PREVALENCE AND DETERMINANTS OF POSTPARTUM INTRA-UTERINE CONTRACEPTIVE DEVICE USE AMONG POSTPARTUM MOTHERS IN ABORI CELL IN LIRA EAST DIVISION

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A RESEARCH REPORT SUBMITTED TO THE INSTITUTE OF PUBLIC HEALTH AND MANAGEMENT IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR'S DEGREE IN PUBLIC HEALTH OF CLARKE INTERNATIONAL UNIVERSITY

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DECLARATION

I Okullo Augustine hereby declare that this dissertation titled *"Prevalence and determinants of intra-uterine contraceptive device use among postpartum mothers at Abori cells, Lira East Division"* has fully been written by me with guidance from my academic supervisor. Any literature cited has been acknowledged and quoted. To the best of my knowledge, no such information has been submitted to any higher institution of learning for any academic award.

Okullo Augustine, Student

Signature: _____

Date: _____/_____/_____

Dedication

This dissertation is dedicated to my dear uncle wife and the son, for their tireless support MRS. AKULLO SUSAN for her support towards my studies and having driven me into success. I would also love to thank beloved mother and Sister IMAT HELLEN OKULLO, OPIO BOUA SUSAN and may the almighty bless you abundantly.

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I would like to thank the head of department (IPHM) INSTITUTE OF PUBLIC HEALTH AND MANAGEMENT, THE DEAN Mr. Alege John Bosco and the entire staff of Clarke international university for their guidance throughout the course.
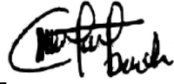
Above all my sincere thanks and gratitude goes to the almighty God protecting and guiding me this far and having given me strength, knowledge, wisdom, to learn and overcome challenges I faced when pursuing this course.

Thanks for your contribution

May God bless you all.

APPROVAL

This dissertation was written under my guidance and supervision. I approve it for submission to Institute of Public Health and Management, Clarke International University.

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OPERATIONAL ABBREVIATIONS

IUCD: Intra-uterine contraceptive Device

MOH: Ministry of Health

PPIUCD: Postpartum Intra-uterine Contraceptive Device

UBOS: Uganda Bureau of Statistics

UDHS: Uganda Demographic and Health Survey

UNCEF: United Nations Children's Fund

UNPF: United Nations Population Fund

WHO: World Health Organization?

OPERATIONAL DEFINITIONS

Terms	Definition
contraception	Deliberate prevention of contraception by using pills, devices and techniques or natural means.
Family planning	A conscious effort by a couple to limit the number of children through the use of contraceptive methods.
Modern contraception	A product or medical procedure that interferes with reproduction from acts of sexual intercourse.
Postpartum intrauterine contraceptive devices	Is the lucrative postpartum family planning method which provides effective reversible contraception to women in the delivery setting.
postpartum	First six (6) weeks after delivery
Contraceptives	A device or method a woman uses to prevent herself from pregnancy.

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ABSTRACT

Background: Postpartum intrauterine contraceptives device (IUCD) is a reliable, effective, safe and recommended contraceptive method for the postpartum mothers. However, there is limited data regarding the prevalence of use of postpartum IUCD and its determinants among mothers in Lira district. This study aimed to investigate the prevalence and determinants of postpartum IUCD use among postpartum mothers in abori A and B cells in Lira city east division.

Methods: A community-based analytic cross-sectional study was done at Abori Cell A Division in Lira district. Data were collected using pretested researcher-administered questionnaire. The data were coded, cleaned and entered in EpiData and analyzed in the Statistical Package for Social Sciences Research (SPSS) version 20. Univariate, bivariate, and multivariate analysis were conducted, and the level of statistical significance was set at 5%.

Results: Of 384 participants studied, 37(9.6%) had used postpartum IUCD. The use of postpartum IUCD was independently associated with maternal age ≥35 years (Adjusted odds ratio (aOR), 8.12; 95% confidence interval (CI), 1.30-49.19; p = 0,021), parity ≥3 (aOR, 4.19; 95%, 1.78-10.80; p=0.002), at least secondary level of education (aOR, 0.25; 95% CI, 0.07-0.85; p=0.030), and reporting that IUCD has no adverse effects (aOR, 8.83; 95% CI, 3.91-21.90; p<0.001).

Conclusion: The prevalence of intra-uterine contraceptive device use among postpartum mothers at Abori A and B Cells, Adekokwok ward, Lira City East division was low. Maternal age ≥35, parity ≥3, absence of IUCD adverse effects are associated with increased use of postpartum IUCD while at least secondary level of education is associated with reduced use.

Recommendation: There is a need to provide mothers with correct and accurate information about postpartum IUCD through health education. This will contribute to improving the use of postpartum IUCD in the study area. Contraceptive service providers need to regularly monitor use of postpartum IUCD for adverse side effects and take corrective active as fast as possible.

CHAPTER ONE:

1.0 Introduction

1.1 Background

Globally, 121 million unintended pregnancies occurred each year between 2015 to 2019 and out of these, 61% ended in abortions (Bearak et al., 2020). The average annual unintended pregnancy rate was 66% in the middle-income countries and 40% among the low-income countries, where34 pregnancies per 1000 women aged 15-49years occurred (Bearak et al., 2020). Preventable unintended pregnancies put women in the dilemma between terminating the pregnancy or allowing unwanted pregnancies to be birthed (Melkie, Addisu, Mekie, & Dagnew, 2021).

Unintended pregnancies expose women to unsafe abortions, mortalities related to unsafe abortions, dropping out of school and societal denial (Tunau et al., 2016). These risks can be prevented through use of modern contraceptive methods such as long-acting reversible contraceptives and short-term reversible contraceptive methods (Beson, Appiah, & Adomah, 2018).

The most effective contraceptives consist of long-acting reversible contraceptives which include intra-uterine contraceptive devices (IUCD). This method has ample advantages over other reversible methods such as placement being done once; they do not require maintenance and immediate fertility return and their duration of action of up to 12 years (WHO, 2018). Further, IUCDs are safe for a breastfeeding mother and have the potential in preventing short pregnancy intervals (Getinet, Abdrahman, Kemaw, & Kansa, 2014).

Globally, the prevalence of Intra-uterine device use was at 13.9%. The prevalence was at 17.5% in Asia, 11.9% in Europe, 6.5% in Latin America and the Caribbean, 4.7% in North America and 4.6% in Africa (UN, 2013). In Uganda, IUCD use was stagnated at 0.2% among women of reproductive ages 15–49 in the years 2001-2006. By 2011, IUCD use increased slightly to 0.4% and 3.8% in 2015 (Twesigye, Buyungo, Kaula, & Buwembo, 2016). Though there was a recorded increase in the utilization of IUCDs in the country, this number is still very low compared to other countries.

Despite the availability of IUCD at Lira regional referral hospital family planning, there has been low utilization of this type of contraceptive. For example, from August 2020 to March 2021; out of the 496 clients who were provided contraceptive services, only 3 clients opted for IUCD (HMIS, 105). To my knowledge, no published study has been done at the Lira hospital and nearby community to determine the use and determinants of postpartum intra-uterine contraceptive device use. This study hence aimed at determining the prevalence and determinants of postpartum intra-uterine contraceptive device use among postpartum mothers at Abori Cells, Adekokwok Sub- County Lira City east division, one of the communities served by Lira regional referral hospital. A better understanding of the use and determinants of postpartum intra-uterine contraceptive device use by women at Abori Cells will be key in devising solutions to this problem.

1.2 Problem Statement

At Lira regional referral hospital, postpartum use of the intrauterine contraceptive device is very low (0.6% from August 2020 to March 2021) and yet health workers are equipped to provide this service to any mother as soon as they deliver their babies. Little has been done to identify the use and determinants of this contraceptive method at Lira regional referral hospital and neither community served by this hospital.

Underutilization of contraceptives during the postpartum period puts women at a risk of unintended pregnancies, unsafe abortions, avoidable mortalities related to child birth, and poor birth outcomes associated with short birth intervals (Pimentel et al., 2020; Tunau et al., 2016). This therefore, inspired the researcher to conduct a study at Abori Cells, Adekokwok Sub- County Lira City, one of the communities whose population is served by Lira regional referral hospital. The findings of this proposed study may help to fill this knowledge gap.

1.3.0 Objectives
1.3.1 General Objective

To assess the determinants of intra-uterine contraceptive device use among postpartum mothers at Abori Cells, Adekokwok Sub- County Lira City

1.3.2 Specific Objectives

1. To determine the prevalence of the intra-uterine contraceptive device use among postpartum mothers at Abori Cells, Adekokwok Sub- County Lira City.

2. To establish maternal socio-economic determinants of intra-uterine contraceptive device use among postpartum mothers at Abori Cells, Adekokwok Sub- County Lira City east division.

3. To ascertain contraceptive factors associated with intra-uterine contraceptive device use among postpartum mothers at Abori Cells, Adekokwok Sub- County Lira City.

4. To determine health services related factors associated with intra-uterine contraceptive device -use among postpartum mothers at Abori Cells, Adekokwok Sub- County Lira City east division.

1.4 Research questions

1. What is the prevalence of intra-uterine contraceptive device use among postpartum mothers at Abori A and B Cells, Adekokwok Sub- County Lira City?

2. What are the maternal socio-economic factors associated with intra-uterine contraceptive device use among postpartum mothers at Abori A and B Cells, Adekokwok Sub- County Lira City?

3. What contraceptive factors are associated with intra-uterine contraceptive device use among postpartum mothers at Abori A and B Cells, Adekokwok Sub- County Lira City?

4. What health services-related factors are associated with intra-uterine contraceptive device use among postpartum mothers at Abori A and B Cells, Adekokwok Sub- County Lira City?

1.5 Justification of the study

Long-acting reversible contraceptives such as intra-uterine contraceptive devices (IUCD) are one of the most effective contraceptives used by women during the postpartum period (UCG, 2016). They are safe for breastfeeding mother, more than 99% effective, requires one time insertion, can be effective up to 12 years, and immediate return of fertility on removal (WHO, 2018). This means that mothers using them are prevented from unwanted pregnancies, unsafe abortions, and preventable maternal motilities related to child-bearing (Beson et al., 2018).

Despite the known benefits of IUCDs, their use is still low in the country at about 3.8% (Twesigye et al., 2016). Low use of IUCD may be associated with negative attitudes, misconceptions, poor knowledge, inaccessibility among others (Kizito & Namuli, 2020; Melkie et al., 2021). In Lira community, little is known about the use and determinants of postpartum intrauterine contraceptive devices. Findings of this study will hence benefit the following;

Results will provide data regarding the use and determinants of postpartum intrauterine contraceptive device by women at Abori A and B Cells, Adekokwok Sub- County Lira City adding to the body of knowledge.

The findings of the study may provide data that may be used by the policy makers, local leadership, and Lira regional referral hospital management to devise strategies aimed at increasing the utilization of IUCD. Results from this study may guide health care providers in family planning services on which interventions to put in place to enhance knowledge and attitudes on IUCD hence increasing on its use.

1.6 Conceptual of Framework

The conceptual framework of this study has been based on the theorization that the prevalence of postpartum IUCD use may be affected by maternal socio-economic factors, contraceptive factors and health services-related factors.

Postpartum IUCD use may be affected by maternal socio-economic factors such as age, parity, occupation, marital status, partner's income, number of children desired, residence, and total number of living children. The use of postpartum IUCD may also be affected by contraceptive factors such as perceptions, attitudes, and beliefs regarding side effects of IUCDs, importance, and safety of IUCD. Also, health services factors such as accessibility, availability and quality of IUCD services provided by the health care providers may affect the use of such contraceptive methods as illustrated by figure 1 below.

Figure 1: Conceptual Framework of the Study

| Maternal factors |
| Age, education, marital status, occupation |

| Health services factors |
| Accessibility, availability and perceived quality of IUCD services |

| Contraceptive Factors |
| Perception, side effects, beliefs and benefits |

IUCD use (Yes or No)

Effect of IUCD use
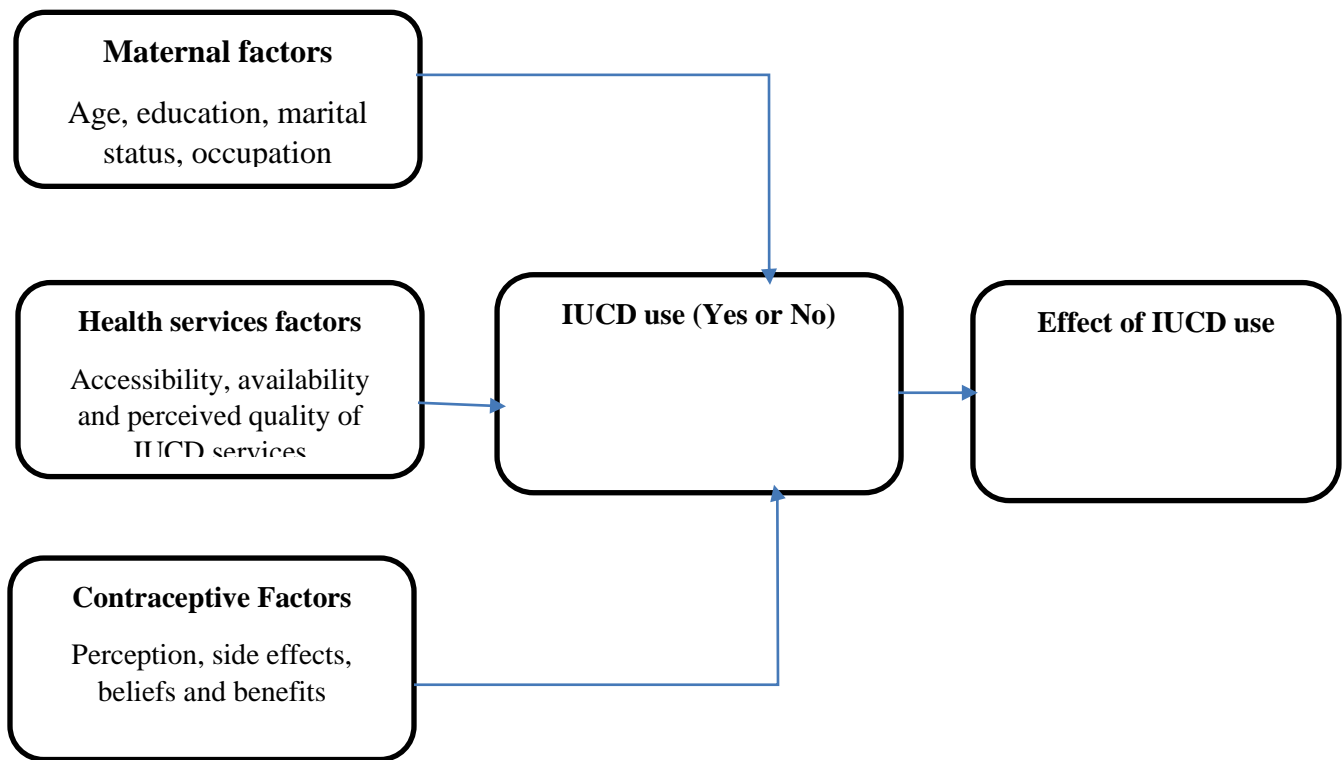
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature related to the use of intrauterine contraceptive devices by postpartum women and determinants of intra-uterine contraceptive device use among postpartum mothers. It includes literature from journals, reports, practical guidelines and internet websites.

Intrauterine contraceptive devices are broadly categorized into non-hormonal copper-bearing intrauterine contraceptive devices offering protection of up to 12 years and the hormonal Levonorgestrel intrauterine contraceptive device offering protection up to 5 years (WHO, 2018). These are inserted into the uterus by a specifically trained provider to produce chemical changes which damage the sperms or prevent the growth of the uterine lining hence preventing conception (WHO, 2018). IUCD like other contraceptives has got benefits such as improving the quality of life of the populations, empowering women, and being a cost-effective health intervention (Osotimehin, 2012). Contraceptives can reduce up to 32% of all maternal deaths and nearly 10% of childhood deaths if they are readily available and utilized (Cleland, Angudelo, Peterson, Ross, & Tsui, 2012).

Despite the known benefits of contraception, the use of contraceptives in our country is still low (39% among married women and 51% among unmarried women but sexually active) (UBOS & ICF, 2017). In regards to IUCD, only 3.8% of the women of reproductive age were using that type of contraception in 2015 (Twesigye et al., 2016). This signifies the need for more efforts to understand the deterrents behind the low utilization of contraception in the country.

2.2 Prevalence of intra-uterine contraceptive device use among postpartum mothers

In the study done in Rwanda, the prevalence of IUCD use among postpartum women was 28.1%. , Women who had normal delivery were more likely to take up PPIUCD (Adjusted Odds Ratio (AOR) 2.623, 95% CI=2.017-6.507 compared to those who had a cesarean section (Kanakuze, 2017). Differently, a study done in Rwanda earlier showed that only 64(15.3%) of the participated mothers were using postpartum intrauterine contraceptive devices at Muhima Hospital (Mutangana, 2015).

Similarly, a study done in rural China to establish uptake of long-acting reversible contraception (LARC) among postpartum women revealed 66.4% of the women had used it. Among all the stated contraceptive methods, the proportion of IUD use was only 14.9% (Kang , Li, & Liu, 2018). Also, a related study from Ethiopia indicated that the prevalence of current LARC methods use was 209,(53.2%) and 10.5% used IUD (Arero, 2019).

Another study conducted among 11 private-sector health care facilities in Nigeria showed that 41% (n = 300) women had used a postpartum intrauterine contraceptive device. About one-fourth (26%, n = 77) of the IUDs were inserted manually as immediate post-placental insertions, while the majority (74%, n = 223) were inserted within 48 hours of delivery with the use of forceps. About 8% of women who chose the postpartum IUD (n = 25) experienced expulsion of the IUD, with the majority of the expulsions occurring among those inserted with forceps (72% with forceps vs. 18% manually; P = .78) (Eluwa, Atamewalen, Odogwu, & Ahonsib, 2016).

Findings of another study conducted in Addis Ababa public hospitals revealed that the number study participants who had ever used family planning methods were 220(76.9%).The current use of immediate postpartum IUCD among study participants was76(26.6%) (Geda, Nejaga, Belete, Lemlem, & Adamu, 2021). And the study done in in two health facilities in urban ghana indicated that 26.3% postpartum mothers had used IUCD (Jonathan Ian Coomson and Abubakar menu 2019)

In a study done at Gombe hospital, of the 202 postpartum mothers, 11 of them were old users of IUCD and 22 mothers were new users of the method. Therefore, the prevalence of IUCD utilization was at 16.3% among postpartum mothers (Kizito & Namuli, 2020). In another study conducted in Kenya to determine Intrauterine Device uptake among postpartum women seeking FP services at Mbagathi and Mama Lucy Kibaki Hospitals was 10.2 % (Mbuthia, 2015).

2.3 Maternal socio-economic determinants of intra-uterine contraceptive device use among postpartum mothers

Evidence from different studies shows that maternal socio-economic determinants may affect postpartum IUCD use among postpartum mothers as discussed below. These include; maternal age, parity, occupation, marital status, partner's income, number of children desired, residence and total number of living children among others.

Number of children and woman's parity

For example;- in a study done in Rwanda women who had more than one child were more likely to use postpartum IUCD (AOR =2.265, 95% CI=1.472-3.163) as compared to prime gravida (Kanakuze, 2017). In another related study from Ethiopia, having more than four alive children was associated with postpartum IUCD use (95% CI: 1.15,5.95) (Arero, 2019).

Findings of Eluwa and colleagues showed that women with parity 4–5 (AOR, 6.30; 95% CI, 1.36 to 28.72; P = .02) and 6 (AOR, 5.81; 95% CI, 1.15 to 29.27; P = .03) were more likely to accept the postpartum IUD than women with parity 0-1. Compared with those who had 0–1 living child, those with 2–3 living children were more likely to choose the postpartum IUD (AOR, 4.56; 95% CI, 1.19 to 17.45; P = .03). The same was true for women with 4–5 living children (AOR, 8.30; 95% CI, 1.97 to 35.03; P = .004) and women with 6 or more living children (AOR, 17.76; 95% CI, 3.07 to 102.85; P = .001) when compared with women with 0–1 living child (Eluwa et al., 2016). Additionally, Mutangana (2015) in Rwanda also found that factors like the mother's parity, and the number of biological children a mother had were found to have a statistically significant association with the uptake of postpartum IUCDs (p<0.05) (Mutangana, 2015).

Level of Education

Evidence from a study done in Nigeria revealed that women with no formal education or only a primary level of education were more likely to choose the postpartum IUD than women who had a tertiary level of education (adjusted odds ratio [AOR], 2.03; 95% CI, 1.20 to 3.42; P = .008). There was no difference in uptake between those with secondary level education and those with a tertiary level (AOR, 1.05; 95% CI, 0.68 to 1.64; P = .82) (Eluwa et al., 2016).

Further, a study by Kizito and Namuli at Gombe hospital found that education of mothers significantly influenced utilization (X2 (3) = 28.22, p = <0.001) with primary education and secondary education being 10 times more likely (COR = 9.67, 95%CI (2.639–35.411)) and 6 times more likely (COR = 6.17, 95%CI (2.234–17.023) to influence IUCD utilization, respectively (Kizito & Namuli, 2020).

On the other hand, findings of another study from Rwanda revealed that factors such as age, marital status and employment status did not show any statistically significant association with the use of postpartum IUCDs (p>0.05). These factors were hence less likely to influence the decision of mothers to use postpartum IUCDs (Mutangana, 2015).

Level of Income/occupation

Findings of Geda and colleagues showed that postpartum women whose occupation was housewife were (AOR = 0.19, 95%CI: 0.06, 0.67) less likely to utilize postpartum IUCD compared to those who had a personal job (Geda et al., 2021). In a study done from Uganda at Gombe hospital, the occupation of mothers was found to have a positive association with the utilization of postpartum IUCD. Most of the mothers who were skilled laborers were less likely to utilize IUCD compared to non-skilled counterparts (COR = 0.19 95%CI: 0.082–0.431) (Kizito & Namuli, 2020).

Spouse Approval

For example; in a study done in Rwanda, women who received spouse approval were more likely to use postpartum IUCD (AOR 2.591,95%CI= 1.485-4.492); as compared to those who didn't receive any spousal approval (Kanakuze, 2017). Results of Jamal et al reveled that partner support for IUCD insertion (AOR [95% CI]: 10 [4.03, 24.3]), birth interval (AOR [95% CI]: 9.7 [1.7, 55.1]), fertility plan (AOR [95% CI]: 4 [1.44, 10.84]), and timing of counseling (AOR [95% CI]:1.25 [0.034, 0.46]) were determinant factors for postpartum IUCD (Jemal et al., 2020).

Critical factors influencing the acceptability and use of post-placental insertion of intrauterine contraceptive device among postpartum women in India were family member's objections (43.44%), husband/partner objection (27.94%), and insufficient knowledge regarding the benefits of postpartum IUCD (Divakar, Bhardwaj, & Purandare, 2018). Findings of another study also indicated that respondents who had discussions about postpartum family planning with their partners were 1.21times (AOR = 1.21, 95%CI: 1.14, 25.67) more likely to utilize IUCD compared to those who never discussed.

Contrarily 81% of respondents who needed partner approval to use postpartum family planning were (AOR = 0.19, 5% CI: 0.05, 0.79) less likely to utilize postpartum IUCD compared to those who didn't need approval. And further, respondents who have been counseled about IUCD were 1.13 times (Geda et al., 2021).

Mode of delivery

Kang and colleagues in rural China also found that prevalence of LARC use of women whose index delivery was vaginal was 12.9%, significantly higher than the rate of 4.9% of women whose index birth was by caesarean section (OR=3.50, 95% CI=1.40 to 8.73). This implied that mode of delivery was significantly associated to use of LARC including postpartum IUCD (Kang et al., 2018).

2.4 Contraceptive factors of intra-uterine contraceptive device use among postpartum mothers.

Beliefs and Misconceptions

Individual use of contraceptives can be influenced by someone's perceptions, attitudes and beliefs regarding side effects of IUCDs and benefits of IUCD. Negative attitudes towards side effects, beliefs and misconceptions may correspond to poor contraceptive utilization practices and good attitudes may lead to good contraceptive utilization practices (PM van Zyl et al., 2019; Temesgen, Workie, & Tsegaye, 2017). For example, a study done in Southern Ethiopia amongst women with disability, findings showed that women who had a positive attitude were 2.3 times more likely to use family planning than those with negative attitudes (Yibeltal, Wubshet, Yordanos, Natneal, & Nuriye, 2020).

In a study done in Kenya, Nigeria and Senegal, women's beliefs were negatively associated with use of IUCD. Women believed that people who used contraceptives ended up with health problems (48–74%), harm someone's womb (37–62%), reduce women's sexual urge (24-61.2%), cause cancer (24.0-55.5%, make the deformed babies (23.2-62%) and women who use contraceptives would become promiscuous(33.2-50.5%) (Gueye, Ilene, Meghan, & Chinelo, 2015).

Similarly, a study done in Egypt showed that 88.7% of studied women had ≥1 misconceptions about contraceptives which were associated to their low utilization of contraceptives. The most prevalent misconceptions were that birth control pills cause cancer and the intrauterine device (IUD) can travel up to the heart by penetrating the uterus and eventually the woman die. Other misconceptions reported in this study showed that were contraceptives are for older females rural, illiterate or moderately educated, and unemployed ladies who are married to illiterate or moderately educated me (Eshak, 2015).

In a qualitative study done in Ghana, low utilization of contraceptives was associated to misconceptions on side effects of contraceptives. These included development of fibroids with prolonged use of hormonal contraception, fear of getting fat, and failure to conceive when they need babies. Findings also showed that participants believed that health workers have to test their blood in order to choose them a method compatible with their blood (Hindin & Adanu, 2014).

In a study done at Gombe general hospital, 10.9 % (22) were newly using IUCD. IUCD utilization was not high because mothers believed it could cause bleeding, fibroids, cancer, could get out when in their periods, travel to other parts of the body and can cause severe backache. As far as recommending the IUCD to a friend, some stated that they could while others reported never. Reasons for recommending IUCD to a friend included immediate return of fertility, method being a long term, and being very effective. Reasons for not recommending included; perceptions that IUCD have bad effects, no prior experience of use and lack of knowledge about the method, discomfort of being with the IUCD, and bleeding (Kizito & Namuli, 2020). In a related study, women in Uganda were aware of the IUD and think it is an effective method, but many thought it could damage the womb or make a woman infertile (Twesigye et al., 2016).

A study from Kenya revealed that the main myths, rumors and misconception that were mentioned included; one could conceive with IUCD and give birth to a baby with device embedded in the body (35.8%), IUCD can travel to other parts of the body (26.6%) and spread infections to other parts of the body (19.6%). Fear and conceptual concern were also cited as barrier to IUD uptake. Eighty three percent of the IUCD users were satisfied with the device and 97% of the users would recommend the method to others (Mbuthia, 2015).

Side effects of IUCDs

Evidence also shows that low utilization of postpartum intrauterine contraceptive devise may be due to fear for side effects of this contraceptive method and other effects generally linked to contraceptives. For example in South Africa, 40.0% (n=60) of the women expressed concern about the pain during insertion, and 32.0% (n=48) reported that the device interferes with normal sexual activity (Builu & Naidoo, 2015). Such fears were linked to the low utilization of IUCD. Findings of this study were comparable to the results found in the study done by Sunanda and colleague wherein the most common views were fear of pain and bleeding (41%), fear of cancer (31.4%), and increased weight (12.1%) (Sunanda & Sudha, 2015).

2.5 Health services-related factors of intra-uterine contraceptive device use among postpartum mothers

Health Education on IUCD

In a study done by Kanakuze, (2017), health education of women during antenatal and immediately after delivery influenced use of postpartum IUCD. Women who received postpartum IUCD counseling during antenatal period were more likely to use IUCD ((AOR 2.072, 95% CI=1.018-4.218) as compared to those who didn't receive any form of counseling (Kanakuze, 2017). This was similar to a study done in Ethiopia which showed that counseling of mothers during antenatal follow-up and before delivery could further increase its use (Arero, 2019).

Similarly, findings of a research done in Southern Ethiopia showed that mothers who were counseled about immediate PPIUD were about 8.38 times more likely to accept immediate PPIUD than mothers who did not receive counseling service about immediate postpartum IUCD (AOR= 8.38, 95% CI: 8.38 (4.85, 14.48)). Results of this study also indicated mothers who had prior discussion about postpartum IUCD were more likely to use that contraceptive method (AOR=2.57, 95% CI, (1.51, 4.36)) (Gebremichael et al., 2014).

Another study done in Nigeria attributed high postpartum IUCD uptake (41%) to staff motivation, supportive supervision, and a manageable client provider ratio in the private health facilities compared with public health facilities that are understaffed and demotivated with a client provider ratio of 19 and 95 per 100,000 for doctors and nurses, respectively (Eluwa et al., 2016)..

Availability of Supplies

Availability and supply of IUCD commodities increased consumption of those services. The midwives recognized that regular supplies could ensure that no woman would miss getting the method because of stock out (Kanakuze, 2017). In a related study from Rwanda, availability of postpartum IUCDs at the hospital (p value =0.041) was found to have a statistically significant association (p<0.05) with the uptake of the method. This factor was likely to hence influence the uptake of postpartum IUCDs among mothers at Muhima hospital (Mutangana, 2015).

Access to Health Facilities

Further, findings of a study done at Muhima hospital found that mothers (84.7%) who were not using postpartum IUCD identified inaccessibility of postpartum IUCDs services and lack of knowledge on the mode of action of IUCDs as the major factors hindering use of that contraceptive method (Mutangana, 2015). In this study, factors such as factors such as distance to the hospital, affordability of the service , average waiting time at the hospital and attitude of the health workers towards the mothers did not show any statistically significant relationship (p>0.05) with the uptake of the method (Mutangana, 2015).

In a review study done among developing countries, married women cited a lack of access as a reason for not using contraception. Such reasons included not knowing a source, not being able to get to one (i.e., because of distance or a lack of transportation) or both. Reasons of access were mostly cited in Cameroon, Congo (DRC), Cote d'Ivoire and Guinea (Sedgh, Ashford, & Rubina, 2016). A multinomial analysis by Zimmerman et al. showed that modern contraceptive use among all women ranged from a low of 21.9% in Burkina Faso to a high of 45.9% in Kenya. (Zimmerman et al., 2019).

Findings of this study also indicated that Burkina Faso had the least accessible contraceptive services with the longest mean distance of 4.9km between a woman's household and the nearest health facility. The low utilization of contraceptives in Burkina Faso as hence associated to inaccessibility of contraceptive services (Zimmerman et al., 2019). In regards to health system factors, a research done in Mexico revealed that omen were more likely to have use contraception if they had full access public health service (OR 0.8, CI 0.66–0.88) than those who did not (Juarez, Gayet, & Mejia, 2018).

Mistrust in the health system

Evidence from another review study showed that, perception that health care providers were not qualified resulted in women trusting the information from community leaders, friends and other community members. If individuals do not have access to qualified and informed health care providers, their knowledge and understanding of modern contraceptives and the benefits of spacing and limiting family size may be limited and hence low use of the contraception (Ackerson & Zielinski, 2017). Another health system barrier to use of contraceptives highlighted in this study was disrespectful and undignified treatment in the family planning clinics (Ackerson & Zielinski, 2017).

CHAPTER THREE: METHODOLOY

3.0 Introduction

This chapter describes the study design, study setting, study population, selection criteria, sample size determination, sampling procedure, data collection procedure, data collection tools, measurement of study variables, data management, data analysis plan, quality control measures and ethical considerations.

3.1 Study Design

This was a community-based analytic cross-sectional study because it helped the researcher to compute and quantify study proportions and variables (Lorraine 2020), data was collected only once from each participant using both qualitative and qualitative methods.

3.2 Study setting

This study was conducted in Abori A and B Cells, Adekokwok ward, Lira East division, Northern part of Uganda, Lira City.

Abori A Cell is bordered by villages such as Abedpiny from the east, Abori B from the south, Obato from the west, and tarmac road from the north.Abori B is bordered by Abori A from the north, Abedpiny from the east, Obato from the west, and Barkwoyo from the south Cells have a population of about 1300 members with the majority of the village residents being peasants and others doing activities of bricklaying and stone quarrying. The population of males is about 250, 440 females and 610 children.

Abori A and B cell is located in Adekokwok Ward, Lira city East division, previously it was lira district until the end of the 2020 financial year. Abori A and B is located 4 Km from Lira city along Aloi road. The majority of the resident are peasants and rock quarrying is a major source of income. Abori A and B Cell has one nearby level 2 faith base health facility owned by the catholic church and the services offered are outpatient department, antenatal, deliveries and routine immunization and is managed by Nurse as the in charge of the facility. The population of males is about 250,440 females and 610 children.

3.3 Study Population

The study population comprised of all postpartum mothers who had child births within the 0-42 days of data collection both normal deliveries and caesarian section.

3.3.1 Inclusion Criteria

Postpartum mothers within 0-42 days and who have consented to participate were included in the study.

3.3.2 Exclusion Criteria

Mothers with puerperal psychosis and mothers who satisfied the criteria but happened to be deaf.

Mothers who had a caesarean section were excluded from the study.

3.4 Sample Size Determination

The representative sample size was estimated using the Leslie Kish formula;

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where; Z = the value from standard normal distribution corresponding to the desired confidence level of 95%, set at 1.96, n_o = the representative sample size.

P= (proportion of postpartum women using intra-uterine contraceptive device), estimated at 50% = 0.5.

q= Is given by 1-p which is the probability of not women not using postpartum IUCD

q=(1-p) = 0.5

e= the desired level of precision, set at 5% =0.05

$$n_o= \frac{1.96 \times 1.96 \times 0.5(1-0.5)}{0.05 \times 0.05} =384$$

N=384 répondants.

3.5 Sampling Procedure

Consecutive sampling was employed during the study. Mothers who would had their deliveries within the last 0-42 days until the required sample size achieve.

3.6 Data Collection tool and method

Data was collected using a questionnaire, which was administered by an interviewer. It was consisted of three parts: part I, contained questions on socio-economic characteristics of the participants such as age, religion, and tribe; part II: was contained questions on use of postpartum IUCD, part III: was contained a question on contraceptive factors and part IV contained questions on health services-related factors of IUCD use among postpartum mothers at Abori Cells.

3.7.0 Study variables
3.7.1 Dependent variable

The dependent variable was postpartum IUCD use which was measured by self-report.

The participant was asked to report whether they are using IUCD or not.

3.7.2 Independent variables

1. Maternal socio-economic factors: which included maternal age, parity, occupation, marital status, number of children desired.

2. Contraceptive factors: which included maternal perceptions, misconceptions and beliefs regarding the effects of IUCDs and benefits of IUCD which may prevent an individual from using postpartum intra-uterine contraceptives.

3. Health services factors: the variables included accessibility of health facility, availability and quality of postpartum IUCD services provided by the health care providers.

3.8 Data Collection techniques

At Abori Cells, the details and procedure of the study was explained to legible postpartum mothers. Concerns and any queries were addressed and those who met the inclusion criteria was made to consent. Concerning confidentiality and privacy, data was collected using an interviewer-administered questionnaire. On completion, questionnaires were thoroughly cross-checked; the mother appreciated and later allowed to depart.

3.9 Data Management

The raw data from the filled questionnaires was entered into Statistical Package for Social Sciences (SPSS), cleaned, coded, and then analyzed. Only the researcher will have access to these files of the study and was protected using a personalized password. The questionnaires with the raw data were locked up in a safe place that can only be accessed by the researcher.

3.10 Data Analysis

Univariate level.

Data was analyzed by univariate analysis, bivariate analysis, and multivariate analysis.

The univariate analysis was done for categorical variables and those results was reported using frequencies, proportions, and displayed in figures such as tables and pie-charts. Prevalence of postpartum IUCD use were computed as the proportion reporting to be current users of IUCD, expressed as a percentage.

Bivariate level.

The bivariate analysis was used to detect the differences between the independent variables and dependent variables using regression analysis. A probability value (P-value) of ≤ 0.15 was used to avoid residual confounding.

Multivariate level

Multivariate analysis was done for variables with a p-value < 0.25 at bivariate analysis. A p-value of ≤ 0.05, odds ratio, and binary logistic regression was used to detect an association between dependent and independent variables.

3.11 Quality control measures

To ensure validity and reliability of the research protocol and tools, the researcher employed the following;

The tools were pre-tested among 5 mothers who came for immunization of their children before actual data collection at Abori A. Based on the results of the pretest, adjustments were made such as rephrasing some questions to reflect the intended meaning.

Before the study participants depart, questionnaires were thoroughly cross-checked to ensure completeness of the collected data.

3.12 Ethical Consideration

Ethical approval was sought from Clarke International University research ethics committee.

Administrative approval.

Administrative clearance was sought from the office of the health officer (DHO) of lira city.

A clearance letter from the DHO office was further presented to local chairperson of Abori A and B for further clearance.

3.13 Dissemination of Results plan

The findings of this study will be compiled into a report. Copies of the report will then be distributed to the office of the Dean of Students at Clarke International University, library and School of public health head. A copy will be submitted to the office of the, district health officer Lira District, director of Lira regional referral hospital and efforts will be made to publish this work. Also, a copy will be kept by the researcher for future reference.

CHAPTER FOUR: RESULTS

4.0 General Characteristics of the participants

Table 1 summarises the overall characteristics of the participants. The majority of the participants are aged 15-34 years (97.9%), had parity of ≤2 (60.2%), were of the Anglican religious faith (41.4%), had attained primary or at least secondary level of education (40.1%), and were not employed (60.4%). Other characteristics included the majority had a spontaneous vaginal delivery (80.5%) and belonged to families where the main decision-maker was the man (69.5%).

Table 1: General Characteristics of the participants.

Characteristics	Level	Overall (n=384)
		No. (%)
Age categories (years)	15-34	376 (97.9)
	≥35	8 (2.1)
Parity	<3	231 (60.2)
	≥3	153 (39.8)
Religion	Catholic	129 (33.6)
	Muslim	11 (2.9)
	Anglican	159 (41.4)
	Others	85 (22.1)
Level of education	None	76 (19.8)
	Primary	154 (40.1)
	Secondary and beyond	154 (40.1)
Marital status	Single/never married	77 (20.1)
	Married	288 (75.0)
	Separated	19 (4.9)
Employment status	Not employed	232 (60.4)
	Employed (formal/self)	152 (39.6)
Desired number of children	Less or equals 4	125 (32.6)
	≥5	259 (67.4)

Mode of delivery	Spontaneous vaginal delivery	309 (80.5)
	Caesarean delivery	75 (19.5)
The decision-maker in the family	Woman	23 (6.0)
	Man	267 (69.5)
	Both man and woman	94 (24.5)

4.1 Prevalence and timing of IUCD insertion

Table 2 presents the prevalence and timing of IUCD use among the participants. Of the 384 participants studied, 53 (13.8%) indicated that they had used a postpartum intrauterine contraceptive device (IUCD) following the recent delivery. When the participants were asked about the time of insertion of the postpartum IUCD, 16 (29.1%) of the 53 participants indicated that the IUCD was inserted after 6 weeks suggesting that 37 (9.6%) participants had their IUCD inserted within the postpartum period (the period from birth until 6 weeks). The data thus suggest that the prevalence of postpartum IUCD use was 9.1%.

Table 2: Prevalence and timing of IUCD insertion

Variable	Frequency	No. (%)
Participants reporting to had used IUCD	No	331 (86.1)
	Yes	53 (13.8)
Time of insertion of IUCD	Immediately after delivery	10 (18.2)
	24 hours after delivery	1 (1.8)
	48 hours after delivery	2 (3.6)
	3days-6 weeks	26 (47.3)
	After 6 weeks	16 (29.1)
Prevalence of postpartum IUCD	None user or inserted after 6 weeks	347 (90.1)
	Inserted within 6 weeks	37 (9.6)

4.2 Bivariate analysis of differences in postpartum IUCD use and socio-demographic factors

The differences in postpartum IUCD use concerning the participant socio-demographic characteristics are summarised in Table 3. The majority of the postpartum IUCD users were those aged ≥35 years (50.0%), parity ≥3 (19.1%), Anglican religious faith (13.2%), and those without (13.2%) or had ended at the primary level of education (13.6%). The separated (10.5%), employed (11.2%), and those who desired to have less than four children (12.8%) were the majority users of postpartum IUCD. The data further showed that participants who had a caesarean delivery (16.1%) were the majority users of postpartum IUCD. Statistically significant differences in postpartum IUCD use were observed regarding age categories ($p = 0.004$), parity ($p < 0.001$), level of education ($p = 0.005$), and the mode of delivery ($p = 0.048$).

Table 3: Bivariate analysis of differences in postpartum IUCD use and socio-demographic factors

Characteristics	Levels	Postpartum IUCD use		
		No (n=347)	Yes (n=37)	p-value
Age categories (years)	<35	343 (91.2)	33 (8.8)	0.004
	≥35	4 (50.0)	4 (50.0)	
Parity	<3	223 (96.5)	8 (3.5)	<0.001
	≥3	124 (81.0)	29 (19.0)	
Religion	Catholic	118 (91.5)	11 (8.5)	0.156
	Muslim	10 (90.9)	1 (9.1)	
	Anglican	138 (86.8)	21 (13.2)	
	Others	81 (95.3)	4 (4.7)	
Level of education	None	66 (86.8)	10 (13.2)	0.005
	Primary	133 (86.4)	21 (13.6)	

	Secondary and beyond	148 (96.1)	6 (3.9)	
Marital status	Single/never married	71 (92.2)	6 (7.8)	0.804
	Married	259 (89.9)	29 (10.1)	
	Separated	17 (89.5)	2 (10.5)	
Employment status	Not employed	212 (91.4)	20 (8.6)	0.480
	Employed (formal/self)	135 (88.8)	17 (11.2)	
Desired number of children	<5	109 (87.2)	16 (12.8)	0.195
	≥5	238 (91.9)	21 (8.1)	
Mode of delivery	Spontaneous vaginal delivery	284 (91.9)	25 (8.1)	0.048
	Caesarean delivery	63 (84.0)	12 (16.0)	

4.3 Bivariate analysis of differences in postpartum IUCD use and contraceptive and health services-related factors

Table 4 shows the relationship between contraceptives and health services-related factors with postpartum IUCD use. A statistically significant difference in postpartum IUCD use was observed only for IUCD adverse side effects (p<0.001). However, the majority of the postpartum IUCD users were participants who reported that the decision-maker in the family concerning contraceptive use is the man (10.1%), postpartum IUCD has no adverse effects (21.5%), their religion accepts the use of IUCD (10.2%), had no difficulties in accessing health facilities for contraceptive use (9.9%), contraceptives are available at the health facility (10.8%), and that they had received health education on IUCD at the most recent antenatal care (ANC) visits.

Table 4: Bivariate analysis of differences in postpartum IUCD use and contraceptive and health services-related factors

Characteristics	Levels	Postpartum IUCD use		
		No (n=347)	Yes (n=37)	p-value
The decision-maker in the family concerning contraceptive use	Woman	22 (95.7)	1 (4.3)	0.869
	Man	240 (89.9)	27 (10.1)	
	Both man and woman	85 (90.4)	9 (9.6)	
IUCD has adverse effects	Yes	245 (96.5)	9 (3.5)	<0.001
	No	102 (78.5)	28 (21.5)	
Religion accepts IUCD use	Yes	53 (89.8)	6 (10.2)	0.913
	No	198 (90.0)	22 (10.0)	
	Not known	96 (91.4)	9 (8.6)	
Faces difficulties in accessing health facilities	Yes	136 (90.1)	15 (9.9)	0.862
	No	211 (90.6)	22 (9.4)	
Contraceptives are readily available at the health facility	Yes	141 (89.2)	17 (10.8)	0.599
	No	206 (91.2)	20 (8.8)	
Patient-reported attitudes of health workers	Welcoming	296 (91.1)	29 (8.9)	0.334
	Not welcoming	51 (86.4)	8 (13.6)	
Received health education on IUCD at the recent ANC visits	Yes	98 (89.1)	12 (10.9)	0.572
	No	249 (90.9)	25 (9.1)	

4.4 Factors associated with postpartum IUCD use at multivariate analysis

Table 5 presents the unadjusted (univariable) and adjusted (multivariable) binary logistic regression analysis results for variables that demonstrated statistically significant differences in postpartum IUCD use and variables that are known from the literature to have an association with postpartum IUCD use. In the unadjusted analysis, the data show that postpartum IUCD use was more likely among participants aged ≥35 years compared to those aged <35 years (OR, 10.39; 95% CI, 2.36-45.82; p=0.001), with parity <3 compared to ≥3 (OR, 6.52; 95% CI, 3.02-15.69; p<0.001), had delivered by C-section compared to spontaneous vaginal delivery (OR, 2.16; 95% CI, 1.00-4.46; p=0.041), and those who reported that IUCD has no adverse effects compared to those who reported that IUCD has adverse effects (OR, 7.47; 95% CI, 3.53-17.31; p<0.001). Conversely, participants who had reached at least a secondary level of education compared to those who had not were less likely to use postpartum IUCD (OR, 0.27; 95% CI, 0.09-0.75; p=0.014). The other factors that did not show a statistically significant association with postpartum IUCD use included primary level of education (OR, 1.04; 95% CI, 0.47-2.43; p=0.920), being married (OR, 0.32; 95% CI, 0.56-3.65; p=0.548) or separated (OR, 1.39; 95% CI, 0.19-6.68; p=0.700), employed (OR, 1.33; 95% CI, 0.67-2.64; p=0.406), and the decision-maker concerning contraceptive use being the man (OR, 2.47; 95% CI, 0.49-45.18; p=0.385) or both the man and the woman (OR, 2.33; 95% CI, 0.41-44.11; p=0.434). The others are facing no difficulties in accessing health facilities (OR, 0.95; 95% CI, 0.48-1.92; p=0.873), healthcare worker attitude, and receipt of health education on IUCD at the recent ANC visits.

In the adjusted analysis, the variables namely, marital status, employment status, the decision-maker in the family concerning contraceptive use, difficulties in access to health facilities, contraceptive availability at the health facility, healthcare provider attitude, and receipt of health education on IUCD at the most recent ANC visits did not improve the model fit as measured by the log-likelihood ratio. Therefore, these variables were dropped to ensure a parsimonious model. The odds of postpartum IUCD use were significantly more likely among participants aged ≥35 compared to those aged ≥35 years (Adjusted odds ratio (aOR), 8.12; 95% CI, 1.30-49.19; p = 0,021). Participants with parity ≥3 had higher odds of postpartum IUCD compared those with parity <3 (aOR, 4.19; 95%, 1.78-10.80; p=0.002).

Participants that reached at least secondary level of education had lower odds of postpartum IUCD compared to those who never went to school (aOR, 0.25; 95% CI, 0.07-0.85; p=0.030). Participants who indicated that IUCD has no adverse effects had higher odds of postpartum IUCD compared to those who reported that IUCD has adverse effects (aOR, 8.83; 95% CI, 3.91-21.90; p<0.001).

Table 5: Factors associated with postpartum IUCD use at multivariate analysis

Variables	Level	Logistic regression analysis	
		Univariable (unadjusted) OR (95% CI, p-value)	Multivariable (adjusted) aOR (95% CI, p-value)
Age categories (years)	<35	1	1
	≥35	10.39 (2.36-45.82, p=0.001)	**8.12 (1.30-49.19, p=0.021)**
Parity	<3	1	1
	≥3	6.52 (3.02-15.69, p<0.001)	**4.19 (1.78-10.80, p=0.002)**
Level of education	None	1	1
	Primary	1.04 (0.47-2.43, p=0.920)	1.09 (0.44-2.84, p=0.856)
	Secondary and beyond	0.27 (0.09-0.75, p=0.014)	**0.25 (0.07-0.85, p=0.030)**
Marital status	Single or never married	1	
	Married	1.32 (0.56-3.65, p=0.548)	-
	Separated	1.39 (0.19-6.68, p=0.700)	-
Employment status	Not employed	1	
	Employed (formal/self)	1.33 (0.67-2.64, p=0.406)	-
Mode of delivery	Spontaneous vaginal delivery	1	1
	Caesarean delivery	2.16 (1.00-4.46, p=0.041)	2.07 (0.83-5.00, p=0.108)

The decision-maker in the family concerning contraceptive use	Woman	1	
	Man	2.47 (0.49-45.18, p=0.385)	-
	Both	2.33 (0.41-44.11, p=0.434)	-
IUCD has adverse effects	Yes	1	1
	No	7.47 (3.53-17.31, p<0.001)	**8.83 (3.91-21.90, p<0.001**)
Faces difficulties in accessing health facilities	Yes	-	-
	No	0.95 (0.48-1.92, p=0.873)	-
Contraceptives are readily available at the health facility	Yes	1	
	No	0.81 (0.41-1.61, p=0.533)	-
Health worker attitudes	Welcoming	1	1
	Not welcoming	1.60 (0.65-3.55, p=0.271)	-
Received health education on IUCD at recent ANC visits	Yes	1	
	No	0.82 (0.40-1.75, p=0.592)	-

Note: Bolded figures indicate statistically significant findings.

CHAPTER FIVE: DISCUSSION

This study focused on postpartum intra-uterine contraceptive device use (PPIUCD) among women in Abori Cells in Lira district, East Division. The study found that 9.6% of postpartum mothers use IUCD and higher use of IUCD among mothers aged ≥35 years, those with at least three children (multiparity), and those reporting that IUCD has no adverse effects.

The prevalence of postpartum IUCD of 9.6% in Abori Cells in Lira city East Division is lower than that in a previous study conducted at Gombe Hospital which reports a prevalence of 16.3% (Kizito& Namuli 2020). It is also lower than the prevalence reported, - in Nigeria at 40% (Eluwa et, al 2016). The prevalence of IUCD is comparable 10.2% in a previous study done by Mbagathi and Mama (2015) Lucy Kibaki Hospital in Kenya. The finding is different from the prevalence reported at two urban health facilities in Ghana at 26.3% (Ian, Coomson and Abubakar Manu 2019). The low prevalence of IUCD use in the present study compared to previous studies could be attributed to differences in study setting. This study was conducted in a peri-urban setting whereas the previous studies were conducted in an urban setting.

The findings that, women aged ≥35 years are more likely to use postpartum IUCD compared to younger women aged <35 years is in line with a study done by Kassa and A Tiruneh et al (2021) in Ethiopia. This maybe mothers with few children need more children and they rarely use contraceptives. But this study disagrees with Tessema et, al, (2021) who found 21.6%. This finding could be explained by low desire to have more children among older mothers compared to younger mothers. This finding implies that interventions need to improve uptake of postpartum IUCD use need to target younger mothers as opposed to older mothers. On the research front, there is a need to investigate the reasons for a more likelihood of postpartum IUCD use and to use the results to inform an interventional study.

The findings, that multiparous mothers with at least three children are more likely to use postpartum IUCD compared to those with fewer than three children is consistent with the findings of a study conducted in Rwanda by Eluwa et., al (2016)

The number of children has been identified as an important factor which influences the uptake of postpartum IUCD uptake. Women who have larger number of children may be motivated to prevent further pregnancy to limit her family size. This finding is consistent with these concerns.

The study found that postpartum IUCD is more likely among mothers who reported that IUCD has no adverse effects compared to those who reported that it has adverse effects. All hormonal contraceptives have side effects and some are associated with adverse effects. Side effects of low severity are normally managed through counseling while those with higher severity might at times warrant the removal of IUCD. Past evidence indicates that whenever mothers experience contraceptive-related adverse side effects, it negatively impacts contraceptive use. Therefore, it is not surprising that mothers who reported that IUCD has adverse effects are non-users. The findings is in agreement with a study conducted in South Africa Builu and Naidoo (2015). Another plausible explanation is that whenever mothers experience adverse side effects, this would discourage not only the mother but other mothers who at that time of the adverse effects are not on any contraceptive.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

Summary of findings

This study was conducted among postpartum mothers in Abori Cells in Lira district, East Division. The study found 9.6% postpartum IUCD use which was associated with maternal age, parity, and experience of adverse side effects.

Conclusion

The prevalence of postpartum IUCD use is substantly low in the study area-. Use of postpartum IUCD is more likely among older mothers, multiparous mothers and those reporting that it has no adverse effects.

Recommendations

Based on the study findings and conclusions, the following recommendations have been proposed:

- There is a need to provide mothers with correct and accurate information about postpartum IUCD through health education. This will contribute to improving the use of postpartum IUCD in the study area.

- Contraceptive service providers need to regularly monitor use of postpartum IUCD for adverse side effects and take corrective active as fast as possible.

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Appendix 1: Consent Form

I am asking you to take part in research study called:

Prevalence and determinant of postpartum intra-uterine contraceptive device use among postpartum mothers in Abori cells in lira city east division.

The person who is in charge of this research study is Okullo Augustine. The research will be conducted in Lira City.

Purpose of the study

The purpose of the study is to:

To determine the prevalence of the intra-uterine contraceptive device, use among postpartum mothers at abori cells, adekokwok sub-county lira city.

To establish maternal socio-economic determinants of intra-uterine contraceptive device, use among postpartum mothers at abori cells, adekokwok sub-county lira city east division.

To ascertain contraceptive factors associated with intra-uterine contraceptive device, use among postpartum mothers at abori cells, adekokwok sub-county Lira city.

To determine health related factors associated with intra-uterine contraceptive device, -use among postpartum mothers at abori cells, adekokwok sub-county lira city east division.

Study procedures.

You are being asked to participate in this study, as you are a Ugandan woman who can help us to better understand the determinant of postpartum intra-uterine device use among postpartum mothers.

If you take part in this study, you will be asked to:

Take part in one, one-on one, semi structured interview

The interview will take approximately 10 minutes

The interview will take place at a location most convenient to you as the participant;

The interview will be transcribed, in the form of field notes, to ensure accuracy in reporting your statements;

Benefits

There may be no direct benefits associated with your participation in the study, but the information you will provide will be useful in planning and organizing health awareness campaigns on postpartum intra-uterine contraceptive use among postpartum mothers.

Risks or discomfort

This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. There is no known additional risks to those who take part in this study.

Compensation

No research participants will be compensated.

Privacy and confidentiality

We will keep your study records private and confidential. Certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are:

The research team, including the principal investigator and those involved with the study.

I may publish what I have learnt from this study. If I do, I will not include your name. I will not publish anything that would let people know who you are.

Voluntary participation/withdrawal

You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in this study. You are free to participate in this research or withdraw at any time.

There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study.

You can get the answers to your questions, concerns, or complains

If you have any questions, concerns or complaints about this study, or experience an adverse event or unanticipated problem, contact the researcher on 0785073027.

If you have questions about your rights as a participant in this study, general questions, or have complaints, concerns or issues you want to discuss with someone outside the research, call the CIUREC chairperson Dr. Samuel Kabwigu on (03912307400) and the executive secretary of UNCST on (0414705500) respectively.

Assessment of understanding

Please check which box best describes your assessment of understanding of the above informed consent.

I have read the above informed consent document and understand the information provided to me regarding participation in the study and benefits and risks. I give consent to take part in the study and will sign the following page.

I have read the above informed consent documents, but still have questions about the study; therefore, I do not give yet give my full consent to take part in the study.

_____   _____

Signature of person taking part in study   date

_____

Printed name of person taking part in study

_____

Thumb print of person taking part in study.

Note: leave this space for CIUREC stamp

_____   _____

Signature of person obtaining informed consent/research Authorization   date

_____

Printed name of person obtaining informed consent/Research Authorization

_____

Appendix 2: Questionnaire

PREVALENCE AND DETERMINANTS OF INTRA-UTERINE CONTRACEPTIVE DEVICE USE AMONG POSTPARTUM MOTHERS AT ABORI CELLS, LIRA EAST DIVISION

Dear Sir / Madam,

I am Okullo Augustine, a student pursuing a Bachelor's in Public health at Clarke International University in my final year. I am undertaking a research study on the Prevalence and determinants of intra-uterine contraceptive device use among postpartum mothers at Abori cells, Lira East Division. I am requesting for your cooperation in answering the following questions.

Respondent's Serial number………………… Date………/…………/……….......

Part I: Socio-economic Information of the participants (Tick the appropriate)

Qn 1. How old are you? ....…..…………………. years.

Qn 2. How many pregnancies have you so far had?................................

Qn 3. What is your religion?

Catholic

Moslem

Anglican

Born again

Seventh day Adventist

Others: Specify…………………………

Qn 4. what is your current education level?

    1. None.

    2. Primary education

    3. Secondary education

    4. Tertiary/or higher

Qn 5. What is your marital status?

Single

Married

Divorced/separated/widowed.

Qn 6. What is your highest level of education?

No education

Primary education

Secondary education

Tertiary education/or higher

Qn 7. What is your current occupation?

    1.none/not employed

    2.Self employed

    3.Formal employment.

Qn 8. How many children do you desire to have with your husband?........................(numbers)

Qn 9. How did you give birth to your most recent child?

Normal Delivery

Caesarean Section

Assisted vaginal delivery

Qn 10. Who is the decision maker on issues to do with family planning in your home?

A woman

A man/husband

Both woman and man

Part II: Use of Intrauterine contraceptive devices (IUCD) (Tick the appropriate)

Qn 11a. Following your recent delivery, have you received intra uterine contraceptive device?

Yes

No

Qn 11b.Kindly tell me when the device was inserted?

Immediately after delivery

24hours after delivery

48hours after delivery

3days-6 weeks

After 6 weeks

Part III: Contraceptive factors of IUCD use among postpartum mothers (Tick the appropriate)

Qn 12a. Do you think intra uterine contraceptives device (IUCD) have bad side effects on women?

Yes

No

Qn 12b) If question 19a is yes, which effect can they cause? (Tick all that apply)

Infertility

Cancer

Damage the womb

Move to the heart

Cause abortion

Interfere with sex

Others specify: ....

Qn 13. Does your religion prevent you from using intra uterine contraceptive devices?

Yes

No

Don't Know

Part IV: Health System factors of IUCD use among postpartum mothers (Tick the appropriate)

Qn 14a. Do you have challenges in reaching health facilities?

Yes

No

Not sure

Qn 14b. If question 14a is yes, what are those challenges?

Long lines

Long distance to the clinic

Long waiting time

Others: Specify...

Qn 15. Are contraceptive services readily available at the health facilities that you attend?

Yes

No

Sometimes/or not all time

Qn 16. How do you perceive the attitude of the health workers?

Welcoming

Not welcoming

Qn 17. Did you receive health education from health workers regarding use of postpartum family planning during recent ANC.?

Yes

No

Thank you so much for your cooperation

Appendix 3: Work Plan

ACTIVITY	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021	Aug 2021
Proposal writing	■	■	■				
Approval and clearance				■			
Data collection and analysis					■		
Report writing						■	
Report Submission							■

Appendix 4: Budget

Item	Total Cost (Shs)
Pens	10,000
Printing of proposals	150,000
Binding of proposals	30,000
Printing of questionnaires	160,000
Printing of consent forms	40,000
Transport and lunch	100,000
Realm of papers	60,000
Printing the dissertation	150,000
Binding the dissertation	50,000
Approval and clearance fees	650,000
Total	1,400,000
Miscellaneous	100,000
Grand Total	**1,500,000**