ASSESSING THE FACTORS INFLUENCING UPTAKE OF POSTPARTUM INTRAUTERINE CONTRACEPTIVE DEVICES AMONG PEURPERAL MOTHERS ATTENDING MUHIMA HOSPITAL IN RWANDA

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DECLARATION

I, Jeannette Mutangana, declare that this is my original work and that it has never been submitted to any other University or institution of higher learning for any kind of award of academic qualification.

Name of Researcher……..

Signature…….

Date……

Name of supervisor……

Signature……..

Date…………..

DEDICATION

I dedicate this research report to my lovely Mum and my children Mike, David and last but not least to my husband Mr. Nkuriyumwami Bonaventure.

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My sincere gratitude go to the Almighty God for the gift of life. Special thanks to my supervisor; Dr John Ndyahikayo for the tireless efforts, guidance and positive criticism he rendered to me to make this work a success.

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May the Almighty God bless everyone.

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LIST OF ACRONYMS

GBV	Gender Based Violence
FGD	Focus Group Discussion
FP	Family Planning
IHSU	International Health Sciences University
IUCDs	Intra Uterine Contraceptive Device(s)
LARC	Long Acting Reversible Contraceptive
MCHIP	Maternal Child Health Integrated Program
MOH	Ministry of Health
NGO	Non Governmental Organization
PPIUCDs	Post Partum Intra-Uterine Contraceptive Device(s)
RCT	Randomized Controlled Trial
RDHS	Rwanda Demographic Health Survey
SPSS	Statistical Package for Social Scientists
USAID	United States Agency for International Development
WHO	World Health Organization
YCC	Young Child Clinic

OPERATIONAL DEFINITIONS

Intra-uterine Contraceptive Device: A form of family planning where a device is inserted into the uterus and having capacity of preventing pregnancy.

Family planning: This is a practice of preventing unwanted pregnancies with an intention of spacing or limiting the number of children using both natural and modern birth control methods.

Post partum period: This is a period starting from child birth up to six weeks post-delivery.

Postpartum intrauterine contraceptive device: This terminology is used in a context that mothers in post-partum period had this form of contraception inserted into their uterus between 10 minutes after the expulsion of the placenta and up six weeks postpartum.

ABSTRACT

Introduction: Post partum intrauterine devices is one of the family planning method and it can be the best option to address the problem of unmet need for family planning in the first six months post delivery (RDHS 2010). With the introduction of the National Health Insurance Scheme, family planning services in Rwanda were made accessible to all, with good service coverage across the entire country. Among the many family planning services is the most recent method, the Post Partum Intra-Uterine Contraceptive Device (PPIUCD) method which was introduced in the country in 2010. With this method, an intrauterine device is inserted into the uterus immediately following the expulsion of the placenta or within 48 hours after delivery. It is a good choice for postpartum women who are breastfeeding as well as those who are not breastfeeding. However, its uptake seems to very low as it is estimated at 0.2%.

Methodology: The study was carried out among 419 peurperal mothers at Muhima District hospital. A cross-sectional descriptive study was used to obtain quantitative data. Study units were selected using systematic sampling method. Data were collected on mother's social demographics factors, health service-related factors and socio-cultural factors towards uptake of post partum intrauterine contraceptive devices.

Results: The uptake of PPIUCDs among the study population was found to be low at 15% among mothers. The reasons reported for using PPIUCDs among women included; limited side-effects, family planning use, convenience and effectiveness while those who did not use reported need for more children, fear of side-effects and lack of awareness. Socio-economic factors such as level of education, religion, income levels and number of children were found to have a statistically significant association ($p<0.05$) with the uptake of PPIUCDs.

Health facility factors such as affordability and accessibility were also found to have a significant association with the uptake of PPIUCDs. Socio-cultural norms which encourage women to have many children also hindered women to take up the use of PPIUCDs.

Conclusions: The level of uptake of PPIUCDs was low due to many factors. The factors were socio-demographic such as age, education, level of income, occupation. Socio-cultural factors were cultural values, tradition beliefs, decision making regarding family planning matters. Then health facility factors including availability of the method, health work attitude and distance to the service. To improve the uptake of PPIUCDs among mothers, all stake holders concerned with family planning including husbands/spouses, health policy makers, mothers and the government need to mitigate and promote the challenges and facilitating factors respectively so to encourage mothers to take up the use of PPIUCDs.

CHAPTER ONE: INTRODUCTION

Family planning enables people to attain their desired number of children and determine the spacing of pregnancies and this involves and the use of contraceptive method and treatment of infertility (WHO, 2013). Like any other developing country, the population of Rwanda is growing at an alarming rate, and yet the country is the most densely populated in Africa. The current population of Rwanda is estimated at 12, 012,589 people with an average fertility rate per woman of 4.71, and a population growth of 2.7% per annum. Conversely, the contraceptive prevalence rate is 45% (Rwanda census, 2013).

With the introduction of the National Health Insurance Scheme, family planning services in Rwanda were made accessible to all, with good service coverage across the entire country. Among the many family planning services is the most recent method, the Post Partum Intra-Uterine Contraceptive Device (PPIUCD) method which was introduced in the country in 2010. With this method, an intrauterine device is inserted into the uterus immediately following the delivery of the placenta or within 48 hours after delivery. It is a good choice for postpartum women who are breastfeeding as well as those who are not breastfeeding (USAID, ACCESS-FP, 2010).

The Post Partum Intra-uterine Contraceptive Devices are made of metal, plastic, or other substances and they come in various sizes and shapes. Insertion of the device immediately after delivery has the advantage that the woman will not get an undesired pregnant within short period following delivery. This practice was recognized to be very effective in countries such as China,

and it is also expected to be more effective in developing countries where the time of delivery is the most crucial time when health care providers are in direct contact with mothers.

Despite of all this, the PPIUCD uptake still remains low in Rwanda, which could be influenced by various factors ranging from individual, to societal and health facility factors, which factors this study is set to establish.

1.1 Background to the study

The population of Rwanda has increased rapidly and it is expected that by the year 2020, the population will be sixteen million people. Currently, the population density in Rwanda is 416 people per square kilometer which makes it the most densely populated country in Africa and the second one in ranking the world over after South Korea (Rwanda National census, 2012).

Family planning was introduced in a country as a measure to control family sizes and regulate the high rate of unintended pregnancies. But still the uptake is low and most women do not access the services due to the reasons best known to them.

In the view of reducing the level of unintended pregnancies particularly in post-partum women, which is an unmet need of family planning in Rwanda, there is need for a need for more reliable, effective method.

Besides the many interventions, there still exists 72% of an unmet need for family planning in first 6 months post delivery (RDHS, 2010). The post-partum intra-uterine device would therefore provide the best option when addressing the existing gap. Like in any other country, postpartum family planning services are an ideal platform to reposition family planning (RDHS, MCHIP 2010).

Globally, 22.6% of 721 million users of any method of contraception depend on IUDs to avoid pregnancy. The latest update of World Contraceptive Use 2009 shows that the prevalence of IUD use is uppermost in Asia, where one in four users of any method of contraception rely on the IUD, Europe being the next with about one IUD user among five. Both the global figures and the figure for Asia reveal the high proportion of the IUD in China, where this method accounts for one in two contraceptive users. apart from China from the global estimates of users of any method and IUD users, IUDs account for only 12% of all use, having the percentage of users of IUDs among all users all over the world.

In Africa, 16% use of PPIUD is prejudiced by the relative dominance of PPIUDs in Northern Africa, where 37% of all users rely on the PPIUD. In Egypt and Tunisia, one in two contraceptive users have access to PPIUD. In sub-Saharan Africa, the use of the PPIUD is fewer with only two percent of users rely on the PPIUD. (Maries topes International, 2011)

In Rwanda the study found that 0.2% of married women age 15-49, use PPIUD as a method of contraceptive (Wenjuan et al, 2012)

The study was designed to assess individual factors, health facility factors and societal factors that influence the uptake of post partum intra-uterine contraceptive device among puerperal mothers in Muhima Hospital.

The findings from this study will therefore be used by the Ministry of Health to design health promotion programs targeted at population to improve awareness, which in turn will improve the uptake of family planning methods and address the degree of unwanted pregnancies. The postpartum period is convenient for the woman because by the time she leaves the hospital she has a safe, effective and active method of FP.

1.2 Problem statement

The Government of Rwanda through the Ministry of Health with support from several NGOs introduced PPIUCD services in some selected regions of the country. The service is free, quite accessible and available in particular outlets within the country. These facilities also have highly qualified and well trained service providers with the necessary equipment. That notwithstanding, its uptake has remained quite low amidst all the efforts to address high degree of unintended pregnancy during the early days of postnatal period.

Studies in Rwanda show that 4% of pregnancies occur within very short intervals of less than six months after birth, 9% occur within intervals of less than 12 months, while another 39% occur within intervals of 12–23 months. This implies that, 52% of all pregnancies in Rwanda occur within short intervals of less than 24 months after birth (RDHS, 2010). The most terrible thing, pregnancies taking place within 24 months of a preceding birth have a higher risk of unpleasant outcomes like abortions, premature labor, post-partum hemorrhage, low birth weight babies, fetal loss and maternal death (Manju S et al, 2012).

Based on the above figures, it is clear that the incidence of unintended and therefore unwanted pregnancies is high in Rwanda, yet mothers have failed to take up the free preventive methods that have been made available for them by the government. There is need, therefore to establish the factors that hinder the uptake of PPIUCDs to meet the need for family planning among puerperal mothers in Rwanda.

1.3 Justification of the study

There is no similar study that has been conducted in Muhima hospital, therefore the results of this study will assist the decision makers and health promotion programs in designing

interventions targeted at improving awareness of the people the area to improve on the uptake of PPIUCD method available.

The increase uptake of the method will ultimately reduce the proportion of unintended pregnancies and abortions among lactating women and will bring down the unmet need for family planning among couples.

1.4 Objectives of the study

1.4.1General objective

To establish the factors that underlie the uptake of postpartum intra-uterine contraceptive devices among puerperal mothers attending services in Muhima hospital, so as to generate information that will be utilized in designing health promotion strategies to improve use of family planning methods.

1.4.2 Specific objectives

i. To demonstrate the magnitude of postpartum intra-uterine contraceptive devices use among puerperal mothers attending services from Muhima hospital.

ii. To determine the socio-demographic factors influencing uptake of postpartum intra-uterine contraceptive devices among puerperal mothers attending services from Muhima hospital.

iii. To establish health systems-related factors influencing uptake of postpartum intra-uterine contraceptive devices among puerperal mothers attending services from Muhima hospital.

iv. To identify socio-cultural factors that influence the uptake of postpartum intra-uterine contraceptive devices among puerperal mothers attending services from Muhima hospital.

1.5 Research questions

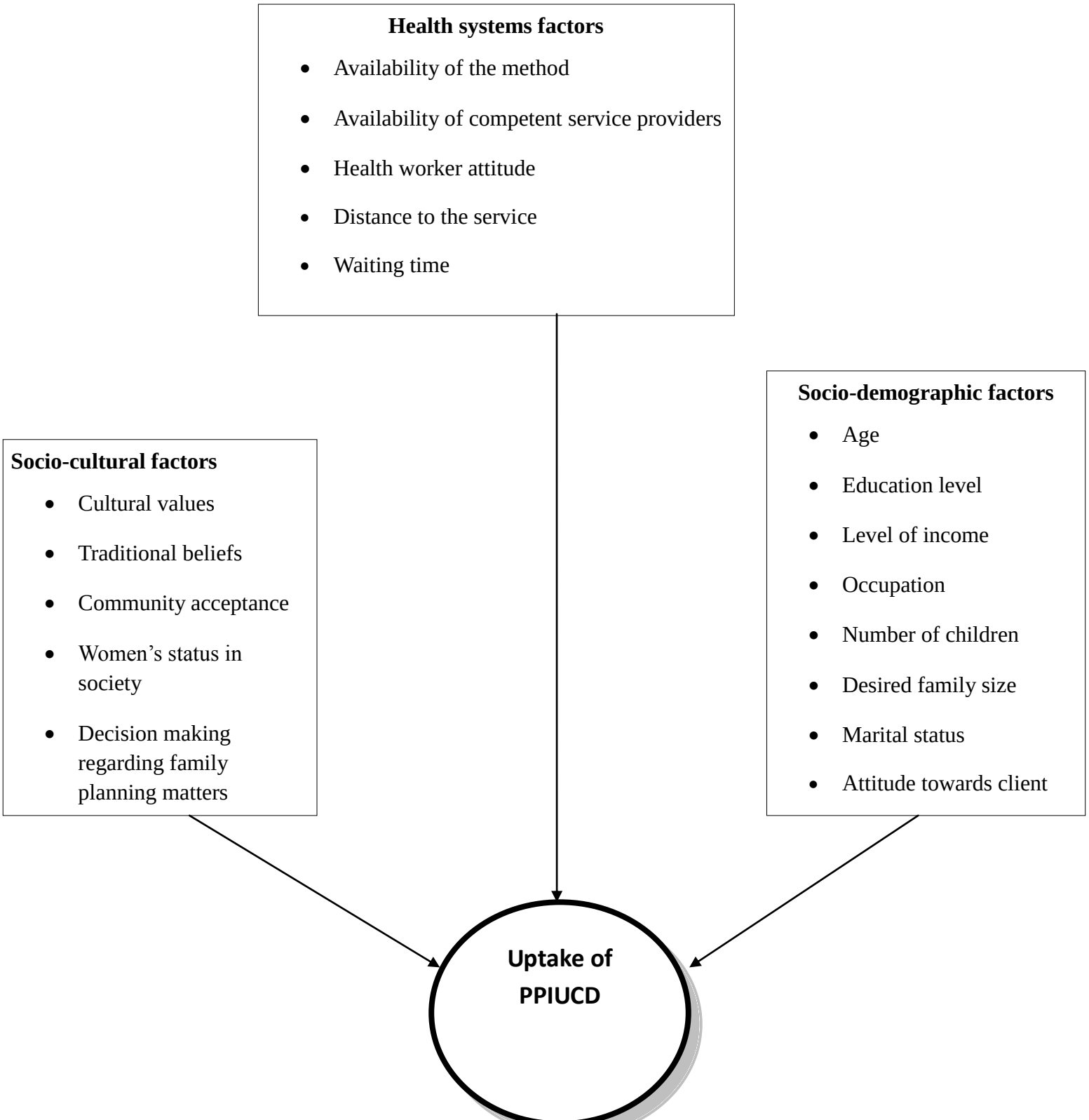
i. What is the magnitude of postpartum intra-uterine contraceptive device uptake among puerperal mothers attending services from Muhima Hospital?

ii. What are the socio-demographic factors that influence the uptake of postpartum intra-uterine contraceptive device among puerperal mothers attending services in Muhima Hospital?

iii. What are the health system related factors that influence the uptake of postpartum intra-uterine contraceptive device among puerperal mothers attending services from Muhima hospital?

iv. What are socio-cultural factors that influence the uptake of postpartum intra-uterine contraceptive device among puerperal mothers attending services in Muhima hospital?

1.6 Conceptual framework



Summary of the conceptual framework

The uptake of PPIUCD among puerperal mothers is thought to be subjective to a complex interface of many factors including socio-demographic, socio-cultural and health system related factors. Demographic factors; age**,** religion**,** desired family size, and education level may to some degree influence uptake of the services.

Socio-cultural factors like traditional beliefs, cultural values, practices may have a direct influence on uptake of these services. Also health system factors such as availability of the method, availability of qualified workers, and attitude of health workers towards clients, may influence uptake of the services.

CHAPTER II: LITERATURE REVIEW

2.1 Introduction

This chapter reviews related literature on the magnitude of PPIUCD use, socio-cultural factors, socio-demographic factors and health facility factors that influence the uptake of PPIUCDs.

2.2 Magnitude of Postpartum Intrauterine Contraceptive Device

Regardless of the overall popularity of the IUDs, the immensity of IUD use is determined in relatively few countries. Most outstanding among these is China, where almost 92 million (or 60%) of the world's married IUD users live in. However, the PPIUD is the least used methods in other part of the world. In India, for example, 3% of mothers of reproductive age are PPIUD users; in North America, that percentage is lower at 2% (Salem, 2006).

According to the study of mothers attending the reproductive services at Lagos University Teaching Hospital (LUTH), Lagos, Nigeria, the degree of previous contraceptive use was 35.5%. Fifty-four percent of the respondents intended to use intrauterine contraceptive device (IUCD) 11.5%, and it was among the most favored choice of postpartum contraceptives. (Adegbola & Okunowo, 2009, abstract).

30 years ago, women all over the world have been using the intrauterine contraceptive device as their method of contraception. In India according to current estimates, almost one in five (or 153 million) married contraceptive users is currently using the IUD (Salem 2006).

Chen et al (Nigeri), tested whether immediate post Partum IUD placement could direct to increased rates of IUD use by 6 months postpartum, compared to routine 6-week postpartum placement. Of the women assigned to obtain a post placental IUD, 98% had the device placed as considered, and 84% of these women were at rest using the device at 6 months postpartum.

A similarly high number (90%) of women randomized to 6-week postpartum placement successfully had the device placed, and 76% of these women were using the device at 6 months postpartum.

At the last visit prior to delivery, in a study of early Initiation of Etonogestrel Implant Superior to IUDs in the Outpatient Setting 32% of participants stated an intention to use an IUD for birth control, Most of mothers who wanted to have it placed at the 6-week postpartum visit the first, IUDs were inserted at eight weeks and by the ending of the 14-week study period, 43% of the wishers (16/37) had an IUD in place (K. Tocce et al 2012) in Nigeria.

In Rwanda, Kavanaugh et al, 2013 found that the proportion of women of reproductive age using long acting reversible contraceptive (LARC) methods has more than tripled, overall use remain as low as 9%. Moreover, despite the fact that these methods may be particularly ideal for younger women, most of whom report desires to delay initial childbearing for several years, teens have the lowest LARC usage rates (4%) of any age group.

2.3 Socio-demographic factors

2.3.1 Desired Family size

Many mothers have reached their preferred family size and would like to avoid future pregnancies. Ensuring that every woman has only the number of children she wishes is an important means of declining maternal mortality. A recent 10-year study of maternal mortality in 46 countries found that the risk of maternal death increases as the number of children per woman rises to four or more. The study also showed that maternal deaths reduced by 7–35% as the number of children per woman fell (Stover & Ross, 2010).

In a study of profiling intrauterine contraceptive device acceptors at the university of Uyo teaching hospital, Nigeria, there were 852 new contraceptive acceptors out of which 39.7% acknowledged the intrauterine contraceptive device. Acceptance of intrauterine contraceptive device was most common among multiparous clients (65.1%). Greater part of the acceptors were married (90.0%) (Abasiattai A.M et al, 2008).

According to Trivedi A et al in Nigeria, the results of a study on evaluation of post-placental intrauterine device (PPIUCD) in terms of knowledge, recognition, and expulsion in a tertiary care centre in India, it showed that 35.76% of total PPIUCD acceptors were having 2 children, as they wanted some form of contraception awaiting permanent sterilization.

In the same country Khan et al, found that men approve use of contraceptive only after reaching 2 or 3 child. Bhalerao AR et al had 46.5% of the mothers para1, 46% were para-2 and 69% had accepted IUDs for the reason that they had at least 1 living male child.

2.3.2 Attitude of the mother towards PPIUCDs

Studies found that the likelihood of stopping PP IUD use was observed. After 24 months more than 40% of mothers had given up using the method in three countries compared with 20% or

less in another three countries. The reasons for variation in the acceptability of women to persevere with the method are unclear. (Mohamed M. Ali1, et al) in United Kingdom.

The highest frequency of the attitude score toward intrauterine devices method (67.2%), was associated with the women with semi-desirable attitude and mean scores of IUD method was higher than other methods. More desirable attitude in comparison with other methods could be due to high efficacy, ease of use, lack of interference with sexual relationship and no need for daily remembrance (Soheila, E. et al, 2010) in Iranian.

A study from Columbia, 95% mothers expressing a wish of direct post-partum IUCD insertion.

In contrast, only 45% of them wanted the later insertion ultimately had an IUCD inserted. While some of the latter group may have been ambivalent and later determined against the IUCD, the difficulty and expense of a return visit most likely deterred a few subjects. (Kittur S et al. 2012).

According to Kavanaugh et al, 2013 in Rwanda young women's attitudes about PPIUCD method also serve as barriers to their use. Studies have shown that between 50% and 60% of young women have never heard of the IUD, likewise, research suggests that the correctness of attitude among young women who have heard of this method is low. In addition, 71% of young mothers reported being uncertain of the protection of IUDs, while 58% were unclear about their efficacy.

2.3.3 Education level of the Mother

In a study carried out in Dominican Republic and Kazakhstan, it showed that less knowledgeable mothers, 24.7% on average reported being at threat of pregnancy following discontinuation of PP IUD contraception compared with 20.5% of their better educated counterparts. In the same way, the ratio of women by now pregnant was higher among the less educated women than among the better educated (13.6% versus 10.2%). (Mohamed M. Ali1, et al, 2011).

According to Katheit G et al. (2013) in Kazakhan it was seen that 65% of mothers were illiterate indicating that education is a significant factor in awareness and acceptance of PPIUCDs. Education renders people more receptive to new ideas and practices, spacing methods, and importance of small family norms. Education is also a key factor in fertility control.

Choudhary et al in Pakistan also found that secondary and higher education influenced contraceptive use. Ullah and Chakraborty showed women’s education as the most important determinant of contraceptive use.

In a study of profiling intrauterine contraceptive device acceptors at the university of Uyo teaching hospital, Nigeria, there were 852 new contraceptive acceptors out of which 39.7% accepted the intrauterine contraceptive device and 72.8% had at least secondary school education (Abasiattai AM et al, 2008).

According to Krepelka et al 2009, in a study of contraceptive methods used by women in period before and after giving birth in Czech Republic, 2540 women (56.0%) who answered the questions in the first round 44.3% were secondary school graduates and 36.7% were university graduates. At the second round, 1440 women (56.7%) who answered the questions, 45.0% were secondary school graduates and 37.0% were university graduates.

In a study on the proportion of parturients accepting PPIUCD and their socio-demographic and obstetric characteristics, majority of the women (96.7%) in the study population had at least a primary level of education. Acceptance of the use of PPIUCD was higher among women with secondary education (41.2%), than those with no formal education (3.9%). This could be reasoned out that educated women are high achievers and have greater labor market opportunities than the less educated women (Rukiya Abdulwahab Mwinyi Ali, 2012) in Tanzania

More so a study in Egypt by Safwat et al shows that women with no formal education had an acceptance of 9.4% while those with formal education were 19.4%. Education has a positive effect on modern contraceptive use. It was only apparent among women who completed secondary education (12 years or more).

Women who completed secondary school were about twice as likely to use modern contraceptive methods as women who did not complete primary education.

According to MOH (2013) Rwanda, 277 interviewed postpartum mothers simply half reported that they had ever heard of the PPIUCD. Only five women interviewed reported having interested in use of the postpartum IUD. Interview mothers were asked why they did not believe postpartum IUD insertion, majority of the respondents were that they were not interested in using the method, regardless of the timing of insertion, or they did not know enough about the method. Those who had heard of the IUD were asked about profit of the method; respondents emphasized the long-term contraceptive protection and its helpfulness.

When postpartum women were asked if they knew any negative aspects of the IUD, there were no overwhelming concerns. Therefore, the future services will not necessarily have to combat strong negative biases surrounding the IUD that historically have been presumed to be a constraint to program success but general awareness-raising about the IUD is still vital, however.(MOH, FHI360 &Jhpiego, 2013).

The core reasons that the IUD is under-used in some parts of the world may be that clinicians and potential IUD clients lack accurate, up-to-date information about the IUD. As a consequence, they base their decisions about whether to provide or use the IUD on myths and misconceptions about the method, instead of latest scientific facts. A review of obstetric textbooks published in the United Kingdom and United States accomplished that the disadvantages of the IUD tend to be overstated, while the advantages are frequently understated (Espey and Ogbourn 2002).

In another study, alike misinformation was shown in about half of consumer-oriented websites (Weiss and Moore 2003). The labeling on some IUD packages also helps perpetuate under-use of the IUD by signifying overly restrictive criteria for who can use the method (ARHP, 2004).

In a study of the use of Postpartum Family Planning in Urban Senegal, the focus was on the women who were within two years postpartum (weighted n=1879). It showed that women who received family planning information at the time of delivery were more likely to be using modern family planning postpartum than their counterparts who also delivered in a facility but did not receive such information. (Ilene S. Speizer et al, 2011).

Throughout the study on evaluation of post-placental intrauterine device (PPIUCD) in terms of consciousness, receipt, and expulsion in a tertiary care centre it showed that only 5.79% of the mothers were familiar with the PPIUCD, while the rest 94.21% women have not even heard of PPIUCD. Also women who knew about PPIUCD had many misconceptions and myths towards it such as affecting lactation, non reversible method, cause pain and heavy bleeding and hinders during coitus. During the study these misconceptions were cleared up and participants were educated, counseled and motivated about IUCD along with providing PPIUCD insertions (Katheit G et al, 2013).

According to Krepelka et al, 2009 the self-evaluation of the knowledge of contraception methods (n=2540): 61.6% of women in Czeck Republic, evaluated their knowledge as good, but 77.6% of women did not know an appropriate hormonal contraceptive for the period of lactation.

In a study on acceptability and safety of PPIUCDs among parturients at Muhimbili National Hospital, Tanzania, best part (74%) of the study population was not aware of the PPIUCD.

Among women who had the PPIUCD inserted, 68% have ever heard about the PPIUCD from the antenatal clinic. This could be related to the fact that PPIUCD is a relatively new method of contraception in the community.

In a WHO report released in 2010, on unmet need for family planning, one of the common reasons for non-use of contraception included lack of awareness. Another possible explanation for this would be that only the health care workers in the antenatal clinics and postnatal wards were aware of PPIUCD. Among women whom PPIUCD was inserted, more than half (55%) accepted due to its long term effect, 35.3% due its safety and 15.7% due to fewer clinic visits. This shows that postpartum women need a contraceptive method which is long acting, safe and convenient (RukiyaAbdulwahabMwinyi Ali, 2012) in Tanzania.

2.3.4 Level of Income

An inequity exists when people are unfairly disadvantaged of something they want or need to protect them from a surplus or undesirable condition. Differences in convenience and affordability of contraceptives that relate to socioeconomic class comprise an inequity. The poor do not have the same access to life-saving and health-maintaining interventions as the rich, yet they aspire to the same healthy lives as those who are economically better off. However, a difference in fertility between the rich and poor is not an inequity provided the poor have higher fertility because they want to have more children. Only by examining differences in fertility intentions and in contraceptive use through an equity lens can we decide if the poor are being deprived of something they wish they had (i.e. Access to family planning) to avoid something they do not desire (i.e. pregnancy). The more a population meets its need for family planning, the less likely it is that an underlying inequity exists.

On the other hand, women who do not want to have more children but who use a short-term or spacing method of contraception are not meeting their need, and neither are women who merely want to space births but who use a long-term or permanent contraceptive method. (Creanga, et al 2011) in Senegal.

Creanga concluded that commonly accepted components of successful family planning programmes include improvements in geographic and public–private sector access to a broad mix of contraceptive methods, availability of competent health-care providers, promotion of active behavioural change through communications interventions, and political will.

2.3.5 Age

In a study on evaluation of post-placental intrauterine device (PPIUCD) in terms of awareness, acceptance, and expulsion in a tertiary care centre, total acceptance rate of women was 18.8% and the majority belonged to age group of 21-25 years (50.8%). This was probably because they considered PPIUCD as an effective spacing method (Katheit G et al, 2013). Alvarez Peyalo et al (1996) also found that average age of PPIUCD acceptors was 20.6%.

According to Krepelka et al 2009, in a study of contraceptive methods used by women in period before and after giving birth in Czech Republic, 2540 women (56.0%) who answered the questions in the first round, 85% of them were in the age of 26-35 age groups. At the second round, 1440 women (56.7%) who answered the questions, 83.5% of them were in the 26-35 age group.

In a study of profiling intrauterine contraceptive device acceptors at the university of Uyo teaching hospital, Nigeria, there were 852 new contraceptive acceptors out of which 39.7% accepted the intrauterine contraceptive device and the modal age group of the clients was 25-29 years (32.5%) (Abasiattai AM et al, 2008)

2.4 Socio-cultural factors

Postpartum contraception remains sensitive important social cultural and public health matters and delivery of service must continue apace with changing societal needs (M. Short, 2004).

2.4.1 Cultural norms and beliefs

IA study in Karnataka (India), a big number of the participants (86.19%) showed willingness for continuation of IUCD and only a fewer number (7.61%) wanted to remove and most of them were due to family pressure from husband and in laws after they came to know about the insertion. The ability of women to participate in the making of family planning decisions increased the use of contraceptives because women can chose the type of family planning method that they personally prefer and will enable to them to change their lives both socially and economically by allowing them the freedom to space their children how they want to (Kittur S et al, 2012) in India.

In India Alnakash (2008) in a study about the influence of IUD perceptions on method discontinuation showed that almost half of the women asked to take the IUD out; fears and false beliefs were the cause of IUD discontinuation. In the present study also, concerns about IUD side effects have been observed. Therefore, by training and consulting the clients about possible side effects and how to confront with them would remove their concerns.

2.4.2 Religion

In this study of factors associated with contraceptive use and initiation of coital activity following childbirth in Nigeria, religious bias as a factor against contraceptive use was not significant; the Christian and Muslim religions have been identified to vigorously discourage the use of modern method. (Ekabua et al, 2010).

2.5 Health facility factors

In Rwanda, 69% of all births occur at a health facility, while 29% occur at home. Among postpartum women with an unmet need to space, 85% delivered at a health facility. Similarly,

among postpartum women with an unmet need to limit, 69% delivered at a health facility. (Rwanda. DHS, 2010)

2.5.1 Availability of the method (PPIUCD service)

In a study in India, as of December 2012, almost 82 000 women received a PPIUD, based on data from 260 facilities in 19 states. Some states had an IUD adoption rate more than 10% among women who had delivered in that facility (highest at 33%). Follow-up results revealed an expulsion rate of 2% and infection rate of 1%, demonstrating the high quality of services despite the rapid scale-up of these services. (India. National Rural Health Mission, 2007)

In Randomized Clinical Trial done in Pakistan compared contraceptive uptake among women who were provided with an informal didactic counseling session of 20 minutes duration (with husbands or close relatives) along with a one-page leaflet about PPFP prior to discharge versus controls who received routine care. Women who received the intervention were more likely to be using any other kind of contraception, as well as modern contraceptive methods, at 8–12 weeks postpartum (Saeed et al, 2008).

In Rwanda, the study team conducted facility assessments in eight district hospitals and 24 health centers to assess readiness to offer postpartum IUD services. Field workers interviewed facility managers to gather information on staffing, infrastructure, and pre-existing postpartum FP services, the study team selected four district hospitals and eight health centers best situated to provide postpartum IUD services in Rwanda’s four regions to assess availability of the PPIUCD method. Selected facilities had a relatively high volume of maternity clients, effective infection prevention procedures and equipment, and sufficient staff and infrastructure for maternity services (Rwanda. FHI360, 2013)

The results of the study on “Reasons for continuation or discontinuation of IUD in post placental/early postpartum periods and post puerperal/interval periods”suggest that the post placental and early postpartum IUD insertion techniques should be re-evaluated in units that offer this service to decrease the rate of discontinuation due to complications (Akkuzu et al, 2009, Abstract) in Turkiye Klinikleri.

Clinicians need expertise in insertion training, and prenatal clinics must give priority to contraceptive counseling. Different methods should be available to potential users. Also, the obstetric unit of the health-care center must work in close harmonization with the family planning or maternal and child health unit. (Rukiya Abdul & wahab Mwinyi Ali, 2012) in Tanzania.

Some studies showed that there is no commonality in what makes for IUD success due to the fundamental differences between the country clusters. However, there are commonalities in the essential conditions of clinical capacity, supplies, and links between women and facilities. Some countries have lacked one or more of these conditions; these include poor transport for women, few facilities, little equipment, or poor supply lines for PPIUCDs. Where any single one of these is lacking, IUDs will not be inserted and IUD prevalence will remain low. (Perkin et al, 2006).

A study done on factors associated with contraceptive uptake and introduction of coital activity after childbirth in Nigeria, suggested that even where postpartum family planning programs are available, some factors can limit their success. Primary among them is poor implementation of these programs into accessible maternal and child health services. Integration of reproductive health services including postpartum FP services is to provide two or more services at the same

facility during the same operating hours, with the provider of one service actively encouraging women to consider using other services during the same visit. (Ekabua et al, 2010)

The IUD is the considered as readily reversible method of contraception and the second most commonly used method when both reversible and irreversible methods are considered (Mohamed M. Ali et al, 2011).

2.5.2 Availability of qualified health providers

The long term success of PPIUCDs method of FP can be achieved only when service provider identify the importance of providing strong support service to their patients. High quality follow up care for PPIUCDs patients contribute to greater user satisfaction as well as to safe, effective and continuous use of the method (USA. Jhpiego Corporation, 2010)

In a study carried out in Senegal, Family planning programs in urban have trained all health providers including doctors, nurses, midwives, matrons, etc. in counseling and provision of modern PPIUCD family planning method at this important occasion with postpartum women (Ilene S. Speizer et al, 2011) in Senegal.

Once IUCD is in place, patient care and advice are almost identical for women who have had an interval or post partum insertion. Routine follow up for PPIUCD users (at 4-6weeks) may engage little or more than ensuring questions and reinforcing key messages. Some users such as those bothered by side effects may need additional care and support. Serious problems related to IUD use are unusual but they do occur, prompt and proper management is essential (USA. Jhpiego Corporation, 2010).

A study done by FHI-Africa showed the significance of trained and skilled health workers. The study evaluated postpartum IUCD programs at the Provincial General Hospital of Nyeri, Kenya

and the Maternité Hamdallaye of Bamako, Mali. In Kenya, 224 IUCD acceptors were interviewed at six weeks, three months and six months after insertion along with 185 non-acceptors.

In Mali, a similar approach involved 110 acceptors and 273 non acceptors. The six-month cumulative expulsion rates in Kenya were 1% for post-placental IUCD insertions and 5 percent for immediate postpartum insertions; rates were compared to or even lower than interval insertions. These low rates might be attributable to the extensive training and experience of the Kenyan providers. In Mali, the six-month expulsion rates of 15 percent for post-placental insertions and 27 percent for immediate postpartum insertions were skewed by the high rates for one of the three providers, who had far less training and experience than the other two.

Although the new research on IUDs had promised to take time for practice to catch up, as there is a lack of trained providers, skilled and confident in delivering IUD services, especially in countries where clients for IUDs has been low since years ego. (Pakistan, Jhpiego, 2005).

The integration of PPIUCDs with labor and delivery services overcomes multiple barriers to services provision. Access to services for long-acting and permanent methods of family planning is generally limited for a number of reasons such as inadequate trained providers, insufficient equippment and accessible facilities (Jhpiego Corporation, 2010) in Pakistan.

Recent studies indicated that the expulsion rate is at low if IUCD is inserted by a trained provider and is placed at the fundus, when inserted within ten minutes of placental expulsion in vaginal deliveries. (Kittur S et al. 2012) in India.

According to Manju S, et al (India 2012), time of insertion, counseling and provider training are the most significant factors for IUD insertion in post-partum period as quoted in United Nations

Population Information Network (UN-POPIN) report “Timing of insertion is important as it influences the risk of expulsion. Ideally post-partum insertion should take place within 10 min of placental delivery (post-placental application) or later till 48 hours of delivery. The risk of expulsion is higher if inserted after 48 hour of delivery:”

2.5 3 Attitude of health workers towards clients

Attitudes and trends frequently counterpart social measures and analyzing the cause of difference between beliefs and facts is of high priority. This note also should always be kept in mind that contraceptive PPIUCD consulting is more than proving information or answering to the questions of the clients; but health staff should explore and modify their attitudes and beliefs in this area.

2.5.4 Waiting time to be attended to

A study done by Family planning & contraceptive research showed that the health care system pose the barriers to PPIUD uptake, these include lack of insurance coverage, difficulty scheduling appointments, limited clinic hours, referral requirements, long wait times, clinic closings, and lack of skilled providers . (Chicago University, 2011)

CHAPTER THREE: METHODOLOGY OF THE STUDY

3.1 Study design

This study was descriptive cross-sectional employing quantitative method of data collection. This design ensured validity and accuracy of data and was favorable for such a type of study which was to be carried out within a limited time.

3.2 Study Area

The study was carried out at Muhima Hospital, Nyarugenge district in Kigali, Rwanda. Muhima Hospital is currently the biggest facility providing maternity services in Kigali. It registers an average of 30 births per day (MOH 2013). The hospital has a bed capacity of 128 patients, and it is a specialized facility for gynecology and neonatology. Being the main gynecological and neonatological center, it attracts medical students, nurses and midwives from other training schools in Rwanda to practice from there (Human resources for health programs, 2013).

3.3 Sources of Data

Primary data was obtained from mothers in pueperium who were admitted on post-natal ward, mothers in peuperium who brought their children to the young child clinic (YCC), and any other mother in peuperium who have come for any reason at Muhima Hospital during the course of data collection.

3.4 Study Population

The target population was post-partum mothers attending Muhima hospital for services of any category, during the study period.

3.5 Inclusion Criteria

All mothers who were satisfied the selection criteria and were willing to participate in the study by providing consent.

3.6 Exclusion Criteria

All mothers who though meeting the study criteria refused to consent to the study for one reason or another

All mothers who met the selection criteria but were still too weak and unable to respond to the questions

Those mothers who satisfied the criteria, but happened to be deaf

3.7 Study Unit

This was the post-partum mothers who were recruited into the study. These mothers were admitted on post-natal ward, mothers in peuperium who brought their children to the young child clinic (YCC), and any other mother in peuperium who have come for any reason at Muhima Hospital during the course of data collection.

3.8 Sample Size Calculation

The sample size was determined using the formula of Kish Leslie, 1965.

$$n = \frac{Z^2 . P . Q}{D^2}$$

Where n is Sample size

Z is z value corresponding to a 95% level of significance = 1.96

P is proportion of women using contraceptive methods which is 45% (Rwanda National Census 2013).

Q is the difference of P from 100%

100-45=55

D is the maximum error a researcher is likely to encounter which is 100-95=5, this is equivalent to 0.05%

By substituting the figures in the above formula,

$n = (1.96^2*0.45*0.55)/0.05^2$

n =380.3184 ≈ 381

Additional of 10% for non response or incomplete response

(10/100)*381=38.1

n =381+38=419

n =419 respondents.

3.9 Sampling Procedure

A convenient sampling technique was employed to enroll participants into the study. Any postnatal mother who is still waiting in postnatal ward and any puerperal mothers who were brought their babies for young child clinic and were consented to participate in the study were recruited consecutively until the required sample size was achieved.

3.10 Study Variables

The dependent variable was the uptake of PPIUCDs**.** This terminology is used in a context that mothers in post-partum period had this form of contraception inserted into their uterus10 minutes after the expulsion of the placenta up to six weeks postpartum.

The independent variables for the study were the individual factors that influenced the outcome variable such as knowledge, age, education level, family size and attitude .Health facility factors factors such as availability of the method, health worker attitude, distance to service, waiting time. Then socio-cultural factors including community acceptance, women's status in society and decision making regarding family planning matters.

3.11 Data Collection Techniques and Tools

The researcher-administered questionnaire was used to collect data from mothers. Questions were both closed ended and open ended to enable researcher to get information from participants.

3.12 Data Management and Analysis

The filled questionnaires were re-checked for completeness, accuracy, the filling gaps and any other possible errors. Coding of quantitative data was done in EXCEL data sheet first; this was done by assigning a number to each response to the question. The data coded then entered into computer and analyzed using SSPS data analytical package (16varsion).

Data was then summarized and presented using frequency tables, charts and graph.

3.13 Ethical Considerations

The data collection permission was got from IHSU. The authorization from Muhima Hospital Management was sought to conduct the study from there. Confidentiality in all data collected was ensured and all the filled questionnaires were kept under lock and key. The respondents were guaranteed secrecy and the ability to withdraw from the study at any time. The purpose of the study was explained to the respondents before seeking for their consent.

3.14 Plan for Dissemination

The results were disseminated by giving copies of the report to IHPM at the University and to Management of Muhima Hospital (Kigali- Rwanda).

3.15 Limitations for the Study

The limitations were that mothers in postpartum need to rest enough, and therefore it was difficult to interview some of them. The response prone to this bias was to comeback to check if they are in supportive state of interview.

CHAPTER FOUR: PRESENTATION AND ANALYSIS OF RESULTS

4.1 Introduction

This chapter presents the findings of the study which are summarized both in text, tables and graphs. Both univariate and bivariate analysis was done on the collected data and the results are presented in the order of objectives of this study.

Table 1: Socio-demographic characteristics (N=419)

Variable		Frequency (n)	Percentage (%)
Age (Years)	<18	82	19.6
	18-24	211	50.4
	25-35	82	19.6
	36-45	35	8.4
	>46	9	2.1
Marital status	Single	168	40.1
	Married	208	49.6
	Divorced	39	9.3
	Widowed	4	1.0
Religion	Catholic	156	37.2
	Protestant	84	20.0
	Muslim	107	25.5
	Pentecostal	72	17.2
Level of education	Primary	175	41.8
	Secondary	113	27.0
	Tertiary	85	20.8
	None	46	11.0
Employment status	Employed	103	24.6
	Unemployed	186	44.4
	Self-employed	48	11.5
	Casual laborer	42	19.6
Monthly income	<25,000	153	36.5
	25,000-50,000	134	32.0
	50,100-100,000	71	16.9
	>100,000	61	14.6

4.2 Demographic characteristics of the study population

Table majority of the respondents 211(50.4%) were in the age bracket of 18-24 years old. Teen-age mothers below the age of 18 years were 82 (19.6%), while mothers above 46 years were fewer 9 (2.1%).

A big number of mothers were married 208 (49.6%) while those who reported to be single were 168 (40.1%). Only 4 (1%) of the mothers were widowed while 39 (9.3%) were divorced.

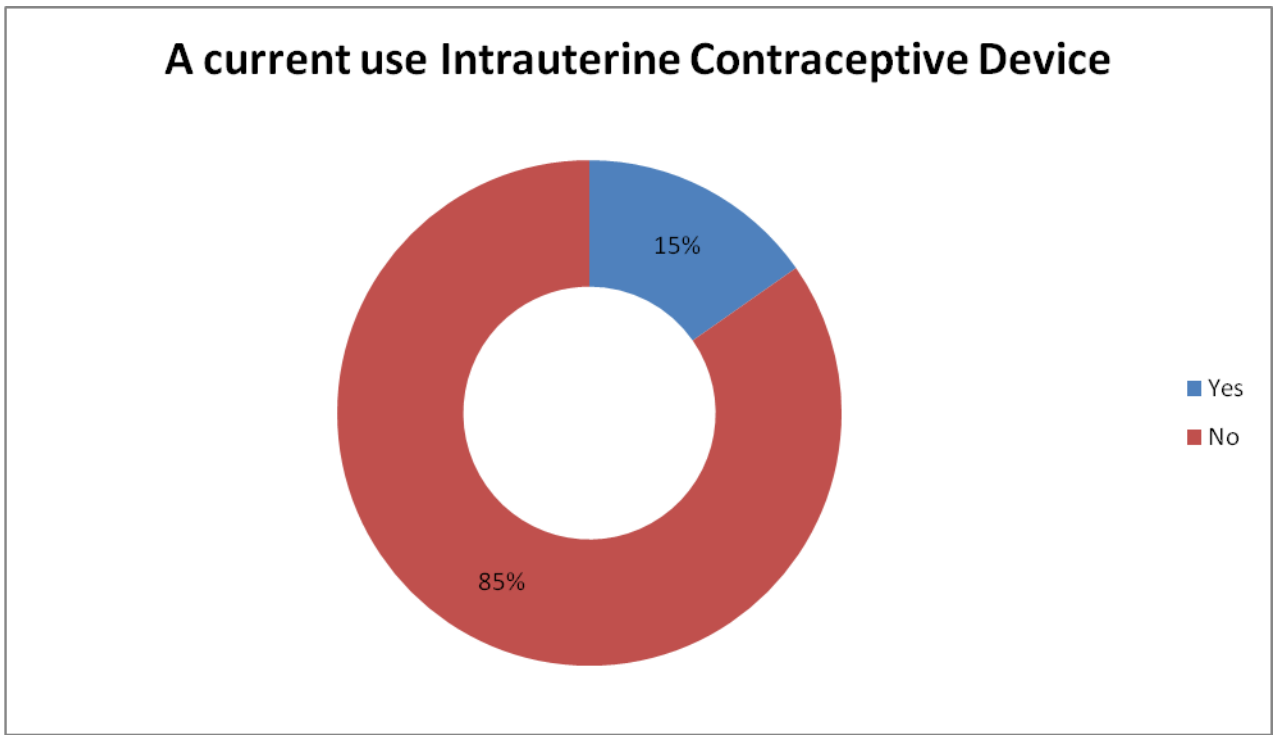
Catholics were the majority respondents 156 (37.2%), followed by Moslems 107 (25.5%) then Protestants who accounted for 84 (20%) and the least were Pentecostals who accounted for 72 (17.2%).

Only 46 (11%) of the respondents had never gone to school while the majority had at least attained primary level education. Among them, only 85 (20.8%) had attained tertiary education.

The majority of the mothers were unemployed 186 (44.4%) while the least 103 (24.6%) were employed. A reasonable number 48 (11.5%) was self-employed while 42 (19.6%) were casual laborers. Quite a small number of these mothers 61 (14.6%) earned more than 100,000 Rwandese francs per month, while the majority 153 (36.5%) earned less than 25,000 Rwandese-francs.

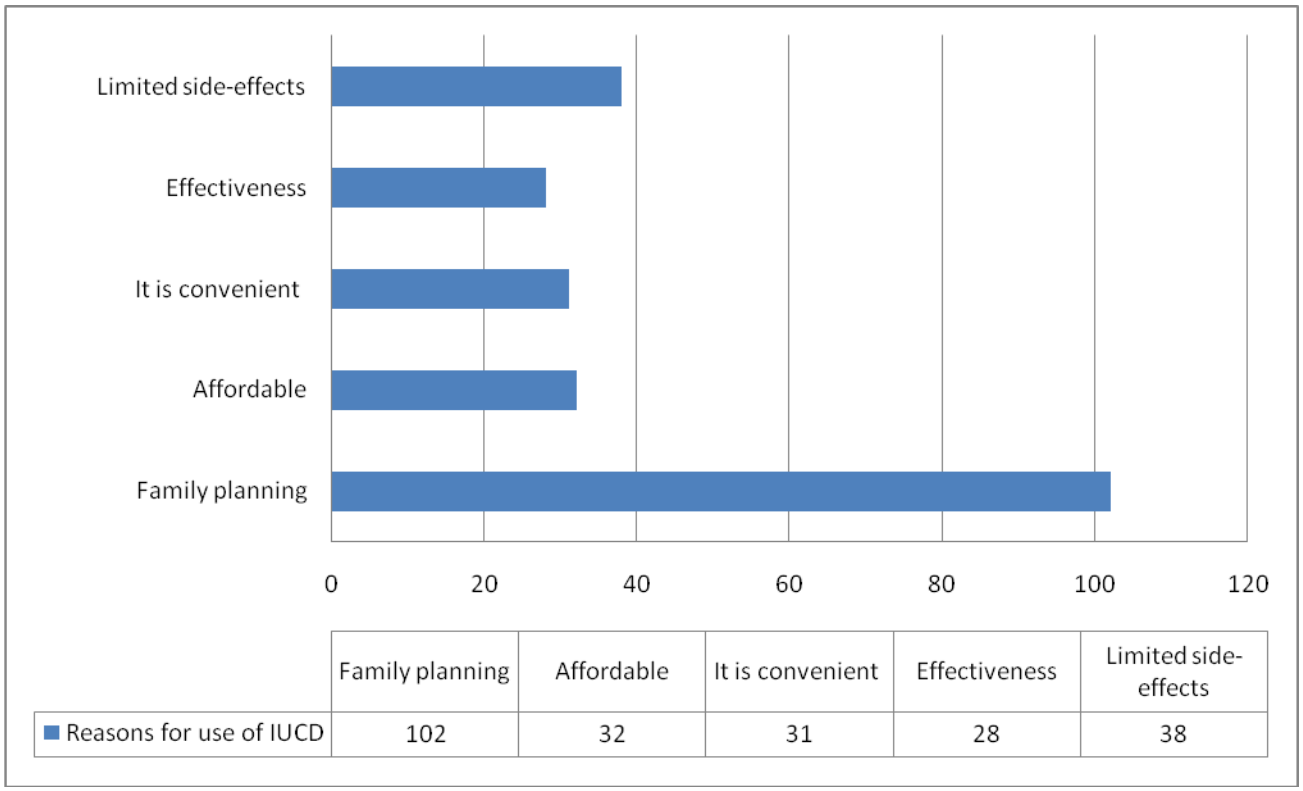
4.3 Use of PPIUDs among puerperal mothers

Figure 1: Use of PP Intrauterine Contraceptive Devices by mothers



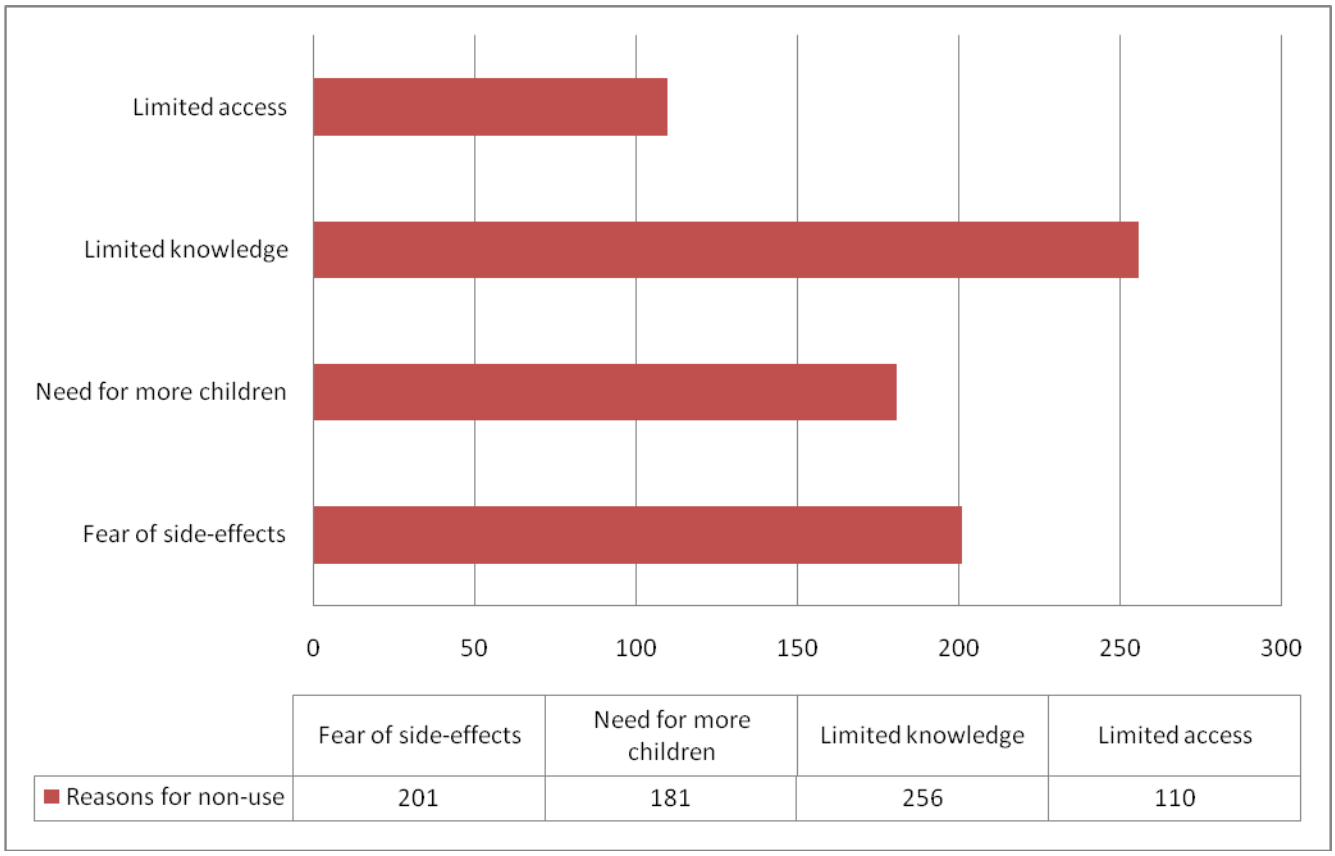
Mothers using PPIUCD at Muhima Hospital in Rwanda were fewer contributing for 64 (15.3%), while the majority 355 (84.7%) never used this method.

Figure 2: Reasons for using PPIUCD



In a multi-response question, mothers who reported to be using PPIUCDs were asked to give reasons for their decision. Most mothers highlighted the need for child spacing as the main reason they chose to use PPIUCDs. Other reasons given by the mothers included: affordability, convenience, effectiveness and limited side effects.

Figure 3: Reasons for not using PPIUCDs



Mothers who were not using PPIUCDs were asked the reasons as to why they weren't using the service. In a multi-response approach, the reasons raised by mothers included; fear for side effects, need for more children, lack of knowledge and access to the service. Limited knowledge and lack of access were the major reasons for not using this service.

4.4 Cultural factors that influence use of PPIUCDs

Table 2: Analysis of cultural factors

Variable		Frequency	Percentage (%)
Believes in having many children	Yes No **Total**	211 208 **419**	50.4 49.6 **100.0**
Believes that children are a source of wealth	Yes No **Total**	238 181 **419**	56.8 43.8 **100.0**
Cultural acceptance of PPIUCDs	Acceptable Unacceptable **Total**	228 191 **419**	54.4 45.6 **100.0**
Women's status in society	High Low **Total**	44 375 **419**	10.5 89.5 **100.0**
Family planning decision making at home	Husband Wife **Total**	199 220 **419**	47.5 52.5 **100.0**

Majority of the respondents 211 (50.4%) reported that there was existence of cultural norms that encourage women to believe in having many children. Most of the respondents 238 (56.8%) also believed that children were a source of wealth. Although majority of the women 228 (54.4%) reported that use of PPIUCDs was acceptable, a reasonable proportion 191 (45.6%) said that use of PPIUCDs is unacceptable in their culture.

Majority of the respondents 375 (89.5%) reported that women's social status in the community was low. Also, majority of women 220 (52.5%) reported to make family planning decisions at home as compared to 199 (47.5%) who reported that their husbands made the family planning decisions.

4.5 Health systems factors influencing use of PPIUCDs

Table 3: Analysis of cultural factors

Variable		**Frequency (n)**	**Frequency (%)**
Distance to the health facility	Less than 1 km	8	21.2
	Between 1-5 km	273	65.2
	Above 5 km	51	13.6
	Total	**419**	**100.0**
Availability of PPIUCDs at the health facility	Yes	230	54.9
	No	189	45.1
	Total	**419**	**100.0**
Affordability of PPIUCDs	Yes	142	33.9
	No	277	66.1
	Total	**419**	**100.0**
Average time spent waiting for PPIUCD services	Less than 5 minutes	161	38.4
	Between 5-15 minutes	94	22.4
	Between 16-30 minutes	85	20.3
	Greater than 30 minutes	79	18.9
	Total	**419**	**100.0**
Attitude of health providers towards clients	Good	351	83.8
	Fair	42	10.0
	Poor	26	6.2
	Total	**419**	**100.0**

The majority 273 (65.2%) of the women lived within 1-5 Km distance to the health facility. Most of them 230 (54.9%) reported that PPIUCDs were readily available to them. However, the majority 277 (66.1%) of these mothers reported that the cost of PPIUCDs was not affordable to them, while the least 142 (33.9%) said could afford to pay for the service. A bigger proportion of the women 161 (38.4%) reported that the time spent waiting for the service was less than 5 minutes. The majority of the respondents 351 (83.8%) believed that the attitude of the health providers towards the women using PPIUCDs was good.

4.4 Testing for associations

Table 4: Socio-demographic characteristics and uptake of PPIUCDs

Variable		Currently using PPIUCDs			p-Value
		Yes	No	X^2	
Age	Less than 18 yrs	10	72		
	Between 18-25 yrs	35	176		
	Between 26-35 yrs	11	71	3.396	0.494
	Between 36-45 yrs	5	30		
	Above 46 yrs	3	6		
Marital status	Single	28	140		
	Married	32	176		
	Divorced	3	36	2.278	0.517
	Widowed	1	3		
Level of education	Primary	26	149		
	Secondary	19	94		
	Tertiary	13	72	9.407	**0.039***
	None	6	40		
Religion	Catholic	20	136		
	Protestants	11	73		
	Muslim	19	88	7.511	**0.041***
	Pentecostals	14	58		
Employment status	Employed	14	89		
	Unemployed	33	153		
	Self-employed	7	41	1.719	0.633
	Casual laborer	10	72		
Average monthly income	Less than 25,000	25	128		
	Between 25,000-50,000	21	113		
	Between 50,100-100,000	13	58	8.017	**0.030***
	Above 100,000	5	56		
Number of biological children	Only 1 child	22	136		
	2-3 children	15	69		
	4-5 children	16	98	11.024	**0.019***
	Above 5 children	11	52		
Desired family size	Only 1 child	16	129		
	2-3 children	32	154		
	4-5 children	10	41	3.315	0.346
	Above 5 children	6	31		

(* statistically significant relationship, $p<0.05$)

4.4.1 Socio-demographic factors and uptake of PPIUCDs among puerperal mothers (n=419)

Factors like the mother's level of education, religious affiliation, average monthly income and the number of biological children a mother has were found to have a statistically significant association with the uptake of PPIUCDs ($p<0.05$). These factors are likely to influence the mothers' decision o use PPIUCDs.

Other factors such as age, marital status, employment status and employment status did not show any statistically significant association with the use of PPIUCDs ($p>0.05$). These factors were less likely to influence the decision of mothers to use PPIUCDs.

Table 5: Health system factors and the uptake of PPIUCDs

Variable		**Currently using** PPIUCDs		**X^2**	**p-Value**
		Yes	**No**		
Distance to hospital	Less than 1 km Between 1-5 km Above 5km	12 47 5	77 226 52	2.878	0.237
Availability of service	Yes No	38 26	192 163	6.391	**0.041***
Affordability of the service	Yes No	22 42	120 235	0.008	0.929
Average waiting time at the hospital	Less than 5 minutes Between 5-15 minutes Between 16-30 minutes Over 30 minutes	25 9 13 17	136 85 72 62	4.748	0.191
Attitude of health workers towards mothers	Good Fair Poor	54 8 2	297 34 24	1.620	0.445

4.4.2 Health system factors and uptake of the method among puerperal mothers (n=419)

Factors such as availability of PPIUCDs the hospital (p-value=0.041) was found to have a statistically significant association ($p<0.05$) with the uptake of the method. This factor was likely to influence the uptake of PPIUCDs among mothers at Muhima hospital.

Other factors such as distance to the hospital, affordability of the service, average waiting time at the hospital and attitude of the health workers towards the mothers, did not show any statistically significant relationship ($p>0.05$) with the uptake of the method.

Table 4: Socio-cultural factors and the uptake of PPIUCDs

Variable		**Currently using PPIUCDs**		**X^2**	**p-Value**
		Yes	**No**		
Belief to have many children	Yes No	41 23	170 185	5.675	**0.017**
Children seen as wealth	Yes No	36 28	202 153	0.296	0.862
Society acceptance of PPIUCDs	Acceptable Not acceptable	34 30	194 161	0.051	0.822
Women's status in society	High Low	6 58	38 317	0.102	0.750
Family planning decision making at home	Husband Wife	32 32	167 188	0.190	0.663

4.4.3 Socio-cultural factors and uptake of PPIUCDs among puerperal mothers (n=419)

Cultural beliefs of having many children was found to have a statistically significant association (p-value=0.017) with the uptake of PPIUCDs. Other socio-cultural factors such as society acceptance of the method, social status of women in community and family planning decision making never showed significance association with the uptake of PPIUCDs (p-value>0.05).

CHAPTER FIVE: DISCUSSION OF RESULTS

5.1 Introduction

This chapter is focused on discussing the study findings which are weighed against the existing literature and existing knowledge.

5.2 Magnitude of PPIUCD use among puerperal mothers

The magnitude of postpartum Intrauterine Contraceptive Devices use of mothers attending Muhima Hospital, in Rwanda was as low as 15%. This finding is in close agreement with Kavanaugh (2013) which showed that the prevalence of PPIUCD use in Kigali was 9%. The difference in the two results could be as a result of different settings, since we considered Muhima hospital only in this study and the sample size used was smaller.

Despite their safety and efficacy, PPIUCDs still remain underutilized which poses a big worry. The findings indicated that the major barrier for the uptake of PPIUCDs was lack of awareness about the method. Mothers perceived fear of the effects. This findings concurs with that of Speizer (2011) who found that mothers were worried of side effects like barrenness, increased bleeding and spoiling the ova which are mainly derived from lack of scientific information as regards the mechanism by which this method works. This implies that these mothers need to be counseled and given enough education on the method as well as other family planning methods. Mohamed M, (2011) indicated that such approach has been found to increase uptake of the method as well as removing the fears and misconceptions surrounding use of the method.

Therefore; mothers with adequate knowledge and information on the use of PPIUCDs are more likely to realize the importance of IUCDs in birth control as well as acknowledge the fact that this method is very convenient, effective and cheap with limited side-effectives as compared to other estrogen-containing contraceptives such as the use of pills.

5.3 Socio-demographic factors influencing the uptake of PPIUCDs

The level of education was found to be associated with use of PPIUCDs (P-value = 0.039). This could be explained that women with higher levels of education are more likely to have adequate knowledge of different family planning and contraceptive use. Similarly, educated mothers can easily access information on family planning methods during the course of their academic carrier. On the other hand, less educated women are less likely to use the method due to limited knowledge. This is consistent with other studies done in the Dominican Republic by Mohamed M, et al (2011) that showed that less educated women were at the risk of getting pregnant due to low uptake of PPIUCDs due to limited information and existence of misconceptions as regards the use of the method and other contraception methods. This implies that increasing mothers' access to information could increase the uptake of PPIUCDs therefore preventing unintended pregnancies and reducing the fertility rate in Rwanda which is currently high.

Religion was also found to be strongly associated with use of PPIUCDs (P-value = 0.041). This might be telling us that much as use of the method is an individual decision, religion influences such individual decisions by presenting different aspects of contraceptive use that are viewed to be against such religious beliefs.

The Catholic Church for example has for centuries opposed the use of contraceptives because it interrupts procreation which is believed to be the main purpose of sexual intercourse (Ekabau et al, 2010). That could be the same reason here since Catholics were the majority accounting for 37.2% in this study.

The number of children couples desired also influenced uptake of PPIUCDS. There was a strong association between the desired family size and use of PPIUCDs (P-value = 0.019). This finding is quite relevant because it is common practice for women who desire to have few children to use family planning methods more than those who desire to have bigger families. Hence, depending on the number of children a couple wants have and how they want to space them, couples can opt to use PPIUCDs until they decide to have a children.

Income also influenced use of PPIUCDs. The findings revealed that income was strongly associated with use the method (P-value = 0.03). It is logical to argue that women with an income are capable of procuring the service than those who do not have an income. This can be purely attributed to the indirect costs involved in accessing the service since family planning services are free of charge in this hospital. This finding however, is in agreement with Creanga (2011) findings who discovered that women with low income were not likely to use the method than those with higher incomes due to the costs involved.

5.5 Health system factors influencing uptake of PPIUCDs

Availability of PPIUCDs at the health facility had a statistically significant associated with uptake of the method (P-value <0.05). This concurs with other studies done in Rwanda by FHI360 (2013) which showed that there is a clear relationship between availability of PPIUCDs and their use.

Product availability facilitates access hence increasing the use of the methods necessary in preventing unintended pregnancies, infant and maternal deaths. This logically implies that the availability of contraceptives at the health facilities influences mothers to use them. Nonetheless, both the direct and indirect costs involved in accessing the service might still hinder its uptake.

Other factors such as distance to the hospital, affordability of the service, average waiting time at the hospital and attitude of the health workers towards the mothers, had no significant relationship with uptake of the method ($p>0.05$). This finding however, contradicts (Chicago University 2011) finding which said that distance to hospital affected the uptake of health service. The difference could be as a result of coverage of our study. Studies which are limited to a small study area might not show significant associations than the much wider studies such as the national surveys which involve large sample sizes.

5.6 Socio-cultural factors influencing the uptake of post-partum Intrauterine Contraceptive

Socio-cultural norms which encourage women to have many children could influence the decision of mothers to use PPIUCDs. This is with regard to the strong association (P-value =0.017) detected between the two variables in this study. Another study by Alnakash (2008) has shown that awareness of cultural norms could help care providers to provide information that could address cultural beliefs which discourage the use of contraceptives. Such norms and beliefs include; women must bear many children to please their husbands, children seen as source of wealth, only promiscuous women use contraceptives, contraceptives is a means to reduce the population of a given group of people and that all sexual acts must be open to procreation.

Other socio-cultural factors such as society acceptance of the method, social status of women in community and family planning decision making never showed significance association with the uptake of PPIUCDs (p-value>0.05).

Other socio-cultural factors such as women's status in the community, perception of women that children are a source of wealth and women having a limited say in the family making decisions at home did not have a significant association with the uptake of PPIUCDs (p>0.050. However, in another study by Kittur S et al (2012) showed that the ability of women to participate in the making of family planning decisions increased the use of contraceptives because women can chose the type of family planning method that they personally prefer and will enable to them to change their lives both socially and economically by allowing them the freedom to space their children how they want to. However, one could discuss that health care providers should know such socio-cultural norms around contraception; pregnancy and childbearing largely vary across different population. Also, personal beliefs about the age at which the women should begin having children, acceptability of unplanned pregnancy and lack of partner support for contraceptive use are other socio-cultural factors that could contribute to the uptake of PPIUCDs. Hence, health workers' awareness of and sensitivity to these culture norms and attitudes will positively impact their ability to effectively counsel mothers.

CHAPTER SIX: RECOMMENDATIONS AND CONCLUSIONS

6.1 Introduction

This chapter presents the conclusions drawn from the study and the feasible recommendations to all stakeholders regarding Postpartum Intrauterine Contraceptive Device use among women.

6.2 Conclusions

The level of uptake of Postpartum Intrauterine Contraceptive Devices among mothers attending Muhima Hospital was low despite the safety and efficacy associated with it. The major reasons for the use of such method among mothers who were found to be using it, were child spacing, limited side-effects and efficacy of the method. The main reason for not using PPIUCDs among mothers who did not was the fear of side-effectives which was largely due to the existence of misconceptions and limited knowledge on the method and their mechanism of function. The higher the mother's level of education the more likely the mother is to use PPIUCDs due to the knowledge on IUCDs attained during the formal education. Although religious beliefs could hinder the uptake of PPIUCDs, the need to improve the wellbeing and socio-economic status of women by preventing unintended pregnancies influences women to use PPIUCDs as an effective contraceptive method. Health care providers need to be culturally aware and sensitive of the existing culture norms that could discourage women from using the method so as to be better placed to effective counsel the mothers and also encourage them to use PPIUCDs.

6.3 Recommendations

There is need for a partnership by the entire health system to sensitize mothers on Intrauterine Contraceptive Devices on their availability, as a free service, the use and mechanism of action so as to improve the uptake of this method in Rwanda.

There is need to create awareness through information, communication and education on the existence of PPIUCDs and the socio-economic benefits associated with it.

There is need to create awareness through information, communication and education on the health benefits associated with the use of PPIUCDs.

Health providers need to orient themselves of the existing cultural norms which discourage mothers from using PPIUCDs so to effectively counsel and encourage mothers on the use of the method.

Further research should be done on the modes of integrating and harmonizing religious and cultural beliefs on the use of PPIUCDs and other contraceptive methods using scientific evidence for the benefit of mothers and the community at large.

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Appendix I: CONSENT FORM FOR THE STUDY

Greetings

….....

I am by names called Mutangana Jeannette and I am pursuing a Bachelors of Science Degree in Public Health from International Health Science University based in Kampala, Uganda. I am conducting a study assess the factors that deter the uptake of PPIUCD among puerperal mothers attending services in Muhima Hospital.

The purpose of this study is to uncover factors that hinder the uptake of the method in order to generate information that will guide policy makers to design interventions targeted at improving awareness amongst the population.

Confidentiality will be guaranteed and the information obtained during the study will not be revealed to anyone and will only be made available to the researcher and supervisor for research purposes only.

You have the right to choose whether to take part in the study or not and you are free to withdraw at any time during the study period without fear for any consequences**.**

So at this time I request you to participate in this study and your participation will be highly appreciated.

Consent to participate in this study [I agree to participate] [I do not agree to participate]

Participant signature Date

Researcher's signature Date

Appendix II: QUESTIONNAIRE

Socio-demographic Information

1.How old are you?

….....

2. What is your marital status?

a. Single b. Married c. Cohabiting d. Divorced e. Widow

3. What is your education level?

….....

4. How many children do you have?

….....

5. How many children would you desire to have?

….....

6. If more than one child, what is your preferred space interval between the children?

….....

7. Are you employed or not?

a. Employed

b. Unemployed

8. If employed, what is your occupation?

….....

9. How much money do you earn on a monthly basis?

….....

10. What is your religion?

a) Roman catholic

b) Protestant

c) Pentecostals

d) Islam

e) Others (Specify ….....

Utilization of PPIUCD services

11. Are you currently using PPIUCDs as a method of birth control?

Yes

No

12. If yes, give reasons for using the PPIUCDs?

….....

….....

13. If you are not using the method, why are you not using it?

….....

….....

Health system factors

14. What is the distance from your home to this health facility?

1. <1km [ ] 2. 1-5 km [ ] 3. > 5 km [ ]

15. Are IUCDs available at this health facility? 1. Yes [ ] 2. No [ ]

16. Are IUCD services affordable? 1. Yes [ ] 2. No [ ]

17. What is the average waiting time at the health facility? 1. <5minutes [ ] 2. 5-15minute [ ] 3. 16-30 minutes [ ] 4. >30 minutes [ ]

18. How would you describe the attitude of health workers towards you who come for PP IUCD services? 1. Good [ ]2. Fear [ ] 3.Poor [ ]

19. Are PPIUCD services accessible to you? 1. Yes [ ] 2. No [ ]

Socio-cultural Factors

20**.** Does your culture allow use of PPIUCDs as a FP method?

1.Yes[ ] 2.No

21. If no, why doesn't your culture allow?

….....

22. Who makes most of family planning decisions at home? 1. Wife [ ] 2. Husband [ ]

23. Which cultural beliefs hinder the use of PPIUCDs?

……

24. How would you rate the women's social status within the community? 1. High [ ] 2. Low [ ]

25. Is the use of PPIUCDs socially acceptable within your community?

1. Accessible [ ] 2. Unacceptable [ ]

APPENDIX II: MAP OF KIGALI SHOWING MUHIMA

IHSU INTERNATIONAL HEALTH SCIENCES UNIVERSITY

PART OF INTERNATIONAL MEDICAL GROUP

Office of the Dean, Institute of Health Policy & Managem

Kampala, 17th June 20

Director of Muhima
Hospital

Madam

Dr. MULINDWA
PATRICK
DIRECTOR OF MUHI
HOSPITAL

KIGALI CITY - MUHIMA HOSPITAL

Dear Sir/ Madam,

Re: Assistance for Research

Greetings from International Health Sciences University.

This is to introduce to you **Mutangana Jeannette, Reg. No. 2011-BSCPH-FT-003** who is student of our University. As part of the requirements for the award of a Bachelors Degree o Public Health of our University, the student is required to carry out field research for th submission of a *Research Project*

Mutangana would like to carry out research on issues related to: **Assessing the Factors influencing Uptake of Post-Partum Intrauterine Contraceptive devices among mothers attending Services at Muhima Hospital in Rwanda**

I therefore request you to render the student such assistance as may be necessary for her research

I, and indeed the entire University are thanking you in anticipation for the assistance you will render to the student

INSTITUTE OF HEALTH POLICY AND MANAGEMENT IHSU

Sincerely Yours,

Prof. David Ndungutse Majwejwe
Dean, Institute of Health Policy & Management

Appendix III: WORK PLAN

YEAR 2014

LIST OF ACTIVITIES	MONTHS				Person responsible
Activity	JUNE	JULY	AUG	SEPT	
Approvals from research committee	X				Research committee IHSU
Administrative approval from Muhima Hospital	X				The Management of Muhima Hospital
Pre-testing the questionnaire	X				Researcher
Hiring research assistants	X				Researcher
Training of research assistants	X				Researcher
Collection of data		X			Researcher
Data entry in Excel			X		Researcher
Data management and analysis			X		Researcher and Supervisor
Report writing				X	Researcher and Supervisor
Dissemination of results				X	Researcher

Appendix IV: BUGGET

Activities	Unit cost (Rfrs)	Quantity	Total amount (Rfr)	Source of funds
Stationary				Self
Reams of papers	5000/=	4	20000	
Pens	100	20	2000	Self
Personnel				
Research assistants allowances	5000	10	50000	Self
Biostatisticians	2000	10	20000	Self
Transport	20000	1	20000	self
Binding the dissertation book Marking	5000	3	15000	Self
Cartridges for printer	30000	2	60000	Self
Feeding	3000	10	30000	Self
TOTAL			**247000**	