MVP model highlights the importance of community involvement in the overall health and well-being of the cluster residents. A prime example of this ideal in action is through the use of CHEWs, who are present in and interact with community members in an effort to forge trusting relationships that will ultimately facilitate the effective exchange of

health-related information. Using information learned during the FGDs and the available infrastructure within the cluster, an intervention utilizing CHEWs in addition to women in the community who volunteer to be IUD users and subsequent peer educators may prove most effective. The peer educators would undergo IUD educational training by providers who have recently completed IUD training at a nearby teaching institution. The volunteers would then accompany the CHEWs during family planning community sensitization events and during routine visits to the homes of pregnant women to serve as IUD educators and ambassadors.

A multilayer intervention is needed to positively influence the attitudes of potential and current users and providers and ultimately improve IUD uptake within the cluster. By focusing on community and provider IUD-specific educational initiatives, provider training, peer modeling, and IUD availability, IUD use in the Bonsaaso cluster will ideally increase.

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TABLE 1

Characteristics of Potential and Current Users and Male Participants

Characteristic	Pregnant women (<i>N</i> = 9)	Postpartum women (<i>N</i> = 13)	Reproductive age women (<i>N</i> = 11)	Men (<i>N</i> = 8)
Age				
20	3 (33.3%)	0 (0%)	2 (18.1%)	0 (0%)
21–30	3 (22.2%)	9 (69.2%)	7 (63.6%)	0 (0%)
31–40	3 (33.3%)	4 (30.7%)	1 (9.0%)	2 (25.0%)
41	0 (0%)	0 (0%)	1 (9.0%)	6 (75.0%)
Parity/children				
0–1	4 (44.4%)	4 (30.7%)	6 (54.5%)	0 (0%)
2–3	2 (22.2%)	4 (30.7%)	4 (36.3%)	1 (12.5%)
4+	3 (33.3%)	5 (38.4%)	1 (9.0%)	7 (87.5%)
Marital status				
Single	0 (0%)	1 (7.6%)	5 (45.4%)	0 (0%)
Married	9 (100%)	12 (92.3%)	6 (54.5%)	8 (100%)
Highest educational level attained				
None/illiterate	3 (33.3%)	7 (53.8%)	5 (45.4%)	2 (25.0%)
Primary (1st–6th grade)	1 (11.1%)	0 (0%)	1 (9.0%)	0 (0%)
Junior secondary (7th–9th grade)	4 (44.4%)	4 (30.7%)	4 (36.3%)	5 (62.5%)
Senior secondary or higher (10th–12th grade)	1 (11.1%)	2 (15.3%)	1 (9.0%)	1 (12.5%)