



**THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE**

**KNOWLEDGE, ATTITUDE AND ACCEPTABILITY OF
THE POSTPARTUM INTRA-UTERINE
CONTRACEPTIVE DEVICE IN LUSAKA, ZAMBIA.**

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**DISSERTATION SUBMITTED TO THE UNIVERSITY OF ZAMBIA IN
PARTIAL FULLFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF MEDICINE IN OBSTETRICS AND GYNAECOLOGY**

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ABSTRACT

Background: Postpartum intrauterine contraceptive device (PPIUD) is a long acting reversible contraceptive. Since its introduction in Zambia in 2009, the uptake has remained low accounting for less than 10 percent of IUD insertions whose prevalence is less than one percent of modern contraceptive methods. Worldwide, the low uptake of the PPIUD is due, in part, to lack of knowledge about PPIUD, medical staff advising against PPIUD based on out-dated information, lack of trained staff to provide the service and failure of clients to return for insertion due to logistic challenges, among other reasons. The low uptake is despite the numerous advantages offered by the method including easy insertion, cost effectiveness, lack of hormone-associated side effects and being a reliable and effective contraceptive. In addition, the method does not interfere with lactation.

Objectives: This study aimed to determine the level of knowledge and attitudes about the PPIUD among antenatal and postnatal clients at University Teaching Hospital (UTH) and in Lusaka clinics where the service is provided. It also aimed to determine socio-demographic and attitudinal factors influencing the acceptability of the PPIUD amongst clients.

Methods: This was a cross sectional study conducted at UTH and three urban Lusaka health facilities that provide PPIUD. A structured interviewer administered questionnaire was used to obtain data related to knowledge and attitudes on PPIUD of antenatal and postnatal women. Analysis consisted of descriptive analyses related to participants' knowledge and attitudes. Bivariate analyses were conducted to select candidate variables for the multivariable analysis to identify their independent effects of determinants of knowledge and attitudes.

Results: The study found that most of the 316 clients were aged 25-35 years old (38.7%), married (85.8%), multiparous (52.2%), from high density residential areas (80.7%). Most obtained knowledge from a health worker (68.7%) and 70.2% had high knowledge of PPIUD. Their attitude was positive regarding effectiveness, privacy, pain, activity, though almost half expressed concern over bleeding (48.7%). Only over a quarter (27.5%) would agree to accept PPIUD mainly due to preference for another method - injectable and the pill being popular choices. Apart from the facility site, no other factors were associated with poor knowledge. With facility Chipata as referent, the other 3 facilities had between 5.65 to 7.59 odds of poor to moderate knowledge. Participants at UTH had odds of 5.65 (95% CI 2.22 to 14.36) of poor to moderate knowledge

Conclusion: Although knowledge of the PPIUD was high and attitude was good among clients and healthcare providers, this did not translate into improved acceptance of the method. Participants at some facilities had better knowledge than at others.

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This work is a synergistic product of many minds. Appreciation goes to many men and women for the various roles they played in this study. These include doctors and nursing staff in the department of Obstetrics and Gynaecology at the University Teaching Hospital in Lusaka, and other people from the other study sites outside the department.

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ABBREVIATIONS

LARC:	Long Acting Reversible Contraceptive
PPIUD:	Postpartum intrauterine Contraceptive Device
UTH:	University Teaching Hospital
WHO:	World Health Organisation

DEDICATION

This dissertation is dedicated to the women who took part in this study and to all the Zambian women who deliver at our various health institutions throughout our land.

1.0 INTRODUCTION

In addition to aspects of care for the mother and newborn, the postnatal care package offers a broader variety of contraceptives. Regarding the Zambian response to WHO Millennium Development Goal 5, Society for Family Health (SFH), the University Teaching Hospital (UTH), Stanford University (SPIRES) and Population Services International (PSI) developed a program to improve access to long-term, reversible contraception by expanding intrauterine contraceptive device (IUD) insertion criteria to include women immediately post-partum in 2009. Society for Family Health spearheaded the introduction of the method at selected clinics in Lusaka and has been supporting the program since. Trained staff from U.T.H has also been providing the service. According to the Zambia Demographic and Health Survey (2013-14), the intrauterine contraceptive device (IUD) uptake since its introduction has remained low accounting for less than one percent of modern contraception. Vwalika (2013) reported that PPIUD constitutes less than 10 percent of IUD uptake. This is despite the numerous advantages the method offers, namely easy insertion, cost effectiveness (Kumar et al, 2014), lack of hormone-associated side effects (Maluchuru, 2015) and being a reliable and effective contraceptive (Sunita et al, 2014). In addition, the method does not interfere with the quality or quantity of breast milk (Melisa, 2012). This finding is supported by the results of a study by Goldstuck and Steyn (2013) which showed that IUD inserted post-placentally at caesarean section does not affect lactation. Thus, women can use this method of contraception without having to worry about the quality and quantity of breast milk. Grimes et al (2015) found that PPIUD was appealing because women were highly motivated for contraception in the immediate postpartum period and are known not to be pregnant thus not requiring a pregnancy test to qualify for the method.

It has been noted that some postnatal mothers could not return for IUD insertion due to several challenges. Others shunned the method because of the healthcare providers' negative publicity of the method that was based on information which was no longer valid. Some others could not access the service for lack of trained providers at health facilities. A lack of awareness of the method was yet another contributor to its low uptake (ACQUIRE Project, 2008). According to Grimes et al (2015) only 45 percent of postpartum women returned for interval insertion compared to 95 percent who had

insertions immediately postpartum in Colombia. According to this study, a significant proportion of women does not return for interval insertion of IUD and thus do not benefit from the PPIUD's advantages. It demonstrates the impact of logistic challenges involved in return visits as reported by Acquire Project (2008). Melisa et al (2012) found that healthcare providers strongly influence IUD decision-making, sometimes preventing and at other times facilitating device uptake. They also noted that a lack of knowledge of the safety and efficacy of the IUD compared to other methods negatively affected IUD uptake. Further, their study concluded that the role of male partners' pregnancy desires was a new finding that undermined IUD uptake. In addition, low education status, poor or negative attitude towards PPIUD and dependence on male partner for consent all affected the uptake negatively.

Studies done in Egypt (Safwat et al, 2003) and more recently in Tanzania (Ali, 2012) have shown similar findings. Although international data on PPIUD use exit or discharge data, there is paucity of local data to inform the reasons for the low uptake of this method of contraception in the Zambian setting.

This study therefore, aimed to determine the level of knowledge about the PPIUD among antenatal and postnatal clients in Lusaka. The study also aimed to determine the attitudes of these clients towards PPIUD, and the socio-demographic factors influencing the acceptability of the PPIUD in Lusaka.

2.0 LITERATURE REVIEW

2.1 Family Planning

The World Health Organization released a report in 2010 on maternal mortality trends following a study meant to determine among other things, trends in maternal mortality in the world for the period 1990 to 2008. According to this report, an estimated 358,000 maternal deaths occurred worldwide in 2008, representing a 34 percent decline from the levels of 1990. Despite this decline, developing countries continued to account for 99 percent (355,000) of the deaths. Sub-Saharan Africa, of which Zambia is part and South Asia accounted for 87 percent (313,000) of global maternal deaths (WHO, 2010).

Fortunately, a significant number of maternal and newborn deaths can be prevented by using modern contraceptives to ensure prevention of unplanned pregnancies and their complications (Alemayehu et al, 2012). The use of family planning therefore, is an important and effective strategy to reduce maternal mortality. Ross et al (2001) argue that if the unmet need for contraception were met there would be a 29 percent reduction in maternal mortality in low resource countries.

Globally, more and more women are giving birth in health facilities. This provides increased opportunities for postpartum family planning. The evolution of the intrauterine device (IUD) has led to a safe and effective contraceptive choice for many women. According to Yoost (2012), its efficacy in pregnancy prevention far surpasses other daily and scheduled methods such as pills, patches, and contraceptive rings. In addition, satisfaction rates rank high as noted among IUD users in the United States (US) compared to other methods, and complication rates have been shown to be low. Non-contraceptive benefits include decreased menstrual blood loss, improved dysmenorrhea, reduced pelvic pain associated with endometriosis, and protection of the endometrium from hyperplasia. Furthermore, the use of IUDs is accepted in patients with multiple medical problems who may have contraindications to other birth control methods.

The World Health Organization has now extended criteria for the use of IUDs to include clients in the immediate postpartum period. Thus, PPIUD can be provided in two ways i.e. post-placentally and trans-caesarean (WHO, 2010). This time provides postpartum women an excellent opportunity to have an IUD inserted. Post-placental insertion is done at least ten (10) minutes after delivery of the placenta during vaginal delivery while trans-caesarean insertion is done after delivery of the placenta but before uterine closure in the case of a caesarean section.

2.2 Knowledge, Attitude, Acceptability of PPIUD and Associated Factors.

2.2.1 Knowledge and associated factors

The uptake of PPIUD has been shown to be influenced by the knowledge clients have about this method of contraception. Various studies have demonstrated this link and even shown further that a number of socio-demographic factors also affect knowledge about PPIUD. A study conducted at the University of New Mexico provided evidence showing that the low uptake of the PPIUD was in part due to clients being discouraged from accepting the service based on information held by healthcare providers that was no longer valid (ACQUIRE Project, 2008). According to Maluchuru et al (2015), lack of awareness of PPIUD by postnatal clients may be a reason for its poor uptake in many settings. They submit that education was associated with high knowledge and had a positive effect on contraceptive use. From their study, it was apparent that women who completed secondary or higher education were twice likely to use modern contraception. Women who had some formal education appeared to be have more knowledge on contraception. Lavanya (2014) supports this position by arguing that lack of knowledge regarding the various methods of contraception is the reason why family planning is not utilized. This study found that 55 percent of women who did not use any modern contraception were not aware of modern contraception. It further showed that the majority (66.9 percent) of women with knowledge preferred a long acting method of contraception, a category in which PPIUD falls. The study found a varied source of knowledge and included social circles (67 percent), the media (18 percent) and healthcare providers (14 percent). A study done in Ethiopia established that high knowledge about Long Acting Reversible Contraceptive (LARC) including PPIUD was associated with a high acceptance level.

Women with high knowledge on LARC were 8 times more likely to use LARC including PPIUD (Alemayehu et al, 2012). In their study, Katheit and Steyn (2013) found that although the majority of women (73.6 percent) knew about the copper IUD very few (5.8 percent) had ever heard of its use immediately postpartum.

2.2.2. Acceptability of PPIUD and Associated Factors.

Postpartum family planning counseling services can be offered to women in the antenatal as well as postnatal period. With increasing facility births, more and more women can be counseled on the various methods of contraception. Safwat et al (2003) evaluated the acceptance of the postpartum intra-uterine contraceptive device and the factors that affected its acceptance among the inhabitants of Assuit governorate, Egypt. In this study, 3,541 clients were given contraceptive counseling; 1,880 and 1,661 during antenatal visits and hospitalization respectively. Acceptors during antenatal counseling were to receive PPIUD via post-placental insertion in the case of vaginal delivery or trans-cesarean in the case of abdominal delivery. The study found that both acceptance and actual insertions of PPIUD were low. The acceptance rate was 28.9 percent. Verbal acceptance was relatively higher among women with formal education. Gupta et al (2013) recruited 2083 clients in their study and counseled them for PPIUD of which only 300 accepted insertions. This represented an acceptance rate of 14.4 percent which is significantly lower than that found by Safwat et al (2003). They found that acceptance was higher among clients in the 20-25-years age group and those counseled during antenatal visits. The results of a study by Katheit and Steyn (2013) also showed a high acceptance rate in the age group of 21-25 years (50.8 percent). In this study, the acceptance rate was found to be 18.8 percent. The majority of acceptors had two living children. Clients who were literate constituted the majority (65 percent) of acceptors of the method. The PPIUD acceptance found in a study by Gautam et al (2014) was similar to that reported by Safwat et al. In this study, 1,941 clients eligible for PPIUD insertion were counseled of which only 423 (21.77 percent) accepted insertion. The study went further to determine the obstetric characteristics of clients who accepted this method of contraception. Like Safwat et al (2003) found, acceptance was higher among primiparous women. Among multiparous women, those with short intervals from the last birth had a higher acceptance rate.

According to Safwat et al (2003), planning another pregnancy, preference for another method of contraception and complications from previous IUD were the most common reasons for refusing the PPIUD. They also argued that the low uptake could be because the method was relatively new in Egypt. Gautam et al (2014) found that preference for another method, need to discuss with partner and partner refusal, fear of pain or bleeding and just no reason given were the common reasons for refusal of the method.

A study by Maluchuru et al (2015) showed that non-involvement of spouses and family members resulted in low acceptance of PPIUD. In this study, a significant number of women are reported to have declined PPIUD on this account. This study further demonstrated that acceptance of PPIUD was higher among primigravida women than multiparous ones. However, this contradicts the results of Grimes et al (2010) which instead showed high acceptance by multiparous women. In this study, early repeat unintended pregnancy among multiparous women was noted to be an additional factor linked to high acceptance of PPIUD.

2.2.3 Attitude of clients and healthcare providers towards PPIUD

The attitudes of both the clients and healthcare providers have been shown to impact on PPIUD uptake. In some cases, the attitudes have had a positive impact while in others it has been negative. In their study conducted to determine whether barriers to PPIUD placement exist at service provider level, Holland et al (2014) showed that the attitude of healthcare providers can be a strong motivation or discouragement to clients' uptake of PPIUD. This finding agrees with the results of an earlier study by Harper et al (2008) which demonstrated that providers may limit PPIUD use by citing concerns about infection, expulsion and infertility. They argued that earlier studies have shown that postpartum IUD insertions, including those done immediately after placental delivery or caesarean section, are generally safe and effective. Compared with interval insertions, postpartum insertions do not increase the risk of infection, bleeding, uterine perforation or endometritis, nor do they affect the return of the uterus to its normal size. Therefore, the providers' concerns are not well founded. A study by Gupta et al (2013) also showed that the risk of infection after PPIUD was

very low. Vwalika (2013) found that overall, expulsion rates were lower than previously reported, especially for post-partum insertions. It was concluded attention to high fundal placement at insertion was thought to be the likely explanation for these improved rates. And return to fertility in clients on copper IUD is immediate following removal. The study by Maluchuru et al (2015), done in India supports these earlier findings and showed that both infection and expulsion rates are minimal, with no infection recorded post-insertion in their study and expulsion rate reported to be as low as 3.6 percent. This expulsion rate was lower than that noted in a multi-country study in Chile, Philippines and Belgium which was reported to be in the range of 4.6 percent to 16 percent and is significantly less than the 38 percent reported by Stuart (2012).

In their study, Alemayehu et al (2012) established that women who had a positive attitude to LARC were more likely to use LARC including PPIUD. However, it was noted that clients' attitudes were also affected by a number of factors. In another study conducted in Ghana it was established that partner approval was a significant factor that influenced the choice of contraception including PPIUD. They established that partner attitude was a key component in more than 80 percent of the couples interviewed. Their findings showed that clients whose partners had a positive attitude towards LARC were more likely to accept contraception including PPIUD (Eliason et al, 2013). This finding agrees with that of Maluchuru et al (2015). A study by Melisa et al, (2012) also revealed several facilitators to IUD use. It shows how peers, partners and family members as well as healthcare providers can facilitate IUD adoption.

3. STATEMENT OF THE PROBLEM

According to ZDHS 2013-14 report, contraceptive prevalence rate for modern contraceptive is only 45 percent. Of this, only 0.9 percent accounts for IUD. Unpublished data on PPIUD in Zambia seem to indicate a very low uptake of less than 10 percent of IUDs (Vwalika, 2013).

Given its high advantage profile, the PPIUD's low uptake is of concern especially in the wake of Zambia's high fertility rate and maternal mortality ratio that stand at 5.3 births per woman of childbearing age and 398 maternal deaths per 100,000 live births respectively (ZDHS, 2013-14). The method has remained unpopular despite being offered via a well supported program since its introduction.

4. STUDY JUSTIFICATION

LARC including PPIUD have been shown to have potential to significantly contribute to the improvement of women and children's health via child spacing and avoidance of abortion related complications of unplanned pregnancies. In order to maximise this potential of the PPIUD, there is need to eliminate the barriers to its use and enhance its uptake as a key component of the postnatal package.

Data are lacking on what and how much is known about this method, how many postnatal clients are using the method and why others are not using this method since its introduction over the last several years at the sites where the service is provided. The findings from this study will help answer some of these questions. With Zambia's high unmet need for contraception of 21 percent and a low met need of 45 percent the data from this study would help contribute to the improvement in the uptake of the PPIUD services in the country and change the outlook of our maternal and neonatal statistics.

5. RESEARCH QUESTION

What is the level of knowledge, attitude and acceptability of PPIUD among antenatal and postnatal clients in Lusaka?

6. OBJECTIVES

6.1 Main Objective

To study the Knowledge, Attitude and Acceptability of the Postpartum Intra-Uterine Contraceptive Device at UTH and selected clinics in Lusaka, Zambia.

6.2 Specific objectives

1. To determine the level of knowledge about the PPIUD among antenatal and postnatal clients in Lusaka;
2. To determine the attitude of antenatal and postnatal clients towards the PPIUD in Lusaka;
3. To determine the acceptability of the PPIUD as a form of contraceptive in Lusaka; and
4. To determine the factors influencing level of knowledge, attitude and acceptability of the PPIUD as a form of contraceptive in Lusaka.

7.0 RESEARCH METHODOLOGY

Study Design

This was a cross sectional study.

Study Site

The University Teaching Hospital, Department of Obstetrics and Gynaecology. Other centres were Lusaka delivery centres at Kanyama, Chawama and Chipata clinics which are upgraded to district hospitals. Lusaka was chosen because it has a cosmopolitan population which is representative of other areas in the country.

Target population

The target population is antenatal and postnatal clients in the selected facilities in Lusaka where PPIUD was provided from October 2015 to February 2016.

Study Population

Antenatal and postnatal mothers meeting eligibility criteria in clinics where PPIUD was provided.

Inclusion criteria

1. The study recruited antenatal and postnatal clients accessing antenatal and postnatal services at UTH and selected clinics in Lusaka where PPIUD is provided.
2. Age greater than or less than 18 years of age
3. Informed consent to participate in study. (Guardian permission and participant assent if <18 years of age).

Exclusion criteria

1. Clients who withheld consent to participate.

Study Duration

The study was over a period of five months from the time of ethical clearance.

Sampling method

Using a convenience sampling method, participants who met the eligibility criteria were chosen from among antenatal and postnatal clients.

Sample size

The sample size was determined using a formula for estimation of single population proportion with the assumption of 95 percent confidence level, margin of error of 5 percent and an acceptance level of 28 percent of the population (Safwat et al, 2008).

- ▶ Thus, the sample size was obtained by the formula:
- ▶ $n = z^2 \times p \times (1-p)/d^2$
- ▶ where
- ▶ n = sample size
- ▶ z = 1.96 corresponding to 95 percent confidence interval
- ▶ p = proportion of antenatal and postnatal women accepting PPIUD
- ▶ d = margin of error set at 5 percent

- ▶ The minimum sample size was estimated at
- ▶ $N = 1.96^2 \times 28.9 \times 71.1/5^2$
- ▶ N = 316
- ▶ The minimum sample size was 316.

Procedures and Data collection

A group of data collectors, all qualified midwives from UTH and selected clinics, was recruited and oriented by the investigator on how to collect data. Each day, the data collectors (recruiters) approached antenatal and postnatal women and informed them about the study. Group counselling on the various methods of contraception was offered to all antenatal and postnatal clients prior to recruitment. In this way, clients had information on all the various contraceptive methods available. This information not only included the advantages and disadvantages of each method but also eligibility criteria so that clients could choose a method that best suited their needs. Informed consent was obtained if agreeable to participate (Appendix I and II).

A structured questionnaire was used to extract important information from the study participants (Appendix III). The questionnaires from all the study sites were collected weekly for data entry. This questionnaire was adapted from two previously validated questionnaires used in similar studies (Alemayehu et al, 2012 and Ali, 2012). The questionnaire was divided into four main areas, namely;

1. Socio-demographic and economic variables;
2. Clients knowledge about PPIUD;
3. Attitude of clients towards PPIUD; and
4. Acceptability of the PPIUD to clients.

Clients' knowledge was determined by the total number of correct answers to 10 items on knowledge with a minimum score of 0 and maximum of 10. The results were expressed in percentages and reported as high knowledge if the result was 80 to 100 percent, moderate knowledge if the result was 60 to 79 percent and low knowledge for results of below 60 percent. This method of assessing knowledge was adapted from a questionnaire used in a similar study by Alemayehu et al (2012).

Items on attitude of clients about the use of PPIUD were grouped into three as follows: "agree", "disagree" and "not sure". The results were analyzed into positive or negative attitude i.e. positive attitude -those who scored above the mean on attitude items and "negative attitude" - those who scored the mean or below mean to attitude items. The attitude of healthcare providers was assessed using a tool adapted from a similar study done in Kenya, (Access Project, 2011).

The level of acceptance was assessed by the total number of clients accepting the method as a percentage of the sample size. Clients who accepted to have PPIUD inserted were referred to the appropriate PPIUD providers who would counsel and screen them for their eligibility for PPIUD insertion. The questionnaire also collected data on the reasons for refusal from clients who declined PPIUD insertion and presented it in percentages.

Data analysis

Data was entered in MS Excel and exported to SPSS statistical packages for analysis. The Pearson's chi-squared test was used for comparison of proportions between groups. The Fisher's exact test was used when one or more of the cells had an expected frequency of five or less. Study variables were checked for evidence of collinearity based on a Spearman correlation coefficient > 0.8 . Selection for logistic regression model was considered at level $P < 0.20$ or known clinical significance.

Backward selection method was used to obtain the final logistic regression model for acceptability of PPIUD. The backward selection method removes terms one at a time beginning with the largest P-value and continuing until all remaining effects are significant at a specified level or removing more terms results in poorer fit.

All tests were at 95 percent confidence interval (CI) and a *P*-value less than 0.05 was considered statistically significant.

Ethical Considerations

Prior to recruiting clients written informed consent was obtained from all clients who accepted to participate in the study as earlier described. (Appendix I and II). Permission to conduct the study was obtained from UTH management through the Head, Department of Obstetrics and Gynaecology. Ethical approval was obtained from the University of Zambia Biomedical Research Ethics Committee (Appendix IV).

Client confidentiality was assured as no names were used. There were no personal identifiers on data collection instruments. Research assistants were trained on how to maintain confidentiality on the data collected.

8.0 RESULTS

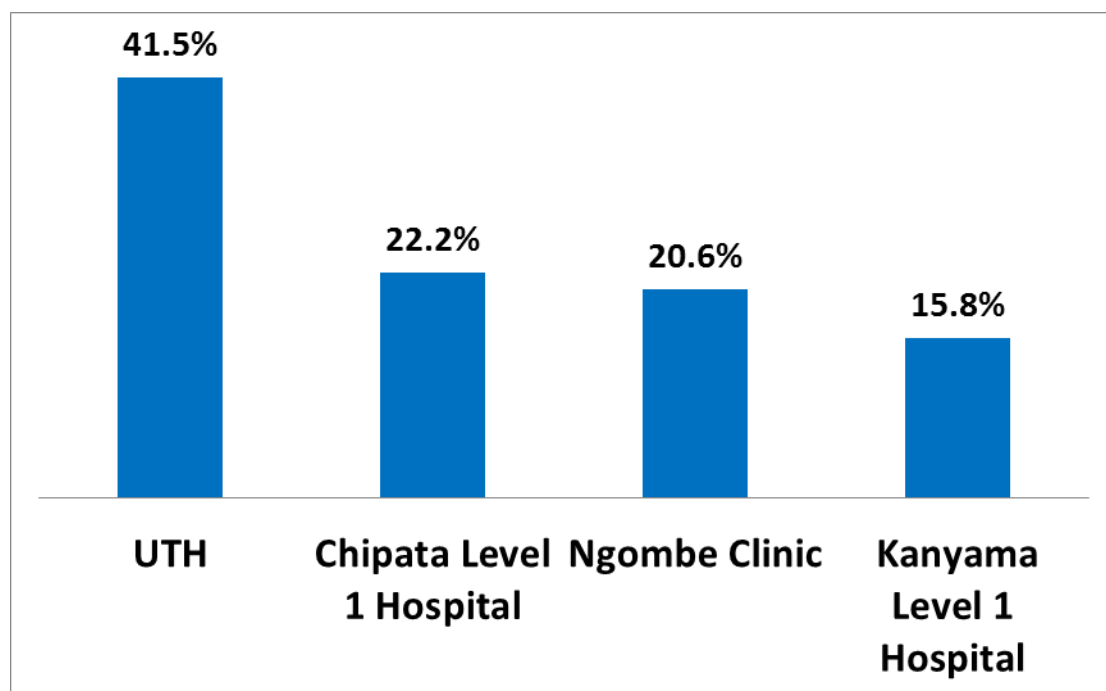
8.1 Site of participant recruitment

The study enrolled a total of 316 antenatal and postnatal clients between October 2015 and February 2016 from the four facilities as outlined in table 1 and figure 1. The enrolees are referred to as participants for purposes of the study. Just over 40 percent of participants were from UTH.

Table 1: Site of recruitment of participants

Site	n	percent
UTH	131	41.5
Chipata Level 1 Hospital	70	22.2
Ngombe Clinic	65	20.6
Kanyama Level 1 Hospital	50	15.8
	316	100

Figure 1: Percent distribution of site of enrolment of study participants



8.2 Participant characteristics

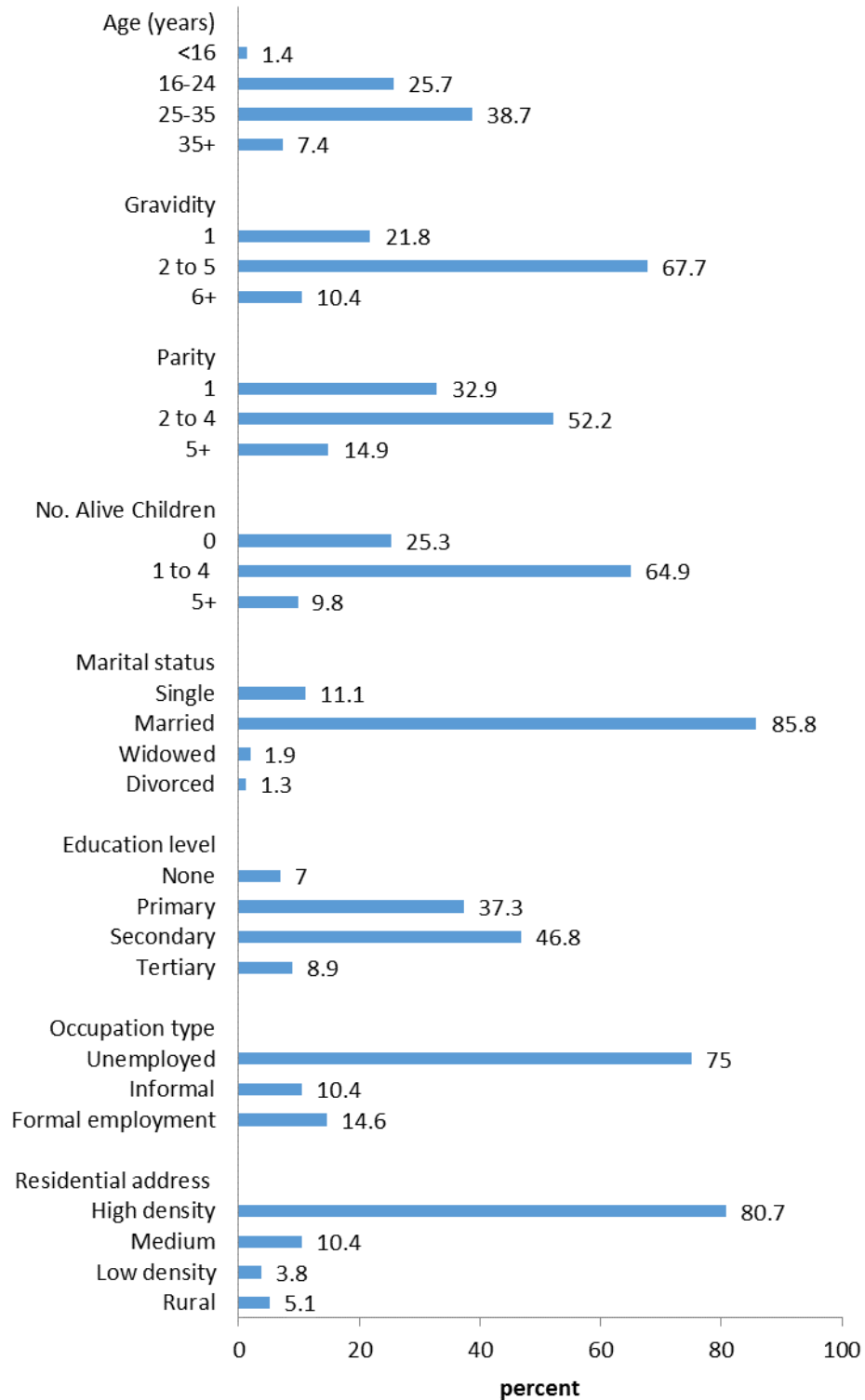
Table 2 and figure summarises the socio-demographic characteristics of the antenatal and postnatal study participants. The greater majority of participants, (n=167, 38.7 percent), were in the age range 25 – 35 years. There were 6 (1.4 percent) aged under 16 years, 111 (25.7 percent) aged 16 – 24 years, and 32 (7.4 percent) aged above 35 years. The study found that most of the women were para 2 – 4 (52.2 percent) while grandmultiparous were the least, accounting for 14.9 percent of the participants. About a quarter of the participants, (n=80, 25.3 percent), had no living child while the majority of them (64.9 percent) had between 1 and 4 living children. A small proportion of about a tenth (9.8 percent) had five or more living children.

In this study a greater proportion of the study participants, (n=271, 85.8 percent), were married. There were 35 (11.1 percent) single women, 6/316 (1.9 percent) widowed women, and 4/316 (1.3 percent) divorced women. Of the study clients, 118/316 (37.3 percent) were educated up to primary level. There were 148/316 (46.8 percent) with secondary level education and 28/316 (8.9 percent) with tertiary level education. The study also found that 237/316 (75 percent) of the clients were unemployed with only 46/316 (14.6 percent) in employment. All the enrolled clients for this study were Christians. More than 80 percent of the clients were from high density residential locations. A few clients (33/316, 10.4 percent) came from medium density locations while 12/316 (3.8 percent) of them came from low density locations and the remaining 16/316 (5.1 percent) from rural areas.

Table 2: Socio-demographic characteristics of study clients (N=316)

Variable	Frequency	
	n	percent
Age (years)		
Less than 16	6	1.4
16-24	111	25.7
25-35	167	38.7
More than 35	32	7.4
Parity		
Para 1	104	32.9
Para 2-4	165	52.2
Para 5 or greater	47	14.9
Gravidity		
Gravida 1	69	21.8
Gravida 2 -5	214	67.7
Gravida 6 or greater	33	10.4
No. Alive Children		
0	80	25.3
1-4	205	64.9
5+	31	9.8
Marital status		
Single	35	11.1
Married	271	85.8
Widowed	6	1.9
Divorced	4	1.3
Education level		
None	22	7
Primary	118	37.3
Secondary	148	46.8
Tertiary	28	8.9
Occupation type		
Unemployed	237	75
Formal employment	46	14.6
Informal	33	10.4
Residential address classification		
High density	255	80.7
Medium	33	10.4
Low density	12	3.8
Rural	16	5.1

Figure 2: Percent distribution of characteristics of study clients (N=316)



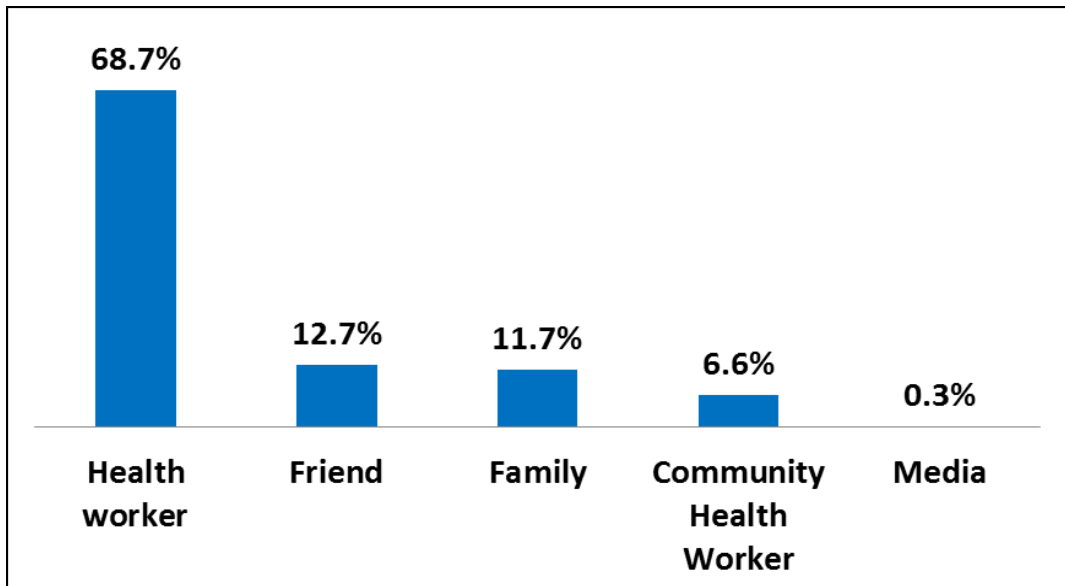
8.3 Participants Source of knowledge about PPIUD

The source of participants' knowledge on PPIUD is tabulated in table 3 and illustrated in figure 3. A greater majority of the study women, 217/316 (68.7 percent), had heard about PPIUD from a health worker (HW) whereas only 1/316 (0.3 percent) of the women heard about PPIUD from television. There were 37/316 (11.7 percent) women who heard about PPIUD from a family member, 40/316 (12.7 percent) from a friend, and 21/316 (6.6 percent) from a community health worker (CHW).

Table 3: Participants Source of knowledge about PPIUD

	n	percent
Health worker	217	68.7
Friend	40	12.7
Family	37	11.7
Community health worker	21	6.6
Media	1	0.3
	316	100

Figure 3: Participants' source of learning about PPUIID



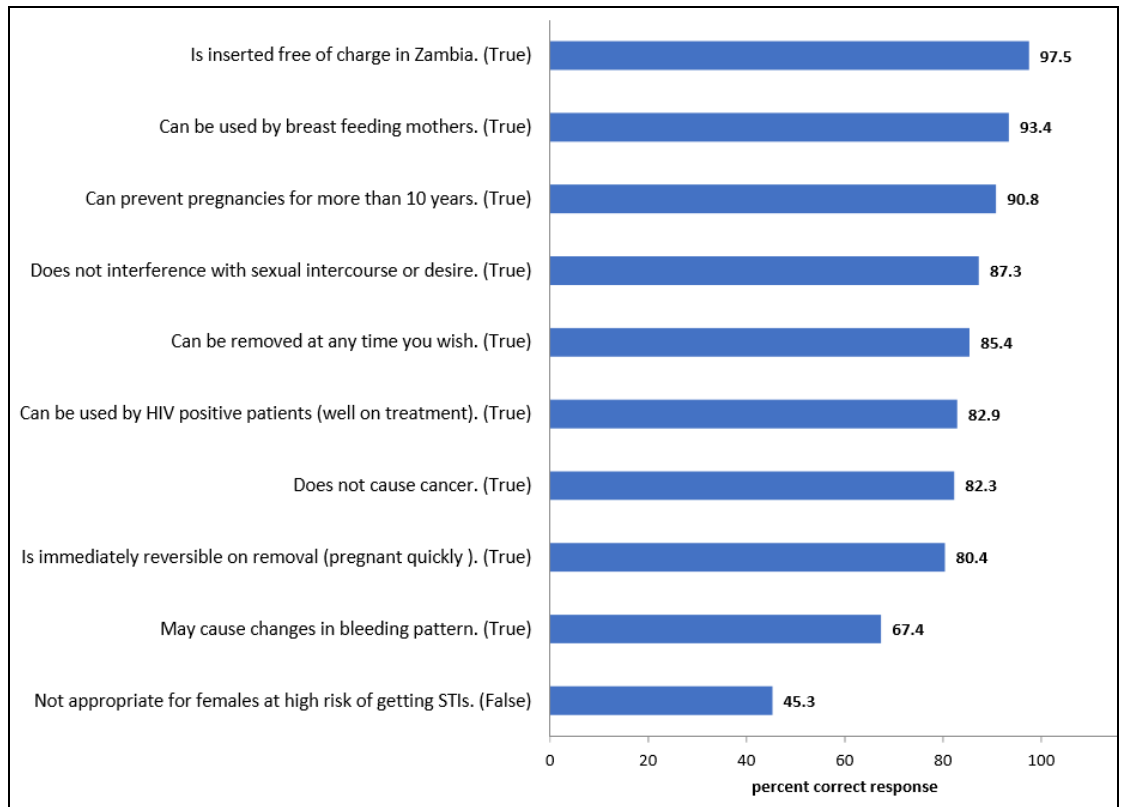
8.4 Participants test of knowledge of PPIUD

Table 4.0 and figure 4.0 shows the response distribution of the study clients' responses to questions to test knowledge about PPIUD. The study found that there was great awareness of the various aspects of PPIUD among the study clients. Under half of participants (45.3 percent) correctly answered about PPIUDs appropriateness for females at high risk of getting STIs. Similarly, just over a third (67.4 percent) answered correctly that PPIUD may cause changes in bleeding pattern. Most participants had more than 80 percent knowledge on other knowledge items related to PPIUD.

Table 4.0: Participants responses to knowledge questions about PPIUD (n= 316)

QUESTION	RESPONSE				CORRECT RESPONSE	Percent correct
	TRUE		FALSE			
	n	%	n	%		
PPIUD can prevent pregnancies for more than 10 years	287	90.8	29	9.2	TRUE	90.8
PPIUD is not appropriate for females at high risk of getting STIs.	173	54.7	143	45.3	FALSE	45.3
PPIUD has no interference with sexual intercourse or desire.	276	87.3	40	12.7	TRUE	87.3
PPIUD is immediately reversible (become pregnant quickly when removed).	254	80.4	62	19.6	TRUE	80.4
PPIUD does not cause cancer.	260	82.3	56	17.7	TRUE	82.3
PPIUD can be used by breast feeding mothers.	295	93.4	20	6.3	TRUE	93.4
PPIUD may cause changes in bleeding pattern.	213	67.4	103	32.6	TRUE	67.4
PPIUD can be used by HIV positive patients doing well on treatment.	262	82.9	54	17.1	TRUE	82.9
PPIUD is inserted free of charge in Zambia.	308	97.5	8	2.5	TRUE	97.5
PPIUD can be removed at any time you wish.	270	85.4	46	14.6	TRUE	85.4

Figure 4.0: Percent distribution of correct responses of study clients regarding PPUIID



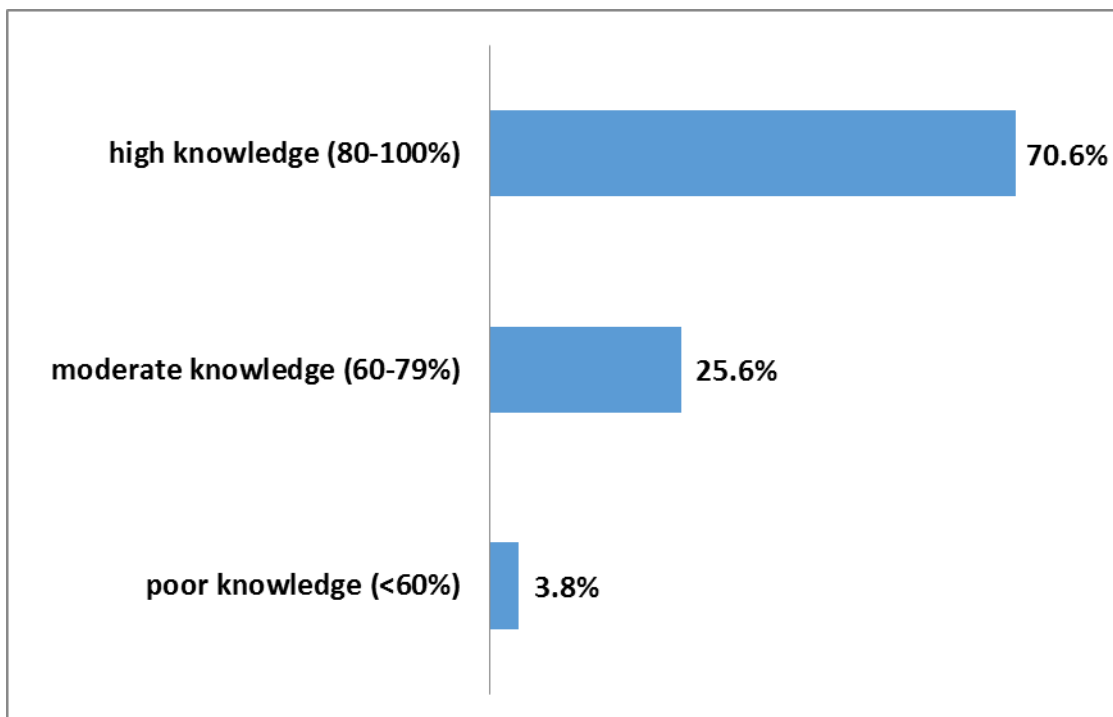
8.4.1 Scoring of knowledge on PPIUD

The participant scores of the 10 knowledge questions for PPIUD are tabulated in table 4.1 and illustrated in figure 4.1. Almost three quarters of the participants scored highly (>80 percent) while only 12 (3.8 percent) had knowledge scores less than 60 percent.

Table 4.1: Participant scores of the 10 knowledge questions for PPIUD

	n	percent
High knowledge (80-100%)	222	70.2
Moderate knowledge (60-79%)	82	26.0
Poor knowledge (<60%)	12	3.8
	316	100

Figure 4.1: Participant scores of the 10 knowledge questions for PPIUD



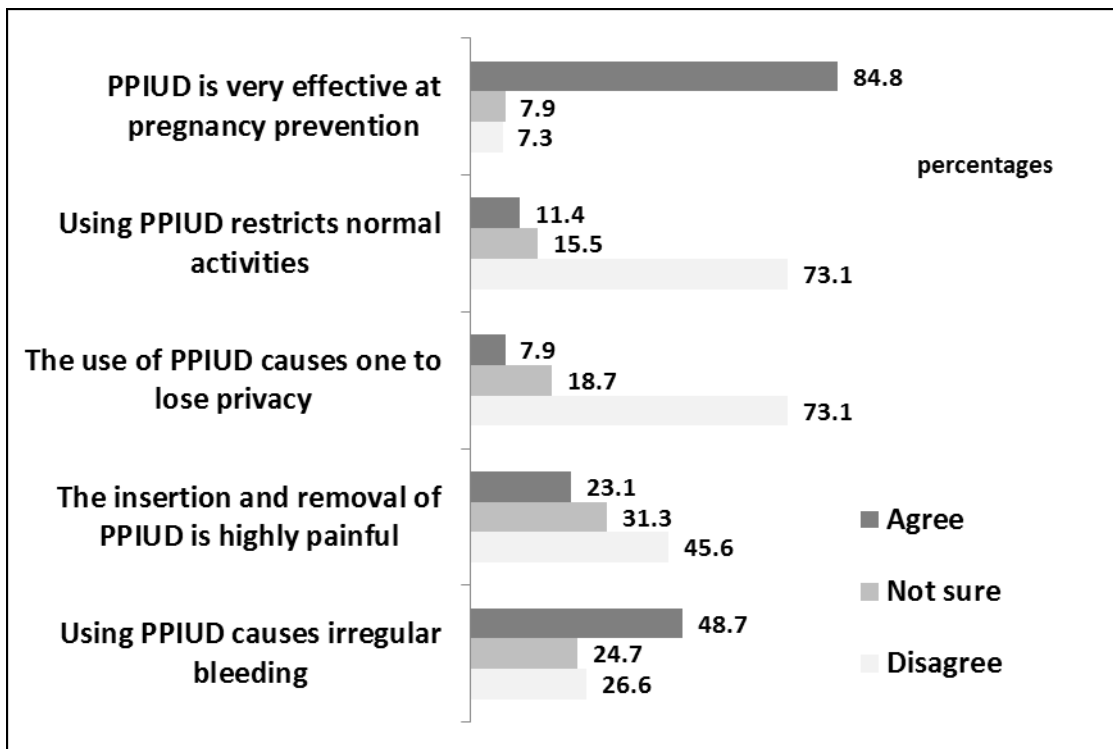
8.5 Participants attitude towards PPIUD

Attitudes towards PPIUD were summarized through five issues related to bleeding, pain, privacy, normal activity and effectiveness at pregnancy prevention. The results are tabulated in table 5 and illustrated in figure 5. Although there was high agreement about PPIUDs effectiveness at pregnancy prevention (84.8 percent), almost half (48.7 percent) felt it could cause irregular bleeding and almost a quarter felt it might be painful (23.1 percent). There were less concerns about loss of privacy (73.1 percent) or restricting normal activities (73.1 percent).

Table 5: Participants attitude towards PPIUD

Attitude attribute	n	percent	
Causes irregular bleeding	Agree	154	48.7
	not sure	78	24.7
	disagree	84	26.6
Is painful	Agree	73	23.1
	not sure	99	31.3
	disagree	144	45.6
Loss of privacy during insertion	Agree	25	7.9
	not sure	60	18.7
	disagree	231	73.1
Restricts normal activities	Agree	36	11.4
	not sure	49	15.5
	disagree	231	73.1
It is effective at pregnancy prevention	Agree	268	84.8
	not sure	25	7.9
	disagree	23	7.3

Figure 5: Clients' Attitudes towards PPIUD



8.6 Acceptability of PPIUD

Study participants (who were also potential clients for PPIUD) were asked about acceptability of PPIUD at/after delivery. Only over a quarter would have agreed to accept the method (27.5 percent). (Table 6.0).

Table 6.0: Participants acceptability of PPIUD

PPIUD acceptable	n	percent
Yes	87	27.5
No	229	72.5
	316	100

8.6.1 Participants reasons for not preferring PPIUD

For the 229 participants that did not want to consider PPIUD, the reasons are listed in table 6.1. Over half (58 percent) had a preference for another method while fear of complications and disapproval from spouse were also important reasons cited by 16 and 13 percent respectively.

Table 6.1: Reason for not preferring PPIUD

Reason for not preferring PPIUD	n	percent
Preference for another method of contraception	134	58.0
Fear of complication	37	16.0
Disapproval from spouse	30	13.0
Planning another pregnancy in the near future	21	9.1
Previous bad experience from IUCD	9	3.9
Other	0	0
	231*	100

*Two participants cited both preference for another method and fear of complication

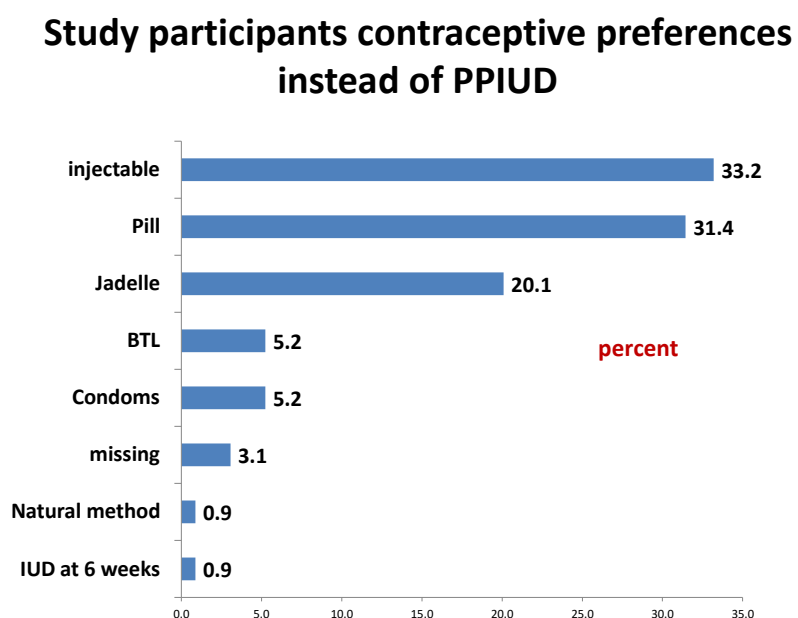
8.6.2. Preferred method if not considering PPIUD

The 134 participants that cited preference for another method instead of PPIUD mainly preferred an ‘injectable’ and the ‘pill’ (33.2 and 31.4 percent respectively). Table 6.2 and figure 6.2 summarises the contraceptive preferences instead of PPIUD in the 134 participants. Almost a third preferred an injectable (33.2 percent) or the combined oral contraceptive pill (31.4 percent).

Table 6.2: Participants contraceptive preferences after delivery

method	n	percent
Injectable	76	33.2
Pill	72	31.4
Jadelle	46	20.1
Bilateral tubal ligation	12	5.2
Condoms	12	5.2
Natural methods	2	0.9
Interval IUD (6 weeks)	2	0.9
Missing		3.1
	316	100

Figure 6.2: Participants contraceptive preferences after delivery



8.7 Bivariate analyses of knowledge and attitude of PPIUD and source from whom participants learnt about PPIUD

Bivariate analyses were conducted to assess the source from whom participants learnt about knowledge and attitudes of PPIUD. The source is stratified as either health worker or anyone else (any other).

8.7.1 Bivariate analysis of knowledge about PPIUD and source of from whom participants learnt about PPIUD

Table 7.1 consists of a tabulation of participants' knowledge stratified by source of that knowledge. The analysis consisted of chi square test with the correct answer and its association with source. The knowledge that PPIUD has no interference with sexual intercourse or desire was better answered by those that were informed about PPIUD by a health worker ($p=0.02$). Similarly, knowledge that PPIUD can be used by HIV positive patients doing well on treatment was better answered by those that were informed about PPIUD by a health worker ($p<0.01$).

Table 7.1: Bivariate analysis of knowledge about PPIUD and source where participants learnt about PPIUD

QUESTION	Where learnt about PPIUD				P-Value
	Health Worker		Other		
	n	percent	n	percent	
PPIUD can prevent pregnancies for more than 10 years					
TRUE (correct answer)	195	89.9	92	92.9	0.38
FALSE	22	10.1	7	7.1	
PPIUD is not appropriate for females at high risk of getting STIs.					
TRUE	118	54.4	55	55.6	0.85
FALSE (correct answer)	99	45.6	44	44.4	
PPIUD has no interference with sexual intercourse or desire.					
TRUE (correct answer)	196	90.3	80	80.8	0.02
FALSE	21	9.7	19	19.2	
PPIUD is immediately reversible (become pregnant quickly when removed).					
TRUE (correct answer)	176	81.1	78	78.8	0.63
FALSE	41	18.9	21	21.2	
PPIUD does not cause cancer.					
TRUE (correct answer)	176	81.1	84	84.8	0.42
FALSE	41	18.9	15	15.2	
PPIUD can be used by breast feeding mothers.					
TRUE (correct answer)	205	94.5	90	91.8	0.38
FALSE	12	5.5	8	8.2	
PPIUD may cause changes in bleeding pattern.					
TRUE (correct answer)	141	65.0	72	72.7	0.17
FALSE	76	35.0	27	27.3	
PPIUD can be used by HIV positive patients doing well on treatment.					
TRUE (correct answer)	189	87.1	73	73.7	< 0.01
FALSE	28	12.9	26	26.3	
PPIUD is inserted free of charge in Zambia.					
TRUE (correct answer)	211	97.2	97	98.0	0.99
FALSE	6	2.8	2	2.0	
PPIUD can be removed at any time you wish.					
TRUE	187	86.2	83	83.8	0.59
FALSE	30	13.8	16	16.2	

8.7.2 Demographic factors and facility site associations of participants with only poor to moderate knowledge (as opposed to high knowledge)

The associations of knowledge cores by source of knowledge have been presented in table 7.1. The associations of other sociodemographic factors with knowledge scores are listed in table 7.2. Being a participant from Kanyama level 1 hospital and young age (<25 years) were associated with poor to moderate knowledge. By contrast, those that had obtained knowledge from Chipata level 1 had 83 percent higher odds of high knowledge of PPIUD (odds ratio 0.17). None of the other factors were statistically associated with poor to moderate knowledge scores.

Table 7.2: Demographic factors and facility site associations of participants with poor to moderate knowledge (as opposed to high knowledge)

factor	Unadjusted OR	95% Conf. Int.	Chi square P value
UTH	1.24	0.76 to 2.02	P = 0.39
Ngombe	1.54	0.87 to 2.74	P = 0.14
Kanyama L1	1.95	1.05 to 3.64	P=0.04
Chipata L1	0.17	0.07 to 0.41	P<0.0001
Young age (<25yrs)	1.73	1.06 to 2.84	P=0.03
Poor education level (<secondary)	0.95	0.59 to 1.55	P = 0.84
Residence: high density or rural	1.55	0.7 to 3.27	P = 0.25
Source: learnt from other than HCW	1.40	0.84 to 2.34	P = 0.20

8.7.3 Bivariate analysis for clients' attitude and where learnt about PPIUD

Table 7.3 consists of a tabulation of participants' **attitudes** to PPIUD stratified by source of where they learnt about PPIUD. The analysis consisted of chi square test with agreement of listed attitudes and its association with source of knowledge of PPIUD. Those that had obtained information on PPIUD from health workers agreed more often that PPIUD did not restrict normal activities compared to those that had obtained information from others ($p=0.03$). For all other attributes consisting of attitudes, there was no association of whether information had been obtained from a health worker or not (all $p>0.05$)

The knowledge that PPIUD has no interference with sexual intercourse or desire was better answered by those that were informed about PPIUD by a health worker ($p=0.02$). Similarly, knowledge that PPIUD can be used by HIV positive patients doing well on treatment was better answered by those that were informed about PPIUD by a health worker ($p<0.01$).

Table 7.3: Bivariate analysis for clients' attitude and where learnt about PPIUD

Question	Where learnt about PPIUD				P-Value
	Health Worker		Other		
	n	percent	n	percent	
Using PPIUD causes irregular bleeding					
Agree	98	45.2	56	56.6	0.06
Did not agree	119	54.8	43	43.4	
The insertion and removal of PPIUD is highly painful					
Agree	52	24.0	21	21.2	0.59
Did not agree	165	76.0	78	78.8	
The use of PPIUD causes one to lose privacy					
Agree	19	8.8	6	6.1	0.41
Did not agree	198	91.2	93	93.9	
Using PPIUD restricts normal activities					
Agree	19	8.8	17	17.2	0.03
Did not agree	198	91.2	82	82.8	
PPIUD is very effective at pregnancy prevention					
Agree	185	85.3	83	83.8	0.75
Did not agree	32	14.7	16	16.2	

8.8. Regression analysis

Multiple logistic regression was used to understand why participants had poor or moderate knowledge of PPIUD. Table 8 is a tabulation of both the unadjusted and adjusted odds ratios (and 95 percent confidence interval). Only site/facility were independently associated with knowledge about PPIUD. Compared to Chipata level 1, participants at the other three sites had 5.65, 6.65, 7.59 greater odds of having poor to moderate knowledge. None of the other factors were associated with participant knowledge about PPIUD.

Table 8: Factors associated with poor to moderate knowledge of PPIUD

Parameter	Unadjusted OR	(95% Conf. Int.)	P value	Adjusted Odds Ratio	(95% Conf. Int.)	P value
UTH	1.24	0.76 to 2.02	P = 0.3882	5.65	2.22 to 14.36	P = 0.0003
Ngombe	1.54	0.87 to 2.74	P = 0.1386	6.65	2.47 to 17.87	P = 0.0002
Kanyama level 1	1.95	1.05 to 3.64	P = 0.0356	7.59	2.71 to 21.25	P = 0.0001
Chipata, Level 1	0.17	0.07 to 0.41	P < 0.0001	1 referent		
Young age (<25)	1.73	1.06 to 2.84	P = 0.0293	1.61	0.95 to 2.70	P = 0.0752
Poor education level (<secondary)	0.952	0.59 to 1.55	P = 0.8429	1.17	0.68 to 2.02	P = 0.5676
high density or rural	1.55	0.73 to 3.27	P = 0.2547	1.66	0.73 to 3.79	P = 0.227
Learnt from other than HCW	1.40	0.84 to 2.34	P = 0.1964	1.39	0.80 to 2.39	P = 0.2404

9. DISCUSSION

From this study, it was observed that the level of knowledge about PPIUD among clients was very high. In addition, the study established favourable attitudes by both clients and healthcare providers towards PPIUD. However, this method of contraception was poorly accepted by most clients. Most clients who declined insertion of PPIUD preferred another method of contraception with injectable contraception being the most appealing to them.

As the study was intended, in part, to establish the level of knowledge about the PPIUD among antenatal and postnatal clients, various aspects of the PPIUD were assessed using a set of ten (10) questions. The study found that overall the majority of clients had high knowledge about PPIUD as they knew more than 80 percent on each of the various aspects tested i.e., clients had more than 80 percent awareness of all but two aspects of the PPIUD tested for which they showed moderate (67.4 percent) and poor (54.7 percent) knowledge. About 98 percent of the clients were aware that PPIUD is inserted free of charge in Zambia. Further, the study demonstrated knowledge levels as high as 91 percent that PPIUD is highly effective and can prevent pregnancy for up to 10 years while there was a 93 percent awareness that it can be used by breast feeding mothers. Yet despite this high knowledge, the uptake as will be seen later was found to be poor. This finding contradicts that by Melisa et al (2012) and Maluchuru et al (2015) who reported that the low uptake of PPIUD was due to lack of knowledge among clients. It was also found that the greater proportion of clients (54.4 percent) had learnt of PPIUD from healthcare providers. This result is similar to that by Lavanya and Prasanna (2014) who noted that the source of knowledge influenced the level of knowledge about modern contraception including PPIUD. Like Lavanya and Prasanna (2014), the study has shown that healthcare providers influence positively the knowledge levels among clients.

The study also established that parity was significantly associated with source of knowledge about PPIUD ($P = 0.004$). Clients who were parity 2 – 4 constituted the majority of the study clients (52.2 percent). They had 2.5 times increased odds for having learned from a HW ($OR = 2.5$, $CI = 1.79 - 3.52$, $P < 0.01$) and this was significant. These findings show that exposure to healthcare providers had an impact on knowledge about PPIUD. Thus, this study shows that the high knowledge levels

about PPIUD were influenced not only by the source but also the frequency of exposure to that source. This result is in keeping with that by Lavanya and Prasanna (2014).

The study also found that education level was significantly associated with knowledge that PPIUD can prevent pregnancies for more than 10 years ($P = 0.04$). Compared to clients with tertiary education, clients with up to primary education had 19 times increased odds to say that is true ($OR = 19$, $CI = 8.88 - 40.63$, $P < 0.01$). Clients with secondary education had 7 times increased odds to answer true ($OR = 7.22$, $OR = 4.41 - 11.82$, $P < 0.01$). In contrast, it was apparent from a study by Maluchuru et al (2015) that clients who completed secondary or higher education were twice likely to use modern contraception. Clients who had some formal education appeared to be have more knowledge on contraception. This study also showed that age was significantly associated with knowledge that PPIUD is immediately reversible (become pregnant quickly when removed), P -value = 0.01. Compared to clients above 35 years of age, clients under 25 years had about 3 times increased odds to answer true to this question ($OR = 3.33$, $CI = 2.17 - 5.13$, $P < 0.01$). Clients between 25 – 35 years had about 4 times increased odds to answer true ($OR = 3.78$, $CI = 2.60 - 5.47$, $P < 0.01$). This may be because clients in the age group of 25-35 years are the ones who are likely to be para 2-4 and this is the group which was associated with high knowledge levels.

Despite the high knowledge about PPIUD among the study participants, this study found that the acceptability rate for the PPIUD was low standing at 27.5 percent. This rate, however, compares with that found by Safwat et al (2003) of 28.9 percent in Egypt but is significantly higher than the 14.4 percent reported by Gupta et al (2013) in India. According to this study, a greater proportion of the study clients (72.5 percent), were opposed to having PPIUD inserted after delivery and this was significant, $P < 0.001$. The study observed that at 5 percent significance level, none of the variables studied were associated with acceptability of PPIUD. However, education, parity, and client attitude that insertion and removal of PPIUD is highly painful had lower P -values of 0.14, 0.13 and 0.20 respectively. When these variables were entered into a logistic regression model and the backward selection method applied, only education was significantly associated with acceptability. Compared to

clients with tertiary education, clients with primary education or less had 2 times increased odds not to accept PPIUD (OR = 2.33, CI = 1.63 – 3.35, P<0.01). Clients with secondary education had 3 times increased odds not to accept PPIUD (OR = 3.35, CI = 2.29 – 4.92, P<0.01).

Among the 229 clients opposed to insertion of PPIUD after delivery, the most commonly cited reason was preference for another method of contraception with 58.5 percent. This finding is at variance with the findings of Safwat et al (2003) which showed that planning another pregnancy was the commonest reason for refusal of PPIUD. Other reasons for refusal in this study were fear of complication and disapproval from spouse accounting for 16.2 percent and 13.1 percent respectively. About 9.2 percent of the clients declined the PPIUD on account of planning another pregnancy in the near future while 3.9 percent of them had had a previous bad experience from IUCD use. Although not given in the above order these findings are in keeping with those of Safwat et al (2003). Like Gautam et al (2014), this study found that disapproval from partners was yet another important reason for refusal by clients.

The attitude of the clients to PPIUD was found to be generally positive. Of the various factors influencing attitude of clients to PPIUD, the study found that age was significantly associated with client attitude that the insertion and removal of PPIUD is highly painful, p-value = 0.03. The study found that younger clients under the age of 25 years had more of this attitude than the older women. Compared to clients above 35 years, clients under 25 years had 57 percent reduced odds to agree with this attitude (OR = 0.43, CI = 0.28 – 0.63, P<0.01) whereas clients between 25 – 35 years had 74 percent reduced odds to agree with this attitude (OR = 0.27, CI = 0.18 – 0.39, P<0.01). In addition, the study found that residential address was significantly associated with attitude that the use of PPIUD causes one to lose privacy (p-value = 0.01). Clients from high density locations had more of this attitude. This possibly could be because compared to clients from low density areas, the privacy of clients from high density areas is not respected when insertions are being done. Despite all the healthcare providers in the study having a positive attitude towards PPIUD, the numbers of insertions being done was very small. The majority of healthcare providers had not inserted any in the month preceding the interview.

10. CONCLUSION

The study found that there was high knowledge about PPIUD among study clients. Most clients learnt of the PPIUD from healthcare providers and were multiparous clients. The attitude of both study clients and healthcare providers to PPIUD was positive. Yet despite this high knowledge of PPIUD and positive attitude, its uptake of 27.5 percent was still low. Parity, level of education and clients' attitude to PPIUD were the key variable influencing acceptability.

11. RECOMMENDATIONS

1. In order to increase awareness about PPIUD, the media should be engaged as they play a key role in promotion of awareness in communities.
2. There is need to train more healthcare providers in order to make the service more accessible through provision of correct information on the PPIUD as part of the method mix.

12. LIMITATIONS

1. The study was in an urban setting and there may be different factors associated with knowledge, attitudes and practice of PPIUD in rural settings.
2. Regarding attitude and practice, since it was an interview-based questionnaire, participants may have responded what they thought the data collector would have wanted to know as opposed to their true feelings.
3. A more diverse clientele (participants) may have revealed different information.
4. Provider bias was not explored in-depth and this could be the focus of subsequent studies.

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APPENDICES

APPENDIX I: Participant information sheet (Clients)

“Knowledge, Attitude and Acceptability of Postpartum Intrauterine Contraceptive Device in Lusaka, Zambia.”

Principal Investigator: Dr Brian Mwila

Sponsor: GRZ.

Dear Participant,

I invite you to participate in this study being conducted by Dr Brian Mwila as part of the requirement for the award of a Masters Degree in Medicine.

We are doing a study to determine Knowledge, Attitude and Acceptability of Postpartum Intrauterine Contraceptive Device in Lusaka. We are doing this research because it will help us understand what our clients know about and their attitudes towards the postpartum intrauterine contraceptive device. This will help us to improve in the provision of postpartum contraceptive device and therefore help women to avoid early repeat unwanted pregnancies and their complications.

You have been chosen because you meet the eligibility criteria to participate in the study. If you agree to take part in the study we will ask you some questions to help us know you better, while some other information will be extracted from your medical records, concerning this and past pregnancies and your social status information. We will also ask you a few questions in relation to the postpartum intrauterine contraceptive device. We will not interfere in the way the doctors have planned to take care of you in this pregnancy. The study will not in any way influence the plan of care your doctors have for you.

The information we will have about you will not be shared with anyone. The study will ensure strict confidentiality and will not reveal any information related to any individual participant to anyone. You are also free to withdraw from the study at any time and this will not affect your plan of care by your doctors. If you agree to take part, please sign this consent form which will allow us to interview you if you choose to be part of this study.

APPENDIX II: Participant consent form for clients

“Knowledge, Attitude and Acceptability of Postpartum Intrauterine Contraceptive Device in Lusaka, Zambia.”

I understand all that has been explained to me as above and it is clear to me what this study is all about and so I voluntarily consent to take part in the study. I agree to participate in the study on my own without coercion.

Name -----

Signature -----Date -----

Thumb print - -----Date -----

Witness 1 Name _____ Sign _____ Date _____

Witness2 Name _____ Sign _____ Date _____

NB. Consent form to be kept separate from the data collecting tools.

APPENDIX III: Questionnaire for clients

“Knowledge, Attitude and Acceptability of Postpartum Intrauterine Contraceptive Device in Lusaka, Zambia.”

Participant ID _____

Please tick or enter in the appropriate space.

Part 1: Socio-Demographic and baseline health information

1. Age (years)

- 1. Less than 16 ()
- 2. 16-24 ()
- 3. 25-35 ()
- 4. More than 35 ()

2. Parity

- 1. Primipara (Para1) ()
- 2. Para 2 -4 ()
- 3. Para 5 and more ()

3. Gravidity

- 1. Gravida 1 ()
- 2. Gravida 2 - 5 ()
- 3. Gravida 6 and above ()

4. No. Alive children

- 1. 0 ()
- 2. 1-4 ()
- 3. >4 ()

5. Marital Status

- 1. Single ()
- 2. Married ()
- 3. Widowed ()
- 4. Divorced ()
- 5. Other (Specify) -----

-

6. Education Level

- 1. None ()
- 2. Primary ()
- 3. Secondary ()
- 4. Tertiary ()

7. Occupation Type

- 1. Unemployed ()
- 2. Formal Employment ()
- 3. Informal Sector ()
- 4. Other (Specify) -----

8. Religion

- 1. Christian ()
- 2. Muslim ()
- 3. Hindu ()
- 4. Other (Specify) -----

9. Residential Address -----write name of compound

- 1. High Density ()
- 2. Medium Density ()
- 3. Low Density ()
- 4. Rural ()

Part 2: Knowledge about PPIUD

1. Where did you learn about PPIUD from?

- a. TV
- b. Health worker
- c. Family member
- d. Friend(s)
- e. Community member
- f. Other (specify)

2. About PPIUD: (True or False)

- a. PPIUD can prevent pregnancies for more than 10 years.
- b. PPIUD is not appropriate for females at high risk of getting STIs.
- c. PPIUD has no interference with sexual intercourse or desire.
- d. PPIUD is immediately reversible (become pregnant quickly when removed).
- e. PPIUD does not cause cancer.
- f. PPIUD can be used by breast feeding mothers.
- g. PPIUD may cause changes in bleeding pattern.
- h. PPIUD can be used by HIV positive patients doing well on treatment.
- i. PPIUD is inserted free of charge in Zambia.
- j. PPIUD can be removed at any time you wish.

Part 3:

A. Clients' Attitudes towards PPIUD: (tick appropriately in the box provided)

For me:

		Agree	Not sure	Disagree
1	Using PPIUD causes irregular bleeding			
2	The insertion and removal of PPIUD is highly painful			
3	The use of PPIUD causes one to lose privacy			
4	Using PPIUD restricts normal activities			
5	PPIUD is very effective at pregnancy prevention			

Part 4: Acceptability of the PPIUD

1. Would you like to have PPIUD inserted after delivery Yes/ No

2. If not, provide a reason from the options below: (Tick your reason(s))
 - a) Preference for another method of contraception
 - b) Planning another pregnancy in the near future
 - c) Previous bad experience from IUCD
 - d) Fear of complication
 - e) Disapproval from spouse
 - f) Other (specify).....

- g) If you wouldn't like PPIUD inserted, which contraceptive would you prefer?

APPENDIX IV Ethics Approval



THE UNIVERSITY OF ZAMBIA

BIOMEDICAL RESEARCH ETHICS COMMITTEE

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Ridgeway Campus
P.O. Box 50110
Lusaka, Zambia

Assurance No. FWA00000338
IRB00001131 of IORG0000774

5th October, 2015.

Our Ref: 002-05-15.

Dr. Brian Mwila,
University Teaching Hospital,
Department of Obstetrics and Gynaecology,
P/Bag RW 1X,
Lusaka.

Dear Dr. Mwila,

RE: RESUBMITTED RESEARCH PROPOSAL: "KNOWLEDGE, ATTITUDE AND ACCEPTABILITY OF POSTPARTUM INTRAUTERINE CONTRACEPTIVE DEVICE IN LUSAKA, ZAMBIA" (REF. No. 002-05-15)

The above-mentioned research proposal was presented to the Biomedical Research Ethics Committee on 5th October, 2015. The proposal is approved.

CONDITIONS:

- This approval is based strictly on your submitted proposal. Should there be need for you to modify or change the study design or methodology, you will need to seek clearance from the Research Ethics Committee.
- If you have need for further clarification please consult this office. Please note that it is mandatory that you submit a detailed progress report of your study to this Committee every six months and a final copy of your report at the end of the study.
- Any serious adverse events must be reported at once to this Committee.
- Please note that when your approval expires you may need to request for renewal. The request should be accompanied by a Progress Report (Progress Report Forms can be obtained from the Secretariat).
- Ensure that a final copy of the results is submitted to this Committee.

Yours sincerely,

M.C. Maimbolwa PhD
CHAIRPERSON

Date of approval: 5th October, 2015.

Date of expiry: 4th October, 2016.