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Original article

FACTORS INFLUENCING UTILIZATION OF LONG-ACTING REVERSIBLE CONTRACEPTIVES AMONG WOMEN AGED 15-45 YEARS IN VURRA HEALTH CENTER 111 ARUA DISTRICT. A CROSS-SECTIONAL STUDY.

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ABSTRACT

Introduction:
This study aimed to explore the factors influencing the utilization of long-acting reversible contraceptives (LARCs) among women aged 18-45 years in Vurra Health Centre III, Arua District. The main factors influencing the utilization of LARCs were knowledge about LARCs, attitude toward family planning, and accessibility of LARCs.
Objective: The Purpose of the study, was to assess the prevalence and factors influencing the utilization of long-acting reversible contraceptives among women of reproductive age.

Methodology:
The study utilized a cross-sectional design, and data was collected through a structured questionnaire administered to 60 women attending health services such as family planning at Vurra Health Centre III. The questionnaires were submitted by a well-trained research assistant.

Results:
The study found that the utilization of LARCs among women in Vurra Health Centre III was low. The study also found that the level of education was 30.2%, the desire to conceive shortly 38.33%, and misconceptions 31.47%.

Conclusion:
A majority of the participants were utilizing LARC particularly injectables and implants, especially married women. This study showed that women having five or more children were more likely to use LARC methods.

Recommendations:
The study recommends that health education and awareness campaigns should be intensified to increase knowledge and awareness of LARCs, and the availability and accessibility of LARCs should be improved to increase their uptake among women in Vurra Health Centre III, Arua District.

Keywords; Factors, Utilization, Long-Acting Reversible Contraceptives,
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INTRODUCTION

Long-acting Reversible Contraceptives (LARCs) are modern contraceptive methods in which the length of action ranges from 3-12 years and return fertility soon after removal. Examples of such contraceptives include; Intra-Uterine Contraceptive Devices that last for 10-12 years, Implants like Implanon that take 3 years, and Jadelle lasts for 5 years while protecting the user from getting pregnant. Family planning is the use of contraceptive methods to control the number, timing, and spacing of births (Chitsulo, 2019). The use of modern contraception is of great importance in public health, as its advent has resulted in the decline of fertility, the improvement of economic productivity, as well as the health of mother and child.

Globally, WHO estimates about 214 million women of reproductive age in developing regions who want to avoid unwanted pregnancies are not using modern contraceptive methods preferably LARC (Kyatusiimire, 2023). Approximately 41% of pregnancies occurring worldwide are unintended (Stephanie, 2018). The use of modern contraceptive methods prevents unintended pregnancy, which is associated with many negative health consequences (Bazarganipour, 2019). According to a report released by the Guttmacher Institute and UNFPA in 2012, approximately 54 million unintended pregnancies resulted in a million abortions (of which 16 million would have been unsafe); 79,000 maternal deaths

and 1.1 million infant deaths which would have been prevented if women of reproductive age used modern contraception (Srikanth, 2020).
In Sub-Saharan Africa, modern contraceptive use has been one of the dramatic social transformations of the 21st century. Despite a challenging socioeconomic environment, family planning interventions have led to significant improvements in modern contraceptive use in the country (Pindani, 2018). The challenges include limited financial and human resources and the
serious opposition that the Ministry of Health faced from the government, when it introduced family planning services in the country as a strategy to stop the negative consequences of rapid population growth (Code mint,2023).

Uganda's total fertility rate (TFR) at 6.2 which is one of the highest in SSA and globally. Uganda more so, has a high maternal mortality ratio (MMR) at 435 maternal deaths per 100,000 live births and an infant mortality rate (IMR) of 54 per 1,000 live births per year. The high maternal morbidity and mortality could partly be attributed to unintended pregnancies, short birth intervals, and a higher risk of obstetric and newborn complications associated with low contraceptive use (Anguzu, 2020). About 44% of pregnancies in Uganda are unintended with the occurrence of unsafe abortions estimated at 62 per 1,000 women aged 15– 45 years. These undesirable maternal and child health outcomes associated with high TFR could be substantially reduced by meeting the family planning (FP) needs of women in developing countries. The provision of highly efficacious family planning (FP) services contributes to a reduction in maternal mortality by lowering the risk of maternal death per birth hence preventing high-risk and high-parity births (Abedin, 2022).

It also offers individuals and couples 'the ability to anticipate and attain the desired number of children by birth spacing and timing Use of long-acting reversible methods is proposed as a strategy to reverse undesirable maternal health consequences in developing countries. Scientific evidence has determined implant and copper-bearing Intra-Uterine Device (IUD) contraceptives to be highly effective and well tolerated. Similarly, injectables and implants are proven to be safe, effective, and reversible contraceptive options.

Despite evidence of LARC effectiveness and safety, actual uptake in resource-poor settings like Uganda is low and is possibly affected by several factors such as prevalence and general utilization of contraceptive methods, access to different contraceptive methods, user characteristics, technology, and socio-economic status (Anita, 2021).
Currently in Uganda, the CPR is 30% and LARC prevalence is as low as 13%among all women the prevalence of IUD use is lowest at 0.4%, implants as low as 1.9%, and injectable contraceptives at 10.7% (Lindsay, 2021).

General objective

- To assess the factors influencing the utilization of long-acting reversible contraceptives among women of reproductive age in Vurra HC III, Vurra sub-county, Arua district.

Specific objectives

- To assess the factors leading utilization of long-acting reversible contraceptives among women of reproductive age in Vurra HCIII, Vurra Sub-County, Arua District.
- To assess the factors hindering the use of long-acting reversible contraceptives among women of reproductive age in Vurra HCIII, Vurra sub-county, Arua District.

METHODOLOGY.

Study Design and Rationale.

The study was a descriptive cross-sectional study as it helped to describe variables and examine the relationship among these variables. Quantitative data collection methods were used to collect data. This information was then evaluated using statistical analysis which offered the researcher the opportunity to dig deeper into the data and look for greater meaning.

Study Area.

This study was conducted at Vurra HCIII in Vurra Sub-county which is found in Arua District. The Sub-county consists of 09 Parishes and 104 villages. The health center is located along the Arua town-Vurra Customs border road on the right side of the road. The study took place from December 2022 to February 2023.

Study Population.

The study population included all reproductive-aged women 15-49 years, who attended antenatal care at Vurra HCIII and who were present during the time of data collection and consented to participate in the study.

Sample Size Determination.

The sample size is the number of observations in the sample. The sample size was estimated using the LoBiondo and Heber sample size formula given below was employed in the study. (LoBiondo and Heber, 201

$$n = \frac{N}{1+N(e)2}$$

Where;
n = is the desired populationN= is the target population
e=is the expected error at a standard interval of 95% and 5% error

$$n=\frac{71}{1+71(0.05)2}$$
n=60

Sampling Technique.

A purposeful sampling method was used to select the respondents. This technique gave the researcher the convenience to select respondents who were accessible in the study area. If the selected respondent was unable to participate in the study, another respondent was considered.

Sampling Procedure.

Each respondent was selected based on their acceptance to be interviewed when they were got at the health center at OPD, and inpatient departments.

Data Collection Method.

Data was collected with the aid of interviewer-administered questionnaires that were provided by well-trained research assistants who had at least a certificate in medical course.

Dependent Variable.

The utilization of long-acting reversible contraceptives in Vurra Health Center, Vurra Sub-county, Arua district

Quality control.

Questionnaires were in English, printed, and pretested by presenting them to the research assistants to ensure reliability and validity. The researcher ensured that the questionnaires were filled correctly by allowing enough time for the filling of questionnaires, the researcher also explained unfamiliar technical terms to the participants consistently. For data completeness, the questionnaires were checked immediately after filling.

Data collection tools.

A Key Informant interview guide was used, a questionnaire, and other tools that were used including; pens, pencils, paper, and a calculator.

Data Collection Procedure.

I obtained a letter of introduction from the principal of Kampala School of Health Sciences and presented it to the office of the in charge of Vurra HCIII who offered guidance to me concerning the steps to follow to collect data from Vurra HCIII.

Study Variables.

These were the independent and the dependent variables;

Independent variables.

Factors of long-acting reversible contraceptives (LARCs) in Vurra Health Center III Vurra Sub-county, Arua district

Inclusion criteria.

Women of reproductive age 15-45 years who consented to participate in the study in Vurra HC III Vurra Sub-county Arua district.

Exclusion criteria.

Women below the age of 15 years, and those above 45 years.

Data analysis and presentation.

Data was analyzed using a scientific calculator and computer application software like Microsoft Word (2010), and Microsoft Excel (2010). Descriptive statistics such as; mean standard deviations, frequencies, and proportions were analyzed variables. Description of observations and open-ended questions were done in a more detailed and logical statement for the reader to easily understand through chi-tests and pie-charts, bar graphs, ratios, percentages, histograms, and rates were used where necessary.

Ethical Considerations.

The tertiary institution of Kampala School of Health Science research committee reviewed and approved the study. Permission and approval to conduct the study were also obtained from the in-charge Vurra HCIII, and in addition, the purpose of Vurra HCIII the study was explained to the participants, and their consent was obtained before the questionnaire was administered. Respondents remained anonymous and all the personal information was confidential.

RESULTS.

Socio-demographic information.

Table 1: Distribution by socio-demographic characteristics. N=60

Socio-demographic characteristics	**Frequency ()**	%
Age		
15-25	9	15
26-29	37	61.67
30-40	10	16.67
41-45	4	6.67
Level of education		
Primary	30	50
Secondary	12	20
Tertiary institution	3	5
Informal	15	25
Marital status		
Married	52	86.67
Single	2	3.33
Others	6	10
Tribe		
Madi	47	78.33
Lugbara	3	5.67
Kakwa	6	10.67
Others	4	6.67
Religion		
Catholic	9	15

Anglican	34	56.67
Islam	2	3.38
Others	5	8.33
Occupation		
Peasant	56	93.33
Civil servant	4	6.67

Table 1 indicates that many respondents (61.67%) were in the age group of 25-29 years the least registered people were aged (41-49) at 6.67%. The majority of respondents were Anglicans (56.67%) and the least were Muslim (3.33%). Most respondents ended at the primary level of education at 50%, secondary at 20%, and tertiary institution at 5% respectively. Most respondents were peasants 93.33% and the least were civil servants at only 6.67%. Many respondents were married (86.67%), followed by cohabiting couples at 10.67% then singles at 3.33%.

Figure 1: Shows the distribution of the respondents by the source of information on LARCS

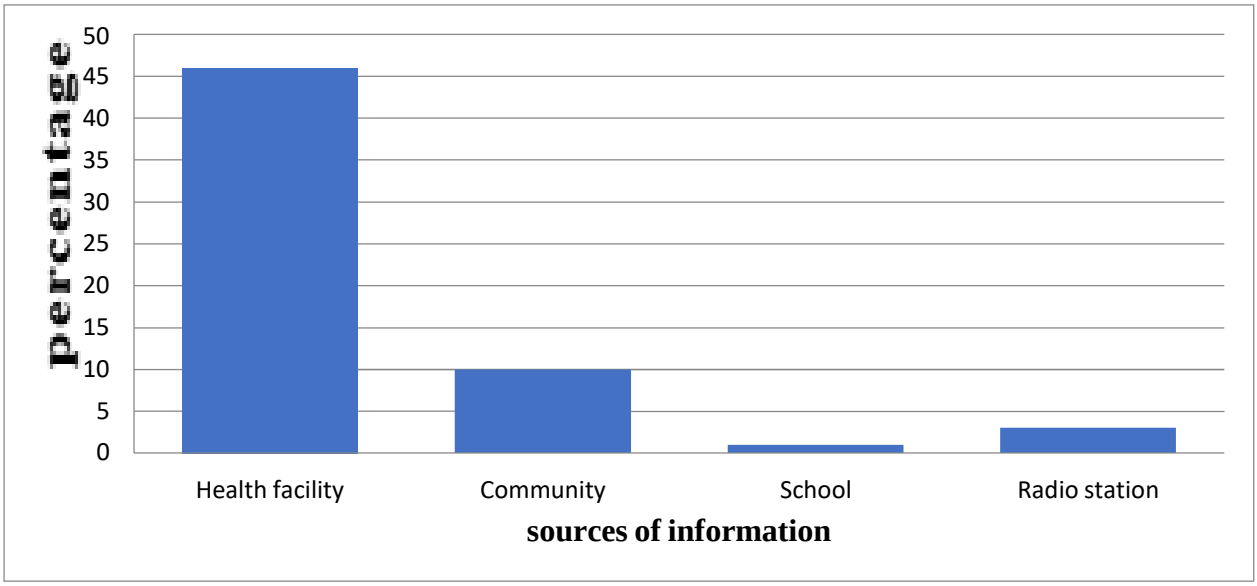


Table 2: Shows the distribution according to characteristics of women utilizing LARCs N=60

Variable	Frequency(f)	Percentage (%)
History of abortion		
Yes	4	3.33
No	56	93.33
Previous use of LARC		
Yes	57	95
No	3	5
Effectiveness of LARC		
Effective	45	75
Ineffective	15	25
Current use of LARC		
Yes	53	88.33
No	7	11.67
Effectiveness of Implants		
Effective	37	61.67
Ineffective	23	38.33
Effectiveness of Injectable		
Effective	45	75
Ineffective	15	25

Among the various sources of information about long-acting reversible contraceptives, the Majority76.67% heard from the Health Centre, with the least, 5% heard from radio talk shows.

The characteristics of women utilizing LARCs comprise those who had a history of abortion at 3.33% while the majority, 93.33% never had a history of abortion, 95% previously utilized LARCs

Factors influencing the utilization of LARCs.

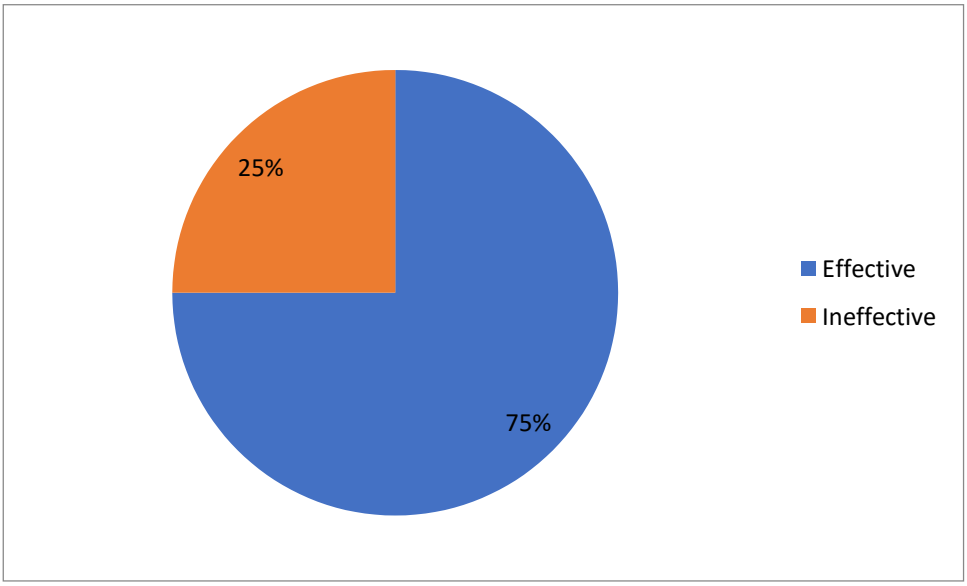
while 5% had never used LARC, those who were by then using LARC constituted 88.3% compared to the11.67% who never wanted to continue with LARC.

Table 3: Shows the distribution of respondents according to the factors influencing the utilization of LARCs (N=60)

Variable	Frequency, (f)	Percentage
The desire for more children		
Yes	23	38.33
No	37	61.67
The needed to practice child spacing		
Yes	45	75
No	15	25
Male partner decision		
Agreed	58	96.67
Disagreed	2	3.33
Level of formal education		
Attended	45	75
Never attended	15	25

Table 3 shows that the majority, 61.67% of the respondents did not desire to have any more children whereas 38.33% still desired to have more children, Most, 75% of the respondents acknowledged the need for child spacing whereas 25% did not, 95.67% of the respondents expressed that their male partners agreed with the utilization of LARC while 3.33% expressed disagreement with their male partners, 75% of the respondents attended formal education at the different levels compared to the 25% who never attended any form of formal education.

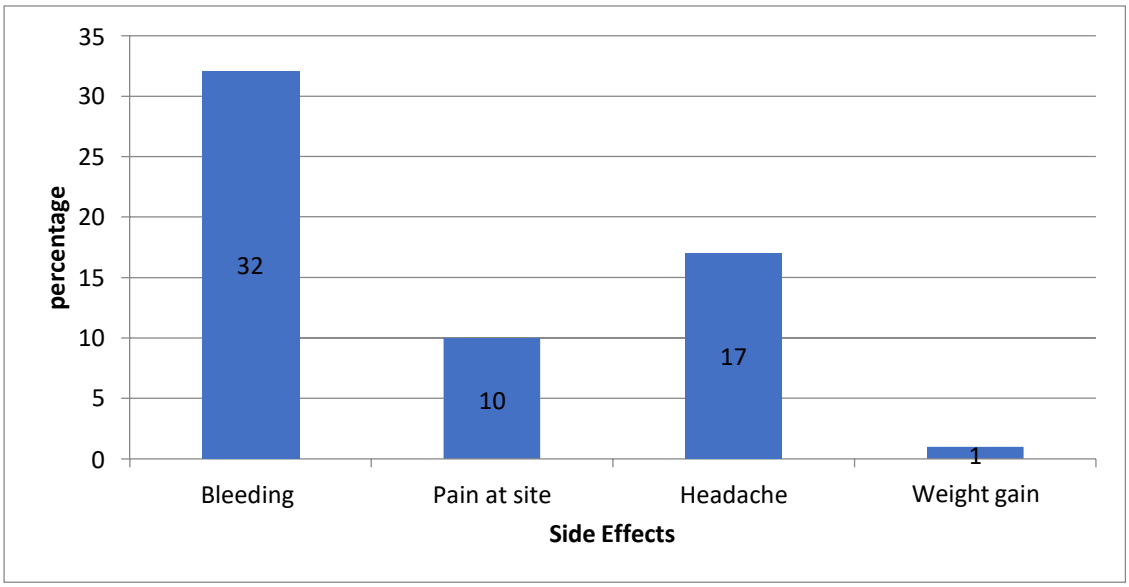
Figure 2: Shows the distribution of respondents on the effectiveness of Injectable. N=60



According to figure 2, the majority (75%) of the respondents expressed that injectables were effective while 25% said thatthe method used wasn't effective.

The factors hindering the utilization of LARC.

Figure 3: Shows the distribution of respondents according to the complaints regarding the side effects of the LARC methods (N=60)



The respondents complained about side effects which manifested in the form of regular bleeding constituted the majority at 53.33%, pain and the site of administration which manifested at 16.67% of the respondents, headache indicated in 17% of the respondents and weight gain which constituted 1.67%. (Figure 3)

Table 4: Shows the distribution of respondents according to variables hindering utilization of LARCs (N=60)

Variable	Frequency, (f)	Percentage (%)
Misconception regarding use of LARC		
Had	25	41.67
Never had	35	58.33
Skills of health workers		
Credited	23	61.67
Doubted	37	38.33

According to table 4; the majority (41.67%) of the respondents had various misconceptions regarding the usage of LARCs while 58.33% never had, 61.67% credited the skills of the health care workers administering LARC while 38.33 doubted the skills of the health workers.

DISCUSSION

Socio-Demographic Data.

This study assessed the prevalence of the factors influencing the utilization of long-acting reversible contraceptives among women of reproductive age in Vurra Health Centre III.

The study was carried out on 60 respondents who were mostly females where most of the respondents were of age bracket 25-29 years old standing at 61.67% and the majority of them were Christians at 95%of which the Anglicans dominated with 56.67% and the other 3.38% were the Moslems. Most of the respondents had attained some formal form of education expressed at 75%.

The study showed that most of these females were peasants standing at 93.33%, and 6.675% were civil servants. This can be due to low levels of Education that rendered lack of enough qualification. The study showed that 86.67% were married, 10.67% were cohabitating, and 3.33% were single.

The factors influencing the utilization of LARCs.

Findings showed that 96.67% 0f the Respondents had heard about long-acting reversible contraceptives whereas only 3.33% never heard about long-acting reversible contraceptives which is inconsistent with a study carried out by Anguzu, (2014) a study was done in Peru demonstrating that most of the women in other countries had never heard about long-acting reversible contraceptives and even more knew about this methods. This could be due to a small population studied, and maybe this study was done in an urban setting where many could have been informed, and though most of them have heard about injectables at 78% more than any other long-acting reversible contraceptives.

LARC methods were also more used in the rural setting (68.67%) than in the urban setting (32.33%). This is in correlation with the study conducted in Uganda by Tibaijuka, et al, 2017 which indicated that the overall prevalence of ever-use of LARCs was low at 23.3%, with a relatively higher prevalence (31.7%) among rural than urban clients (19.2%) (P = 0.062). This is an indication that despite the methods being relatively more accessible in the latter setting the prevalence of the utilization of long-acting reversible contraceptives is remarkably lower than their rural counterparts.

This study also, revealed that women who were married utilized LARCs more compared to those who were either single or casually cohabiting. This finding could be explained by the fact that the married couples could have been a highly self-selected group that had jointly agreed to use LARCs, which was not exercised by their unmarried counterparts. This is also in context with a similar

study conducted in Rural Kenya by Susan et al, (2019) where the Socio-Demographic and Reproductive Characteristics of Study Participants revealed that the majority 306 (72%) were married.

The findings of this study pointed out that The characteristics of women utilizing LARCs comprise those who had a history of abortion at 3.33% 93.33% who never had a history of abortion, 95% who previously utilized LARCs 5% had never used LARCs, who were by then using LARCs constituted 88.3% compared to the 11.67% who never wanted to continue with LARCs. The high prevalence of LARC use took into account the positive past experiences and good history regarding previous usage.

The second specific objective of this study was to determine factors influencing the utilization of LARCs. Results indicated that the overall prevalence use of long-acting and permanent contraceptive methods use was 98.33%. The majority of women used injectables (61.67%) followed by implants (38.33%).

Since injectable contraceptives were the predominant LARC method used in this study, this may suggest that injectable contraceptives are the LARC method most available. The provision of injectable contraceptives at both community and facility levels could have contributed to high injectable contraceptive knowledge and current use.

Only a few respondents (38.33%) used implants which might be because a large number of the women had misconceptions about implants and their side effects such as interference with sexual intercourse, cancer, and delaying of pregnancy.

The findings of this study discovered that 61.67% of the respondents did not desire to have any more children whereas 38.33% still desired to have more children, the study also points out that most participants suggested that the optimum family size should be four.

In this study, a larger proportion of women use contraception for child spacing (75%) than permanent limitation for several children (25%) which is the reverse of what was reported from Nigeria by Chigbu et al, 2011 where 30% of women contraception for child spacing versus 70% use it for permanent limitation for several children. This might be related to the fact that a large number (86.67%) of the married women have an interest in a child for the future as well as majority of the married not have an interest in LARC methods of contraception in the study community.

This finding suggested that male partners were supportive of contraception (96.67), This is in positive correlation with a similar study carried out in Uganda where women believed that their partners should take part in the decision to use a method of contraception (Anguzu et al 2014). This is an indication that partners did play a positive role in these decisions. In a Cambodian study, women who believed that their husbands had a positive decision toward contraception were more likely to use a method than those who did not have a similar decision about their husbands.

The personal characteristics of clients were also important in method selection.

In the setting where education data were available, the high frequency of women who attended some formal education (75%) levels was associated with increased use of the LARCs method.

Factors hindering the utilization of the LARCs.

The results from this study elaborated that one of the factors hindering the use of LARCs may be due to misconceptions (with 41.67% of respondents mentioning so) about the causation of permanent infertility. Similarly, studies in Kenya and Nigeria revealed that among injectable and implantation users respectively, misconceptions were the main reasons for their discontinuation.

Structural factors may also explain why particular method characteristics were preferred. For example, the absence of trained

health professionals and equipment could explain why clients preferred methods that they could stop without involving a health worker. Women might fear administering some methods of LARCs if they felt that there would be no one to help them administer properly or they were worried that removing it might be difficult. The setback to the utilization of LARC methods by some clients may also reflect inadequacy of training for health workers on how to educate clients appropriately, or lack of time to perform appropriate client sensitization due to health workers being few and busy.

Addressing such structural barriers could improve the use of LARCs. For example, the number of trained health providers at these facilities would need to increase. Furthermore, it is important to increase and ensure a steady and reliable supply of LARC methods and the other material facilities required to implement the methods. The targeting of supplies could be improved, by, for example, supplying LARC methods to only those centers where there are trained health workers and other facilities required to implement the methods.

This study pointed out that one of the factors that hindered the utilization of LARCs was the distance from the respondent's residence to a healthcare facility; the mean distance was 2.4 kilometers. Therefore, the study suggests that decentralization of these services would ease accessibility.

In both urban and rural settings, some women opted out of using LARC methods due to flat-out wrong beliefs. These findings suggest that the currently available LARC methods may not be accepted in part because of inadequate knowledge among reproductive-aged women. Sensitization of such women could therefore help. However, it also appeared that increasing levels of education may improve the usage of contraceptives and reduce the risk of unwanted pregnancies. Education therefore is likely to increase the effective options available to women and facilitate increased client choice.

CONCLUSION.

A significant amount of the participants were utilizing LARCs, particularly injectables and implants. More than three-quarters of the married women utilized LARC methods particularly. This study showed that women having five or more children were more likely to use LARC methods. Several children predicted LARC use. Most women in early postpartum were not using LARCs and also the women had various misconceptions.

STUDY LIMITATION.

Sample sizes for quantitative analyses were small. Also, a substantial proportion of respondents were seeking antenatal care services.

Some respondents were not willing to participate in the study; some of the clients declined to respond. There were inadequate resources to facilitate the researcher during the activities as the study was funded by the researcher himself.

RECOMMENDATION.

There is a need to identify barriers to LARC use to inform the design of interventions to increase the use of LARC especially among multi-porous women.

Continuous health education on LARCs, increasing availability of LARC services in public and private institutions, and information education communication should focus on addressing the needs of long-acting and permanent contraceptive methods.

The findings have implications for family planning programs to seriously examine ways to increase contraceptive use for those specifically on LARC. Therefore, working in collaboration with non-governmental organizations and local community organizations is important.

Furthermore, further study should be conducted to produce better evidence focusing on the service providers, male partners, service delivering institutions and to identify factors influencing the utilization of LARC.

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ABBREVIATIONS/ACRONYMS

CPR	Contraceptive Prevalence Rate
FP	Family Planning
H/CIII	Health Centre three
HMIS	Health Management Information System
IMR	Infant Mortality Rate
IUCD	Intra-Uterine Contraceptive Device
IUCD	Intrauterine Device
KSHS	Kampala School of Health Sciences
LAM	Lactation Amenorrhea
LARC	Long Acting Reversible Contraceptives
MMR	Maternal Mortality Rate
MoH	Ministry of Health
TFR	Total Fertility Rate
UAHEB	Uganda Allied Health Examinations Board
UDHS	Uganda Demographic and Health Survey
UNFPA	United Nations Population Fund

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