Scientific Research Publishing

Open Journal of Obstetrics and Gynecology, 2023, 13, 1994-2020
https://www.scirp.org/journal/ojog
ISSN Online: 2160-8806
ISSN Print: 2160-8792

An Investigation on the Utilization of Intra Uterine Contraceptive Device among Women in Kabwe, Central Province

Janet Mazuba Mweempwa[1*], Catherine M. Ngoma[2]

[1]Department of Public Health Nursing, School of Nursing Sciences, University of Zambia, Lusaka, Zambia
[2]Department of Midwifery, Women and Child Heath, School of Nursing Sciences, University of Zambia, Lusaka, Zambia
Email: *janetmweempwa@gmail.com

How to cite this paper: Mweempwa, J.M. and Ngoma, C.M. (2023) An Investigation on the Utilization of Intra Uterine Contraceptive Device among Women in Kabwe, Central Province. *Open Journal of Obstetrics and Gynecology*, **13**, 1994-2020.
https://doi.org/10.4236/ojog.2023.1312169

Received: November 13, 2023
Accepted: December 26, 2023
Published: December 29, 2023

Abstract

Introduction: Intrauterine contraceptive device (IUCD) is an effective long acting reversible contraceptive but its use is low. This study examined factors contributing to the utilization of intrauterine contraceptive devices (IUCDs) among women in Kabwe Central Province. **Methodology:** This was an analytical cross sectional study. Primary data was collected from 150 respondents in using simple random sampling method. Data was analysed using the statistical package of social sciences (SPSS) version 22. Chi-square test was used to test associations among the dependent and independent variables. Logistic regression analysis was conducted. The confidence interval was set at 95% and significant level was at 0.05%. **Findings:** The study found that 44% of the respondents had high level of knowledge about IUCD. About 28% of the respondents, said that they used IUCD because it maintains menstrual bleeding, 26% said that they used because IUCD it does not cause infections, and 19% said that they used IUCD because it does not migrate to other body parts. Majority (81%) of the respondents agreed with a statement that age contributes to underutilization of IUCD. About 77% of the respondents agreed with a statement that marital status contributes to underutilization of IUCD and 75% agreed with a statement that, education level contributes to underutilization of IUCD and was significant. Furthermore, 91% of the respondents agreed with a statement that lack of knowledge about IUCD contributes to underutilization of IUCD and 74% agreed with a statement that religion contributes to underutilization of IUCD. Age ($p = 0.003$), marital status ($p = 0.002$), education level ($p = 0.003$), and employment status ($p = 0.02$), were found to have a significant relationship with the utilization of IUCD. About 36% of the respondents said that knowledge or education affects the utilization of IUCD at a large extent. The study showed a positive relationship be-

tween the utilization of IUCD and all explanatory variables such as age, education/knowledge, marital status, religion, family size and income and acceptability which had a positive correlation ranging from 0.543 to 0.815. Older women with higher education levels were more inclined to use IUCDs compared to younger individuals and those with only a primary education. Religious affiliation influenced IUCD use with Muslim women being less likely to opt for IUCDs. Moreover, being married was associated with lower IUCD utilization. **Conclusion:** Based on these findings, the study identified age, education/knowledge, marital status, religion, family size and income, and acceptability as the primary drivers of IUCD usage. The study recommends that, there should be a conduct of educational workshops, there should be community awareness programs and there should be comprehensive family Planning Services.

Keywords

Utilization, Intra Uterine Contraceptive Device, Women, Contraceptives, Long Acting Reversible Contraceptive

1. Introduction

Intrauterine device is a modern contraceptive method used in family planning process, it prevents conception (pregnancy) and it has duration of 12 years, under this period, the intrauterine contraceptive device (IUCD) is more than 99 percent effective in preventing pregnancy, they are safe to use when breastfeeding and no side effect in a long run [1]. Although intrauterine contraceptive device (IUCD) method is the safest, very effective, long acting and reversible contraceptive method, it has been used at a very low rate in many developing countries compared to other modern contraceptive methods [2]. Contraceptives reduce the number of abortions, prevent unintended pregnancies, and lower the incidence of death and disability related to complications of pregnancy and childbirth.

The intrauterine device (IUD) is a long term reversible contraceptive method that is suitable for women of reproductive ages and represents the most cost-effective reversible method for preventing unwanted pregnancies, it is one of the most highly effective, convenient and widely used family planning (FP) methods in some parts of the world [1].

The intra-uterine contraceptive device (IUCD) is used worldwide by 14% of women. It's a small piece of flexible plastic shaped like a T and it is inserted into a woman's uterus and is left in place for long periods of time, providing continuous protection against pregnancy for a minimum of 10 years. The rate at which this device is used varies from country to country. Married and cohabiting women of reproductive age in developed countries have higher rates of IUCD usage, approximately two times higher than those in developing countries [3]. Taking for example the Democratic Republic of Korea, a developed country, a

utilization rate of 78% of IUCD was reported in Crosignani's [3] study. IUCD utilization rates of 63% and 59% were observed in the same study in Egypt and Cuba respectively. In relation to the sub-Saharan Africa region, Crosignani [3] reported an IUCD utilization rate of less than 2% among women of a reproductive age. Similar patterns of IUCD usage were revealed in Speidel *et al*. study. They reported an IUCD utilization rate of 7% in Latin America, 6% in Asia (excluding China) and 1% in Africa.

The IUCD) is one of the most reliable and the most widely used reversible modern contraceptive method worldwide and has the potential to reduce the overall number of unintended pregnancies more than any other contraceptive method [4]. Despite the fact that the copper-bearing IUCD brand TCu-380A is widely available in Zambia and is provided free of charge in government healthcare facilities, it is still very much underutilized [5]. Unlike other countries where IUCD is widely used such as Scandinavian countries (18%), Asian nations (13%), the Near East and North Africa (12%) [6] and Kenya (4.8%) [7], IUCD use in Ethiopia was only 2%, as reported by the Ethiopian Demographic and Health Survey of 2016 [4].

Intra uterine contraceptive device (IUCD) is a reversible long-term contraceptive method that is suitable for women of all reproductive ages, and represents the most cost effective reversible method for preventing unwanted pregnancies. The most widely available IUCD is the Copper bearing IUCD (Cu T 380A). It is long acting, easy to insert, and has a low complication rate [8]. Although long acting contraceptive methods like IUCD are known to be safe, effective and long lasting, the proportion of users are very low as compared to short acting methods [9]. According to world health organization report many sub Saharan countries have high proportion of unmet need for family planning methods especially for long acting family planning methods. They reported an IUCD utilization rate of 7% in Latin America, 6% in Asia (excluding China) and 1% in Africa.

However, developed countries generally have higher average income levels compared to developing countries. Affordability plays a significant role in contraceptive choices, and in developed nations, individuals may have better access to a variety of contraceptive methods, including IUCDs [10]. Education levels impact awareness and understanding of contraceptive options. Higher education levels in developed countries often correlate with better knowledge about family planning and contraceptive methods, leading to increased IUCD usage [11].

Cultural attitudes toward family planning vary widely. Some cultures may be more accepting of contraceptive use, including IUCDs, while others may have cultural or religious beliefs that influence contraceptive choices. Societal norms regarding gender roles and decision-making within families can influence contraceptive choices. In cultures where women have more autonomy and decision-making power, the uptake of family planning methods may be higher. Disparities in healthcare infrastructure impact access to family planning services. Developed countries often have well-established healthcare systems that provide

comprehensive reproductive health services, making IUCDs more accessible [12].

The availability of skilled healthcare providers who can provide information, counseling, and safe insertion of IUCDs contributes to usage rates. Inadequate healthcare infrastructure in some developing countries may hinder access to such services. Government Support for Family Planning: Government policies and initiatives promoting family planning can influence IUCD usage rates. Developed countries may have comprehensive family planning programs that include the promotion and provision of various contraceptive methods. Differences in the legal and regulatory environment regarding reproductive health and family planning can impact the availability and accessibility of IUCDs [13].

Even though, consistency and conclusiveness has not yet reached, studies in different parts of Zambia have shown several different factors affecting utilization of IUCDs. These factors include: age of the women, her religion, her level of education, a history of abortion, and perceived myths relating to the use [14]. However, the problem of underuse of IUCD is still prevalent and much study is required to identify locally plausible determinants. Therefore, it is of a great importance to undergo a research in different areas of the city to maximize the scope of the study across a widely different socio-demographic and geographic area and to more precisely identify the current factors that are associated with low IUCD use.

The efficacy theory in pregnancy prevention makes IUCDs a standout among contraceptive choices, the non-contraceptive benefits that come along with IUCD use strengthen their marketability, appeal, and use for women seeking less invasive treatment for calamities such as pelvic pain, menorrhagia, endometriosis, and protection from endometrial hyperplasia [2]. As the mechanism of action remains localized to the uterus and cervix, with little if any systemic effect, IUCDs are an optimal method for women with multiple medications or medical comorbidities [15]. The most highly recognized non-contraceptive benefit is with the use of the LNG-20 IUCD to decrease menstrual blood loss. In 2009 the LNG-20 IUCD received FDA approval for the treatment of heavy menstrual bleeding [16]. In a review of five studies using the LNG-20 IUD, reductions in measured menstrual blood loss varied from 74% - 97% at 12 months of use. Another case series demonstrated decreased menstrual blood loss by 95% at 6 months of use [17]. However, these have contributed to the low utilization of intra uterine contraceptive device among women.

Zambia has a National Reproductive Health Policy that encourages the use of long acting family planning contraceptive methods. Despite this policy, many women who visit health facilities for family planning in Zambia usually choose short acting methods [18]. Modern contraceptive prevalence among married women aged 15 - 49 years in Zambia has been improving, with intrauterine devices accounting for only 0·7% of the contraceptive method mix in Zambia [18]. Reasons for this low usage are poorly understood despite all known advantages

of IUCD. The most effective modern family planning method is long-acting reversible contraceptives (LARCs), including intra-uterine contraceptive devices (IUCD). It has multiple advantages over other reversible methods. In Kabwe, as low as 13% of the women will choose long acting contraceptive and only less than 30% of those will opt for the IUCD. Records Kabwe district health office show that there has been a rise in the numbers of women who chose long acting contraceptives, however, only 18% in 2018, 22% in 2019 and 27% in 2020 [18] chose the IUCD. Reasons for this low usage are poorly understood. Hence, healthcare workers tend to experience some difficulties in their efforts to improve IUCD usage in Zambia Hence, including Kabwe in Central Province. This trend therefore, creates a need to understand the uptake of IUCD as well as drivers and barriers to IUCD uptake in Kabwe. Thus, this study will investigate factors leading to utilization of intra uterine contraceptive device among women in Kabwe Central Province, Kabwe district with the view to offer suggestions to improve its utilization [19].

Understanding the factors contributing to low utilisation of intra uterine contraceptive device among women in Zambia will help in developing a strategy that can help to improve the utilization of IUCD in Kabwe and thereby contribute towards decreasing the number of the unintended pregnancies and the fertility rate. The study findings will not only contribute to the existing body of knowledge on factors leading to low utilization of IUCD in general, but will also bring new knowledge specifically for Kabwe district. The findings of this study will provide baseline data for further research. Finally, the study will be relevant for designing more effective family planning advocacy programmes in the community.

2. Methodology

This study used an analytical cross sectional research design. The research was conducted in Central province from Kabwe district at Kabwe central hospital. The study population for this research comprised of the married and unmarried women who were on family planning and have used IUCD contraceptive. A total of 154 women within the reproductive age (15 - 49 years), who accessing contraceptive method at Kabwe central hospital affiliated health center regardless of marital status were selected to participate in the study. The choice of a sample size of 154 women within the reproductive age group reflects a careful consideration of statistical power, precision, and the expected effect size, while also accommodating practical constraints and aligning with established practices in the field. Researchers often conduct thorough planning and statistical calculations to ensure that their sample size is adequate for drawing meaningful conclusions from the study.

2.1. Inclusion and Exclusion

The logistics of face-to-face interviews involve several key elements, including

the approach to interviewees, recruitment criteria, and the selection of interview locations. Here are more details on these aspects:

Before approaching potential interviewees, the researchers ensured a clear understanding of the research objectives and obtained ethical approval. Informed consent procedures were followed, emphasizing the voluntary nature of participation and the confidentiality of responses.

Interviewers introduced themselves, explained the purpose of the study, and provided information about the voluntary and confidential nature of participation. They also emphasized the potential benefits of the research to the community and healthcare system.

Inclusion Criteria: Interviewees were selected based on specific inclusion criteria, such as being within the reproductive age group and having experience with the IUCD, Must be residents of Kabwe, Accessing contraceptives at the Kabwe Central Hospital affiliated Health Centre.

Must be present at the time of interview, Must consent to take part in the study. These criteria were determined to ensure the relevance of the information gathered to the research objectives.

Exclusion Criteria: Certain criteria may have been applied to exclude individuals who did not meet the specific requirements of the study, such as those outside the defined age range or without relevant experiences related to the research focus, Menopausal women, Critically ill patients, Non-consenting women, Women of reproductive age on taking contraceptives

2.2. Selection of Interview Locations at Kabwe Central Hospital

Public spaces at Kabwe Central Hospital were chosen based on accessibility for the target population. Areas with a higher likelihood of encountering individuals meeting the inclusion criteria were selected to facilitate efficient recruitment.

The chosen spaces were likely to be frequented by individuals seeking healthcare services or information related to reproductive health, aligning with the study's focus on IUCD usage within the reproductive age group.

The selected spaces were within the hospital premises but ensured privacy and confidentiality during the interviews. Ethical guidelines were followed to respect the rights and dignity of participants.

2.3. Logistical Arrangements

The timing of the face-to-face interviews was carefully planned to coincide with periods when the target population was likely to be present at Kabwe Central Hospital. The research team coordinated with hospital authorities to obtain necessary permissions and facilitate a smooth process. Hospital staff may have been informed about the study to ensure cooperation and understanding.

2.4. Communication Strategy

Communication channels, such as posters or announcements within the hospi-

tal, may have been utilized to inform potential participants about the research and the availability of interviews. Designated contact points or personnel within the hospital may have been established to direct interested individuals to the research team for further information and participation.

A structured data-collection approach was adopted, using a structured interview schedule designed by the researcher. The interview schedule requested demographic information; information about the Knowledge of women on the use of IUCD in Kabwe central Province, the Perceptions of women towards IUCD use in Kabwe central Province and the factors leading to underutilization of IUCD in Kabwe Central Province. To ensure validity, the questionnaire was reviewed by experts to evaluate content and usability. Expert reviews included subject matter experts and questionnaire experts. Reliability was ensure by conducting a pilot study before the main study was conducted and a test—retest method was used. The face-to-face interviews were conducted at Kabwe central hospital health center at a public spaces. On average, each interview lasted approximately 10 minutes to 15 minutes. On average, 15 to 20 interviews were conducted in a single day. The questionnaire was translated into the local language. During the discussion, the respondents were given the opportunity to clarify any issues that were unclear. At the end of each interview, respondents were thanked for their time and participation. Ethical approval to conduct the study was sought from the University of Zambia Biomedical Research Ethics committee (UNZABREC) and the National Research Ethics Committee.

3. Results

About 150 respondents participated in the study. This constituted 86.2 percent response rate which was considered sufficient for analysis and reporting. After data collection, the structured interview schedules were sorted out according to their serial numbers. Sorting out data was done immediately the structured interview schedule was collected to check for completeness and to ensure that any mistakes was corrected there and then. After data collection, data was verified, coded and analyzed using the statistical package of social sciences (SPSS) version 22. Chi-square test was used to test associations among the dependent and independent and logistic regression was used to predict the outcome variables. The confidence interval was set at 95% and significant level was at 0.05%.

Table 1 below showed that majority of the respondents 32% (48) were aged between 33-38 years with the minority 4% (6) were the age group 15-20 years. The finding concurred with the Demographic Health Survey sample design which target women in their reproductive ages. About 53.3% (80) of the respondents were married, 30 (20 percent) of the respondents were divorced, 28 18.7% (28) of the total respondents were single, and the least 8% (12) of the total respondents were widowed. Majority of the respondents were Catholics 50.7% (76) followed by protestants 32% (48) and Muslims comprised 17.3% (26), of the respondents. Table 2 indicates the distribution of respondents by the education.

Table 1. Socio-demographic data of the respondents (n = 150).

Variable	Frequency	Percent
Age		
15 - 20 years	6	4
21 - 26 years	18	12
27 - 32 years	30	20
33 - 38 years	48	32
39 - 44 years	36	24
45 - 49 years	12	8
Total	150	100
Marital status		
Married	80	53.3
Widowed	12	8
Divorced	30	20
Single	28	18.7
Total	150	100
Religion		
Catholic	50.7	76
Protestant	32	48
Moslem	17.3	28
Total	150	100
Educational level		
Primary	24	16
Secondary	45	30
College/University	81	54
Total	150	100
Occupation		
Unemployed	12	8
Casual laborer	25	16.7
Self-employed	46	30.6
Salaried job	67	44.7
Total	150	100

The results indicated most sampled respondents had gone to college or University 54% (81), 30% (45), had attained secondary school while 16% (24) had primary level of education. The results show that 44.7% (67) of the respondents were on salaried employment, 30.6% (46), of the respondents were on self-employment, 16.7% (25) of the respondents were on casual laborers and only 8% (12) of the respondents were on unemployment.

According to Table 2, it was found that, 29% (44) respondents aged between 18 to 20 utilized IUCD, 26% (39) respondents aged between 20 to 24

Table 2. Association between utilisation of IUCD and demographics factors (n = 150).

Demographic factors		utilisation of IUCD						
		Yes	%	No	%	Total	%	p-Value (un-adjusted)
Age range	15 - 18	38	25	9	6	47	31	**0.002**
	18 - 20	44	29	12	8	56	37	
	20 - 24	39	26	8	6	47	32	
						150	100	
Marital status	Married	88	57	19	13	107	71	**0.001**
	Single	32	21	11	7	43	29	
						150	100	
Education level	Tertiary	42	28	14	9	56	37	**0.004**
	Secondary	48	32	9	6	57	38	
	Primary	29	19	8	5	37	25	
						150	100	
Occupation	Employed	43	29	12	8	55	37	**0.002**
	Not employed	89	59	6	4	95	63	
						150	100	

utilized IUCD, 25% (38) respondents aged between 15 to 18 utilized IUCD. Age was found to be significant in the utilization of IUCD with a probability of 0.002. The study found that, 57% (88) respondents who were married utilized the IUCD, and that 21% (32) respondents who were single utilized the IUCD and marital status was statistically significant with a probability of 0.001. The study further found that, 32% (48) respondents who had secondary level of education utilized the IUCD, 28% (42) respondents who had tertiary level of education utilized the IUCD, 19% (29) respondents who had a primary level of education utilized the IUCD, and it was also found that, education level had a significant relationship with the utilization of IUCD with a probability of 0.004. Additionally, the study found that, 59% (89) respondents who were not employed utilized the IUCD while 29% (43) respondents who were employed utilized the IUCD. It was further found that, occupation had a significant relationship with utilization of IUCD with a probability of 0.002.

3.1. Knowledge about the IUCD among Women Receiving Contraceptives

Section 2 presents findings on the respondents' knowledge about IUCD and the level of knowledge.

Based on Table 3, it was found that, large proportion of respondents 77% (115), agreed that IUCD helps child spacing, 74% (111), agreed that IUCD pre-

vents unwanted pregnancy, 73% (109), agreed that IUCD has no interference with sexual intercourse, 71% (107) agreed that IUCD limits family size, 69% (104) agreed that, IUCD is appropriate for women at risk of STIs.

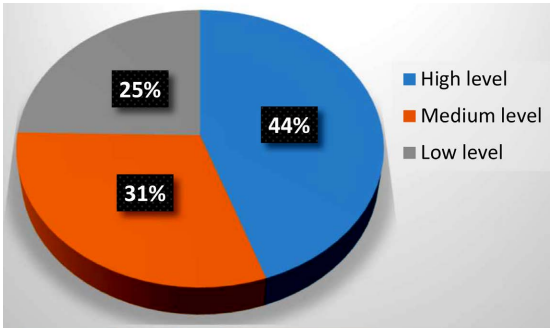
Figure 1 showed "the level of knowledge about the IUCD among women receiving contraceptives at Kabwe central Hospital." The findings show that 44% of the respondents had high level of knowledge about IUCD, 31% had medium level of knowledge and 25% had low level of knowledge.

According to Table 4, it was found that, 30% (45) respondents who had medium knowledge of STIs utilized the IUCD, 26% (39) respondents who had high Knowledge of STIs utilized the IUCD and 19% (28) respondents who had

Table 3. Knowledge of women on the use of IUCD (n = 150).

No	Item	Frequency	Percentage
1	IUCD prevents unwanted pregnancy		
	Yes	111	74
	No	39	26
2	IUCD limits family size		
	Yes	107	71
	No	43	29
3	IUCD helps child spacing		
	Yes	115	77
	No	35	23
4	IUCD is appropriate for woman at risk of STI		
	Yes	104	69
	No	46	31
5	IUCD has no interference with sexual intercourse		
	Yes	109	73
	No	41	27

Source: Author's computation.



Source: Researcher, 2020.

Figure 1. Level of knowledge regarding IUCD among women (n = 150).

low Knowledge of STIs utilized the IUCD. However, it was indicated that, 39% (58) respondents had medium Knowledge of STIs, 37% (55) respondents had high Knowledge of STIs and 25% (37) respondents had low Knowledge of STIs. Furthermore, it was found that, knowledge had significant relationship with the utilization of IUCD.

3.2. The Percentage of Women Using IUCD

Utilisation level of IUCD by the women

According to Figure 2, it was found that, 51% of the respondents had medium level of utilization of IUCD, 25% of the respondents had high level of the utilization of the IUCD, and 24% of the total respondents had a low level of the utilization of the IUCD.

3.2.1. Types of Contraceptives Used

According to Figure 3, it was found that, about 32% said that they were using intrauterine device, 10% said they used pills, 5% said they used injectable, 32% said they used condoms, 16% said they used implants and 5% said they had done bilateral tubal ligation (BTL).

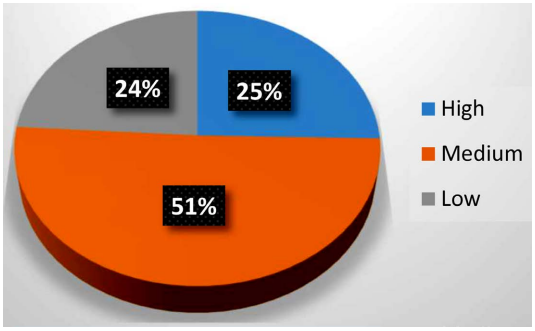
3.2.2. The Respondents on the Use of Family Planning

According to Figure 4, it was found that, 90%t of the women reported that

Table 4. Association between Utilisation of IUCD and knowledge (n = 150).

Knowledge of STIs		Utilisation of IUCD						
		Yes	%	No	%	Total	%	p-Value (un-adjusted)
Knowledge	High	39	26	16	11	55	37	0.004
	Medium	45	30	13	9	58	39	
	Low	28	19	9	6	37	25	
						150	100	

Source: Researcher, 2020.



Source: Researcher, 2020.

Figure 2. The level of Utilisation of IUCD (n = 150).

they were on family planning while 10% said that they were not on family planning.

3.2.3. The Use of Other Family Planning

According to Figure 5 on the use of other family planning, the results indicated that, 80% of the respondents said that, they had used other family planning before, and 20% of the women or respondents said that they had never used other family planning before.

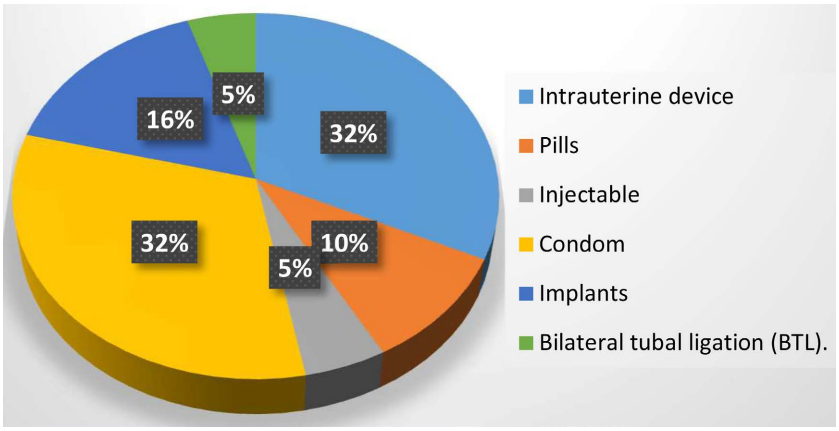
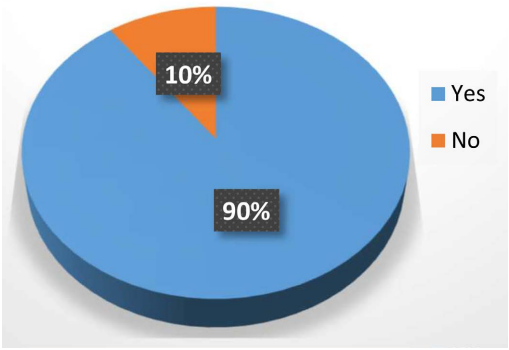
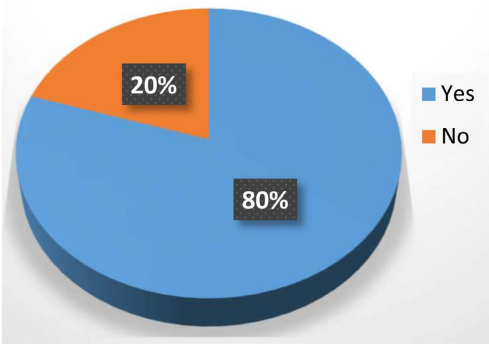


Figure 3. Types of contraceptives used (n = 150).



Source: Researcher, 2020.

Figure 4. The use of family planning (n = 150).



Source: Researcher, 2020.

Figure 5. The use of other family planning (n = 150).

3.2.4. The Type of Contraceptives Used by the Respondents

According to Table 5 on the type of contraceptives used by the respondents, 30% of the respondents had used condoms before, 20%of the respondents had used implants before, 20%of the respondents said they had used Intrauterine device before, 15% of the respondents had used the pills before, 10% of the respondents said that they had Bilateral Tubal Ligation and other 5% had used injectable before.

3.2.5. The Use of IUCD by Respondents

According to Figure 6, it was found that, 40% of the respondents said that they had used IUCD before while 60% said that they had never used IUCD before.

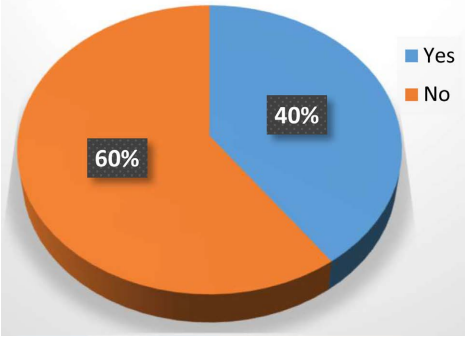
3.2.6. Reasons for Choosing of IUCD Use

According to Table 6, 23% (34) of the respondents said that they chose to use IUCD because of the Partner influence/Advice, 21% (31) of the respondents said that they chose to use IUCD because of friends influence, 19% (28) of the respondents said that they chose to use IUCD because of the side effects of other methods, 11% (17) of the respondents said that, they chose to use IUCD because of provider influence, 10% (15) of respondents said that, they choose to use IUCD because of desire to avoid hormonal contraceptives furthermore, 3% (4)

Table 5. The type of contraceptives used by the respondents (n = 100).

The type of contraceptives used by the respondents	Percentage
Intrauterine device	20
Pills	15
Injectable	5
Condoms	30
Implants	20
Bilateral Tubal Ligation	10

Source: Researcher, 2020.



Source: Researcher, 2020.

Figure 6. The use of IUCD by respondents (n = 150).

Table 6. Reasons for choosing of IUCD use (n = 150).

Reasons for choosing of IUCD use	Frequency	Percent
Side effects of other methods	28	19
Provider influence	17	11
Partner influence/Advice	34	23
Friends influence	31	21
Family members' influence	18	12
Desire to avoid hormonal contraceptives	15	10
Cost—friend lines	4	3
Convenience of use	3	2

Source: Author's computation.

Table 7. The aspect the provider discussed with respondents (n = 150).

The aspect of the provider with respondents	Frequency	Percent
Types	8	5
Benefits	34	23
Side effects	46	31
Cost effectiveness	39	26
Its placement in the uterus	23	15

Source: Author's computation.

of respondents said that they chose to use IUCD because of the Cost—friend lines, 2% (3) of the respondents said that they chose to use IUCD because of convenience of use.

Table 7 above shows that all the 150 respondents reported that they had discussed the benefits of IUCD, side effects of IUCD, cost effectiveness of IUCD, and its placement in the uterus. However, it was found that 31% (46) of the respondents had discussed with the provider on the side effects, 26% (39) of the respondents had discussed with the provider on the cost effectiveness, 23% (34) of the respondents had discussed with the provider on the benefits of using IUCD, 15.3% (23) of the respondents had discussed with the provider on its placement in the uterus and 5% (8) of the respondents had discussed with the provider on types of IUCD during the time of study. However, this shows that the respondents had knowledge on the use of IUCD before starting to use it.

3.3. The Acceptability of IUCD among Women Receiving Contraceptives

Acceptability of IUCD by women

According to Table 8, 28% (42) of the respondents, said that they used IUCD because it maintains menstrual bleeding, 39 (26%) said that they used because

Table 8. Reasons why women use of IUCD (n = 150).

Reasons why women on the use of IUCD	Frequency	Percentage
IUCD does not migrate to other body parts	28	19
IUCD maintains menstrual bleeding	42	28
IUCD increases libido	9	6
IUCD maintains privacy	6	4
IUCD does not cause infection	39	26
IUCD does not causes infertility and cancer	19	13
IUCD does not interfere with sex	7	5
Total	150	100

Source: Author's computation.

IUCD does not cause infections, 19% (28) said that the used IUCD because IUCD does not migrate to other body parts. Approximately, 19 (13%) of the respondents said that used IUCD because IUCD does not cause infertility and cancer, 6% (9) said that they used IUCD because it increases libido, 5% (7) said that used IUCD because it does not interfere with sex and 4% (6) said that they used IUCD because it does not cause loss of privacy.

3.4. Factors Contributing to Underutilization of IUCD

According to Table 9, it was found that, 30% (45) respondents aged between 15 to 18 years, agreed that, age contributes to underutilization of IUCD, 26% (39) respondents aged between 18 to 20 years, agreed that, age contributes to underutilization of IUCD, 25% (37) respondents aged between 20 to 24 years agreed that, age contributes to underutilization of IUCD. Generally, 121 respondents agreed that, age contributes to underutilization of IUCD and was significant with a probability of 0.003. The study found that, 57% (85) respondents who were married agreed that, marital status contributes to underutilization of IUCD, 20% (30) respondents who were single agreed that, marital status contributes to underutilization of IUCD. Generally, 115 respondents agreed that, marital status contributes to underutilization of IUCD and was significant with a probability of 0.002. Moreover, it was found that, 31% (46) respondents who had secondary level of education agreed that, education level contributes to underutilization of IUCD, 27% (40) respondents who had tertiary level of education agreed that, education level contributes to underutilization of IUCD, 17% (26) respondents who had a primary level of education, agreed that, education level contributes to underutilization of IUCD. Generally, 112 respondents agreed that, education level contributes to underutilization of IUCD and was significant with a probability of 0.004. Furthermore, 30% (45) respondents who had no knowledge about IUCD agreed that, lack of knowledge about IUCD contributes to underutilization of IUCD, 61% (92) respondents who had knowledge about IUCD agreed

Table 9. Factors contributing to underutilization of IUCD (n = 150).

Contributing factors		underutilisation of IUCD						
		Yes	%	No	%	Total	%	p-Value (un-adjusted)
Age	15 - 18	45	30	11	7	56	37	**0.003**
	18 - 20	39	26	10	7	49	33	
	20 - 24	37	25	8	5	45	30	
						150	100	
Marital status	Married	85	57	20	13	105	70	**0.002**
	Single	30	20	15	10	45	30	
						150	100	
Education level	Tertiary	40	27	18	12	58	39	**0.004**
	Secondary	46	31	12	8	58	39	
	Primary	26	17	8	5	34	22	
						150	100	
Lack of knowledge about IUCD	No knowledge about IUCD	45	30	10	7	55	37	**0.003**
	Knowledge about IUCD	92	61	3	2	95	63	
						150	100	
Religion	Catholic	43	29	14	9	57	38	**0.003**
	Protestant	56	37	13	9	69	43	
	Muslims	12	8	12	8	24	19	
						150	100	

Source: Author's computation.

that, lack of knowledge about IUCD contributes to underutilization of IUCD. Generally, 137 respondents agreed that, lack of knowledge about IUCD contributes to underutilization of IUCD and was significant with a probability of 0.003. Additionally, 37% (56) respondents who were Protestants agreed that, religion contributes to underutilization of IUCD, 29% (43) respondents who were Catholics agreed that, religion contributes to underutilization of IUCD, 8% (12) respondents who were Muslims agreed that, religion contributes to underutilization of IUCD. Generally, 111 respondents agreed that, religion contributes to underutilization of IUCD and was significant with a probability of 0.003.

Based on Table 10, it was found that, 36% (54) of the respondents said that knowledge or education affects the utilization of IUCD at a large extent, 67% (100) of the respondents said that age affects the utilization of IUCD at a medium extent, furthermore, it was found that, 62% (93) of the respondents said that, religion affects the utilization of IUCD at a medium extent, 59.3% (89) of the respondents said that, marital status affects utilization of IUCD at a small

extent and 52% (78) of the respondents said that family size and income affects the utilization of IUCD at a small extent due to the fact that in most government hospitals it's cheaper or at certain times free to insert it.

3.5. Inferential Statistics

3.5.1. Correlation Analysis

A correlation is a number between −1 and +1 that measures the degree of association between two variables. A positive value for the correlation implies a positive. A negative value for the correlation implies a negative or inverse association (Table 11).

Table 10. The extent at which the factors affect the utilization of the IUCD in Kabwe (n = 150).

Item	Large	Medium	Small
To what extent does age lead to underutilization of IUCD?			
Frequency	48	100	2
Percentage	32	67	1
To what extent does education/knowledge about IUCD lead to underutilization of IUCD?			
Frequency	54	92	4
Percentage	36	61	3
To what extent does religion lead to underutilization of IUCD?			
Frequency	49	93	8
Percentage	33	62	5
To what extent does marital status lead to underutilization of IUCD?			
Frequency	19	42	89
Percentage	13	28	59
To what extent does family size and income lead to underutilization of IUCD?			
Frequency	19	53	78
Percentage	13	35	52

Source: Author's computation.

Table 11. Correlation Coefficients (n = 150).

Pearson Correlation	Utilization of IUCD	Age	Education/ Knowledge	Religion	Marital status	Family size and income	Acceptability
Utilization of IUCD	1						
Age	0.721	1					
Education/Knowledge	0.815	0.018	1				
Marital Status	0.543	0.427	0.329	1			
Religion	0.648	0.120	0.246	0.432	1		
Family size and income	0.641	0.436	0.215	0.165	0.326	1	
Acceptability	0.721	0.413	0.354	0.433	0.324	0.634	1

**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed). Source: Researcher, 2022.

The correlation analysis depicts a positive relationship between the utilization of IUCD and all explanatory variables such as age, education/knowledge, marital status, religion, family size and income, and acceptability. The study found that, all the explanatory variables such as age, education/knowledge, marital Status, religion, family size and income, and acceptability had a positive correlation ranging from 0.543 to 0.815.

3.5.2. Regression Analysis

Regression analysis was conducted to establish the relationship between various perspectives of the utilization of IUCD. The main purpose of regressions is to learn more about the relationship between several independent or predictor variables and a dependent or criterion variable. Regression tests were done which included Model goodness of fit (Coefficient of determination). The coefficient of determination is a measure of how well a statistical model is likely to predict future outcomes. The coefficient of determination, explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (Utilization of IUCD) that is explained by all the independent variables (age, education/knowledge, marital status, religion, family size and income, and acceptability).

A multiple regression analysis was conducted to establish the relationship between utilization of IUCD and the explanatory variables. The results indicated a good coefficient of determination for all the variables. Table 12 shows a summary of the multiple regression analysis.

Using the results in Table 12, the regression analysis is shown in Table 13 below.

From the above regression model, for every unit implementation of the explanatory variables in the age, education/knowledge, marital status, religion, family size and income, and acceptability there will be an increase in the use of IUCD by 4.067, 2.014, 3.123, 6.875, 4.986 and 4.762 respectively. These further results infer that all the explanatory variables of the study are statistically significant (P = 0.0057, P = 0.0043, P = 0.0021, P = 0.003, P = 0.002 and P = 0.002).

Table 12. Coefficient of determination (n = 150).

Model	R		Adjusted
Age	0.845	0.714	0.627
Education/Knowledge	0.942	0.893	0.786
Marital status	0.813	0.661	0.553
Religion	0.857	0.734	0.631
Family size and income	0.865	0.748	0.612
Acceptability	0.798	0.637	0.543

Source: Researcher, 2020.

In statistics, a significant level of $p < 0.05$ is significant. This means that all the predictor variables are useful for factors contributing to utilization of IUCD in Kabwe.

Therefore, from Table 13 below, the regression model was derived as shown below:

$$Y = 1.263 + 4.067 + 2.014 + 3.123 + 6.875 + 4.986 + 4.762$$

whereby;

Y = Utilization of IUCD, X_1 = age, X2 = Education/Knowledge, X_3 = Marital status, X_4 = Family size and income, X_5 = Religion, X_6 = Acceptability.

β_1, β_2, β_3, β_4, β_5, β_6 = Standardized coefficients of determination, ε = Error term.

However, the study did the regression on the goodness of fit.

Table 14 presents the regression model goodness of fit statistics to determine whether the utilization of IUCD, has a linear dependence on age, education/knowledge, marital status, religion, family size and income, and acceptability. The study established a correlation value of 0.964. This depicts a very good linear dependence between the utilization of IUCD and the all predictor variables used in the study.

A value of 0.823 was established in the model and adjusted to 0.713. The coefficient of determination depicts that the four independent variables contribute about 82.3% to the variation in the utilization of IUCD while other factors not included in the study contribute 17.7% of the IUCD utilization. Therefore, further research should be conducted to investigate the other factors (17.7%) that

Table 13. Regression analysis (n = 150).

	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std	Beta		
(Constant)	1.263	0.132		3.001	0
Age	0.112	0.052	4.067	4.742	0.0057
Education/Knowledge	0.012	0.0612	2.014	2.821	0.0043
Marital status	0.342	0.046	3.123	3.273	0.0021
Family size and income	0.674	0.056	6.875	6.045	0.003
Religion	0.742	0.076	4.986	4.164	0.002
Acceptability	0.876	0.098	4.762	4.023	0.002

a. Predictors: (Constant), age, education/knowledge, marital status, religion, family size and income, and acceptability. b. Dependent Variable: Utilization of the IUCD.

Table 14. Regression model goodness of fit.

Model	R		Adjusted	Std. Error of the Estimate
1	0.964	0.823	0.713	0.452

Source: Researcher, 2020.

effectively contribute to the utilization of IUCD in Kabwe.

4. Discussion of Findings

The main objective of this study was to determine factors contributing to the utilization of intrauterine contraceptive devices (IUCDs) among women in Kabwe Central Province. The study showed that 32% (48) of the respondents were aged between 33 - 38 years with the minority 4% (6) were the age group 15 - 20 years as indicated in Table 1. The finding concurred with the Demographic Health Survey sample design which target women in their reproductive ages. About 53% (80) of the respondents were married, 20% (30) of the respondents were divorced, 19% (28) of the total respondents were single, and the least 8% (12) of the total respondents were widowed. Majority of the respondents were Catholics 51% (76) followed by Protestants 32% (48) and Muslims comprised 17% (26) of the respondents as indicated in Table 1. Table 1 indicates the distribution of respondents by the education. The results indicated most sampled respondents had gone to college or University (54%), 30% had attained secondary school while 16% had primary level of education.The results show that 45% (67) of the respondents were on salaried employment, 31%(46) of the respondents were on self-employment, 17%(25) of the respondents were on casual laborers and only 8% (12) of the respondents were on unemployment as shown in Table 1.

The study on the association between utilization of IUCD and demographic factors further found that 29% (44) of the respondents aged between 18 to 20 utilized IUCD, 26% (39) of the respondents aged between 20 to 24 utilized IUCD, 25% (38) of the respondents aged between 15 to 18 utilized IUCD. Age was found to be significant in the utilization of IUCD. The study found that, 57% (88) of the respondents who were married utilized the IUCD, and that 21% (32) of the respondents who were single utilized the IUCD. The study further found 32% (48) respondents who had secondary level of education utilized the IUCD, 28% (42) respondents who had tertiary level of education utilized the IUCD, 19% (29) respondents who had a primary level of education utilized the IUCD, it was also found that, education level had a significant relationship with the utilization of IUCD. Additionally, the study found that, 89 respondents who were not employed utilized the IUCD while 27% (43) respondents who were employed utilized the IUCD. It was further found that, occupation had a significant relationship with utilization of IUCD. However, this association between utilization of IUCD and demographic factors were indicated in Table 2.

Furthermore, the results were in line with the results of Smith who conducted a study on factors influencing knowledge levels about IUCD among contraceptive users. Smith's review identified that the level of knowledge about IUCDs varied depending on factors such as education, socioeconomic status, and access to healthcare. Women with higher education and better access to healthcare facilities were more likely to be aware of and consider IUCDs as a contraceptive

option. The study suggested targeted educational campaigns and outreach to underserved populations to improve awareness and knowledge about IUCDs.

The current study revealed that a large proportion of respondents 77% (115) agreed that IUCD helps child spacing, 74% (111) agreed that IUCD prevents unwanted pregnancy, 73% (109) agreed that IUCD has no interference with sexual intercourse, 71% (107) agreed that IUCD limits family size, 69% (104) agreed that, IUCD is appropriate for women at risk of STIs (Table 3). The findings also showed that 44% of the respondents had high level of knowledge about IUCD, 31% had medium level of knowledge and 25% had low level of knowledge as indicated in Figure 1.

The study found that 30% (45) of the respondents who had medium knowledge of STIs utilized the IUCD 26% (39) of the respondents who had high Knowledge of STIs utilized the IUCD and 19% (28) respondents who had low Knowledge of STIs utilized the IUCD. However, it was indicated that 39% (58) of the respondents had medium Knowledge of STIs, 37% (55) of the respondents had high Knowledge of STIs and 25% (37) respondents had low Knowledge of STIs. Furthermore, it was found that, knowledge had significant relationship with the utilization of IUCD as indicated in Table 4.

The study revealed that 51% of the respondents had medium level of utilization of IUCD, 25% of the respondents had high level of the utilization of the IUCD, and 24% of the total respondents had a low level of the utilization of the IUCD as indicated in Figure 2. It was also found that, education/knowledge had a strong positive correlation with utilization of IUCD and that, it was significantly contributing to utilization of IUCD as indicated in Table 11.

These results are supported by the results of Osaemwenkha revealed that educated and sexually active youth had wide spread knowledge of contraceptives and this background correlates with the number of methods known. Obviously, such wide knowledge does not necessarily mean that such persons have adequate exposure to the use of contraceptives because other decision-making influences could determine its use or otherwise. Even though Osaewenkha, perceived that his respondents, 800 university female students, may have had enough knowledge, he discovered that even among the enlightened, decision making on contraceptive use has the male involvement factor essential. Similarly, Ryan *et al.*'s study in South Africa showed an association between condom knowledge and contraceptive use.

The findings revealed that 32% said that they were using intrauterine device, 10% said they used pills, 5% said they used injectable, 32% said they used condoms, 16% said they used implants and 5% said they had done bilateral tubal ligation (BTL) as indicated in Figure 3. Ninety percent (90%) of the women in this study reported that they were on family planning while 10% said that they were not on family planning (See Figure 4). However, on the use of other family planning, the results indicated that, 80% of the respondents said that, they had used other family planning before, and 20% of the women or respondents said that they had never used other family planning before (Refer to Figure 5).

Moreover, on the type of contraceptives used by the respondents, 30% of the respondents had used condoms before, 20% of the respondents had used implants before, 20% of the respondents said they had used Intrauterine device before, 15% of the respondents had used the pills before, 10% of the respondents said that they had bilateral tubal ligation and other 5% had used injectable before as indicated on Table 5. Additionally, it was found that, 40% of the respondents said that they had used IUCD before while 60% said that they had never used IUCD before as indicated on Figure 6.

It was also found that, 23% of the respondents said that they chose to use IUCD because of the Partner influence/Advice, 21% of the respondents said that they chose to use IUCD because of friends influence, 19% of the respondents said that they chose to use IUCD because of the side effects of other methods, 11% of the respondents said that, they chose to use IUCD because of provider influence, 10% of respondents said that, they choose to use IUCD because of desire to avoid hormonal contraceptives furthermore, 3% of respondents said that they chose to use IUCD because of the Cost—friend lines, 2% of the respondents said that they chose to use IUCD because of convenience of use, as indicated in Table 6.

All the respondents in this study reported that they had discussed the benefits of IUCD, side effects of IUCD, cost effectiveness of IUCD, and its placement in the uterus. However, it was found that 31% (46) of the respondents had discussed with the provider on the side effects, 26% (39) of the respondents had discussed with the provider on the cost effectiveness, 23% (34) of the respondents had discussed with the provider on the benefits of using IUCD, 15% (23) of the respondents had discussed with the provider on its placement in the uterus and 5% (8) of the respondents had discussed with the provider on types of IUCD during the time of study as indicated in Table 7. However, this shows that the respondents had knowledge on the use of IUCD before starting to use it. These results are in line with the results of Blackwell who carried out a study on trends in contraceptive use among women in developed countries. Blackwell's review examined data from developed countries and found that contraceptive use was widespread. Condoms and oral contraceptives remained popular choices, while long-acting reversible contraceptives (LARCs) showed an increasing trend. There was a notable decline in sterilization procedures. The study suggested continued promotion of LARCs due to their effectiveness and recommended improving access to a range of contraceptive options. Similarly, Ali's [6] study on barriers to contraceptive use in developing countries identified barriers such as lack of access to family planning services, cultural and religious beliefs, and gender-related issues that hindered contraceptive use. Stigma and myths about contraceptives were also significant obstacles. They recommended the need to strengthening healthcare systems, conducting targeted community education, and addressing cultural and gender-related barriers to increase contraceptive use in these settings.

It was found that, 28% (42) of the respondents, said that they used IUCD be-

cause it maintains menstrual bleeding, 26% (39) said that they used because IUCD does not cause infections, 19% (28) said that the used IUCD because IUCD does not migrate to other body parts. Approximately, 13% (19) of the respondents said that used IUCD because IUCD does not cause infertility and cancer, 6% (9) said that they used IUCD because it increases libido, 5% (7) said that used IUCD because it does not interfere with sex and 4% (6) said that they used IUCD because it does not cause loss of privacy as indicated in **Table 8**. It was further found that, acceptability had a strong positive correlation and statistically significant with the utilization of IUCD as indicated in **Table 11**. These results are supported by the results of WHO [20] which indicated that more than 20% of sexually active young people in Africa use contraception. Apart from lack of money, barriers include insufficient knowledge, fear of social disapproval, side effects and misperceptions about the partner's opposition. This had resulted in to 190 million women becoming pregnant and nearly 50 million resorting to abortion. As a result of this, every year in Africa an estimated 68,000 women die every year from unsafe abortions. Millions more suffer long-term disability [2]. Similarly, Johnson conducted a study on acceptability of IUCDs among women receiving contraceptives. Patel's review focused on low-income settings and identified that financial barriers, lack of awareness, and concerns about discomfort and potential side effects were significant factors affecting the acceptability of IUCDs among women. Some women also faced resistance from partners or family members. The study recommended subsidizing IUCDs in low-income settings, conducting community-based awareness campaigns, and involving partners and family in contraceptive decision-making discussions.

The study revealed that 30% (45) of the respondents aged between 15 to 18 years, agreed that, age contributes to underutilization of IUCD, 26% (39) of the respondents aged between 18 to 20 years, agreed that, age contributes to underutilization of IUCD, 25% (37) of the respondents aged between 20 to 24 years agreed that, age contributes to underutilization of IUCD. Generally 81% (121) of the respondents agreed that age contributes to underutilization of IUCD and was significant as indicated in **Table 9**. The study found that 57% (85) of the married respondents agreed that, marital status contributes to underutilization of IUCD, 20% (30) of the respondents who were single agreed that marital status contributes to underutilization of IUCD. Generally all respondents agreed that marital status contributes to underutilization of IUCD and was significant. Moreover, the current study has found that 31% (46) of the respondents who had secondary level of education agreed that education level contributes to underutilization of IUCD, 27% (40) of the respondents who had tertiary level of education agreed that, education level contributes to underutilization of IUCD, 17% (26) of the respondents who had a primary level of education agreed that education level contributes to underutilization of IUCD. Generally, 75% (112) of the respondents agreed that education level contributes to underutilization of IUCD and was significant. Furthermore, 30% (45) of the respondents who had

no knowledge about IUCD agreed that lack of knowledge about IUCD contributes to underutilization of IUCD, 61% (92) of the respondents who had knowledge about IUCD agreed that, lack of knowledge about IUCD contributes to underutilization of IUCD. Generally, 91% (137) respondents agreed that lack of knowledge about IUCD contributes to underutilization of IUCD, which was significant. Additionally, 37% (56) of the respondents who were Protestants agreed that, religion contributes to underutilization of IUCD, 27% (43) of the respondents who were Catholics agreed that, religion contributes to underutilization of IUCD, 8% (12) of the respondents who were Muslims agreed that, religion contributes to underutilization of IUCD. Generally, 74% (111) of the respondents agreed that, religion contributes to underutilization of IUCD and was significant (**Table 9**).

It was also found that 36% (54) of the respondents said that knowledge or education affects the utilization of IUCD at a large extent, 68% (100) of the respondents said that age affects the utilization of IUCD at a medium extent, furthermore, it was found that, 62% (93) of the respondents said that, religion affects the utilization of IUCD at a medium extent, 59% (89) of the respondents said that, marital status affects utilization of IUCD at a small extent and 52% (78) of the respondents said that family size and income affects the utilization of IUCD at a small extent due to the fact that in most government hospitals its cheaper or at certain times free to insert it, as indicated on **Table 10**. These results are supported by WHO [20] statement which says that more than 20% of sexually active young people in Africa use contraception. Apart from lack of money, barriers include insufficient knowledge, fear of social disapproval, side effects and misperceptions about the partner's opposition. This had resulted in to 190 million women becoming pregnant and nearly 50 million resorting to abortion. As a result of this, every year in Africa an estimated 68,000 women die every year from unsafe abortions. Millions more suffer long-term disability [2]. The results of this study are also in line with Espey *et al.* A study by Chen, on barriers to IUCD Knowledge and Utilization among Women reported that Stigma, cultural beliefs, and myths surrounding IUCDs contributed to the lack of knowledge and that some women faced challenges in accessing healthcare services. The study proposed the introduction of community-based education programs, involving local leaders and healthcare workers, to address cultural barriers and improve IUCD awareness. Additionally, it recommended development of policies to increase access to contraceptive services.

One of the limitations of this study is the use of self-reported data. Self-reported data can be a source of bias in that mothers may have given socially acceptable responses instead of their actual experiences. The study design used cannot establish a causal effect. Since the study was conducted in one locality, the findings may not be generalized to the rest of the country.

5. Conclusion and Recommendations

In conclusion, this study aimed to investigate the factors influencing the utiliza-

tion of intrauterine contraceptive devices (IUCD) among women in Kabwe Central Province. The research questions addressed various aspects of knowledge, acceptability, and factors contributing to the underutilization of IUCD. The study found that a significant proportion of the respondents were in the age group 33 - 38 years, which aligns with the target population of women in their reproductive ages. A majority of the respondents were married, followed by divorced and single women. Catholics were the largest religious group among the respondents. Education levels varied, with the majority having attended college or university. Employment status also varied, with a significant number being on salaried employment and self-employment. Age, marital status, education level, and employment status were found to have a significant relationship with the utilization of IUCD. Married women were more likely to utilize IUCD, as were those with higher education levels. Occupation also had a significant influence, with unemployed respondents showing higher utilization rates.

The study revealed that a substantial proportion of respondents had a positive perception of IUCD, believing it helps with child spacing, prevents unwanted pregnancies, has no interference with sexual intercourse, limits family size, and is appropriate for women at risk of STIs. Knowledge about IUCD varied among respondents, with some having high, medium, or low levels of knowledge. Approximately 32% of the respondents reported using IUCD, with other contraceptive methods such as condoms, implants, pills, and injectable also being utilized. The majority of respondents reported being on family planning. The acceptability of IUCD was associated with various factors, including its perceived benefits, such as maintaining menstrual bleeding, not causing infections, and not migrating to other body parts. Some respondents cited reasons like IUCD not causing infertility, cancer, or interference with sex as factors contributing to its acceptability. Acceptability was strongly correlated with the utilization of IUCD. Respondents identified age, marital status, education level, knowledge, and religion as factors contributing to the underutilization of IUCD. Lack of knowledge about IUCD was a significant barrier to its utilization. Some respondents also indicated that family size and income played a role in the underutilization of IUCD, with government hospitals offering cost-effective or free insertion services.

Moreover, the study provides valuable insights into the factors influencing the utilization of IUCD among women in Kabwe Central Province. Age, marital status, education, and employment status were found to be significant demographic factors affecting IUCD utilization. Knowledge about IUCD was associated with its utilization, and efforts should be made to improve education and awareness. IUCD was generally well-accepted, with perceived benefits contributing to its use. Factors contributing to underutilization included age, marital status, education, knowledge, religion, and socioeconomic factors. These findings suggest the importance of tailored education and counselling programs to address knowledge gaps and promote informed decision-making regarding contraceptive methods, particularly IUCD. Additionally, the study underscores the need for comprehensive family planning education and services that consider

the diverse demographic characteristics and knowledge levels of women in Kabwe Central Province. Addressing these factors can lead to increased awareness, acceptability, and utilization of IUCD and other contraceptive methods, ultimately contributing to improved reproductive health outcomes for women in the region.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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