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Explaining LARCs discontinuity in Ethiopia: The experience of women who access contraceptives in selected public health facilities

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Abstract

Background: Unintended pregnancy remains an important public health problem among teenagers and women in developing countries. Modern family planning methods, particularly Long Acting Reversible Contraceptives (LARCs), are highly effective in addressing the problem and its undesirable outcomes in maternal mortality. But dissatisfaction with contraceptives has contributed to their early discontinuation, but the reasons in Ethiopia are not adequately explored.Objective: This study aims to explore the main reasons of discontinuation of LARCs-use within one year of adoption in selected public health facilities in Ethiopia.

Methods: Institution-based, multi-center prospective-cohort study design was used to identify the reasons of discontinuation among LARCs-users in Ethiopia. The study covered four university hospitals and health centers in Addis Ababa, Gondar, Mekelle and Jimma. The main study employed survey and in-depth interviews. But this article is based on qualitative data collected through in-depth interviews. It explored the decision-making processes involved in LARCs-discontinuation based on the experiences of 29 women aged 15-49 who did within a year of insertion. Interview data were thematically organized, coded and analyzed in light of the study objectives.

Results: The study found women were sufficiently aware of the various types of contraceptives, including LARCs. Many of them experimented with different types before deciding on their choice. On LARCs, most were satisfied with its benefits while they also mentioned several reasons to discontinue its use including weight gain/loss, heavy menses, tiredness, reduced libido, desire to conceive and husbands' disapproval. Their decisions to use or not use LARCs reflected the common cultural values about childbirth and myths on contraceptive use.

Conclusions: The study found women use (or discontinue use) of contraceptives depends on their knowledge about their options, personal experience with side-effects, and the support from significant others, mainly husbands. As such, any campaign to promote family planning methods has to take into account the status of women in the Ethiopian society and cultural definition of their sexuality.

Background

With an annual rate of 87 million cases unintended pregnancy accounts for 90% of abortions (1); and, among women who continue their pregnancy, it is associated with higher rates of adverse maternal and infant health and socioeconomic outcomes (2). As such, it is one of the most pressing global public

health problems (3). But increasing access to effective contraception could prevent unplanned pregnancy and its detrimental effects on the health and wellbeing of women, their families and communities (4–6).

In 2015, 90% of sexually active women worldwide utilize modern family planning methods (UN 2015) (7). A large share of these methods is Long Acting Reversible Contraceptives (LARCs), which include copper-intrauterine device (C-IUD), levonorgestrel-releasing intrauterine system (LNG-IUS) and levonorgestrel (LNG)- and etonogestrel (ENG)-releasing subdermal implants (8). LARCs offer women an over 20-times most effective protection against pregnancy (1)and closely-spaced pregnancies than commonly used oral contraceptive pill (OCP), or contraceptive vaginal ring or patch (9). Their effectiveness significantly reduces the need for abortion, maternal mortality or other bad outcomes on mothers and their infants associated with abortion or complications during delivery (10). This makes LARCs clear favorites among women to use(11); and, WHO and national governments had long shifted and started promoting LARCs as an effective strategy to implement family planning programs (12), especially in countries with unmet contraceptive needs, limited resources and high fertility rate (8).

Using LARCs is uncomplicated since it does not require women to visit health providers frequently to restock supply. Willing women will make a one-time visit to health centers to avail the services of trained professionals for insertion – these centers and professionals will have to be visited for removal as well. Besides, almost all women are eligible for etonogestrel implant and IUDs. Alternatively put, women only require a single act of motivation for long-term use, eliminating adherence and user-dependence from the effectiveness Eq. (13).

The availability and utilization of LARCs has improved over the years, though early discontinuation is emerging as a concern for public health policy and practice. International studies explored contexts to explain LARCs-discontinuation and some identified user-dissatisfaction on qualities, among others, as one of the factors (14). Specifically, 6–17% of LARCs discontinuation happen between 6 and 12 months, with cramping and changes in bleeding patterns commonly reported as reasons for removal of the IUD and implant (5, 15, 16). It has also been reported that the main side-effect of the ENG-implant was menstrual bleeding irregularities – including infrequent or frequent and prolonged bleeding without prior symptoms – which are, at the same time, the main reasons for their premature discontinuation (17). Comparatively, on the other hand, copper-IUD-users were more likely to discontinue use because of heavy menstrual bleeding and dysmenorrhea (9.7% of copper-IUD-users versus 1.5% of LNG-IUS-users), whereas LNG-IUS-users were more likely to discontinue its use because of amenorrhea and spotting compared with copper-IUD-users (18).

A study in the USA investigated discontinuation of no-cost LARC and identified cramping as the most common reason for discontinuation of IUD within 6months of insertion. Removal for irregular or frequent bleeding was also cited across all three LARCs i.e. LNG-IUS, copper-IUD, and implant. Only 3% of women discontinued LARCs at or before 6months to conceive (19). The most common reason for IUD discontinuation after 12months remained to be either bleeding and/or cramping as reported by copper-IUD- and LNG-IUS-users; and unpredictable bleeding (10%) was the most common reason for implant

discontinuation. A few LNG-IUS-users (3%) reported discontinuation due to such side-effects as acne and weight change (20, 21). Among women's socioeconomic and demographic attributes, only marital status significantly predicted their decisions regarding LARCs discontinuation.

Another study in the USA reported similar result regarding the insignificant role of socio-demographic factors – e.g. race, age, etc. – on women's early LARCs discontinuation. The study identified the reasons for LARCs discontinuation as general pain or cramp, heavy-bleeding, desire to conceive and sexual inactivity (16). Similarly, while Australian women's usage and continuation rate of Implanon declined with increase in years, metropolitan women were found to be more likely than rural women to discontinue its use because of dissatisfaction with bleeding patterns (15).

With similar design to Garbers *et al* (16), Modesto *et al*(22) investigated the varying effects of intensive and routine counseling on LARCs discontinuation due to unpredictable menstrual bleeding among new users in Brazil. They found no statistically significant difference on the different counseling technique i.e. they corroborated the findings of Garbers *et al* that consultation – regardless of its intensity – is important to decisions on (dis)continuation of LARCs-use. Garbers *et al*, based on their study in the USA, stressed the importance of consultation with health educators in LARCs use or discontinuation (16). They found that women who did not consult with health educators were significantly more likely to remove their IUDs early than those who had had at least one consultation. On a related note, similar results were also reported for Ethiopia whereby women who were not counseled on the features and side-effects of Implanon were almost 3times more likely to discontinue its use than users who were (23).

In sub-Saharan Africa, significantly increasingly number of reproductive age women are using family planning and many are opting for implants (24). But Ethiopia is one of the sub-Saharan countries where unmet contraceptives need of women is high – 25.3% (25). By 'unmet need,' we meant "the percentage of women who do not want to become pregnant, but are not using contraception" (26, 27). In terms of preferred method, studies on African countries including Ethiopia found that implant is women's first choice, but percentage of its early discontinuation also ranges from 17–47% (28). Moreover, despite increases in their availability, effectiveness and knowledge on LARCs, IUD and implants in Ethiopia, women's adoption rate is low; and, implant users are only about 8% among all contraceptive method users (29).

Factors that explain the low contraceptive use-rate in Ethiopia also explain their discontinuation. Existing literature reported 37.1% national discontinuation rate for all modern contraceptive methods within first 12 months of use in Ethiopia(26). The discontinuation rate is highest in non-LARC methods, and for LARCs (implants only) during the same timeline, it was 4.5% (29).

Except such fragmented and sporadic reports, there are limited empirical and policy-relevant researches on Ethiopian women's structural, institutional and personal experiences leading to their discontinuation of LARCs. Besides, since high discontinuation of contraceptives is associated with bad reproductive health outcomes including unintended pregnancy and potentially unsafe abortion causing serious complications including death (23), this study is very relevant for public health policy formulation and

practice(28). Furthermore, despite the high rate of Ethiopian women discontinuing contraceptive implants within 12 months (23, 30), the thorough investigation of intricate factors and experiences attending LARCs discontinuation in Ethiopia produces outcomes with breadth, contextual relevance and policy/service import. Specifically, this paper will analyze and report on the factors and experiences of 29 women who discontinued LARCs within the first year of their use in four major urban centers of Ethiopia.

Methods

Study design and timeline. Institution-based, multi-centered follow-up study design was conducted to interrogate the experience and factors associated with LARC discontinuation within 12 months after insertion among users in public health facilities in four urban centers of Ethiopia. In-depth interviews were conducted between March 2017 and December 2018. The study approach was phenomenological and in-depth interviews probed women's structural, institutional and personal factors and experiences that influence decision making on LARCs use.

Study area. The study was conducted in four urban centers of Ethiopia: St Paul Hospital's Millennium Medical College (Addis Ababa), University of Gondar Comprehensive Specialized Hospital (Gondar), Ayder Referral Hospital (Mekelle) and Jimma University Teaching Hospital (Jimma). Moreover, four health institutions in each of the four cities were selected. The study specifically targeted females (aged 15–49 years) who, for reasons related to LARCs use, visited family planning service clinics in the health institutions identified above.

Study population, sample size and sampling. The study participants were women (aged 15–49 years) who discontinued LARCs during a one-year follow-up period, selected from all LARC-users registered in the selected health facilities. The study excluded women who were critically ill or unable to communicate during the study period. A total of 32 women (8 from each of the 4 urban centers) were theoretically defined as the sample size for in-depth interview. Sampling technique was purposive and it considered the operational definition of LARCs discontinuation as well as the availability, communicativeness, medical conditions of interviewees. Nonetheless, data saturation during fieldwork determine the actual number of women interviewed from each urban center.

Data collection, and management: In-depth interviews used a guide that included statements that request informed consent from interviewees. The interview guide was unstructured and included framing themes along the line of the study objective. The themes discussed during interviews were experience on LARCs use, changes on one's life due to adoption, reasons for discontinuation, and services and personnel in health facilities on LARCs, among others. Interviewees were encouraged to talk about their experiences freely in an environment that protect their privacy. Interviewers contacted each interviewee and determined the time and place of interview as to the latter's convenience.

All 29 interviews were audio-recorded, with the written informed consent of interviewees, while their anecdotal expressions and body language were recorded on notebook to allow for thick description. Upon the completion of all interviews, interviewers transcribed the audio-files in local languages (Amharic, Afan

Oromo and Tigrigna) – the medium for interview. Expert linguists translated the local language transcriptions of interviews into English texts. These transcripts were imported to NVivo (12) software. 7 transcripts were selected for initial coding based on which codebook was generated (deductive coding). The coded data were refined for clarity, consistency, specificity of contents to each code. In the process, unclear codes were refined, while unnecessary codes were removed and few emerging ones were added. Codes were categorized into similar topics of interest i.e. knowledge, attitude, utilization practice and reasons for removal of LARCs.

Analyses

The code report was then synthesized using synthesis table prepared based on main themes and subthemes that are mapped to answer the research questions. Content analysis approach was followed during data analysis. To ensure validity of findings, researchers assigned to code were also responsible to synthesize and write the results, which allowed for full immersion to the data. Besides, validity of findings was checked by recursive reading of transcripts, codes and synthesis table. Results were presented through describing the main findings under each theme, and descriptions were supported by verbatim when necessary. Thematic organization and content analysis were conducted to present, discuss and interpret qualitative data collected through in-depth interview. In quoting interviewees, pseudonyms were used to keep their identity confidential.

Ethical considerations: The University of Gondar provided the ethical clearance for the study. The study participants were informed about the purpose of the research and consent was solicited from all before the commencement of interview. For participants under the age of 18, both their verbal assent and their parents'/guardians' consent were obtained. For women aged 18 and above, their consent and their partners' assent were obtained. The researchers ensured the participants will not be harmed due to their participation in the study and/or their treatment will not be affected in any way. The privacy and confidentiality of interviewees were protected with codes and pseudonyms in storing data or writing this paper, respectively.

Results

The decision to use or discontinue contraceptives is an outcome of several factors including motivation to avoid pregnancy, cultural appositeness, and availability and quality of alternative contraceptive methods. Women constantly weigh the pros and cons of using or discontinuing contraceptives against their individual circumstances, and family and community values about women's sexuality, childbirth and contraceptive use. Against this backdrop, but primarily using codes from in-depth interviews, the following themes were used to organize and present the primary results and findings of the study: (a) knowledge on family planning and LARCs; (b) preferred contraceptive method; (c) attitude towards LARCs; and, (d) reasons for discontinuation of LARCs. In discussing the results and findings, the use of primary research concepts and terms were specified in terms as below:

- *LARCs*: IUDs and contraceptive implants are categorized as LARCs, for they do not require daily use or repeated visits to obtain resupply.
- *Early discontinuation of LARC*s: Not using the baseline method at the interview time or reported any temporary stop of the method for one month or longer.
- *Knowledge on contraceptives*: Knowledge or awareness on the advantages, disadvantages and mechanisms of various family planning methods as well as recommended LARC practices as assessed in terms of the accuracy of information reported by interviewees.

Knowledge on family planning methods, including LARCs. Interviews with women revealed the sufficiency of their awareness about the use and options of family planning methods to prevent unwanted pregnancy and/or space childbirth. All were able to mention at least one family planning method. Besides, most were able to describe the duration of action (e.g. identifying methods served for 3 months or 5 years) or mode of administration (e.g. injection or insertion under arm) of several modern family planning methods. *"…*, an interviewee at Mekelle city, states,

To prevent unwanted pregnancy, women can choose among several family planning methods. I know loop; and I don't specifically know their names but there are others that can be used for 3 months, or 3 years. The ones used for 3 months and 3 years are methods which can be used for spacing, and loop is the best option if women do not want to have baby any more (Interview 2017).

While injectables (which interviewees refer to variously as 'the one used for 3 months,' 'injectable' or 'Depo') are the most frequently mentioned contraceptives, a few also identified loop, implant, oral contraceptives and condom as family planning methods that prevent unwanted pregnancy or space child birth.

Beyond simply identifying family planning methods, interviewees were also able to classify contraceptives in terms of their primary purpose:

If a mother wanted to take a good care of her children, currently, pregnancy spacing contraceptive method is advisable. If she doesn't want children, or she has enough number of children and want to avoid pregnancy, tubal ligation is the best option. But she also has other options in loop or implant. For example, from my experience, I have been using implant for 6 years after I gave to my child. This means I've been using it for two successive periods; and, now my child has already grown and in school, I'm planning to remove it to get pregnant (*…a*. Interview 2017).

*"…*agrees with … and .., If a mother planned to space pregnancy, she can use loop and that of 5 years Jadelle implant. For a mother who would like to stop giving birth, tubal ligation is her best option" (Interview 2017).

But some interviewees had misgivings about the contraceptives used for limiting or spacing childbirth. For example, *"…* mentioned loop as the preferred method for women who do not want any children altogether, mistaking it for a contraceptive with a permanent effect. Moreover, implant was mentioned as

a contraceptive for limiting child birth, while Depo Provera was thought to cause infertility by closing the cervix and limiting the probability of conception:

In order to space consecutive pregnancies, a woman can use contraception. To avoid pregnancy, she should use Depo. But if Depo is taken for long period of time, it will close the cervix. I gave birth 10 years ago and I started using Depo. But my friends told me it will cause infertility. Then, I immediately shifted to implant (… Interview 2017).

On the other hand, interviewees have had sufficient knowledge on LARCs, which "… described as "the method that does not require checking with health professionals for extended period of time after use." This knowledge could be generated by association with other users: "One of my friends uses loop to prevent pregnancy for about 10 years now. And implant prevents pregnancy for 3 or 5 years" (Interview 2017)

But, interviewees' knowledge on IUD has been relatively poor compared to their knowledge of implants. Most interviewees were able to describe the correct site of administration and duration of action of implants, while they knew less about IUD:

I do not know about IUD, but I know about a contraceptive inserted under the arm. And that's what I've been using for 1 year now. It had side effects like menstrual disorders and headaches. Implant can be used for 3 years but I don't know for how long IUD can be used (… Interview 2017).

A point of interest in the above quotation is the misgiving that implant serves for 3 years and loop serves for lifetime. Similarly, a few interviewees misrepresented the duration of action for LACRs, especially IUD: "The one inserted under the arm serves for 3 or 5 years. I do not know about the ones inserted in the uterus because I never used it before," says …, (Interview 2017). "…, "Insertion under the arm and inside the uterus are LARCs. Insertions under the arm can serve for up to 5 years. I don't know about the insertion in the uterus and for how long it serves (Interview 2017).

Preference on contraceptive methods. Several interviewees reported to have experimented with alternative family planning methods before opting for their current preferred method. Some consulted health professionals, others based their decisions on hearsays from friends and acquaintances who have used different contraceptives and had personal experiences and opinions. … reports, "Contraceptive providers informed me about many contraceptive options, and I selected the one used for 3 years. I never used condom or injectable" (Interview 2017). … tells how she went against the hearsays and had rather a different experience: "I had misgivings about IUD because people were talking about its difficulty. It was frightening but I decided to use it without severe outcomes to date" (Interview 2017).

Besides personal experimentation, women evaluate the advantages and disadvantages as well as the convenience of available contraceptive methods in their decisions to use, discontinue or recommend a method for others. Furthermore, their initial or continued use of a contraceptive (or switch to another) reflect the information they had about the purpose and duration of action of a particular method: "In order

to space pregnancy, I prefer implant; and, to avoid conceiving altogether, IUD or loop is my choice (... Interview 2017).

Condom or injectable seem un-favored among the study participants as family planning methods. Most prefer IUD. But an interviewee mentioned its unpopularity among husbands because of the discomfort it creates during sexual intercourse. As a result, implant is most popular among the women for reasons including the option it offers in terms of its alternative durations:

The best one is the one inserted under the arm because it is time-bound. Besides, it has 3years, or 5 years plans. If I use the one that serve for 5years, I'm guaranteed a stress-free 5 years. I also recommend it those who want to avoid pregnancy altogether (… Interview 2017).

Attitude towards LARCs and its benefits vis-à-vis side-effects. Most interviewees seem to be sufficiently satisfied with the advantages of using LARCs to prevent unwanted pregnancy. … was robust in sharing her experience:

In the beginning, I was so afraid to use it. But after insertion, I found it very comfortable. Let me tell you my life's challenges first. At one point, I used to use implant. But with a problem in my marriage which ended up in my separation from my husband, I removed the implant. After I reconciled with my husband, we started living together. We were not planning to have a child when I got pregnant…. I learned from that and have been using implant for 6 years now. It gave me time and energy to take care of my first child. Besides, I was able to work and earn more for my family. I am lucky to enjoy the benefits of implant. I haven't had major complications or challenges (Interview 2017).

Conversely, however, there are diametrically opposed plans when it comes to whether the use of LARCs is in interviewees' future plans. While … says, "Yes, if my condition recovers soon, I will take it again" (Interview 2017), … retorts, "My health is threatened with this family planning method. I give priority to my health. I don't plan to use it again." And then she implored, "Are you joking?! I will never use it again!" (Interview 2017).

Interviewees spoke about the various benefits of using implant and how peoples' attitudes towards contraceptives has changed with access to information and consultations with health professionals:

I know a woman who gets to have the time to pursue her education since she starts using implants. There is a bit of confusion and fear in my early days, but I enjoy advising people. As to myself, once I start using it, it is of great benefit to take my life seriously and in the right direction (... Interview 2017).

In fact, interviewees appear sufficiently informed about the advantages and disadvantages of LARCs. Many consider it as a reliable and trusted method to avoid unwanted pregnancy with no need for daily intake. *"…*, elaborates,

LARCs have several advantages. For example, loop doesn't have hormonal effect. And, whenever I want to be pregnant, I can remove it and conceive immediately. I don't see any disadvantage except a few

irregular menses, which create accumulation of blood. I do have concern on this…. [Conversely,] short acting methods may be forgotten to take and unwanted pregnancy may occur. But with implants, there is no worry to remember after insertion…. Previously, I used to take Depo/injection. I experienced a difficulty in conceiving after I stopped it. But implants did not have such complication on me. I am confident after I removed it, I will be able to conceive immediately (Interview 2017).

"… compares LARCs with Depo (injection) and says,

I have used Depo (injection) before and I gained 5 kg within 3 months. My menses were irregular and I was usually a nervous wreck. I used to fight a lot with my husband as well. Implant has been much safer and comfortable for me. I'm safer and peaceful now. In fact, in both cases I was able to conceive immediately after I discontinued them. Though I usually hear from friends that Depo will cause infertility, it has not been my personal experience. Overall, I think it's better to consult health professionals about [options and] any concerns (Interview 2017).

Other interviewees were vocal about the disadvantages of using insertion as was the case with …:

I was sick while using it. I had frequency, urgency and burning sensation during urination and my body was febrile. I am a daily laborer and it was not comfortable to me. The one inserted under the arm used to make me nervous; and, the pain on the part of the arm where it is inserted was major when I try lifting heavy objects at my work. [I guess] It is good for those who have no work load or don't do manual labor (Interview 2017).

… adds,

I have two children. I had my firstborn when I was at Grade 7 and my second 13 years later. In between, I was able to finish high school and college. After my firstborn, I started using Depo/injection. It caused massive vaginal bleeding. After 3months, I stopped it and started using pills instead. The main side-effect of pills was severe stomachache. Finally, I was consulted to use IUD (loop), and on it, I stayed for 4 years (Interview 2017).

Interviewees reportedly know when and for what purpose to use LARCs, as the case with *"…* illustrates: "Couples should use these methods if they want to stay for long period of time, if they want to complete certain task and if they think having child may be difficult before doing the task. The task can be business, education, building house" (Interview 2017). She identifies loop as advisable for couples who plan to limit child birth.

In sum, the results above indicate women's attitude towards the use of contraceptives in general and LARCs in particular depends to significant degrees on their knowledge/awareness about the available methods, personal experience and significant others' attitudes towards women's sexuality and contraceptive use. Alternatively put, as the next section will establish, attitudes do not merely depend on the availability of contraceptives but on a host of factors that range from personal idiosyncrasies and

institutional facilities to cultural values and ethos that regulate the family institution and the roles of the husband and the wife.

Reasons for discontinuation of LARCs. Women discontinue LARCs for various reasons. These reasons range from weight gain/loss, heavy menses and tiredness to reduced libido, desire to conceive and disagreements with husbands. A combination of these factors is also possible to induce LARCs discontinuation:

Many discontinue long term family planning when they feel uncomfortable due to side effects like weight gain, weight loss, and heavy menses. I have decided to discontinue the family planning method mainly because I was feeling tired at work. [I] wanted to conceive too (... Interview 2017).

"…, talks about women's experience with LARCs and the reason for her discontinuation of its use:

Women discontinue contraceptives if they feel uncomfortable. I mean if they experience melanism, acne or weight change, they will not keep using it…. I decided [to discontinue LARCs] when I couldn't have menses for very long time. It felt uncomfortable to the extent that I didn't feel like a woman. Moreover, I wanted to have a baby too (Interview 2017).

"…, an interviewee at Mekelle, specifically talks about the health effects of LARCs that might induce discontinuation when she said that women decide to discontinue

… if they encounter health problems due to these methods, yes. I had a neighbor who used implant. She removed it within one year. She told me it made her lose hair and weight, and display abnormal behaviors. She was glad to discontinue it "…, [As to me,] I decided to remove the implant when I start experiencing its side-effects – numbness in my upper extremities, headache, fatigue and increased blood pressure (Interview 2017).

These interviews stress how side-effects are the main reasons for many women to discontinue LARCs. But, not too few interviewees have also ended their list of reasons why they discontinued LARCs with 'I also wanted a baby.' Interviews reveal that many women do not genuinely engage with counselors to evaluate and match their contraceptive needs, especially how long they need it for, with available contraceptive options before they decide on LARCs. We have previously mentioned how women experiment with different contraceptives before they settle for the method with fewer side-effects to their convenience. The hypothesis that would explain this scenario is that they may have less knowledge on when they would want to conceive or they have made the decision unilaterally without involving their husbands. Ultimately, when they or their husbands or both decide to have a child, it may not opportunely match with their contraceptive plan. They would have to discontinue LARCs, which should have been avoided with proper consultation with trained family planning counselor.

"…, was very elaborate on the decision-making process involved in continuing or discontinuing the use of LARCs:

[Some] contraceptives might not be suitable for some women. Their body weight might change significantly or menstrual bleeding may be frequent. When this happen, they may discontinue its use. I knew a woman who used insertion under the arm. She removed it, for, she said, it caused frequent menstrual bleeding. Then she shifted to injection immediately. Since the injection, none of the side-effects of insertion occurred…. I myself decided to remove it due to its side-effects – loss of appetite and change of behavior. After I started using injection, there were improvements and my body recovered (Interview 2017).

On the other hand, consulting and consensually deciding with husbands on contraceptive use have affected whether women continue or discontinue its use:

My husband didn't know that I have inserted the implant. He found out after 4 months, he was angry and was nagging me daily to remove it. He was palpating the implant rod daily until the date of removal. I was comfortable with the implant, I as have mentioned it to you now, it is because of my husband. I went to health facility with my husband, he has threatened them that he will sue them because it was inserted without his knowledge (…, Interview 2017).

"…, "I decided to remove the implant because of my husband. He told me he wanted a child" (Interview 2017). Her remark that she may start using contraceptives in the future 'if I can convince my husband' shows how health professionals have to take into serious consideration the decisive role husbands play in using or discontinuing contraceptives. Alternatively put, counseling and consultations have to involve and inform not only willful women but also their partners about the pros and cons of alternative contraceptives. This goes a long way to ensure husbands become part of the solution, rather than the problem. Otherwise in a largely patriarchal society where sex and women's sexuality are defined primarily in terms of procreation, women's unilateral decision to use contraceptives could cause family instability, and even separation and divorce.

Prevailing myths and beliefs on contraceptives. Underlying these findings, there are myths and beliefs women and their significant others take to their heart, which affect decisions to use or discontinue women's use of contraceptives. *"…*, says, "I have heard roamers that implants can make a woman weak and unattractive [due to excessive acne on her face] to her husband and most users will end up divorcing. But I have not heard about IUDs" (Interview 2017). *"…*, adds, "people say it can cause permanent baldness. Implant may be lost in the arm thus leading to infertility" (Interview 2017).

A very elaborate account on the source and impact of myths and beliefs on contraceptives was provided by *"…*, an interviewee from the same locality as the above two:

People in our area have deep concern on LARC. There is a belief that IUD may migrate to the abdomen and even to the brain, if you perform sexual intercourse while your husband is drunk. People also say the IUD may be dislodged post coitus if you perform sexual intercourse multiple times a night. Myth about implant is it will be missed in the arm if you insert it post-delivery (Interview 2017).

Most myths and beliefs revolve around specific contraceptives being prone to displacement from their original location – to the head or the limbs – that may cause or contribute to infertility, breast cancer, etc. These myths and beliefs are connected with community beliefs about children: "Community misconceptions are obstacles to contraceptives use. [My] community perceive children as gift of God" (…, Interview 2017). In such contexts, using contraceptives entails refusing God's gift. A contraceptive that may unintendedly lead to infertility could simply become sinful or even criminal. Besides, religion plays significant role in strengthening community myth on contraceptives use: "It is forbidden in my religion, and there are also myths that claim once you use these methods you will remain sterile (infertile) forever" ("…, Interview 2017).

On the other hand, when women seek the advice of health professionals, they were able to dispel the confusion and myths around contraceptive use: "Some of my friends advise me that using contraceptive may cause breast cancer and insist me to remove it. I usually consult medical professionals, and they assured me it's an unfounded community belief…. I continued to use it ("…, Interview 2017). Alternatively put, women's receptiveness and accessibility of health professionals to dispel myths on contraceptives with scientifically proven evidence play significant roles in improving how people view, use or continue to use contraceptives. Conversely, as several studies as well as our findings show, myths and beliefs are resilient to dramatic change over a short period of time – since they are tied to the social structure and peoples' psyche – and demand protracted, concerted and involved intervention.

Discussion

The preceding section highlighted the findings of the study on knowledge, attitude and use as well as discontinuation of contraceptives in general and LARCs in particular among sexually active women that avail the services of health facilities in four Ethiopian urban centers. It noted from interviewees' responses that the use, continuation or discontinuation of contraceptives depends significantly on the side-effects of specific methods. In this regard, the results were similar to the ones reported by Harvey *et al* (2009) (15), and other studies(16, 21, 31). Women experimented with various methods or learn from the experiences of others – family members, friends, etc. – in gaining knowledge about the suitable method as per their physiology and personal circumstances.

Husbands do play significant role in women's decision to avoid, use or discontinue contraceptives. Several interviewees have reported problems with husbands while using or discontinuing contraceptives. At times, interviewees reported health professionals advising women to consult with their husbands before deciding to use contraceptives or switch to another method. These reports indicate there are potent structure and forces at work here i.e. the status of women in society, marriage and definition of their sexuality. In patriarchal society imbibed with conservative beliefs about sex and sexuality, married women have limited leeway to make individually-motivated decisions on when to conceive and its frequency. Mainstream patriarchal culture defines marriage as a union of man and women in husband and wife roles – with the roles of the man defined in much broader manner in household management and decision making. The same culture treats a family as incomplete until the arrival of new members i.e.

children. In such a way, sex is defined in terms of its outcome – procreation. Virility and fertility are stressed, while sexual satisfaction for marriage partners are rather condoned. Children are still seen broadly as gifts of God and the higher the number of children, the more the grace the family has – and improved status and prestige in the eyes of the community.

In a way, children are the sign of a family's status in the community and man's virility. Husbands take this seriously as heads and/or representatives of the family. Contraceptives come in the way of achieving this goal; and, reports of conflict with husbands or husbands' disapproval when wives use contraceptives without their knowledge has to be understood in this context. In addition to limiting the chance a family might attain in the community, it could easily be seen as undermining husbands' patriarchal authority.

Consequently, any intervention to decrease discontinuity of contraceptives (or increase its use) among sexually active women should target structural, institutional and personal factors. Structurally, wrong beliefs and myths surrounding contraceptives and their side-effects have to be challenged with readily available, scientific and accessible information to women and their partners. Besides, since women cannot, or rather should not, make decision to use contraceptives unilaterally, any intervention to promote contraceptives use have to be aware of husbands' patriarchal status and roles in the household and involve them in the decision-making process. Husbands should not be seen as the problem but involved as part of the solution.

Institutionally, health facilities that cater to the contraceptive needs of women have to have professionals that would provide sufficient and reliable information as well as relevant counseling services when users face challenges or experience undesirable outcomes beyond the medically acceptable level. Counseling does not necessarily mean women will automatically use or continue using a specific contraceptive method; but it means women have someone knowledgeable to talk to, discuss challenges, dispel their worries and fears and replace them with assurance and reliable information. This finding was similar to what Modesto *et al* and Garbers et al reported on the positive effects of counseling for women in, respectively, Brazil and USA(16, 22).

Individually, interventions have to aim to improve awareness and knowledge among women and their life partners about the available options, uses, side-effects, etc. of contraceptives. Practice makes habit and both depend on attitude; and, as the findings presented in the preceding sections show, attitudes are significantly linked to knowledge. In a society with strong sense of community, knowledge about contraceptives does not necessarily come from personal experimentation or trained health professionals. Much of the existing void could be filled with wrong beliefs and myths about contraceptives and their side-effects. Health extension workers or family planning professionals need to be trained to customize information to their communities and ensure women and their life partners have reliable and scientific knowledge to base their decisions – and habits – on contraceptives.

Strengths and Limitation

Both the strengths and limitations of this study are mainly related to the qualitative method it employed. The strengths lay in the in-depth and contextual information the study gathered on women that enriched the understanding and interpretation of circumstances and decision-making processes on the use and/or discontinuation of LARCs. The limitations of the study emanate from the method employed as well – that conducting larger number of in-depth interviews was difficult due to their time requirements which did not furnish the authors to make probabilistic inferences to a larger population. As such, with its scope delimited the women in the selected urban centers, the findings could not represent the experiences of women in rural areas and other urban centers on their choices related to contraceptives in general and LARCs in particular.

Conclusions

The study found women use (or discontinue use) of contraceptives depends on their knowledge about their options, they have aware of the various types of contraceptives. On LARCs, most were satisfied with its benefits while they also mentioned several reasons to discontinue its use including weight gain/loss, heavy menses, tiredness, reduced libido, desire to conceive and the lack of support mainly husbands. Their decisions to use or not use LARCs reflected the common cultural values about childbirth and myths on contraceptive use. As such, any campaign to promote family planning methods has to take into account the status of women in the Ethiopian society and cultural definition of their sexuality.

Abbreviations

CIRHT
Center for International Reproductive Health Training
C-IUD
Copper-intrauterine device
ENG
Eonogestrel
IUD
Intrauterine device
LARCs
Long Acting Reversible Contraceptives
LNG-IUS
Levonorgestrel-releasing intrauterine system
LNG
Levonorgestrel
OCP
Oral contraceptive pill
UN
united Nation

WHO
World Health Organization?

Declarations

Ethics approval and consent to participate*:* The study was carried out with respect for the integrity of the informants. All informants gave their consent to record the interviews and use the material for publication in anonymized form. Ethical approval within University of Gondar Institution review board

Consent for publication*:* Not Applicable

Availability of data and materials: We have to abide by the data sharing policy of University of Gondar; nonetheless, we have included all important information regarding data presented (No additional data are available).

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Authors' contributions

- GS, SMA, designed the study;
- GS, SMA, DT, MA performed the analysis and interpretation of data; and,
- GS, SMA, MA, DT, AYL drafted and finalized the write-up of the paper.
- All authors prepared the draft manuscript, read and approved the final manuscript.

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Authors' Information

We confirm that the manuscript has been read and approved by all named authors,

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