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Evaluation of Long Acting Reversible Contraceptive Services Quality in Health Facilities of Mekelle City, Tigray, Ethiopia, Cross-Sectional, 2019

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Abstract:

Background

Long acting reversible contraceptive program is a key to prevent unintended
pregnancy, unbalanced human population growth, and unsafe abortion. The quality status of long acting reversible contraceptive service in Ethiopia is not well studied. Therefore, aimed of the study was to evaluate quality status of long acting reversible contraceptive services in Mekelle city health facilities, Tigray region, Ethiopia.

Method and Materials

Embedded case study design with both quantitative and qualitative data collection methods was employed. Five health facilities were selected randomly among the 12 health facilities, 342 clients randomly selected for exit interview and 150 were selected for client provider interaction observation. Quality status of long acting reversible contraceptive were evaluated using dimensions of resource availability, service compliance, and client satisfaction using stakeholder agreed indicators and judgment matrix. Quantitative data were analyzed using SPSS version 21 and descriptive statistics were performed. The qualitative data were analyzed by ATLAS.ti.

Result

Among the five health facilities included in this study two of them had the infrastructure (separated class, access of pipe water, clean latrine) whereas three health facilities had a shortage of access to pipe water and separated class. Three of the health facilities were equipped with basic equipment two health facilities had a shortage of blood pressure cuff, Sthetescopes, updated guideline, information education materials. Of the total 150 client provider interaction

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observed only 31.3% client were assessed for contraindications, clients counseled about side effects and use of dual method were 49% and 49% respectively. Overall, availability resource was (72%) below average, compliance (69%) below average and satisfaction (89%) good. The overall quality status was (77%) average.

Conclusion

The overall quality status of long acting reversible contraceptive has been judged as **"average".** However, shortage of infrastructure, basic equipment's, supplies and insufficient information given to clients about side effects, contraindication, and respectfulness were the main problems of the quality of the service. Hence, there should supply of infrastructure, basic equipment and care provider's adherence to guideline should be strengthen and revised.

Key words: Long acting reversible contraceptive, Evaluation, Quality, Mekelle city,

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1. Introduction

Long-acting reversible contraceptives services are among modern birth control contraceptives such as intra uterine contraceptive device and implants (Jadle and implanol) that provides effective preventing unwanted pregnancy for 3 to 12 years without requiring user action, when removed, the return of fertility is rapid (1–6).

Globally 350 million couples have limited or no access to effective and affordable FP, especially to long acting reversible contraceptives methods (LARCs). According to WHO report Because of low availability, lack of knowledge among clients, lack of provider skill, and misperceptions about LARCs and Provider bias for LARCs are among reasons to low uptake of LARCs and 214 million women of reproductive age in developing countries who want to avoid pregnancy were not using effective contraceptive method (9–12).

In Sub-Saharan Africa even though couples went to space their births every two years most of the births are still spaced closer than that and there is still high unmet need report for LARCs to delay, and spacing of their births (6,13).

In Ethiopia, According to EDHS 2016, report from 35% using a modern method married women; implants and IUD were 8% and 2 % respectively. In Tigray also the utilization of implant and IUCD is 10.7% and 1% respectively (11, 17).

In Ethiopia much has been made to improve the modern contraceptive services, including LARC use by innovative community based programs like the health extension programs and partner involvement as part of reducing the burden of unintended pregnancy and unbalanced population growth and to assure method shift (23). Despite all these efforts in Ethiopia the

modern contraceptive remains skewed toward short acting methods. Moreover it is not clear to what extent these efforts have actually improved the quality of the LARC service delivery status in health facilities (24). Therefore, this study aimed to evaluate the quality status of LARCs with respect to quality dimensions of resource availability, compliance, satisfaction and based on the information needs and consensus of stakeholders in Mekelle health facilities, Northern, Ethiopia.

It helps program implementers, planers, stakeholders and service providers to eliminate the obstacles and improve LARC service coverage. It also helps as a baseline for future studies.

2. Methods and Materials

2.1. Study design, setting and participants

Cross sectional Embedded case study design with both quantitative and qualitative data collection methods was employed in Mekelle which is the capital city of Tigray region, Ethiopia from March 20-April 30/2019. For quantitative selected 15-49 age women who used LARCs and for quantitative Care providers working on the selected health facility were study participants.

2.2. Sampling technique and procedure

From 12 health facilities five health facilities randomly was taken by this evaluation. 342 clients and 150 service providers were selected for interview and client- provider interaction observation. Here the respondents were selected randomly, then after to get the first respondent simple random sampling technique was applied.

2.3. Data collection instrument and quality management

Questionnaire, checklists and interview guides were prepared from WHO Measure evaluation survey tool and with agreement of stakeholders (Mekelle zonal health office). Both qualitative and quantitative methods used to collect the necessary information. For observations of client - provider interaction Guided check list has been used.

Appropriate training and orientation gave in one day to all five data collectors and one supervisor on the objective of the evaluation, on data collection tools content, techniques of conducting, and procedures of the evaluation. Pretest was also conducted at 5% of the total samples outside of those selected health facilities. Then, the necessary modifications were made and incorporated into the data collection tools. a close supervision, honest communication and on spot decisions was conducted during data collection.

2.4. Statistical analyses

The quantitative data entered, coding and cleaning before analysis, then analysis was done by statistical software for the social sciences (SPSS) version 21. Descriptive statistic was carried out to compute the different frequency, percentage, proportions, Tables and diagrams. For qualitative data all the audio taped interview was transcribed by their dimension word by word. The transcript, then translated to English carefully. The translated transcript imported to ATLAS.ti. Then coding, grouped for family (thematic) analysis was done to supplement the quantitative data carefully. Finally, because of its simplicity, replicablity, recommended by (WHO 2015), different literatures and agreement of stakeholder the final analysis of this evaluation thesis was analyzed by equal weight approach i.e. by considering all indicators have

equal contribution on the quality of the service and judged accordingly based on the pre-stated standard rates.

2.5. Ethical consideration

Ethical clearance and approval was first obtained from the Ethical Review Committee of Mekelle University College of health sciences (ERC1252/2019, March19/2019). Support letter for the evaluation requested from TRHB and Mekelle city health official letter was written to the study health facilities. In addition, each subject of the evaluation fully and clearly informed about the aim of the evaluation and the confidentiality of the information. During an observation informed consent was obtained both from the client and care provider. Supervisors was the immediate responsible persons to handle and report to the principal investigator any problem related to ethical issues, which may happen during data collection. And the principal investigator was responsible to keep confidentiality of information during data storage and management.

3. Results

3.1. Socio-demographic

A total of 340 respondents from five health facilities were enrolled in the study. The mean age of clients was M=28 year with standard deviation of SD=5.7and 220 (57.9%) was age range of 25- 35 years. relatively majority 174(51.2%) of respondents were married and 287(84.3%) respondents reached complimentary primary and above education level. Orthodox was the dominant religion 250(73.5%) followed by Muslim 66(19.4%). Most of the respondents were self-occupied at home named as house wife 116(34.1%). (Table10).

In this evaluation study, for client-provider interactions 150 clients were observed from the study health facilities. Regarding the profile of LARC providers, there were one female nurse diploma, four BSc Nurses, two BSc midwives and one master holder. The average service experience of providers was 5 years (ranges from 4years to 12 years). Regarding the client-provider interaction, most of the clients used implants 136 (90.7%) followed by IUCD 14(9.3%). Around 49% of the clients were aged between 18 and 41 years (with mean age of 27years old and standard deviation of SD=6). Majority of the clients (68.7%) were married and had 1-4 living children. Of the total 32.7% were completed their primary school and majority of the women's religion were orthodox 74.7% followed by Muslim 15.3% and 34.3% were house wife in occupation(table 10).

3.2. Availability Dimension

From five health facilities only two health facilities (Ayder specialized hospital and Mekelle health center) had 100% infrastructure (Separated class service, clean latrine and pipe water (hand washing sink water)) and three health facilities availed 66.67% to provide the long acting reversible contraceptive service.

Regarding trained human resources on LARCs, fortunately all of the care providers who were assigned to give the LARCs service in all of the health facilities were trained except one health provider from Mekelle health center.

Concerning the availability of basic equipment, three of the study health facilities (Family guidance association, Mekelle health center and Adishndhom) had fully equipped with basic equipment like uterine sound, speculum, Tenacula, weight scale, Trocker, couch and Lidocane

to run the service as intended. However the other two health facilities (Semen health center and Ayder referral hospital) were lacking some basic equipment like BP cuff and stethoscope and have given an availability of basic equipment 77.78% and 88.89% respectively.

Based on the result of observation, all evaluated health facilities had 100% secured the essential (routine) LARC (implants and IUCD) contraceptives.

In regard to the availability of safety measure (materials), among the five health facilities three (FGA, Ayder specialized hospital and Mekelle health center) had 100% standard LARC safety measure materials were found secured. The rest two (Adishndhom and Semen health center Health center) were secured of 67 and 83% respectively.

In three health facilities there were shortages of water with soap in their room for hand washing.

Three health facilities (Family Guidance Association, Ayder referral hospital and Adishndhom) had 100 % availability of essential supply (Guideline, IEC material, registration book…).

All of the five health facilities had registration books and four of the health facilities had tally sheets and reporting format. However, two health facilities had no updated standard guideline and IEC materials. In our study, the number of health facilities **not** experienced Stock out of materials in the last six months was found to be 100 %. According to the report from most of the key informants, there were shortage of basic supplies like updated Guidelines, IEC materials and this happened as a result of scarcity of resources. A key informant from one of the health facilities said that *"…we have shortage of basic supplies like Guideline, IEC materials and SOP in every long acting family planning room. As a health facility, there should be copies of*

*these guidelines. In order to update themselves by reading these guidelines and follow procedures as intended. But because of our negligence, low coordination and weak corrective measures we have shortage of Guideline and IEC materials."[Health facility coordinators 12 years work experience].*thus, overall the availability of program resources was found to be (72%) below average (Table 4).

3.3. Compliance Dimension

Proportion of clients properly got insertion practice in a right way 99.3%, and 85.3% of them were greeted with friendly. 87.3% clients got service followed the Sterilized technique as per the guide line. Information given about their reproductive intention and advantages of LARC were 86% and 60.07% respectively. On the other hand information and counsel explained about LARC by aided at least one IEC visual material were 48%. The result obtained from key – informant interview almost all explained, the discussion with the aides of IEC materials was low.

Proportion of clients counseled on possible temporary side effects of the method was only 49%. Most of the key informants mentioned information and counseling service on side effects and disadvantages were poor.

From the total session's proportion of session's clients counsel on the importance of use of dual method in addition to LARC were 49%. The respondents mentioned that care providers client discussions regarding counseling the LARC users to use condom or being faith fullness to protect themselves from HIV/STI were poor.

From the total sessions clients were counseled and clinically assessed on contraindications and disadvantages of the LARC chosen were only 31.3% and 51.3% respectively.

Almost all participants in the key informant except one from family guidance association key informant mentioned that assessing contraindications of LARCs properly during care provider client interaction was the most frequently problem of the care providers.

The reasons were carelessness of the care providers to screen before use, lack of time, Client overflow and assumption of clients as free of any contraindication (Prejudged), and urgency of the care providers.

Key informant care provider discussant from Ayder hospital stated that *" identifying the contraindications consciously and by taking time as well as strictly follow the client's chart is poor which is due to shortage of basic equipment like BP apparatus and due to our negligence".[MSc midwife 10 years work experience from Ayder referral hospital].*

The result measured by computing the variables under each indicator based on the operational definition and judged by the average of the indicators and judged Based on the judgment parameter rate developed together with stakeholders. Hence compliance of services to guide line was determined as (69%) below average (Table 5).

3.4 Clients satisfaction dimension

Majority of the respondents were satisfied with distance of health facility to their home 95%, cleanness of the health facility 95%, by the skill of the care providers 94%, easily of getting clinic site 92%. Though about 17%, 17.7%, 15.9%, and 14.5% of the respondents were relatively not satisfied with maintaining privacy, respectfulness, adequacy of information given

and ethics of the care providers respectively. The overall satisfaction of the clients by the service found to be (89%) good (Table 6).

4. Discussion

In this study, only (2/5) 40% of the health facilities were found to have basic infrastructures (separated class, access of pipe water and clean latrine). Our finding is consistent with results from Jimma and Kenya where inadequacy of infrastructure like shortage of piped water and separated room were documented as a problem at LARCs health facilities(18)(31). However, the result is in contrast with the FMOH FP guideline which recommends 100 % availability of these infrastructures in the LARCs service (17).This difference can be explained by the poor design of the buildings which didn't consider LARCs service and its basic infrastructures or Less commitment of health administrators can also be a reason for the health facilities not to have full infrastructures.

From our study most of the health facilities were provides the services by trained human power except Mekelle health centers. This finding has little different with a study conducted at Jimma which was each of the health centers had trained staffs that provided family planning services. And this is less than the guideline of FP services in Ethiopia which recommends that all LARC service providers should be trained and provides the service by trained care providers. This could be due to poor coordination of on job training and lack of budget.

Concerning the availability of basic equipment, though most of the health facilities (three) had equipped with basic equipment, whereas, in the two health facilities there were shortages of essential equipment's like BP apparatus and Sthetescopes. this result was consistent with

findings from Jimma whereas a little better from health facilities in Bahirdar where the report showed shortage of basic equipment like uterine sound, Teneculum, and sterilizer in some governmental clinics and nongovernmental owned clinic (36)(18). This is not in line with LARC guideline which recommends every health facilities should equip with necessary equipment's to ensure the uninterrupted delivery of high-quality services. His could be due to poor stock management health facilities.

In this study two of five health facilities lack updated guideline and IEC materials of LARC service which is not in line with the recommendation of FMOH that reinforces availability of recent guidelines to increase awareness about child spacing methods and promote client provider interaction(17).Health facilities in Jimma and Bahirdar had better performance in availing guidelines and IEC materials for their health workers(36)(18).The difference may be due to active mobilization and participation of NGOs and leadership dedication (18)(36).

Regarding to the safety measures in this study all health facilities have Autoclave, safety box and sterilized glove where as there are shortage of water with soap and masks except Ayder specialized hospital and family guidance association. This is below the FP service standard, which recommends all LARCs should have a hand washing pipe with soap which is the most single important to prevent contamination. This could be because of a shortage of the accessibility of water.

In this study the proportion of greeting clients by their providers was 85%. This finding was higher than the study results conducted in Jimma health center(65.3%) whereas lower than Bahirdar health center (89.5%)(18)(36).however which is not in line with the FMOH

recommendation in which providers are expected to establish and maintain rapport build by welcoming or greeting clients friendly in 100% consultations. The difference may be due to awareness of care providers on good counseling approach and data collector's level of understanding.

This study revealed that 86% of the clients were assessed for their reproductive intention. This is a little bit low comparing to the family planning guideline which recommends all clients (100%) to obtain information about their reproductive intentions and their preference. This difference might be explained by lack of due attention and time constraints of the health care providers.

The results of the study also revealed that the proportion of client's gets the LARCs through sterilized technique were 87.3% and clients were 100% properly appointed for the next visit by registering and administering appointment card. The result was comparable with the guide line which recommends all clients should get a service with a sterilized technique (17). According to this study, only 31.3% of clients were counseled and assessed for contraindication before the provision of the LARCs service. This study finding is higher than the study finding from Mozambique where 18% of women were assessed for contraindication before LARCs service provision. This is lower than a study conducted in Ethiopia and Pakistan which was 42% and 72.4% respectively (42)(48). This difference might be due to lack of adherence to the WHO family planning guideline and lack of knowledge of the care providers.

Regarding counseling on temporary side effects only 49% of the clients were approached. This is similar with a study result in Bahirdar which was 50% (36). However in contrast to WHO

recommendation which recommends all clients should educate them about any possible side effects that may be experienced, Because of shortage of time, carelessness (negligence).

The overall service satisfaction of the clients in this study was 89%. This is similar with a study conducted in Jimma, Ethiopia 93.7%, (18).Tanzania health centers where the satisfaction was rated as and 91% (49) respectively and lower than a study conducted in Omo Nada district, Oromia, region, Ethiopia that satisfaction of clients by the service were 97.8% (41) and Mozambique that was almost all clients 98% were satisfied with the received family planning service. The difference might be due to awareness of clients, cultural values, sample size, study design and ethics of socio economic may have contribution (25).

The comparison result of this study shows as there are differences among health facilities on regard to the quality dimensions of this evaluation. Family guidance association performed better than any studied governmental owned health facilities across the dimensions of resource availability 86%, compliance 80% and satisfaction 96% respectively and overall 89%. This could be due to the fact that nongovernmental owned health facility care providers were better at managing interpersonal aspect of care and their responsiveness (43).

5. Conclusion

The overall quality status of long acting reversible contraceptive has been judged as **"average".** However, shortage of infrastructure, basic equipment's, supplies and insufficient information given to clients about side effects, contraindication, and respectfulness were the

main problems of the quality of the service. Hence, there should supply of infrastructure, basic equipment and care provider's adherence to guideline should be strengthen and revised.

The general conclusion that could be drawn from the overall level achievement was in need of improvement from average to excellent level performance in order to realize all of the objectives of the intervention.

6. Declaration

6.1. Ethics approval and consent to participate

Ethical clearance and approval was first obtained from the Ethical Review Committee of Mekelle University College of health sciences (ERC1252/2019, March19/2019). Support letter for the evaluation requested from TRHB and Mekelle city health official letter was written to the study health facilities. In addition, each subject of the evaluation fully and clearly informed about the aim of the evaluation and the confidentiality of the information. During an observation informed consent was obtained both from the client and care provider. Supervisors was the immediate responsible persons to handle and report to the principal investigator any problem related to ethical issues, which may happen during data collection. And the principal investigator was responsible to keep confidentiality of information during data storage and management.

6.2. Consent for publication

The authors gave their consent for publication of this original research work.

6.3. Availability of data and material

The authors ensure the availability of data and material of this research work and are ready to provide when requested.

6.4. Competing interest

The authors declare no competing interest

6.5. Funding

This study was funded by Mekelle University

6.6. Author contributions

Solomon Zeru [1] conceived the study idea, designed and performed the analysis and the write up on methods, and designed first draft of the manuscript. All the authors participated in designing tools, data management, analysis and the write up. All authors have read and approved the manuscript.

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N.B.: Annexures: Tables & related data is available upon request to the Corresponding Author (SOLOMON ZERU NERAE[1]) of the Article via Email: solomonzeru503@gmail.com

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