

Journal of Medicine, Nursing & Public Health



ISSN Online 2706 - 6606



Stratford
Peer Reviewed Journals & books

Prevalence and Factors Associated with Modern Contraceptive Methods Dropout among Women of Reproductive Age in Gatsibo District in Rwanda

Uzayisenga Marie Chantal, Michael Habtu & Dr. Nicholas Ngomi

ISSN: 2706-6606

Prevalence and Factors Associated with Modern Contraceptive Methods Dropout among Women of Reproductive Age in Gatsibo District in Rwanda

¹Uzayisenga Marie Chantal, ²Michael Habtu & ³Dr. Nicholas Ngomi

¹*Post graduate student, Mount Kenya University, Rwanda

²Lecturer, Mount Kenya University, Rwanda

³Head of Public Health department and Lecturer, Mount Kenya University, Rwanda

*Email of the corresponding Author: umchanty2020@gmail.com

How to cite this article: Chantal, U., M., Habtu, M., & Ngomi, N. (2020). Prevalence and Factors Associated with Modern Contraceptive Methods Dropout among Women of Reproductive Age in Gatsibo District in Rwanda. *Journal of Medicine, Nursing & Public Health*, 3(1), 19-39

Abstract

The use of modern contraceptive methods is important as it assists couples to give birth to the desired number of children and space pregnancies. Government of Rwanda has put much emphasis on family planning services accessibility as one of the pillars of sustainable development. The purpose of this paper was to determine the prevalence and factors associated with modern contraceptive methods dropout among reproductive age women in Gatsibo District in Rwanda. The study employed a cross-sectional research design. The target population was 122,859 women out of which a sample size of 399 women was obtained using Yamane formula. Questionnaire, focused group discussion and key informant interview were used as data collection instruments. The findings of the study showed the prevalence of family planning methods dropout in Gatsibo district was 30.1% and they were no longer using modern contraceptive methods while 69.9% are still using modern contraceptive methods. Findings also showed that pills are the most used at 37.1% followed by injectable 27.8% and lastly IUD with 13.3%. The findings further revealed that modern contraceptive drop out was significantly more among third social class (35.8%) than first social class category (13%) as the p value = 0.002. The findings similarly indicated that women in the third class social category are 4.26 times more likely to drop out modern contraceptive method compared to those women in first social class category [AOR : 4.26 ; 95%CI : 1.79 –9.92 ; P=0.001]. The paper recommended that the ministry of health to continuously work with Ministry of Public Service and Labour to ensure the increase of health care providers so that the health care are not overloaded, and they can provide high quality of services.

Keywords: *Prevalence, modern contraceptive methods, modern contraceptive methods dropout and women of reproductive age*

1.1 INTRODUCTION

According to Khan , Mishra and Abderrahim (2007), Contraceptive discontinuation is explained in term of women who were using family planning and stopped without shifting to other methods. DHS report regarding contraceptive discontinuation shows that 12 months discontinuation rates in Kenya at 36%, Zimbabwe 17.7%, Armenia 30.6%, Egypt 32% and Colombia 43.8% (Askew, 2015). Without taking another alternative in term of shifting from one method to the other, ladies discontinue using modern contraceptive family planning methods for several reasons. This frequently leads to avoidable health risks like unwanted pregnancies, undesired childbearing, miscarriage, morbidity and mortality among mothers, newborns or both while mothers keep in mind and think about some factors which could decrease the burden of these effects. Moreover, there is limited knowledge in term prevalence and factors which are connected with modern family planning drop out (Sedgh, Singh & Hussain, 2014).

Globally, 58% of women in reproductive age are utilizing the modern contraceptive methods including 92% of all users and amongst these women reproductive age users, 78% of them are satisfied, 56% in Africa and more than 75% in other regions. About 225 million women do not adhere to contraception while avoiding pregnancy. These include reproductive age women who avoid pregnancy and are not users of contraception have an unmet need for contraception (Singh et al., 2014). Therefore, contraceptive methods program uses different contraceptive methods including both the modern and traditional. The report showed that 63% of reproductive age women in the world, aged between 15-49 years, married, single and in a union, were adopting contraceptive methods in 2017. Within European countries like Latin America, Caribbean and northern America, the contraceptive use is above 70% and below 25% in middle and Western Africa (United Nations, 2017).

According to Ahmed *et al.* (2015), married women or in union women and men have the right to make decision on the desired number of children and pregnancy spacing determination, using contraceptive methods through the program implemented by governments in different countries. In order to prevent pregnancies, contraceptive methods are used for birth control by restricting or preventing the normal development of the ovulation, fertilization and reproduction establishment.

Regionally, the discontinuation rate is high in sub-Saharan Africa compared with other countries, the discontinuation rate in sub Saharan varies between 19 and 36% (Hubacher & Trussel, 2015). Two types of contraceptive methods are being used and they include modern and tradition (natural). The first method called modern method is for both male and female. There different types in modern contraceptives methods such as permanent methods (tubal ligation and vasectomy) , long acting methods (intrauterine devices and implants) , hormonal short acting methods (oral pills, injectable) and barriers (vaginal rings, cervical cap , spermicidal diaphragm) . Tradition methods are those one based on reproductive cycle' observation by using cycle beads for example and take decision such as abstinence or sex interruption during specific period (Hubacher & Trussel, 2015).

Locally, Rwanda Demographic Health Survey (RDHS) reports that 53% of married women use contraceptive methods of which 48% use modern methods and 5% traditional or natural methods. Regarding the modern contraceptive methods used the most popular include injectable (24%), pills and implants (16%), and male condoms (8%). Among married users, the contraceptive prevalence rate grows with age: 58% for users aged 35-39 years, and 42% for those aged 45 - 49 years. Further,

contraceptive use increases both in persons with high level of education and wealth. Families with children use more contraceptive methods than those who do not have children. In addition, on the one hand, 36% of unmarried women use contraceptive methods, of which 35% of them use modern methods. On the other hand, 16% of married women use injectable (NISR, 2015).

According to NISR (2015), between 2005 and 2010, Rwanda recorded one of the fastest increases in the contraceptive prevalence rate globally, from 10.3% to 45.1%. However, the progress between 2010 and 2015, with the percentage of married women using modern contraception increasing slightly from 45.1% to 47.5%. Consequently, the country did not achieve its 2012 target of increasing contraceptive use to 70% as set in the family planning (FP) strategic plan 2012 – 2016. Negative attitudes toward and failing structures of provision are dominant challenges on the use of modern contraceptive methods in Rwanda.

1.2 Problem Statement

In Rwanda, even with the high contraceptive prevalence rate (53%) of married women using the contraceptive methods, the number of new users by methods and units dispersed in health facilities decreased from 368,161 clients in 2012 to 330,964 clients in 2014 as reported by the NISR (2016). Similar situation prevails in Gatsibo District (2018), one of seven districts of Eastern Province of Rwanda, where the number of new users of family planning contraceptive methods decreased considerably from 7,492 users in 2013 to 4,294 users in 2018, and the number of FP dropout cases has increased from 2,767 in 2013 to 6,736 users in 2018. The rate of FP dropout is mainly noticed in injectable (10.5%), and pills (85.38%). This alarming situation at national and district levels motivated to establish this paper in order to investigate the prevalence and factors influencing modern family planning dropout in Rwanda, and particularly in Gatsibo District.

1.3 Objective of the paper

Objective was to determine the prevalence and factors associated with modern contraceptive methods dropout among reproductive age women in Gatsibo District in Rwanda.

2.0 LITERATURE REVIEW

2.1 The Concept of Modern Contraceptive Drop Out

According to Badan (2013), modern contraceptive methods are operational to the prevention of pregnancies in comparison with traditional methods. It is clear that female who adopts modern contraceptive methods suspend to use them without the adoption of other methods that can increase pregnancies. Austin (2015) revealed that urban female residents, educated and high economic status are more likely to use modern methods than those in rural areas and uneducated and low socio-economic status.. The cause of suspending to use modern contraceptive methods were explained as side effects, substituting methods, need of children and other personal motives (Miller, *et al.*,1997).

Modern contraceptive drop out is a discontinuation adopted by women to reject any kind of MCM because of many justifications for instance desire of children, side effects, etc. Even though contraceptive methods remain as solution to reduce the challenges of living conditions related to high birth rate, it was challenges to users (WHO, 2018). Contraceptive method drops out is defined as denial of using any FP method for any reason such as the sake of having children or due to the

FP methods ‘side effects. Contraceptive methods drop out applies to birth in the broadest sense of numerous conditions regardless of living conditions of couples (WHO, 2018).

Contraceptive methods drop out focuses on child birth rate for all the time without any spacing pregnancies but depending on biological state of the couples. Therefore, birth rate is not controlled which is normally observed in all developing countries where population continues to increase with less proportion increase in term of income (NIRS, 2015). According to Care (2014), contraceptive drop out is the way people who used methods refuse to reuse any kind of methods voluntarily in consent as couples without deciding about the time and space of pregnancy for birth control. However, couples can voluntarily do not adopt the desired approach which can help them to access learning techniques and some tools that can help them to know the right time and number of children to have within the family.

The contraceptive methods drop out is due to poor FP counselling, preconception on health care, screening/laboratory tests, availability and readiness of different modern family planning and methods which are effective enough to meet the needs of users with minimum risks of using any method like condoms, diaphragms, intrauterine device (Tsuiet *al.*, 2010), (Minnesota Department of Health, 2013).

2.2 Different Types of Modern Contraceptive Methods

The World Health Organization (2014) estimates that all sexually active adults should take into consideration of contraceptive methods issues, not only to stop pregnancies but also to schedule each conception to deliver a desired and planned child. According to Ahmed *et al.* (2015), the birth control method requires to consider personal inclinations, behaviours, and health concerns. Complete abstinence is the only method that totally prevents conception; but when used appropriately, most of contraceptive methods realize satisfactory results in family planning. There modern and traditional family planning methods.

Short term acting modern contraceptive methods

i. Birth control pills

They are taken every day by women who need to prevent conception. Women must remember to take them every day and they can stop taking them to restore their fertility as soon as they wish. Consequently, 54% of women are fertile in their first cycle after continuing the birth control pill; nevertheless, it took nine months for full fertility return (Mohamed, Cleland & Iqbal, 2012). Yet, the risk of this method is that all women do not tolerate hormone; as a client has to take it on daily basis, any risk of forgetting can cause unwanted pregnancy (Mohamed, Cleland & Iqbal, 2012).

ii. Injectable

Injectable modern FP method which is being used in Rwanda is Depo-Provera and it covers the contraceptive period of three months. Every three months, the woman has to be back to the health facility or to the community health worker for provision (Muhoza, 2014).

iii. Barrier methods of birth control

This method acts as the diaphragm, cervical cap, male or female condom, spermicidal foam sponges and film. Unlike other form of controlling methods, barrier methods are used in case only when

partners just before having sexual intercourse (Darroch & Singh, 2013). Therefore, people are required to carefully read instructions before using a chosen barrier method.

Long-term birth control methods (IUD and Implants)

These methods are the safest in preventing pregnancy because they work 99% effectively using low effort but users normally decide to drop out due to their side effects or desire of having more children. Once put in, women forget about them and last for many years. Once used, they are safe, effective, and forgettable but is not appropriate enough. Those are intrauterine devices and implants.

Permanent modern method (tubal ligation and vasectomy)

Among the modern family planning, the surgical intervention can be done either for a man or a woman, for the men this method is called vasectomy while for women it is called tubal ligation. For both women and men, the method is permanent (Darroch & Singh, 2013).

However, in FP service people should be remembered that when they do sexual intercourse out of their marriage, they must use condom as FP methods do not protect against HIV/AIDS and other sexually transmitted diseases.

2.3 Modern Contraceptive Methods and Their Benefits

According to Singhet *al.* (2009), the modern has many advantages for people even if they are dropped out. Their benefits are of social and economic, health benefits to mothers and benefits to their children. As for socio-economic benefits, the modern FP decreases health risks to mothers and provides more control over women's reproductive lives. Thus, women can get better health and greater control, women can be more educated, employed and be free for different development's opportunities. Families with small number of children are often able to educate them. Girls can easily attend higher education, their age of first marriage can increase and their years of fertility reduced and being employed. Further, parents can easily clothe and feed their kids because of the limited family size.

Expenses for small-sized family will be less, money will be saved and be self-sufficient. In relation to social services, families and the population size are small, through family planning, gross domestic product within the country increases as the government spends less and families will come up with little money for investment. Therefore, this assists in resource management which brings about economic growth of both families and the country in general. The higher percentage of well educated, healthy, reproductive and self-sufficient families brings about sustainable development of the country (Mohamed *et al.*, 2012).

Mohamed *et al.* (2012), ensures health benefits for mothers using contraceptive methods as this reduces death and improve the living conditions of mothers though preventing unwanted and chances of high risks of pregnancies. Therefore, reduces the risks of unsafe abortions. Reduces diseases transmission and protects women against cancers and some health complications. The special notice is that this system is restrictedly to premature female (young) and the women in advanced age but still in reproductive age as they are exposed to conception problems.

Based on the benefits of using on behalf of children, is compared with other health services like diarrhoea and pneumonia management, nutrition program, immunization program which lead to the better life of children and general growth improvement. FP was considered to be pertinent in

attaining the wellbeing of children, development of family users and improving mother's health. With efficiency high space of children there is well fed, good healthier condition compared to close spaced children. Therefore, mother has time and good condition to take care of their kids without constraints of economic and financial resources (Patton et al., 2009).

According to NISR (2016) report, throughout use of contraceptive method is very important as they allow couples procreate the convened number of children and determine the conception spacing. Thus, couples are able to deliver basic needs and quality life to their children including the access to health facilities, education, feeding, shelter, and clothing.

Gives women time to participate in the labour market in order to increase the household income. To reduce maternal and child deaths substantially, governments and non-governmental organizations, through health facilities around the world, use simple and inexpensive interventions in implementing voluntary programs. Couple partners are more likely to afford education charges of their children, easily feed them, and satisfy their other basic needs (Singh et al., 2009).

Adherence and, more specifically, the adoption of modern contraceptive methods in a country is caused by both supply and demand sides. The modern contraceptive demand can be influenced by several factors, such as the knowledge of the woman about FP, cultural or religious perceptions about the use of contraceptive as much as the ability to obtain medical services or health services in general. Supply side also plays a big role when it comes to availability of types of contraceptive methods, provision of a trusting interaction between patient and service provider, knowledgeable explanation of types of available modern contraceptive methods. Factors on the health system side may highlight whether the client will get the appropriate contraceptive needed (Umuhoza *et al.*, 2013).

According to Smith et al. (2009); WHO (2013), presents several benefits for both mothers and children related health condition. Besides, socio economic benefits are observed where mothers try to improve and develop their needs like education, health, and other basic needs.

According to WHO (2013); the United States Agency of International Development (2012), is about empowering women to achieve universal education for all and promote long term sustainable environment. Therefore, women with acquire knowledge and information about contraceptive methods 'benefits and using that information to make informed decision in term of choice among existing contraceptive methods, knowing possible side effects, being informed what to do in case of sides effects, being informed about when to use, how to use and where to find each method.

Women with access to contraceptive method can determine the time to have children. Thus, they can improve their income, ensure family stability, they can be physically and mental health and ensure wellbeing of their children for their families as a whole (Moreland & Talbird, 2006).

2.4 Modern Family Planning in Rwanda

According to the World Bank (2017), Rwanda faces the challenge of high population density, with 483 inhabitants per km² in 2016. The Rwandan government had started taking FP into consideration as a key to reduce the rapid growth of its population in 1981. Therefore, the National Office for the Population (ONAPO) was established and its main focus was to enhance access and promotion of FP services (Ndaruhuye *et al.*, 2009). This effort was weakened by the genocide in 1994, which destroyed the health infrastructures, many trained health workers died, and the economy of the country dropped massively. After genocide the total fertility rate increased. The

increase in birth was owing to the limited access to the FP services in many health facilities and also to the fact that people wanted to replace their family members who died (Belohlav & Nolan, 2013).

This increase in fertility has been recognized after the Rwanda National census in 2000 (Westoff, 2013). After the findings from 2000 national census, the Rwandan Health Ministry heavily invested in FP as a mean to reduce high population density and to reduce maternal and child mortality rate. FP resources were expended all over the country to allow women who want to prevent or delay their pregnancies have access to appropriate services (Wang *et al.*, 2013).

During that time, the target was to enhance modern contraceptive use prevalence rate from 4% to 15% by 2010. This target was meant to be met through actions like: Improving awareness of women and men about FP services and access through social communication and mobilization, involving administrative authorities and religious leaders in FP mobilization; Improving FP health providers' skills, by ensuring the capacity building and Increase availability and sustainability of FP services in all health facilities and monitor all FP activities in health centers at all levels (GoR/MOH, 2012).

According to RDHS (2010), the contraceptive prevalence rate increased to 45% with 19% of unmet need among married women. The incredible increase of modern contraceptive methods use in Rwanda has been mostly attributed to the political will and commitment of Rwandan government to improve health of Rwandan population, especially through the ministry of health. This has facilitated mobilization of financial and technical resources, as well as health system strengthening focused on training of health professionals, task shifting by trained community health workers and performance-based incentives which have increased access and quality of health services (Wang, *et al.*, 2013).

The RDHS (2010) has revealed the variance of prevalence rate of contraceptive use between the provinces in Rwanda. Compared to other provinces in Rwanda, the Western province has the lowest modern contraceptive use prevalence according to 2010 DHS report. The prevalence is 35% in Western province compared to 52%, 48%, and 46% for Northern, Southern and Eastern provinces respectively and 48% for the capital city of Kigali (NISR *et al.*, 2010).

The NISR (2016) reports that FP users utilized different contraceptive methods and units disseminated in health facilities including: implants, injectable, oral contraceptives (pills), natural FP (Cycle beads and auto-observation), intrauterine devices (IUDs), barriers (gel diaphragm), surgical contraception (tubal ligation and vasectomy), condom (male, female). It was evidenced by this report that, among the above-mentioned contraceptive methods, implants (161,706), injectable (737,061), and oral contraceptives (236,774) were the most modern FP contraceptive methods used during the period 2012-2014.

2.5 Prevalence of Modern FP drop out in Gatsibo District

The District of Gatsibo (2018) reports show the recent situation of modern contraceptive methods in its administration entities. The modern contraceptive methods largely known include the male condom (98%), injectable (97%), pills (93%), and emergency contraception (40%). The most commonly used methods include pills (9.5%), IUD (0.7%), injectable (24%), implants (6.3%), and condoms (4.4%).

Further, the same report shows that the number of new users considerably declined from 7,492 users in 2013 to 4,294 users in 2018. The number of users who discontinued the contraception or dropout diminished from 6,736 women in 2013 to 2,767 women in 2018. The rate of modern contraceptive method dropout was 4.12% for cycle beads, 10.5% for implants, and 85.38% for injectable.

2.6 Factors Associated with Modern FP drop out in Gatsibo District

The main causes leading to the discontinuation (or dropout) of modern contraceptive methods include the fear of gravity of side effects at the begging of initiating modern FP or health concerns, rumours related to the modern FP methods, poor counselling from health care providers, lack of client's decision making in deciding or specific methods, stock out of desired modern FP methods or simply the desire for having another child. The main barriers or challenges to modern contraceptive use among women are myths, miss-understandings and rumours (Rhoune, *et al*, 2015).

2.7 The Role and Obstacles Met by Women When Seeking FP Services

The researcher determined the role of women in decision making and accessing FP services and found out that women seeking FP services specifically in public health facilities mainly face the low quality of services due to the lack of enough staff whereby one health care provider can be scheduled in more than two services, overloaded and clients have to wait for long. When health care providers are overloaded, they don't have much time for FP counselling.

Another reported obstacle was the lack of some FP products in the community and at health centres. The HCs knew the periods of stock out for some drugs, in that period when the client came her choice is limited to the available FP drugs. Limited knowledge among health care providers has been identified as one of the challenges.

2.8 The Rate of Modern Contraceptive Methods Dropout Among Women in Reproductive Age

A study done by Fiona and Ian (1999), the number of drop out in Yogyakarta Special Province (Indonesia) in 2013 is quite high which reaches 16-20%. While, before 2013, rate of drop out in Yogyakarta Special Province is still under 10%. The reasons of drop out are because unwillingness to be pregnant again (5%); other reasons (cost, discomfort, divorce and rare sexual intercourse) as much as 3% and contraceptive method failure (2%).

Another study done by Austin (2015) in Pakistabn, 1/3 of female suspend the used of modern methods and the withdrawal was uppermost among wonen users of oral pills, condom and injectable. In Bangladesh, the cessation of using condom and traditional methods such as periodic abstinence is encountered by unintended pregnancies (Nancy, *et al.*, 2000). The field survey conducted in Indonesia by Mufdlilah, *et al.* (2017), found that the mostly used contraceptive method among many is the percentage of injectable at the rate of 44% with no significant discrepancies between urban and rural. Therefore, the percentage of injectable method which have injected both in urban and rural areas.

A study done by Barden O' Fallon, *et al* (2018), in Senegal, showed the caused behinds in discontinuity use of contraceptive methods. This research revealed that the discontinuity rate of contraceptive methods was 45.6% and its associated problems become 30.1%. In this area, the

conceptions in using contraceptive method remain at 10%. Those who shifted in use of contraceptive method to another method of represented 17%, to use pills represent 5.2% and those to use injectable represent 4.2%. The field survey showed that women with formal education are greater than 50% and tend to change methods than stay in need of contraception after dropout compared with women without formal education.

The Western Province of Rwanda has the lowest modern contraception use prevalence (35%) compared to its counterparts, that is to say 52%, 48%, and 46% respectively for the Northern, Southern and Eastern Provinces, and 48% for Kigali, the capital city of the country (NISR, 2010).

2.9 Factors Associated with Modern Contraceptive Methods Dropout among Women in Reproductive Age

In Indonesia, a study conducted by Fiona and Ian (1999), showed that geographic, social and economic or cultural features associated with women were pertinent elements determining their decisions to change or abandon the utilization of modern contraceptive methods. The probability of female to abandon contraceptive methods is deemed to have a harmful correction with the size of household.

A research carried out in USA by Castle and Askew (2015), found that female's decision-making with regard to FP dropout included: side effects like extended breastfeeding, headaches, vertigo or fear of heights), rumours and misinformation, intent (wanting to be pregnant), motivation and ambivalence.

Another research undertaken by Islamabad, Farwa and Ghazia (2012), In Pakistan explained that the contraceptive discontinuation was caused by fear of injectable (2.9%), failure of contraceptive or unwanted pregnancy were estimated to be 7,46% while the people in desire to conceive were 63.48%.The study revealed that the absence of husband is 2.49% while the side effect or health worries is at 16.18%.The analysis showed that the affordability rate of contraceptive method is at 0.83%, the rate of problems in use is at 1.24%, tolerance at 0.83%, knowledge in use is at 4.56%.

Another research carried out by Waquas, *et al.* (2011) indicated that the unsatisfied contraceptive methods is quite prevalent among specified groups like old women age, low and under educated women especially those with high number of children, with no history of miscarriage (abortion), uninformed with mass media facilities more frequently in a week or those women with low income.

In Nigeria, Azuike *et al.* (2017) found that the commonest causes for stopping modern methods are the desire to have children (49.8%) and the occurrence of pregnancy while using a contraceptive method (16.18%). The predictors of contraception discontinuation were: female' age, residence, educational profile, number of children, marital duration, and occupational profile, male's occupational profile and economic status.

Zielinski (2017) conducted a study in Sub-saharian Africa to assess the level of family planning. Studies showed that the use of MCM is low because of mothers are socially influenced by their husbands and other community groups against or for contraceptive use. This situation was because of the lack of trust of contraceptive methods in the area of western medicine and the desire of some families. These barriers of not using are related to social economic status, religious believers and accessibility of clinics, unqualified of healthcare providers.

A study conducted by Tuyishime (2016) In Rwanda on evaluating the factors of the adoption of contraceptive methods in five regions of Rwanda revealed that access to information and empowerment of women is correlated with the change of modern contraceptive methods among those regions. Encouraging females to use modern contraceptive methods in all areas of the country were positively associated, as well as access to information and PF in all provinces, excluding the Northern Province.

Further, Muhoza *et al.* (2015) initiated an investigation on the request and unsatisfied desire to spacing childbirths in Rwanda. They found that the need to delay the following birth was depending on the desired family size, the child's health status, and the infant death experience. However, socioeconomic causes have a restricted role in birth spacing demand. Between 2005 and 2010, the level of unmet want has intensively decreased, especially among illiterate women and farmers. Bio-demographic reasons, like to be in amenorrhea and cultural effects, especially religious attitudes, still impede the contraceptive use.

A study done by United Nations Population Division (2010), about two in three women using a method, contraception remains considerably a worldwide rule. Globally, one in ten women did not stop to report an unachieved need for family planning. These are issues of critical role for couples, for women, for programs and policy makers that intend to increase sexual and reproductive health. Globally, 33 million accidental pregnancies were estimated to appear among women reportedly utilizing either traditional or modern contraceptive methods

Another study conducted by Aliet *al.* (2012) on quality of services has a clear bearing on contraceptive continuation revealed that the failure and stopping. Assessing contraceptive use dynamics gives guidance for increasing services. High failure rates need to increase information on the right utilization of required methods. The stop of using which is not followed by prompt recourse to an alternative method brings the possibility challenge that range of readily accessible methods may need to be widened.

Ali, *et al.* (2012) argued that high stoppage owing to perceived or real side effects requires strengthened counselling services, availability of different methods and respecting the client's choice and decision. Several studies pointed out some main reasons associated with the modern contraceptive methods dropout grouped into four categories: including the reported method failure; a desire to conceive; sexual abstinence owing to illness or marital dissolution, and method-associated causes like reasons that imply some degree of dissatisfaction with the method like side effects, health concerns, medical advice, problems of access and availability, desire to change to a permanent method, inconvenience of use and cost.

According to the previous study related to IUD drop out especially in post placenta IUD administration, most of the acceptors feel forced to use the contraceptive method because it is the governments' procedure of labour warranty program. Besides, the acceptors complain that they experience hemorrhage during postpartum which prolong the postpartum period and make them worried. Some other acceptors also complain that IUD is released by itself (expulsion). Acceptors of injective method complain that their menstrual schedule becomes irregular and their weights are increasing.

The acceptance of contraceptive method side effect has not been understood fully by the society. Pills contraceptive method acceptors complain that there is some uncomfortable side effect such

as nausea and clams on their face. In addition to side effect, some of them stopped from using the contraceptive method because of diseases such as hypertension and diabetes mellitus (Austin, 2015).

The multiple elements stimulating the stop of using FP and are particular to every community that may give the basis for developing policies that might adequately copy with challenges to adopt FP. Physiological impacts of those methods appear more usually and are especially pertinent to female's decision making process that are agonizing or secure and healthy. The health concern decreases the rate on the mean by 71% for pills, and 86% for IUCD (Khan , Mishra, Arnold F and Abderrahim , 2007).

The modern FP contraceptive dropout refers to the starting of contraception use and then stopping for any reason while the person is still threatened by the risk of unintended pregnancy. Therefore, the use of modern contraceptive methods depends on both the supply and the demand sides (Muhoza, *et al.*, 2014).

A survey done by Guttmacher Institute and UNFPA (2010) revealed that the need or demand for contraceptives and meeting the demand or the supply of contraceptives depend on each other. When the demand of women for modern FP methods increases, the need to supply the demand becomes increasingly acute

A study conducted by Bundervo (2014); Gelawdiwos *et al.* (2015) indicated that demand of modern contraceptives methods may be affected by several factors like the knowledge of the woman about Family Planning, cultural or religious perceptions about contraceptive use as much as the ability to obtain medical service. Supply side also plays a big role when it comes to availability of types of different contraceptive methods, provision of a trusting interaction between clients and healthcare providers, knowledgeable explanation of types of modern contraceptive methods available. All these factors on the health system side may reinforce if a woman will get the appropriate contraceptive method

Barden O'fallon and Speizer (2011) on their study showed that a greater variety of methods may facilitate switching from one modern method to another rather than stopping. By adding one additional method, or its equivalent to the number of existing modern methods, there is 8% decrease in contraceptive discontinuation. When side-effects with a method are the main reasons for disconsolation, a broader choice is particularly important, therefore, responsive, and effective mechanisms to facilitate switching must be in place.

In Eastern Africa, the modern contraceptive use also has been increasing (43%), but Asia has the highest prevalence with 81% of all regions of the world, generally owing to the high level of contraceptive use in China (83%). In Asia, the prevalence average of the contraceptive use was between 56% and 64% during the same period.

3.0 METHODOLOGY

This paper employed cross-sectional research design which was carried out using mixed methods. The target population was 122,859 women. The study used the Yamane formula to obtain the sample size of 399 women. . Questionnaire, focused group discussion and key informant interview were used as data collection instruments. Systematic and purposive sampling techniques were used.

4.0 RESEARCH FINDINGS

The overall objective of this paper was to determine the prevalence and factors associated with modern contraceptive methods dropout among reproductive age women in Gatsibo District in Rwanda.

4.1 Prevalence of Modern Contraceptive Methods Dropout Among Women in Reproductive Age of Gatsibo District

The types of modern contraceptive methods used by reproductive women in Gatsibo district were assessed. Dropout period and reasons for dropout were also assessed and presented in Table 1.

Table 1: Prevalence of modern contraceptive methods dropout

Variables	Frequency (n=399)	Percent (%)
Modern contraceptives drop out		
Yes	120	30.1
No	279	69.9
Duration since dropped out (n = 120)		
0-3 months	24	20.0
3-6 months	16	13.3
6-9 months	32	26.7
9-12 months	19	15.8
12 months-2years	29	24.2
Reasons of dropping out using MCM (n = 120)		
Side effects	71	59.2
Desire of Children	23	19.2
Partner opposition	18	15.0
Hard to get methods	8	6.6
Motivations if you still using MCM (n = 279)		
There is no side effects	153	54.3
Denial of many children	49	18.2
Improving health condition	77	27.5

The researcher was interested to know among the respondent who stopped using MFP methods and found out that 120 (30,1%) are no longer using MCM and 279 (69,9%) are still using modern contraceptive methods as depicted in Table 1. Findings showed also that pills are the most used 37,1% followed by injectables 27,8% and lastly IUD with 13,3%

The researcher went deeper and interested to know what are the reasons of dropping out, since when they dropped out and motivation for those who are still using. The majority of drop out cases, 71 (59,2%) dropped out due to the side effects. Among clients who dropped out, 32 (26.7%) of respondents stopped between 6 – 9 months ago followed by 29 (24,2%) women who stopped between 12 months - 2 years ago . Most women who are still using MFP methods, 153 (54 .3%) reported that they are motivated by not having side effects.

4.2 The role and obstacles met by women when seeking FP Services

The second objective of this research was to explore the role of women and obstacles met when women are seeking FP services. The summarized findings are showed in the Table 2

Table 2: The role and obstacles met by women when seeking modern methods

Variables	Frequency (n=399)	Percent (%)
Own decision to start MFP		
Yes	385	96.5
No	14	3.5
Whether own decision in choosing specific MCM		
Yes	97	24.3
No	302	75.7
Who helped you to choose the types of MFP		
Healthcare provider	380	95.2
Husband/Partner	19	4.8
Received Comprehensive message on MFP from health care worker		
Yes	282	70.7
No	117	29.3
Faced Challenge during seeking MFP		
Yes	390	97.7
No	9	2.3

Most of respondents 385(96.5%) initiated using modern FP methods on their own decision as shown in Table 2. Only 280 (70.7%) reported receiving comprehensive message on MFP methods and 390 (97.7%) reported facing challenges when seeking modern contraceptive methods. Most of them reported the limited number of health care providers (52.8%) followed by 26.4% who reported that they received limited information on MFP methods and lastly 20.5% of women who reported that were challenged by the unavailability of desired MFP methods.

4.3 Factors associated with Modern Contraceptive Methods Dropout among Women in Reproductive Age of Gatsibo District

Multivariate analysis was performed to identify factors associated with modern contraceptive dropout. The analysis of qualitative information was thematically done to achieve the three study's objectives including the identification of factors associated with MFC drop out.

4.3.1 Association between Socio-demographic Characteristics and Contraceptive Methods dropout

The analysis to verify whether there is the relationship between socio-economics demographics characteristics and modern family planning drop out was performed. The summary of findings was presented in Table 3

Table 3: Association between Socio-economic Demographic Characteristics and Modern Contraceptive Methods Dropout

Variables	Modern contraceptive dropout				χ^2 value	Df	P-value
	Yes		No				
	n	%	N	%			
Age group of respondents in years							
15 - 25	39	32.5	81	67.5	0.74	2.00	0.692
26 - 36	59	28.2	150	71.8			
37- 47	22	31.4	48	68.6			
Marital Status of Respondents							
Single	11	22.0	39	78.0	4.06	4.00	0.399
Married	84	29.9	197	70.1			
Divorced	2	25.0	6	75.0			
Widowed	8	44.4	10	55.6			
Cohabitant	15	35.7	27	64.3			
Education level							
No formal	30	28.3	76	71.7	0.28	3.00	0.963
Primary	38	30.9	85	69.1			
Secondary	38	31.1	84	68.9			
Higher education	14	29.2	34	70.8			
Religion of respondents							
Animism (traditional)	18	29.0	44	71.0	0.04	2.00	0.981
Christianity	83	30.3	191	69.7			
Islam	19	30.2	44	69.8			
Occupation of respondents							
Farmer	43	28.7	107	71.3	3.55	3.00	0.314
Artisan	18	23.1	60	76.9			
Trader	41	34.5	78	65.5			
Civil servant	18	34.6	34	65.4			
Social class							
First	9	13.0	60	87.0	12.49	2.00	0.002
Second	44	30.8	99	69.2			
Third	67	35.8	120	64.2			
Monthly income in RWF							
0-50000	54	29.5	129	70.5	1.72	4.00	0.788
51,000 -100,000	46	31.7	99	68.3			
101,000 -200,000	11	26.8	30	73.2			
201,000 -300,000	4	22.2	14	77.8			
>300,000	5	41.7	7	58.3			

The proportion of Modern contraceptive drop out was significantly more among third social class (35. 8%) than first social class category (13%) with the p value of 0.002

4.3.2 The role and obstacles met with women of Gatsibo district in reproductive age when seeking FP services associated with modern contraceptive methods dropout.

The researcher dug deeper into data to check whether there is relationship between the role and obstacles met with women when seeking FP services and modern contraceptive drop out among women in reproductive age.

The results presented in Table 4 provides information regarding the relationship analysis between the role and obstacles met with women when seeking FP services and modern contraceptive drop out.

Table 4: The role and obstacles met with women when seeking FP services associated with MCM drop out

Variables	Modern contraceptive dropout				χ^2 value	df	P- value
	Yes		No				
	N	%	N	%			
Own decision to start MFP							
Yes	110	28.6	275	71.4	11.80	1.00	0.001
No	10	71.4	4	28.6			
Whether own decision in choosing specific MCM							
Yes	40	41.2	57	58.8	7.59	1.00	0.006
No	80	26.5	222	73.5			
Who helped you to choose the types of MFP							
Healthcare provider	116	30.5	264	69.5	0.77	1.00	0.380
Husband/Partner	4	21.1	15	78.9			
Received Comprehensive message on MFP from health care worker							
Yes	43	15.2	239	84.8	100.53	1.00	<0.001
No	77	65.8	40	34.2			
Faced Challenge when seeking MFP							
Yes	117	30.0	273	70.0	0.04	1.00	0.829
No	3	33.3	6	66.70			

The proportion of modern contraceptive was significantly more among the women who did not take their own decision to start using MCM (71.4%) than the women initiated MCM on their own (28.6%) with the p value of 0.001 as presented in Table 4

The proportion of modern contraceptive drop out was significantly more among the women who did not receive compressive message on FP (65.8%) that the women who received comprehensive message (15.2%) with p value <0.001

4.3.3 Factors associated with Modern Contraceptive Methods dropout

To determine the factors associated with MFM drop out, multivariate analysis was performed by SPSS version 2020. This is statistical procedure for analysis of data that involving more than one variable.

The findings on the factors of dropping out for the women in reproductive age that dropped out of modern FP are summarized in Table5.

Table 5: Multivariable analysis for factors associated with modern contraceptive methods dropout

Variables	AOR	95%CI		p value*
		Lower	Upper	
Full model				
Social class				
First	Ref			
Second	3.47	1.42	8.49	0.006
Third	4.26	1.79	10.13	0.001
Own decision to start MFP				
Yes	Ref			
No	7.91	2.06	30.42	0.003
Whether own decision in choosing specific MCM				
Yes	1.78	0.99	3.20	0.055
No	Ref			
Received Comprehensive message on MFP				
Yes	Ref			
No	12.11	7.09	20.67	<0.001
Reduced model				
Social class				
First	Ref			
Second	3.38	1.39	8.21	0.007
Third	4.21	1.79	9.92	0.001
Own decision to start MFP				
Yes	Ref			
No	8.72	2.32	32.74	0.001
Received Comprehensive message on MFP				
Yes	Ref			
No	11.92	7.01	20.25	<0.001

AOR = Odds Ratio, CI= Confidence Interval, *Significant $P \leq 0.05$ level

The women in the third class social category are 4.26 times more likely to drop out compared to those women in first social class category [AOR : 4.26 ; 95%CI : 1.79 –9.92 ; P=0.001].

Also, the women who initiated modern FP methods without taking their own decision are 8.72 more likely to drop out compared to the women who initiated modern FP methods on their own

decision [AOR : 8.72 ; 95%CI : 2.32 – 32.74 ; P=0.001]. Similarly , the women who did not receive comprehensive message on FP are 12.11 times more likely to drop out compared to those women who received comprehensive messages on FP [AOR:12.11; 95%CI :7.01 - 20.25 ; P <0.001].

The respondents also revealed that *“male’s involvement in maternal child health services in our population is still at low level , sometimes women go to look for FP methods without making the agreement with their husbands , they go to the health facilities to take modern FP in secret even their partners are not aware . In case of simple side effect which should stop after a certain period they prefer to abandon or when their husbands become aware, they prefer to interrupt FP methods”*.

The key informant interview also established that *“living far from health facility is also one of the reasons of modern FP dropout. Most people usually go at health facilities only when they are sick. As a need of modern FP or meeting the FP services ‘s appointment doesn’t disturb them physically, they don’t take it as a priority”*.

5.0 CONCLUSION

The study concluded that the Magnitude of Modern Contraceptive Method (MCM) drop out among women in reproductive age of Gatsibo District is high compared to the prevalence of women in reproductive age who are using modern FP. It is also concluded that three factors, population welfare, lack of decision making when initiating Family Planning (FP) and lack of comprehensive information given by health care providers are associated. By working on community awareness and reinforcing the male partners’ involvement and providing FP comprehensive information might help to reduce modern FP drop out. . The study further concluded that a comprehensive message should include the different types of modern contraceptive methods which are existing, the benefits of MCM and its side effects.

6.0 RECOMMENDATIONS

The study made the following recommendations;

1. The ministry of health to continuously work with Ministry of Public Service and Labour to ensure the increase of health care providers so that the health care are not overloaded, and they can provide high quality of services.
2. Gatsibo district should work with different counterparts to increase the community sensitization on maternal child health specifically on Family planning in order to explain why is important for families to do family planning.
3. Health care providers should reinforce the counselling of family planning to ensure that each client MFP with informed choice.

REFERENCES

- Ali, M., Cleland, J., and I. Shah (2012). Causes and consequences of contraceptive discontinuation: evidence from 60 Demographic and Health Surveys; Geneva: World Health Organization
- Asekun-Olarinmoye, E.O., Adebimpe, W.O., Bamidele, J.O., Odu, O.O., Ojofeitimi, E.O. (2013). Barriers to use of modern contraceptives among women in an inner city area of Osogbo metropolis, Osun state, Nigeria; *Int J Womens Health*; 5:647
- Azuike, E. C., Ikeako, L.C., Ezeobi, I., Ezebialu, I.U., Umeobika J.C., Obi K.M., Anene, J.O., Azuike, E.D. (2017). Predictors of discontinuation of contraceptive use among Nigerian women: Results of 2013 Nigeria Demographic and Health Surveys; *Journal of Scientific Research and Studies*; 4(7):171-176
- Barden-O'Fallon, J., Speizer, I.S., Calhoun, L.M., and Meghan, C. (2012). Women's contraceptive discontinuation and switching behavior in urban Senegal, 2010–2015; *BMC Women's Health*; 18:35
- Belohlav, K. and Nolan, L. (2013). Unmet need and demand for smaller families in Rwanda
- Nigisti Belete , Ayalnesh Zemene , Hadgay Hagos and Abere Yekoye (2018). Prevalence and factors associated with modern contraceptive discontinuation among reproductive age group women, a community based cross-sectional study in Humera town, northern Ethiopia. *BMC Women's Health* <https://doi.org/10.1186/s12905-018-0663-4>
- Castle, S. and Askew, I. (2015). Contraceptive discontinuation: reasons, challenges, and solutions; The Population Council; New York, US
- Chola, L., McGee, S., Tugendhaft, A., Buchmann, E., Hofman, K. (2015). Scaling up to reduce maternal and child mortality: the potential costs and benefits of modern contraceptive use in South Africa; 10(6)
- Cleland J.G, Ndugwa R.P, Zulu, E.M. (2011). in sub-Saharan Africa: progress or stagnation? *Bull World Health Organization*; 89:137-43
- Cox, C.L. (1982). An interaction model of client health behavior: theoretical prescription for nursing. *Advances in Nursing Science* 5, 41–56.
- Darroch, J.E., Singh, S. (2013). Trends in contraceptive need and use in developing countries in 2003, 2008, and 2012: an analysis of national surveys. *Lancet*; London England; 381(9879):1756–62
- Didi, B.F, Leslie, B., Grace, R., Habumugisha, L., Basinga, P., Cameron, N., Kamali, F., Ngizwenayo, E., St Fleur, J., Niyigena, P., Ngabo, F., Farmer, E.P., Rich, M.L. (2015). Motivations and constraints to family planning: a qualitative study in Rwanda's Southern Kayonza District; *Global Health: Science and Practice*; 3(2)
- Do, M., Kurimoto, N. (2012). Women's Empowerment and Choice of Contraceptive Methods in Selected African Countries; *International Perspective Sexual Reproductive Health*

- Farmer, D.B., Berman, L., Ryan, G., Habumugisha, L., Basinga, P., Nutt, C., et al. (2015). Motivations and Constraints to Family Planning: A Qualitative Study in Rwanda's Southern Kayonza District. *Global Health Science Practices*; 13; 3(2):242–54
- Farwa, R., Ghazia, I. (2012). Reasons for discontinuation of contraceptive methods among couples with different family size and educational status; *Journal Ayub Medical Collection Abbottabad*; 24(1)
- Gelawdiwos, G., Nigusie, B., Kahsay, G. (2016). Prevalence and factors associated with unmet need for among the currently married reproductive age women in Shire-Enda-Slassie, Northern West of Tigray, Ethiopia: a community based cross-sectional study; *Pan African Medical Journal*; 23:195
- Government of Rwanda, Ministry of Health (2012). Maternal and child health: policy; Kigali, Rwanda
- Guttmacher Institute and UNFPA (2009). *Adding It Up: The Costs and Benefits of Investing in and Maternal and Newborn Health*. Updated figures at: Guttmacher Institute (2010) *Facts on Investing in and Maternal and Newborn Health*. Fact sheet; New York: Guttmacher.
- Hubacher, D., Trussell, J. (2015). A definition of modern contraceptive methods: Contraception; 92(5):420–1.
- Hussey, R. and Collis, J. (2007). *Business Research*; 2nd Edition, New York: Palgrave Macmillan publishers
- Saunders, M., Lewis, P. and Thornhill, A. (2009). *Research Methods for Business Students*; 5th Edition; New York: Pearson Education.
- Singh S., Darroch, J.E., Ashford, L.S. (2014). Adding it up: the cost and benefits of investing in Sexual and Reproductive Health
- Minnesota Department of Health (2013). Introduction to Family Planning; 1-3
- Moreland S, Talbird S. (2006). Achieving the millennium development goals: the contribution of fulfilling the unmet need for family planning; Washington, DC
- Mohamed, M.A., Cleland, J., Iqbal, H.S. (2012). Causes and consequences of contraceptive discontinuation: evidence from 60 demographic and health surveys; Department of Reproductive Health and Research, World Health Organization, Geneva, Switzerland
- Mufdlilah, Kanthi, A., Reza, B.J., Purnamasari, D. (2017). Drop out of acceptors based on contraceptive methods in rural and urban areas; *International Journal of Sciences: Basic and Applied Research*; 36(7):272-280
- Muhoza, D.N., Rutayisire, P.C., Umubyeyi, A. (2013). Measuring the success of initiatives in Rwanda: a multivariate decomposition analysis
- Muhoza, D.N. (2014). Excess Fertility and in Rwanda: Understanding the shift to a high contraceptive prevalence country. Utrecht University
- Muhoza, DN., Broekhuis, A., and Hooimeijer, P. (2015). Demand and Unmet Need to Space Births in Rwanda: A Two-Step Analysis of Determinants; *Journal of Population and Social Studies*; 23(1): 57 – 72

- Na, M., Jennings, L., Talegawkar, S.A, Ahmed, S. (2015). Association between women's empowerment and infant and child feeding practices in sub-Saharan Africa: an analysis of Demographic and Health Surveys. *Public Health Nutrition*
- National Institute of Statistics Rwanda (2016). Demographic and Health Survey [DHS] 2014/2015 Key findings; Kigali, Rwanda
- Ndaruhuye DM, Broekhuis A, Hooimeijer P. (2009). Demand and unmet need for means of family limitation in Rwanda; *International Perspective Sexual Reproductive Health*; 122–30
- OlaOlorun, F.M, Hindin, M.J. (2014). Having a Say Matters: Influence of Decision-Making Power on Contraceptive Use among Nigerian Women Ages 35–49 Years; *PLOS ONE*, 4:9(6):e98702
- Olsen, J., Kaare, C., Murray, J., Ekobom, A. (2010). *The cross-sectional study*; Ed. Springer New York; Vol.1, pp. 79-79
- Patton, G.C., Coffey, C., Sawyer, S.M., Viner, R.M., Haller, D.M., Bose, K., Vos, T., Ferguson, J., Mathers, C.D. (2009). Global patterns of mortality in young people: a systematic analysis of population health data. *Lancet*; 374:881–892
- Rothman, K.J. (2012). *Epidemiology: An Introduction*; Oxford University Press; 53. London
- Rhouné, O., Mwendé, M., Stephen, A., Susan, K., Rachel, T., Marleen, T., Megan, K. (2015). Barriers to modern contraceptive methods uptake among young women in Kenya: a qualitative study; *BMC Public Health*; 15-118
- Saunders, M., Lewis, P. and Thornhill, A. (2009). *Research Methods for Business Students*; 5th Edition; New York: Pearson Education.
- Singh S, Darroch J, Ashford L. (2014). Adding it up: the costs and benefits of investing in sexual and reproductive health; New York: Guttmacher Institute and United Nations Population Fund
- Singh, S., Jacqueline, E., Darroch, L., Ashford, S. (2014). Adding it up: The cost and benefits of investing in Sexual and Reproductive Health
- Smith R, Ashford L, Gribble J. (2009). *saves lives*; Population Reference Bureau; Washington, DC, USA
- Sonfield, A., Hasstedt, K., Kavanaugh, M.L. and Anderson, R. (2013). The Social and Economic Benefits of Women's Ability to Determine Whether and When to Have Children; New York: Guttmacher Institute
- Tsui, O., McDonald-Mosley, R., Burke, E. (2010). and the Burden of Unintended Pregnancies; *Epidemiology Review*; 32(1):152-174
- United Nations (2007). *World Contraceptive Use 2007*; New York: United Nations
- United Nations, Department of Economic and Social Affairs, Population Division (2017). *Model-based Estimates and Projections of Indicators 2017*; New York: United Nations.
- United Nations (2017). *Model-based Estimates and Projections of Indicators*; New York: United Nations

United States Agency of International Development (USAID)/Africa (2012). Three Successful Sub-Saharan Africa Programs: Lessons for Meeting the MDGs; Africa Bureau, USAID, Washington

Wang, W., Alva, S., Winter, R., Burgert, C. (2013). Contextual influences of modern contraceptive use among rural women in Rwanda and Nepal

Westoff, CF. (2013). The Recent Fertility Transition in Rwanda; *Population Development Review*; 38:169–78

World Health Organization Family (2013). Planning Fact Sheet No 351