UNIVERSITY FOR DEVELOPMENT STUDIES

ISLAM AND FAMILY PLANNING: A CASE STUDY OF ASOKORE MAMPONG MUNICIPALITY IN THE ASHANTI REGION OF GHANA

YASMIN NAMOH

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BY

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THESIS SUBMITTED TO THE DEPARTMENT OF POPULATION AND REPRODUCTIVE HEALTH, SCHOOL OF PUBLIC HEALTH, UNIVERSITY FOR DEVELOPMENT STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF PHILOSOPHY DEGREE IN PUBLIC HEALTH

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DECLARATION

Student

I the undersigned candidate hereby declare that this thesis is the result of my own original work and that no part of it has been presented for another degree in this university or elsewhere:

Candidate's Signature:……...…… Date:…….……

Name: ……...…….....

Supervisors'

I hereby declare that the preparation and presentation of the dissertation/thesis was supervised in accordance with the guidelines on supervision of dissertation/thesis laid down by the University for Development Studies.

Principal Supervisor's Signature:……..…….. Date:…….

Name: ……...……... …….

Co-Supervisor's Signature (if any) ……..…….. Date:……..……

Name: …….....

ABSTRACT

The study examined Islam and family planning uptake among Muslim women and adolescent girls in the Asokore Mampong municipality in the Ashanti region. The study employed the survey research design and used multi-stage sampling method to select 385 respondents for the study. Descriptive statistics was used to describe the demographic characteristics of respondents, Muslim women and adolescent girls' access to FP services, point of accessing FP services, and common FP products accessed. Also, the study examined the effect of the Islamic religion on FP access. Finally the study examined the effect of other factors affecting FP among Muslim women and adolescent girls. The results of the study indicate that majority (30.9%) of the respondent fall within the age 30-34 years and 35-39 years (20.5%). Also the study indicate that majority (60.8%) were married and 32.2% being single. Furthermore, 10.6% of the respondents do not have formal education whereas the 89.4% have had basic, senior or tertiary education. The study again revealed high respondent (55.6%) to FP services and 71.6% of access to FP services. The various point of access of FP include; hospital (51.9%), drug store (39.48%) and other sources (8.57%). The study indicate that the Islamic religion has a significant influence on FP access at *p-value=0.004.* Also, other factors such as education (*p-value=0.003),* age (*p-value=0.005)* influenced FP access at 5% significance level. Again, other factors such as time spent on marriage (*p-value=0.016),* marital status (*p-value=0.077)* and type of facility for FP service (*p-value=0.080)* have significant influence on FP access at 10% significance level. Based on the results of the study, the following recommendations were made; the need for family planning education and advocacy: this should be targeted at male partners and Islamic leaders who preaching influence access to FP services. Also, widen up access to family planning services, to include rural communities, and health facility based FP counselling services to upscale uptake of FP in the Asokore Mampong municipality.

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DEDICATION

This work is dedicated to my father, and mother for giving the life time gift through Education.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Globally, birth control promotion is considered as a fundamental human right that enables couples and individuals to take an informed decision on when and how many children to bear, within their life time. Birth control measures, which involve the use of some form of contraception method do not only help improves in health-related outcomes by reducing birth related mortalities such as infant and maternal mortality rates, and also help improves in schooling and economic outcomes, particularly for girls and women (United Nations, 2017). The recognition of birth control at the international community is evident as the United Nation General Assembly (2014), reaffirms its milestone Programme of Action of the International Conference on Population and Development (ICPD) in 1994 which obliged all countries to offer universal access to a full range of safe and reliable family-planning procedures to their citizens who need them by the year 2015.

Nonetheless, the "2030 Agenda for Sustainable Development includes a target" responsible "for family planning and fertility under Goal 3 that covers a range of targets to ensure healthy lives and well-being of the population. Target 3.7 aims to ensure, by 2030, universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes". There are two measures of progress towards this target with "indicator 3.7.1; proportion of women of reproductive age (aged 15- 49 years) who have their need for family planning satisfied with modern methods, and indicator 3.7.2; adolescent birth rate (aged 10-14 years; aged 15-19 years) per 1,000 girls and women in that age group" (United Nations, 2020). Based on this global agenda, it is estimated that, between 2017 and 2030, overall contraceptive prevalence amongst married or

in-union women within the reproductive age is projected to increase mainly in parts of sub-Saharan Africa and Oceania, increasing "from 20 to 29 per cent in Western Africa, from 23 to 32 per cent in Middle Africa, from 43 to 56 per cent in Eastern Africa and from 38 to 43 per cent in Melanesia, Micronesia and Polynesia" (United Nations, 2017).

Family planning (FP) as part of the world global health agenda, can be defined as the ability of an individual and/or couples at the reproductive stages of their lives to anticipate and attain the desired number of children as well as ensuring the desired spacing and timing of their births (Bongaarts *et al*., 2012). FP does not necessarily refer to putting a limit on the number of people in a family but rather the goal of FP is to provide preventive measures to pregnancy-related health risks in women in general (Sensoy *et al*., 2017). Family planning is basically achieved through the use of contraceptives (Bongaarts *et al*., 2012). There are public health, environmental and economic benefits associated with FP as well as the reduction of pressure on natural resources, social amenities and political environments at the country level (Prata, 2009). FP has been widely touted as "the most cost-effective health and development investments available to governments" (Askew, 2012). For instance, studies have confirmed that providing contraceptives to a woman as a way of preventing the birth of babies with HIV is more cost efficient that providing Nevirapine for HIV infected mothers attending antenatal care (Reynolds *et al*, 2005; in Kiggundu *et al*., 2020). FP improves the health status of women and adolescents by minimizing the need for unsafe abortion, premature rupture of membrane, low birth weight, infant mortality, maternal mortality and preterm birth (Starbird and Norton, 2015; Apanga and Adam, 2016; Sensoy *et al*., 2017). Furthermore, FP provides "transformational benefits to women, families, communities and countries and helps females in achieving an educational goal, start a business" as well as achieve their employment needs (Starbird and Norton, 2015; UNFPA, 2015). FP services improves the decision making

abilities of family members and also acknowledges the liberty of deciding on having a child (Sensoy *et al*., 2017). Thus, FP plays a very vital role within the scope of universal primary health care delivery (WHO, 2012; Requejo and Victora, 2012; Sensoy *et al*., 2017). The World Health Organization (WHO) recommends that spacing between children should be at least 2 – 3 years in order to protect the health of mother and baby (WHO, 2005). Therefore spacing between children shorter than 18 months is said to likely result in maternal morbidity and mortality, risk of preterm birth and adverse fetal and infant outcomes (Schummers *et al*., 2018). That is why the United Nations have included the "universal access to family planning as one of the goals to" ensure access to modern contraception for extra 120 million women by the end of 2020 (FP2020 partnership, 2020). Albeit the importance and benefits associated with FP, many resource-limited countries typically in sub-Saharan Africa "still have very low rates of contraceptive use" and FP methods (Eliason *et al*., 2014). The resulting effect of the low uptake of FP in countries in sub-Saharan Africa including Ghana are evident, namely; "high rates of unwanted pregnancies, unsafe abortions and maternal mortalities" as well as unplanned deliveries (Eliason *et al.*, 2014; Chae *et al*., 2017). Literature attributes the low uptake of FP in sub-Saharan Africa to many factors. These include the "lack of awareness of the availability of" FP services, misinformation about FP services, inadequate counselling about the side effects of FP methods which actually made some women in Uganda for example to stop using contraceptives after experiencing perceived side effects of the contraceptive (Lauria *et al.*, 2014; Bhattathiry *et al*., 2014; Kabagenyi *et al*., 2014). Additionally, distance to health facilities providing FP services, religious and cultural inclination, marital status as well as socio-economic factors also influence the uptake of FP services in Africa (Sensoy *et al*., 2017; Eliason *et al.*, 2014; Gaetano *et al*., 2014; Odimegwu, 2005).

In Ghana the pressure of rapid population growth constitute a significant constrains on future economic prospects and the ability of a country to deliver an essential intervention to improve the "welfare of its citizens and achieve its national development objectives". Recognising the importance of "rapid population growth and social, and economic development" nexus, the government of Ghana has assiduously worked to build a positive and responsive policy environment for family planning to control the surging population growth and the attending constrains to national progress. Among such pioneer policy interventions of family planning in Ghana include; the "National Population Policy (Revised Edition, 1994"), which sets succinctly, "targets regarding fertility and contraceptive use". The targets of this policy are; "reduce the total fertility rate (TFR) from 5.5 to 5.0 by 2000 and then to 3.0 by 2020; achieve a contraceptive prevalence rate (CPR) of 15 percent for modern FP methods by 2000 and 50 percent by 2020; and reduce the" then "current annual population growth rate of about 3 percent to 1.5 percent by 2020". The effort of this policy to improve was augmented by subsequent policies such as "a Road Map for Repositioning Family Planning in Ghana (2006–2010") which advocated "for an increase in political commitment" to family planning, "public awareness and acceptance of family planning as" significant contributor "to national health and socio-economic development, and funding for FP commodities and" services (Ghana National Population Council & USAID, 2012). With these policy initiatives, family planning awareness level seemingly increased with still some low usage of FP services in some parts of Ghana. For instance a study conducted by Awingura and Adam (2015), indicate 89% awareness "of family planning in the Talensi district" with just 18% of patronage of family planning services. Furthermore, Nettey et al.,(2015), also identified a remarkable disconnect "between awareness of family planning and use of family planning" services in the Kintampo district. Eliason, et al. (2014), also highlighted 90% awareness of family

planning in the Nkwanta district with just 6.5% of contraceptive prevalence rate in the district. The high awareness of family planning as reported by the studies above (Awingura & Adam 2015; Eliason, et al.,2014; Nettey et al., 2015), seemed to suggest that awareness dimensions of the policy interventions have achieved its mandate. However, the patronage of FP services is generally low in these districts that suggest a trend of indifference to FP services. Aryeetey, Kotoh, and Hindin (2010), however indicated a very high (97%) knowledge of modern FP which was almost universal, with about 60 percent of all, and 65 percent of married couples reported ever use of a modern method in the Ga East district. This study indicate a dramatic shift in the patronage of FP services as compare to the report by the other studies. While Eliason, et al.,2014 have highlighted some access barriers to FP services, the extent of religious factors hinders access need to be examined. It is against this background that, this study is conducted to assess the influence of islamic religious faith on access to FP services in the Asokore Mampong municipality in the Ashanti region of Ghana.

1.2 Problem Statement

Religion and culture can play a vital role in shaping the lifestyle and education of its followers and this is very visible in some Islamic societies where certain social behaviours such as extra-marital affairs are prohibited (Alomair *et al*., 2020). Studies conducted in some Muslim dominated countries across the world suggests there are two schools of thought on FP; those that openly accept and promote FP services and those who strongly oppose except when used for medical reasons (Alomair *et al*., 2020). The general observation from these studies is that, many women in these countries such as United Arab Emirates and Saudi Arabia will only use FP to space the birth of their children and not to limit the number of children in the family (Alomair *et al*., 2020).

Although the issue of fertility among women in the African culture is highly regarded, the general belief among Muslims that Islam values high fertility stood out as one of the reasons Muslim women would not want to use contraceptives since they want to have more children (Sakpota *et al*., 2016; Pell, 2017). Furthermore, these studies show that the acceptance of polygamy, interference from family members as well as the preference for a number of male children influenced women decision not to consider FP (Izugbara *et al*., 2010; West *et al*., 2017). Also, unmarried women at the reproductive stage found it difficult to access FP services due to the perception that FP is for married people hence unmarried people patronizing the services of FP are considered to be promiscuous (Shariati *et al*., 2014; Meldrum *et al*., 2016). Although the Qur'an and hadiths are not specifically against the use of contraceptives, there have been varying interpretations to texts from these sources in reference to fertility (Serour, 2013; Sundararajan, 2019). For instance, same Qur'anic texts interpreted to support the use of FP services have also been interpreted to condemn the use of FP services by supporting and valuing high fertility among Muslims (Varley, 2012). Similarly, some Muslim families hold the belief that children are the gift from Allah and only He can sustain the lives of these children therefore the privilege to produce more children in Muslim communities (Mohammed, 2013). In other words, limiting the number of children through family planning is un-Islamic although Mohammed (2013) disagreed with this view. These divergent views which stem from different interpretations of texts from the Qur'an and Hadiths make the relationship between the Islamic faith and family planning complex and variable (Sundararajan, 2019).

In Ghana, issues concerning sexuality and religion are highly sensitive hence people either shy away or deliberately avoid discussing it. The sensitivity accorded to religious and reproduction related issues have led many to secretly hold divergent views to such issues. This is confirmed by

studies within the sub region that suggests a wide variation of opinions about FP among religious groups as well as individuals within these religious groups; however, the desire to access reproductive healthcare is common across all religious groups (Yeatman and Trinitapoli, 2008; Mosha and Ruben, 2013; Hallfors *et al.*, 2016). Divergent views on FP among Muslims are not solely formed by the Qur'an and prophetic traditions (hadiths) but also by perception that FP is a colonial and imperial ambition from the western world (Shaikh, 2011). The Asokore Mampong municipality is one of the municipalities with dominant Muslim communities in the Ashanti Region of Ghana. It has the second largest population (304, 815) after Kumasi metropolis representing 6.4 percent of the total population of the Ashanti Region. Majority (55 %) of its populace are Muslims with more than half (58 %) of the entire population below 24 years (GSS, 2014). Recently, the municipal health directorate in a public address bemoaned the low accepter rate (6.7 %) of FP services in the municipality albeit the efforts being made to encourage the uptake of FP services in the municipality (GNA, 2019). The Ghana Adolescent Reproductive Health (GHARH) project is one of such efforts being made in the municipality to improve on sexual and reproductive health education among adolescent girls in the municipality. Meanwhile studies on the determinants of FP uptake in other districts and municipalities in the region have been carried out however literature pertaining to Asokore Mampong municipality is limited. Additionally, there is a gap in literature on FP services uptake with the focus on Islam as a major likely influence on the uptake of FP services in the municipality. This could be attributed to the high sensitivity accorded to "sexual and reproductive health" issues in Muslim communities (Shirpak *et al.*, 2008) which leaves the issue of FP rarely addressed. However, failure to educate girls and women of reproductive age can result in unwanted pregnancies, unsafe abortions, indiscriminate use of emergency contraceptives as well as contracting sexually transmitted infections (STI's) (UNESCO,

2017). Additionally, studies have shown that teenage pregnancies and unsafe abortions contribute globally to morbidity and mortality; whilst girls within the ages of 15 – 19 years have been found to be more likely to die from childbirth than women in their twenties (WHO, 2006). This study therefore seeks to investigate the potential influence of Islam and other unknown factors on the uptake of FP services in the Asokore Mampong municipality in the Ashanti Region of Ghana.

1.3 Research Questions

The main research question of this study is what are the determinants of FP services uptake among Muslim adolescent girls and women in the Asokore Mampong municipality?

The study will specifically answer the following questions;

1. What is the knowledge level of Muslim women and adolescent girls in Asokore Mampong municipality about FP?
2. To what extent do Muslim women and adolescent girls have access to FP services in the Asokore Mampong municipality?
3. What Islamic religious factors influence the access of FP?
4. What other factors influence the access of FP?

1.4 Research Objectives

The main objective of the research is to identify the determinants of FP services uptake among Muslim adolescent girls and women in the Asokore Mampong municipality of Ashanti Region.

Specifically, the study seeks;

1. To assess the knowledge level of Muslim women and adolescent girls on FP in Asokore Mampong municipality

2. To assess the extent to which Muslim adolescent girls and women have access to and utilize FP services in Asokore Mampong municipality.
3. To identify and examine Islamic religious factors influencing the access and utilisation to FP in Asokore Mampong Municipality.
4. To identify and examine other non-Islamic factors influencing the access and utilize FP in the Asokore Mampong municipality.

1.5 Justification of the Study

The study seeks to explain the nexus of family planning access and religion among adolescent girls and women Asokore Mampong municipality in the Ashanti region of Ghana. The basis of this study is grounded on two main justifications; first, family planning access and religion nexus have not been studied extensively in Ghana, particularly among the Islamic religious group in the Ashanti region. Second, the limited studies conducted on this area have some methodological limitations, hence this current study aim to adopt an enhanced methodology.

1.6 Scope of the Study

The study focuses on the Asokore Mampong municipality in the Ashanti region of Ghana as the research setting. It examines family planning (FP) access among adolescent girls and women in the Islamic religious faith. In this regard, the Islamic religious factors that influence the access to FP services are assessed, as well other factors that influence access to FP services among these groups in the municipality. Thus, the study considered access to FP services as a dependent variable and the influencing factors as independent variables.

1.7 Limitation of the Study

The empirical findings reported by this study should be considered in the light of some limitations. First, the effect estimates in the model are based on the accuracy of responses to various themes

in the research instrument. They are therefore subject to respondent biases to disclosing some relevant information that may have influenced on the model estimates in the study. Also, the study is limited by sample bias, as it seeks to examine the uptake of FP among Muslim adolescent girls without considering other religious and cultural groups. This in effect may results in one sided reality of the issue of under study, thus a generalisation to other religious and cultural group cannot be made as a result of differences in religious and cultural orientations.

1.8 Organization of the Study

This study is organized into five main chapters. The chapter one introduces background of this study, state the problem of the study, the study objectives, study questions, study justification, scope and organization of the study. Chapter two presents the literature review by considering the concepts, theories and empirical studies related to this study main objective. The chapter three presents the research methodology and procedures for data gathering and analysis. Chapter four findings of the study, and discussions. Finally, the chapter five comprises of summary of the study findings, conclusion and recommendations for policy and further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of important literature that is specific to the research objectives of this study. The review is structured into three broad categories namely; review of concepts, theoretical review and conceptual review. The rationale for the conceptual review here is to gouge out various concepts and the meaning as applied to the context of this study. Also, the theoretical review is done to highlight and identify the theories that underpinned the study and how the theories are applied in the context of the study. Finally, the rationale for the empirical review is to highlight the existing knowledge and gap in the empirical literature and the possible ways these knowledge gaps can be bridged to convey new knowledge on the subject matter under study. The review is thus presented under the ensuing sections.

2.2 Conceptual Review

This section presents the review of related concepts that underpinned the study. These concepts are used operationally to communicate the FP issues in both practice and the literature. Some of the concepts to be considered here include, fertility rate, family planning uptake, contraceptive prevalence rate, family planning access, unmet needs for family planning among others.

2.2.1 Fertility Rate

The term fertility rate is a commonly used metric in demographic studies to meaure the average number of children per woman in her child bearing cycles (Max, 2017). Thus it measures the number of births per woman in a given population. According to Max (2017), the global average

fertility rate is estimated below 2.5 children per woman in recent times. The global fertility rate according to Max (2017), has halved over the last 50 years and the number of children per woman reduces very substantialy as a result of the modernization of societies in contemporary times. Whilst there exist consensus over the measurement of fertility rate across the globe, there is high level of computational disagrements among scholars over the countries specific fertility rates.

For instance, Agbaglo, Agbadi, Tetteh, Ameyaw, and Adu (2022), argued that whilst the global fertilty rates witnessed a substantial decline over the past few decades, Ghana has experience slight increase in fertility rate without comprehensive understanding of the factors that accounts for such increment over the time. Agbaglo et al. (2022), however, examined the trends of total fertility rates in Ghana by given empahsis to some ostensible inequality dimensions in the country. By using data from Ghana Demographic and Health Survey from 1993-2014, they observed a consistently high total fertility (7.00, 6.23, 6.77, 6.61 and 6.29 in 1993, 1998, 2003, 2008 and 2014, respectively) among the poorest women in Ghana. The high total fertility rates in all the survey years occurred among women with no formal education. Thus lack of formal education in this regard considered as challenging factor to birth control measures such the adoption of modern contraception methods. Though Agbaglo et al. (2022), highlighted education as one of sthe attributing factors to high fertility rates in Ghana, their study have not estimate the marginal effect of education on birth control measures in Ghana. Therefore, this study would estimate the effect of education on uptake of FP services in Ghana. According to Mbacke (2017), the high fertility in sub-Saharan Africa (SSA) is not weird expression of African cultures but a coherent response to the content's specific dire conditions and that an improvement in those conditions could marshal a new look in the fertility situations in SSA. Contrary to the argument advanced by Mbacke (2017),

Bongaarts (2020), made a counter argument that high fertility rates in sub-Saharan Africa is commonly explained by general desire for large families size which has some cultural undertones. In effect, Bongaarts (2020), states that if the desire for large family size gets ascending, it then presumes that FP programs would generate limited effect on fertility ratesn due less acceptability of the use of modern contraceptive methods. Based on this, it is therefore imperative look at family planning uptake, what it means its trends in Africa.

2.2.2 Family Planning (FP) Uptake

There is limited exclusive definition of family planning uptake provided by scholars in the literature. However, the term "family planning according to the World Health Organization (WHO) is" the ability of individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births" (World Health Organization, 2008). On the other hand, uptake is used to mean the actual usage of available family planning methods by individuals and couples in order to help improve family health outcomes and prevent pregnancy-related health risk among women and adolescent girls in particular (Bongaarts, 2020; Akamike, Okedo-Alex, Eze, and Ezeanosike, 2020). Akamike et al. (2020), indicate that family planning uptake is generally low in sub-Saharan Africa, and this is attributed to numerous challenges and barriers confronting women. They found that FP uptake is affected by client specific challenges such as; education, desire for large family, partner disapproval of FP, previous side effects, religious beliefs, cultural orientation, age, marital status, income status residency, among others. Also, Akamike et al. (2020), health service related factors such as cost, services access limitation, and procument difficulties to have affecting uptake of FP in SSA. Also, Eliason, et al. (2014), indicate that FP uptake is still low in rural districts in Ghana and that could be tied to lack of formal

education, cultural beliefs and spousal communication. Due to the evidence of FP uptake challenges in SSA, contraceptive prevalence rate is worth examinig in order to understand the situation in Africa and Ghana.

2.2.3 Contraceptive Prevalence Rate

Mbacke (2017), Burkina Faso experience remarkble annual rate of increase in modern contraceptive prevalence rate, rising from 0.7 percent in the period 2010-14 to 4.7 percent in 2015-16 implying high acceleration of the pace of contraceptive uptake. Mbacke (2017), indicate that the contraceptive prevalence rate do have immediate impact on the total fertility rate (TFR) as TFR barely moved from 5.0 to 4.9 births per woman in Senegal and from 6.0 to 5.7 in Burkina Faso where remarkable annual rate of increase in modern contraceptive prevalence rate is experienced. In essense, Mbacke (2017), argued that the modern contraceptive uptake necessarily has a lagged effect on the fertility levels in sub-Saharan Africa.

2.2.4 Family Planning Access

According to the World Health Organization (2008), ensuring access for population to their preferred contraceptive methods is an advacement of human rights including the life to life and liberty, as well as bringing significant health and other health benefits. Access and use of contraceptive methods prevent health related risk associated with pregnancy, more importanly for adolescent girls (Durowade, et al., 2017). Accprding to the Bill and Melinda Gates Foundation (2022), access to family planning, entails the availability of contraceptive methods to women and girls that work for them. Bill and Melinda Gates Foundation (2022), further indicate that improving supply of family planning services and products is not the lone need; myths and

misinformation about family planning and also the social norms and regulations that hinder the ability of women and girls to act on their choice need to be adderess in order to enhance access. Whilst, the Ghana Multiple Indicator Cluster Survey (GMICS) 2017/18 indicate that two in every five women demand family planning and are satisfied with current modern contraceptive methods, the joint percentage of women, age 15-49 years, currentley married or in uninion with met need for FP for birth spacing is just 16% and 12% for limiting number of children. The contrain is not limited to non-availability of modern contraceptive methods but also other access factors such cost, fear of side effect, lack of information, and socio-cultural norms, among others (Amporfu, Arthur, & Novignon, 2020). According to Bhatt, et al. (2021), increasing the coverage and access to essential contraceptive methods are preconditions to meeting the Sustainable Development Goals (SDGs) and to accomplish collective access to reproductive healthcare services by 2030,

2.2.5 Unmet Need for Family Planning

The concept of unmet need for family planning refers to the percentage of women population of reproductive age either married or in a union, who want to control birth by stopping or delaying childbearing but do not have access to any available method of contraception. (United Nations Department of Economics and Social Affairs Population Division, 2014). According to the explanation of the United Nations Department of Economics and Social Affairs Population Division (2014), the standardised definition of unmet need for FP includes women who are fecund and active sexually but do not use any method of contraception, and also report not desiring any more children or wishing to delay giving birth to their next child for at least two years. Further explained by this source, unmet need for FP indicates the gap between women's reproductive objectives and the actual contraceptive behaviour. Unmet need for FP is therefore used as an

indicator to track the gains and progress advanced towards the targets of universal reproductive health access. The United Nations Department of Economics and Social Affairs Population Division (2014), further argued that data on contraceptive prevalence rate complements the unmeet need for FP indicator. And the overall unmet need for FP and prevalence of traditional methods shows the extents of unmet need for modern methods. According to Asif and Pervaiz (2019), the indicator of unmeet need for FP in principle, ranges from 0 (no unmeet need in the population of women) to 100 (no needs met in the population of women). Thus unmet need level of 25 percent and above is considered very high and values of 5 percent and below is regarded as very low.

2.3 Theoretical Review

This section look at the existing theories underpinning the study and the relationship that existing between the theories and the study. The researcher drawn a link between these theories and the study to help establish an alternative ways of conceptualising Family planning concept as a birth control mechanism in a framework. The theories reviewed in this study include the Demographic Transition Model (DTM), and the Theory of Planned Behaviour (TPB). These theories are presented in the following sub-sections;

2.3.1 The Demographic Transition Model (DTM)

The "theory of the demographic transition is based on the interpretation of demographic history proposed in 1929 by Warren Thompson (1887-1973); an American demographer. The model seeks to provide an explanation of the variety of demographic regimes found across the world. The theory premised that societies pass through one demographic regime to another as a result of changing pattern of mortality, fertility and population growth rates. The traditional demographic

transition model outlined four stages of a countries demographic transition. The stages include; "*Pre-transition*; characterised by high birth rates, and high" changing death rates. The second stage is; *early transition*, during which the death rate starts to decline as birth rates remain high ushering in rapid population growth patterns. At these stages, the acceptance of birth control measures such as family planning is lacking and people give birth to children with high impunity. The third stage is the *late transition* stage in which birth rates start to fall and the population growth rate decelerates across time. At this stage, education, income and other variables come to play for declining population patterns. Also, people begin to appreciate and accept birth control measures such as family planning products. Furthermore, the fourth and last stage is known as the *post-transition* where societies are characterised by very low birth and low death rates. At this stage, societies experience negligible or enters a declining stage of population growth. At this stage, birth control measures have taken full control of the demographic behaviour. People would have accepted FP services in order to manage their fertility patterns.

The application of the demographic transition model in the western context in different from that of least developed countries (Zaidi & Morgan, 2017). According to Zaidi & Morgan (2017), development "theories posit a universal explanation for demographic patterns across times, places, and cultures". However, the experience of sub-Saharan Africa in terms of the demographic transition is expected to be different from that of the western nations. In the African context, the appreciation of technological innovation and the use of modern birth control measures is still limited in the rural areas as compare to the urban areas. Thus, whilst the urban areas in sub-Saharan Africa would have been far advanced in the *late transition and post-transition* stages due to the availability and accessibility of modern birth control measures, the rural areas are still lagging behind at the *Pre-transition* stage in terms of the modern birth control methods. In effect, fertility

rates is expected to be high in rural communities who are still found at *Pre-transition* stage as compare to the rural areas. Figure 2.1 below presents the demographic transition model used to explain the link between population change pattern and the use of FP services.

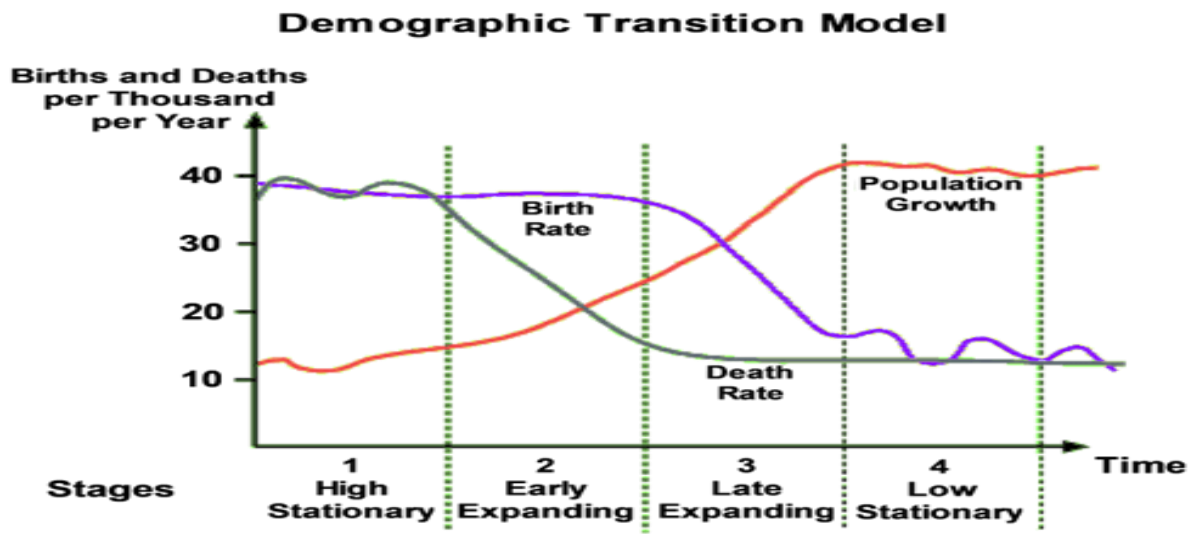


Figure 2. 1: Demographic Transition Model

Source: Adopted from Barcelona Field Study Centre, 2021

2.3.2 The Theory of Planned Behaviour (TPB)

The theory of planned behaviour is a psychological theory that relates beliefs of an individuals to their behavioural patterns. The theory proposed that three fundamental components, namely, "attitude, subjective norms, and perceived behavioural control" collectively profile an individual's behavioural intentions (Kan and Fabrigar, 2017). The TPB initially proposed as the Theory of Reasoned Action (TRA) in 1980 by Icek Ajzen to forecast "an individual's intention to engage in a behaviour at a" particular time and place. The theory was envisioned to describe all behaviours over which people possessed the aptitude to exercise self-control. The key element to this model is behavioural intent; and that intentions are predisposed by the attitude and almost the odds that

the behaviour will have the predictable "outcome and the subjective evaluation of the risks and benefits of that outcome" (LaMorte, 2019). Applying this proposition in family planning uptake, an individual intentions to accept any modern contraceptive method as birth control measure can be predicted based on their attitude and ability to impose self-control. According to Lamorte (2019), the TPB has been used effectively to predict and expound a myriad range of health behaviours and intentions including smoking, drinking, and health services utilization such as family planning, breastfeeding, among others. The TPB conditions that behavioural achievement is determined by both motivation (intention) and ability (behavioural control). It then distinguishes between three types of beliefs - behavioural, normative, and control. Lamorte (2019), indicate that Icek Ajzen 1980 then classified the TPB into six constructs that mutually represent a person's actual control over the behaviour. These include;

1. *"Attitudes - This refers to the degree to which a person has a favourable or unfavourable evaluation of the behaviour of interest. It entails a consideration of the outcomes of performing the behaviour.*
2. *Behavioral intention - This refers to the motivational factors that influence a given behavior where the stronger the intention to perform the behaviour, the more likely the behavior will be performed.*
3. *Subjective norms - This refers to the belief about whether most people approve or disapprove of the behavior. It relates to a person's beliefs about whether peers and people of importance to the person think he or she should engage in the behavior.*
4. *Social norms - This refers to the customary codes of behavior in a group or people or larger cultural context. Social norms are considered normative, or standard, in a group of people.*

5. *Perceived power - This refers to the perceived presence of factors that may facilitate or impede performance of a behavior. Perceived power contributes to a person's perceived behavioral control over each of those factors.*
6. *Perceived behavioral control - This refers to a person's perception of the ease or difficulty of performing the behavior of interest. Perceived behavioral control varies across situations and actions, which results in a person having varying perceptions of behavioral control depending on the situation. This construct of the theory was added later, and created the shift from the Theory of Reasoned Action to the Theory of Planned Behavior".*

In general terms, the theory of planned behaviour is well reinforced by pragmatic evidence. Intents to perform behaviours of diverse manners can be predicted with high precision from attitudes towards the behaviour, subjective norms, and perceived behavioural control; and these intentions, altogether with perceptions of behavioural control, explain the considerable difference in actual behaviour. Attitudes, subjective norms, and perceived behavioural control are confirmed to be related to appropriate sets of noticeable behavioural, normative, and control beliefs about the behaviour, but the rigorous nature of these relations is still indeterminate. Expectancy-value inventions are establish to be only partly effective in dealing with these relations. Optimum rescaling of anticipation and value measures is presented as a means of dealing with measurement restrictions. Finally, inclusion of previous behaviour in the prediction equation is shown to provide an avenue of testing the theory's adequacy, another issue that remains uncertain. The limited available proof concerning this question shows that the theory is predicting behaviour fairly well in evaluation of the ceiling imposed by behavioural reliability (Ajzen, 1991). The TPB is presented in Figure 2.2 below.

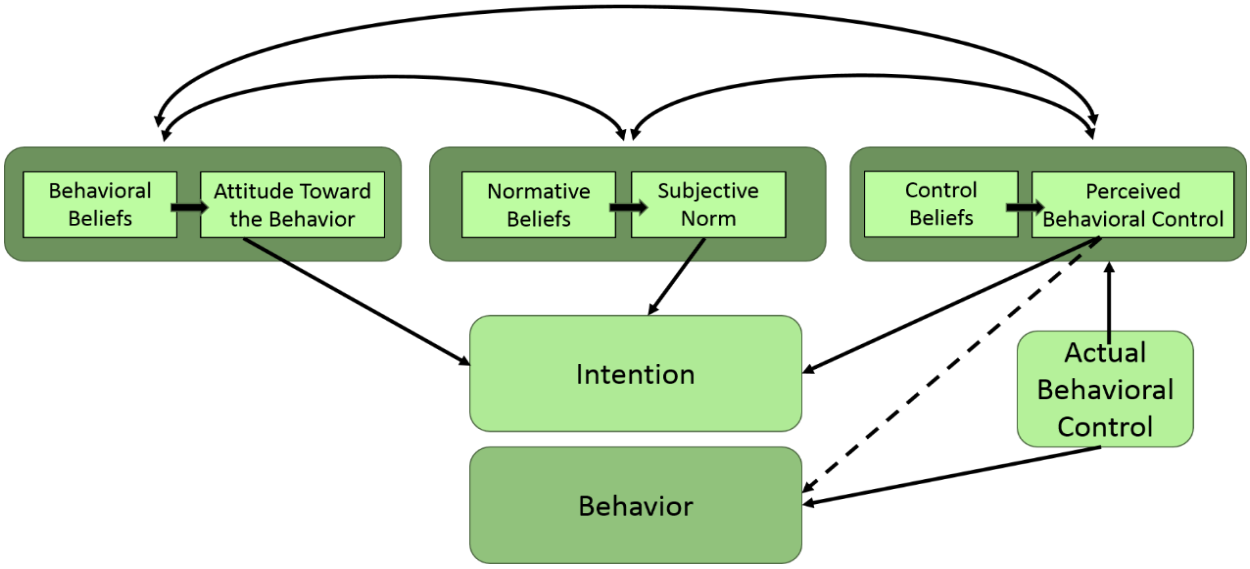


Figure 2. 2: Framework of the theory of planned behaviour

Source: Adopted from LaMorte, 2019

Despite the effectiveness of the TPB in predicting behaviour quite perfectly, there are numerous limitations of the theory, which include the following:

- It makes absolute assumption as though the person has in possession the opportunities and resources to be effective in performing the desired behaviour, irrespective of the intention.
- It failed to take consideration of other variables that influence the behavioural intention and motivation, such as fear, threat, mood, or past experience.
- While it does take into consideration the normative influences, it still does not take into account environmental or economic factors that may inspire a person's intention to perform a behaviour.
- It again predicts with absolute assumptions that behaviour is the result of a linear decision-making process, and does not consider uncertainty and change over time.
- While the supplementary construct of professed behavioural control was an essential addition to the theory, it failed to highlight anything about definite control over behaviour.

- The time frame between "intent" and "behavioural action" is not talked about or predicted by the theory.

The TPB has shown more usefulness “in public health, but it is still limiting in its inability to consider environmental and economic influences. Over the past several years, researchers have used some constructs of the TPB and added other components from” behavioural theory to make it a more integrated model (Webster, et al., 2021). “This has been in response to some of the limitations of the TPB in addressing public health problems (LaMorte, 2019”). Based on this the context-acceptability theory was examine as in the following sub-section 2.3.3.

2.3.3 Conclusion

The theory of demographic transition model seeks to provide an explanation of the variation of demographic regimes found across the world. The theory proposed that societies pass through one demographic regime to another as a result of changing pattern of mortality, fertility and population growth rates. Family planning plays a critical role in the demographic dynamics of a given society. Whereas “the theory of planned behaviour” proposed that three fundamental components, namely, attitude, “subjective norms, and perceived behavioural control” collectively profile an individual’s behavioural intentions to used family planning service. The two theories put together to establish the conceptual framework of the study taking the concept of Armitage and Theodore (2005).

2.4 Empirical Review

2.4.1 Access to Family Planning, the Scenarios of Ghanaian and Africa

Access to family planning in Ghana remain a critical challenge to the FP uptake among clients of FP services. Machiyama and Cleland (2014), viewed the ability to practice or access to, contraception as an elastic concept. They defined access as awareness of pills and injectables as well contraceptive supply sources. In light of issues surrounding the access to FP services, some research have conducted studies to ascertain this. For instance, Tessema, Gomersall, Mahmood, and Laurence, (2016), indicate access to family planning services is not the panacea to the uptake of FP services but the quality of care in FP services is critical to support the levels of contraceptives uptake in Africa. Tessema et al. (2016), indicate that quality of care for FP services is influnced by certain factors such as structural factors; that include staff levels, management, availability of materials and equipments at the facility providing the FP services. Futhermore, process factors such as client-service provider interaction, and client centred FP services also exert some influence on the quality of care for FP services, thus resulting to clients statisfaction issues in FP service provision. Also, Dey, et al. (2021), indicate that whilst "there is a growing emphasis on person-centered contraceptive counselling, care that" deferential and focuses on satisfying the reproductive needs of couples, quality of care for FP services "in low and middle countries is lagging behind" and much is not known about how this is affecting uptake of FP services in those countries. Dey, et al. (2021), thus employed formative research to analyse cross-sectional survey data using pricipal component analysis. Based on this they used the adjusted regression models to evaluate the association between Quality of Family Planning Counselling (QFPC) and contraceptive selected post-counselling among women. Though the study by Dey, et al. (2021), generate current knowledge in the literature of FP, their methodolgy which include adjusted

regression models, need to be enhanced by employing different models such as the probit regression model to study FP uptake among women.

Whilst some scholars call for a concerted effort to address the disparities in FP services in Sub-Saharan Africa, Prata, Weidert, and Sreenivas (2013), indicate that access to FP services among the youth in Africa is still far fetched. They indicate that access to FP services among youth in Sub-Saharan Africa is underreported and underexplored. Thus conducting a study to ascertain the uptake of FP services among adolescents in a the Islamic faith would help the uncover more realities about access to FP services among the youth in SSA in contemporary times. Dey, *et al*. (2021), however argued that the quality of care in FP conventionally focuses on promoting awareness of the broad range of contraceptive choices rather than on the quality of interpersonal communication untaken by family planning (FP) providers. Based on this argument by Dey, *et al*. (2021), it is imperative that recent studies should facus on the array of factors such as religion that could affect uptake FP services among women.

In Ghana Awingura and Adam (2015), investiage the factors affecting the decision of women in the active reproductive age to accept FP services in the Talensi district in the Upper East region of Ghana. They employed the descriptive cross-sectional survey to study women in the 15-49 years cohort. Whilst this study revealed very high (89%) awareness of FP services among the women in the reproductive age group, access to FP services remained very low at 18% in the district. They indicate that whilst the major drivers for using FP services is “to space children (94%) and to prevent pregnancy and sexual transmitted infections (84” %), the decision not to use FP services is among women is as a results of husbands’ opposition to FP usage (90%) and public

misconceptions about family planning (83%). While the study by Awingura and Adam (2015), did not established the statistic inferences on the factors influencing the uptake of FP services, this study would bridged this gap by establishing statistical inferences on the islamic and other factors that affect uptake of FP services in Ghana, and in the Asokore Mampong municipality in particular. Furthermore, Schrumpf, et al. (2020), also study the access to FP services among women in Ghana by examinig the influence of perceived side effect on the uptake of FP services. They indicate that despite the enormous availability of variety of modern contraceptive methods, many women still do not use any FP service due to high anticipated side effects of modern contraceptive usage. To ascertain the effects of perceived side effect on uptake of FP services, Schrumpf, et al. (2020), employed the mixed method to assess the contraceptive usage and potential predictors of use among women in Ghana. Though, their study conveyed a recent knowledge on the uptake of FP services, it left a gap on how religion affects the use of modern contraceptive mathods among women in faith. Thus this current study addressed this knowledge gap by examining the influence of islamic religion on the use of FP services among women and adolescent girls in Ghana.

2.4.3 Common Family Planning Products and Services in Ghana

According to Ghana Ministry of Health (2015), the common contraceptive use amongst married women in Ghana between 2008-2014 include “cyclebeads/SDM, Rhythm, withdrawal, lactational amenorrhea, female condoms, male condoms, pills, injectables” implant, IUDs, female sterilisations and male sterilisations. Also, these same contraceptive methods were used amongst unmarried sexually active women between this same period. Ghana Ministry of Health (2015), indicate that despite the available variety of contraceptive methods for both male and female in marriage and unmarried, there is huge “disparities in contraceptive use by age, marital status,

education" socio-economic status and rural-urban geographic location. The United Nations Population Fund, Ghana (2018), ensuring adolescent girls access to the right information about family planning can increase the usage of "contraceptive methods in the country. The unmet need for family planning" among adolescent girls in 2010 was at a high of 51%, far above the national average of 30% (United Nations Population Fund, Ghana, 2018). This development is attributed to limited access to the right information on contraceptive methods especially among the adolescents age 15-19 years. The specific contraceptive use among muslim women and adolescent girls is not extensively known in the context of Ghana espcially regional and district level specifics. This study would therefore thrown more light on the common FP products and services used among muslim women and adolescent girls in the Asokore Mampong municipality.

2.4.4 Islamic religious factors influencing the access to FP

Muslims have diverse and varying characteristics in terms of race, language, and the extent of their religious conservatism (Roudi-Fahimi, 2004). While some Muslims live in countries where Islamic laws influence their acts and behaviour, some live in countries where secular governments rule and that have a bearing on their acts and way of live. According to Roudi-Fahimi (2004), "contraception in Islam is mainly addressed in the" perspective of marriage and family. As stated in the Quran on serveral occasions about marriage and childbearing, the following Quranic Verses give an insight about islam perspective on FP in the context of marriage:

> *"And one of [God's] signs is that He has created for you mates from yourselves, that you may dwell in tranquility with them, and has ordained between you Love and Mercy"* (Holy Quran, Al-Roum (Sura 30:21))

"It is He who created from signle soul and therefrom did make his mate, that he might dwell in tranquility with her" (Holy Quran, Al-A'Raf (Sura 7:189)

The above verses imply that tranquillity is an essential purpose of family existence and that is achieved through marriage per the Islamic jurisprudence. Whereas childbearing is expected to ensure continued "human race, sexual relations in marriage need not be the purpose of having children". Based on this contraception aids families to achieve tranquillity by having children at the right time and the time they are prepared to have them (Roudi-Fahimi, 2004).

Despite there is no clear Quranic verse that discourage family planning, some scholars of the Islamic faith have considered it as conduit for illegality in sexual relation (Raza, Shiraz, & Zafar, 2012). Based on this, there exist several factors advance by islamic scholars that have created a misconception among Muslims on FP practices, thus, serving as barriers to family planning among the practitioners of the Islamic faith. One critical factor that affect Muslim women uptake of FP is getting the consent of their husband to accept FP services and products. Women are generally afraid to have wrath of their hausbands if they, the husbands do not have the consent to accept the practice of FP. The Quran indicate how men should treat their wives when they become inobedient to their instruction.

2.4.5 Other determining factors influencing the access to FP

Family planning is one of the appropriate means of attaining desired family size, birth spacing and significant reduction of unintended pregnancies, thus leading to an improved maternal health outcomes (Hakizimana & Odjidja, 2021). Despite the apparent benefits of family planning, the universal knowledge of it and free services in some context, utlisation is generally low espcially rural and faith based groups (Hakizimana & Odjidja, 2021; Akamike, Okedo-Alex, Eze, &

Ezeanosike, 2020; Asif & Pervaiz, 2019; Awingura & Adam, 2015). The factors affecting FP access are therefore classified into three namely; predisposing, enabling and need factors. These factors are elaborated as follows;

2.4.5.1 Predisposing factors influencing FP access

The predisposing factors that affect access to FP services are the demographic and social circumstances that influence the individual's decision to use the FP service. According to Guure, et al. (2019), among the predisposing factors that affect married/unmarried women's access to FP services include, age, opposition from their partners, level of education and their ethnicity. Akamike, et al. (2020), also identified age, level of education, spousal consent and approval and the marrital status of the individual. Similar, Letamo and Navaneetham (2015), made the same findings as Akamike, et al. (2020), with regards to the predisposing afctors affecting FP services. Furthermore, Hakizimana and Odjidja (2021), have made latest findings that education and spousal agreement are some of the factors that affect access to FP services in Burundi. Despite the efforts by scholars to highlight the predisposing factors affecting FP access, non of these studies have attempted to examine how these factors affect women of a particular faith.

2.4.5.2 Enabling factors influencing FP access

The enabling factors to FP access are the bundle of economic circumstances that facilitates or hinders FP service utilization in a particular locality (Guure, et al., 2019). Hakizimana and Odjidja (2021), indicate in their study that the enabling factors that influence uptake of family planning include the income level of the individual, FP self-efficacy, and perior use of FP among others. According to Sileo, Wanyenze, Lule, and Kiene (2015), perior contraceptive use, location of FP service delivery and income of the individual involved are the enabling factors that affect access

to FP uptake among men and women. Furthermore, Sensoy, et al. (2018), the information individuals obtained about family planning is an enabling factor that could affect access to FP services since information ultimately turn the individuals attitudes toward positive or negative behaviour. In effect, the enabling factors that determine access to family planning services are the socio-economic variables that improve or discourage access to FP services.

2.4.5.3 Need factors influencing FP access

Sileo, Wanyenze, Lule, and Kiene (2015), indicate that the need factors are the perceived family planning need of the individual or couples. Hakizimana and Odjidja (2021), also argued that the need factors reveal the perceived health service needs and actual illness condition. Furthermore, Kassim and Ndumbaro (2022), found that women general preference of unapproved family planning methods, limited access to reliable resources, poor couple support on family planning methods are some of the significant need factors that affect access to family planning services among women particularly in the rural setting. Also, Teshale (2022), found that women visiting of the haelth facility over a particular time, knowledge about contraceptive methods are the need level factors that affect unmet need for family planning. In effect the need factors are the individual level factors that affect the access of family planning services and this in the long run affect the level of unmet need for family planning services.

2.5 Conceptual Framework

The conceptual framework above is adopted from Armitage and Theodore (2005) to explain the access and utilization of Family Planning (FP) service and the circumstance under which the access and utilization of the FP service can be influenced. The three theories reviewed above have backed

the conceptual framework which is made up of different constitutes; the environment, the population characteristics, FP behavior, and the FP outcomes. All these constituents of the framework have their characteristics and implication. The constituents are therefore explained in the ensuing paragraphs;

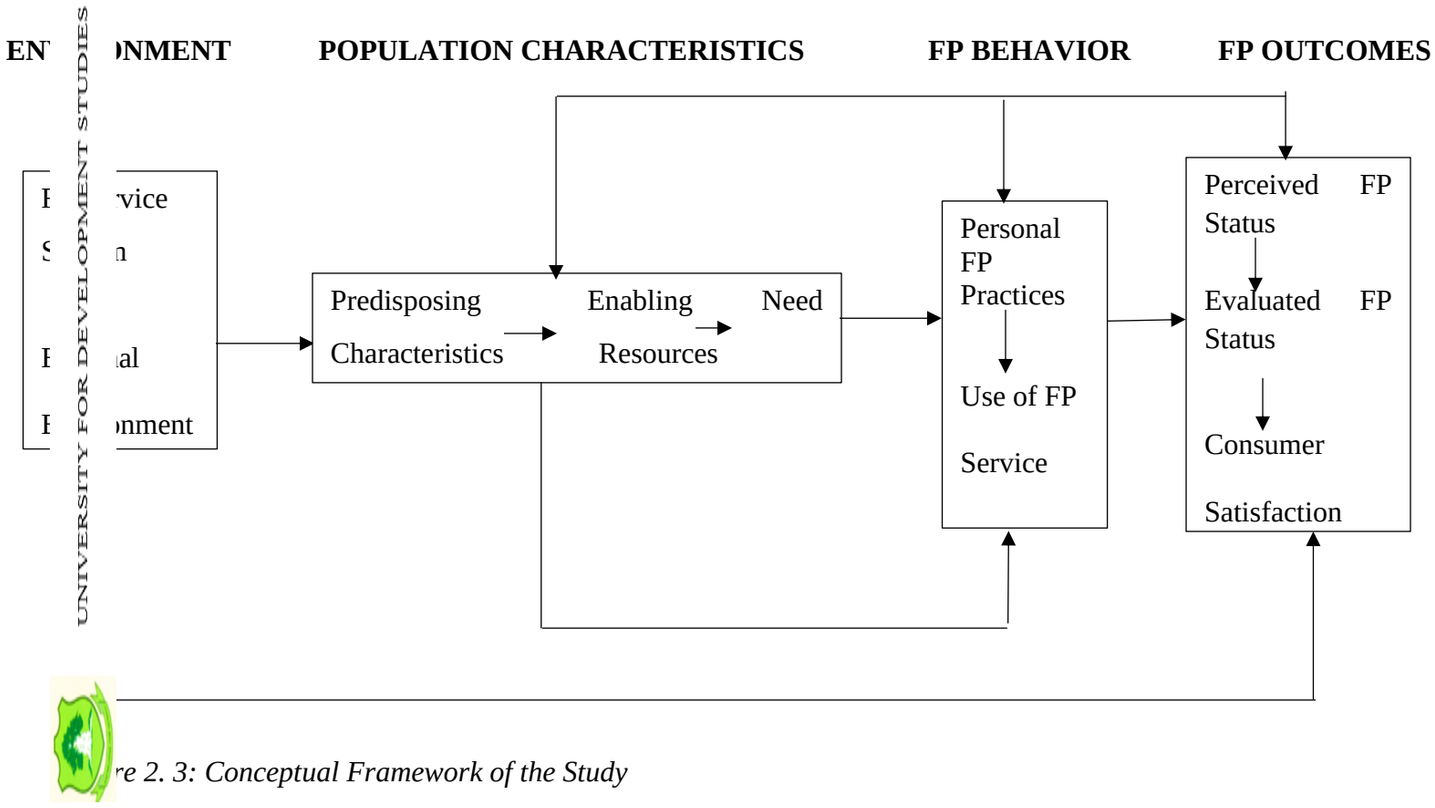
2.5.1 Environment

The environment as applied in the framework consists of the family planning (FP) service system and the external environment. In this case, the FP service system constitutes all the systems put in place to make FP service accessible to the people. These include FP policies, FP service providers, and the institutions put in place to support the provision of FP services. This implies that the extent to which all these are put in place would have implications on the access to FP service. Also, inherent to the environment is the external environment which interacts with the FP service system, thus defining the access and uptake of the FP services. The external environment includes the spatial, religious, and cultural environments that are external to FP services but exert a weighty influence on the access and uptake of FP services. The spatial environment as applied here refers to the rural and urban spatial units within which consumers of FP services reside. Thus, access to the FP service has a bearing on the spatial unit within which the user resides. Also, the religious and cultural environments are thought to have some effect on the uptake of FP services. In effect, the environment as applied in the framework constitutes the FP service system and the external environment.

2.5.2 Population Characteristics

The population characteristics here refer to the intrinsic and extrinsic characteristics of the potential FP service user. These include the predisposing characteristics, “enabling resources, and need. The predisposing characteristics as” applied here include whether or not the potential users

of FP service are couples, they have foreknowledge about the available FP services, and they have the desire to control birth among others. However, the outcome of either way as outlined above is influenced by enabling resources and the need as indicated in the framework above. Thus, given the external environment favors FP services, the uptake of FP services at the individual level is influenced by the predisposing characteristics, enabling resources, and the need.



re 2. 3: Conceptual Framework of the Study

Source: Adopted from Armitage & Theodore (2005)

2.5.3 FP Behavior

The family planning (FP) behavior as used in the framework refers to the nature of individual family planning practice and uptake of family planning services. In this regard, the personal FP practices and use of FP services. Here, it is assumed that the predisposing characteristics of the individual, his/her enabling resources, and the need defined the personal FP practices and use of FP services. The personal FP practices as applied here referred to the kind of FP service the individual accepts to use. This includes the level at which the individual accepts the service, FP counseling they seek about the services and the commitment to the use of the service.

2.5.4 FP Outcomes

Perceived FP Status: this entails the unmet need for FP, use of modern FP services, readiness to use modern contraceptive methods among women and adolescent girls. It is always perceived that the predisposing factors, enabling factors and need factors work effectively to address the unmet need for family planning among women and adolescent girls. Services of FP need to be evaluated under the operation of various factors predisposing, enabling and need factors.

Evaluated FP Status: this measures the change in knowledge, attitudes about FP and/or contraception methods use. The evaluation of the FP status is resulting into fertility decline, abortion, and unintended pregnancy decline. Thus the evaluation indicate consumer satisfaction where consumers can rate FP services they get access to.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the methodology and the procedures that was followed in order to answer the research questions. The issues covered in this chapter include, the research design, approach, population, sampling and sampling technique, data collection, data collection procedure, and data analysis and presentation.

3.2 Study Area

3.2.1 Location and Size

The "Asokore Mampong Municipality covers a total land area of 23.91 km^2 and is located in the North-Eastern part of Kumasi Metropolis. The municipality" is bordered by Kumasi Metropolis, the Kwabre East District and the Ejisu Juabeng Municipality (GSS, 2014). The Figure below is built up Map of the Municipality.

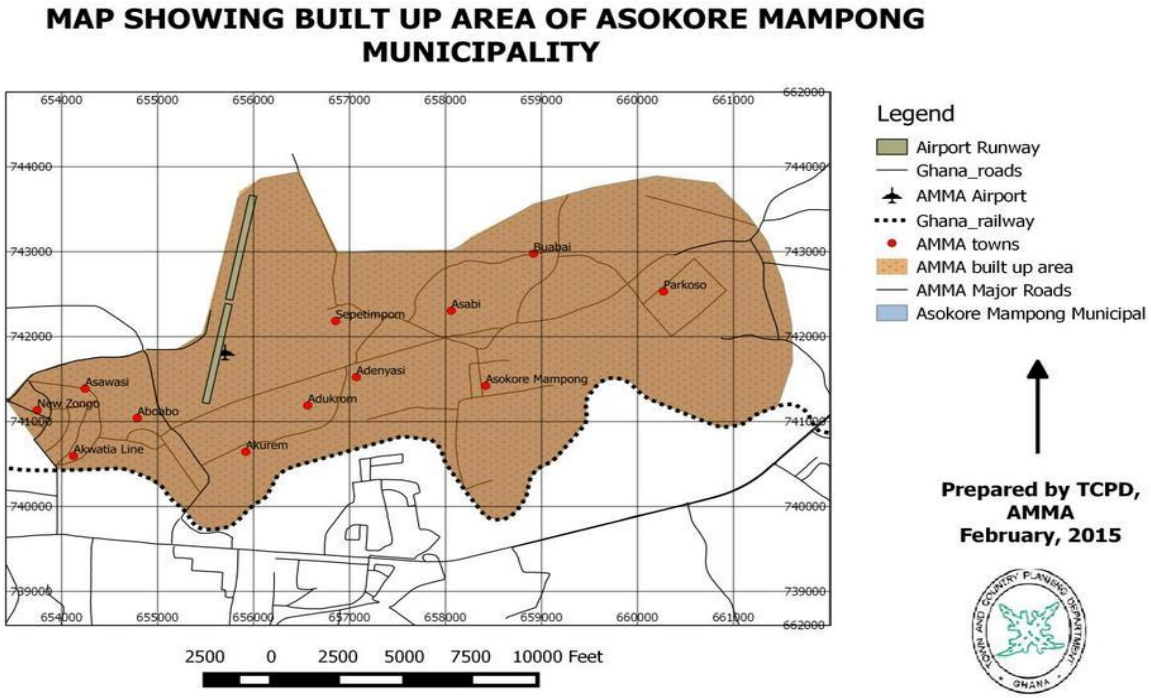


Figure 3. 1: Built up Area Map of Asokore Mampong Municipality

Source: TCPD, AMMA, 2015

3.2.2 Population

According to the 2021 national population census, the population of the municipality is 191, 402 comprising 93, 506 males and 97, 896 females. This makes the population of the Asokore Mampong the second highest in the Ashanti Region after Kumasi Metropolis constituting 6.4 % of the entire population of the region. Males within the age bracket of 0-4 years constitute the highest proportion (13.4 %) of male population in the municipality followed by those in the age bracket of 5-9 years with 12 %. The population of females in the Asokore Mampong municipality. is dominated by females within the age bracket of 5 – 9 years with 11.9 %; followed closely by females within the age bracket of 20 – 24 years with 11.8 % (GSS, 2021).

3.2.3 Administrative and Political Structure of Asokore Mampong Municipality

The Municipal Chief Executive serves as the political head of the Municipality with fifteen (15) assembly members. There are ten (10) electoral areas in the municipality namely; Aboabo No.1, Aboabo "No. 2, Akorem, Sepe Timpom, Adukrom, Asawase, New Zongo, Sawaba, Asokore Mampong and Akwatia line. The" municipality also has one constituency; which is the Asawase constituency and three (3) zonal councils at Aboabo, Asawase and Adukrom (GSS, 2014).

3.2.4 Social and Cultural Structure of Asokore Mampong Municipality

Healthcare Delivery and Facilities

Access to primary healthcare is readily available in the municipality. The municipality has one public health facility located at Sepe Timpom (Sepe Dote Health Centre) and ten (10) private hospital/clinics. Additionally, there are six (6) community health planning and services (CHPS) zones as well as twenty-nine (29) outreach sites. The common OPD reported cases in the municipality include "Malaria, Acute respiratory tract infection, Diarrhoea", Skin diseases and ulcers, hypertension, Vagina discharge, Rheumatism and other joint pains, malnutrition, intestinal worms, home accidents and injuries (GSS, 2014).

3.2.4.1 Education

The Asokore Mampong municipality has two hundred and seventy seven (277) different educational facilities. One hundred thirty seven (137) of these facilities are privately owned whilst 139 are publicly owned. There are 93 pre-school facilities, "101 primary schools, 76 Junior High schools, 5 Senior High schools", a Tertiary institution and a school for children with special needs. The "municipality has two (2) community ICT" facilities that are located at Adukrom and Asawase

although almost all the primary, secondary and tertiary institutions in the municipality have an ICT unit. There are no Vocational/Technical institutions in the municipality (GSS, 2014).

3.2.4.2 Ethnicity and Culture

The Asokore Mampong municipality is a heterogeneous municipality with diverse ethnic groups with Akans forming the largest group (40.9 %), followed by Northerners (36.7 %) with the Guans, Ga-dangme and Ewes constituting 10.7 %, 8.7 % and 3.0 % respectively. The chief of Asokore Mampong is the head of the traditional area in the municipality. The chief is the custodian of the land and also serve as the traditional head of the people dwelling in the municipality. The major festival in the municipality which is actually a festival for the entire Ashanti Region is the *Akwasidae*. This is celebrated every forty days making it nine (9) festivities in a single year, however only one (*Akwesidae kese*) is celebrated on a high note to climax the yearly activities. The Muslim communities in the municipality also have their traditional/religious leaders such as Imams. Irrespective of the diversity in ethnic and cultural activities in the municipality, the people there have been co-existing peacefully for years (GSS, 2014).

3.4.4.3 Religion

The Islamic religion is the dominant religion in the Asokore Mampong municipality with a representation of 55 %; followed by Christians with 41.8 % and other faiths forming 2.8 % (GSS, 2014).

3.5 Economic Structure of the Asokore Mampong Municipality

The commerce sector employs the highest proportion of the active work force in the municipality with an integrated system covering markets, financial institutions, wholesalers/retailers, air and land transport businesses, hospitality businesses etc. The manufacturing sector constitutes the second largest employer in the municipality with the presence of pharmaceutical companies like Kojach Pharmaceutical Ltd and Shalom Pharmaceutical. The least of the labour force in the municipality is employed by the Agricultural, fisheries and forestry industries. These economic activities include crop and animal production. Staple crops such as Maize, Cassava, Plantain and also leafy vegetables are cultivated in the municipality. Additionally, the production of poultry, cattle, goats and pigs also carried out in the some areas in the municipality. The Asokore Mampong municipality also quite a number of several food processing facilities which are mainly for processing groundnut and cassava. These processing units are located in Akorem, Moke and Sawaba all in the municipality (GSS, 2014).

3.6 Ethical Issues

The study was subjected to the requirements of the ethical committees of the University for Development Studies as well as the Asokore Mampong Health Directorate. Also, respondents were comprehensively informed about the study, its purpose and the reason they have been selected for interview. The identities of respondents was duly protected and anyone who was not comfortable with the study or line of questioning was not compelled to be part of the study. Thus respondents were given the freedom to either participate in the study or opt out.

3.7 Study Design

The research design is an essential element of any research methodology, as it guides the researcher to appropriately design a strategy of enquiry in a direction that allows for answering the research questions appropriately. It allows a substantial control on the reliability of the results accomplished, afford a robust base for a comprehensive research (Pawar, 2020; Kabir, 2016). The descriptive survey design and causal design were used in this study to provide appropriate answers to the research questions. The descriptive survey was used to collect data across a cross-sectional of the population with both structured and semi-structured questionnaires. A descriptive cross-sectional design measures the outcome and exposure of a sample population at one point in time without making inferences or causal statements (Setia, 2016; NEDARC, 2010). Descriptive cross-sectional method was chosen for the study because it is relatively quick and inexpensive to conduct especially when dealing with a huge population like the Asokore Mampong municipality and also; it is an appropriate method for understanding the determinants of health choices among a population (Wang & Cheng, 2020). Secondly, there is minimal difficulties with ethical issues as well as provides the platform for data to be collected on all variables at a single point (Wang and Cheng, 2020). Furthermore, the causal design was used in this study to establish an empirical evidence (Pawar, 2020; Kabir, 2016), on the influencing factors of the uptake of family planning services among women and adolescent girls in the Asokore Mampong municipality in the Ashanti region of Ghana.

3.8 Research approach

The quantitative and qualitative research approaches were used in this study to collect primary data concurrently through an inductive approach in order to make a generalization from the specific

sample population to the entire population. Thus primary data is used to explore and explain the phenomenon of family planning service uptake among women and adolescent girls in the Asokore Mampong Municipality. The rationale for using the quantitative and qualitative approaches concurrently is to offset the bias inherent in using a single approach (Majid, 2018).

3.9 Population

The target population of the study were Muslim women and adolescent girls in the Asokore Mampong municipality who fall within the 15-49years age cohort. Given the fact that the 2021 population and housing census estimated female population of the Asokore Mampong municipality to be 97, 896, the composition of Muslim women and adolescent girls in the municipality is not readily known. Based on this, the population of Muslim women and adolescent girls in the municipality was assumed infinite.

3.10 Sample and sampling procedure

This section presents the determination of the sample size of the study and the procedure in selecting the sample population. Both the probability and non-probability sampling methods were used to select the target respondents. The probability sampling used include the stratified and cluster sampling techniques. Also, the non-probability sampling method used include the purposive sampling technique. The justification for using the probability sampling is to reduce the likelihood of systematic errors due to the larger nature of the target population and sampling bias of the researcher (Hamed, 2016). Whereas the non-probability method was used to allow the researcher make selection judgement on those people who the researcher deem fit to participate in the study. Since there population of Muslim adolescent girls and women is considered infinite in

the Asokore Mampong municipality, the formula developed by Cochran (1977) was used to determine the desired sample size for the study (Muhammad, Shahbaz, & Ahmad, 2018).

3.10.1Sample Size Determination

A sample size a very essential aspect of any empirical research where the aim is to make general conclusion about a population based on a sample population. Hence to be able to generalize a conclusion over a population without introducing biases or sampling errors into the generalization, the size of a sample is should be adequately calculated based on certain factors (Taherdoost, 2017). These factors include the aims of the study, the kinds of statistical manipulation to be carried out in data analysis and also the absolute size of the sample selected relative to the heterogeneity or complexity of the population (Taherdoost, 2016). Based on these factors, the study will use the formula below to calculate the sample size

$$n = \frac{Z^2 pq}{e^2} \qquad 1$$

Where;

Where n is the sample size, z is the critical value of the 95% confidence level, p is a proportion of the population attribute q= 1-p and e is the margin of error. The values of these variables for this study are outline as follows; z= 1.96; p= 0.5; q= 1-0.5= 0.5 and e= 0.05. Putting all into equation 1 above gives a sample size of 384.16 which is approximated to 385.

This formula was chosen because it provides the researcher the chance to estimate a level of precision by choosing an error margin for the sample size estimation. Also, the Z in the formula estimates the level of confidence that shows the level of accuracy the results of the survey findings will reveal. This actually shows the degree of certainty that the characteristics of the population

has been accurately estimated by the sample survey (Taherdoost, 2017). Furthermore, P in the formula shows the percentage of a sample likely to have the desired characteristic for the study.

Therefore the sample size for this study will be; n = **385**

50 % was chosen for P because according to Bartlett *et al*. (2001), 50 % estimate for P will result in the maximization of variance which will result in a maximum sample size. The 5 % margin of error is acceptable in social research as well as the 1.96 is the statistical value corresponding to the 95 % confidence level (Taherdoost, 2018).

3.10.2 Sampling Procedure

The multi-stage sampling technique was used to draw the sample for the estimation of the characteristics of the population under study (Muhammad, et al., 2018). This sampling technique is applicable based on the hierarchical configuration of natural groupings within the population of interest (Sedgwick, 2015). Thus, the sampling procedure was done in three stages as outline below;

STAGE I

- The Asokore Mampong municipality has three zonal councils; the Aboabo, Asawase and Adukrom zonal councils. These three zonal councils were zoned into 11 cluster (electoral areas) of the municipality. Out of the 11 electoral areas, 9 of them were sampled through simple random sampling. The sampled electoral areas include; Aboabo No. 1, Aboabo No. 2, Sepe Timpom, Akorem, Adukrom, Asawase, New Zongo, Sawaba, Asokore Mampong

STAGE II

- At this stage, quota sampling technique was used to distribute the sample electoral areas and sample size among the zonal councils. To do this, 3 individuals were tasked to represent the zonal councils by means of proxy. Thus each individual was asked to pick a quota from the total number of electoral areas in each zone they represent through a paper fold. Thus the quota was assigned based the number of electoral areas in each zone. Furthermore, a percentage of the sample size was then assigned to each zonal council based on the number of electoral areas sample from the zonal council. The Table below presents the zonal councils, sampled electoral areas and the quota of sample size.

Sampled Zones	Number of Sampled Electoral Areas	Sample Size
Aboabo	4	171
Asawase	3	128
Adukrom	2	86
Total	**9**	**385**

Source: Author's Computation, 2022

STAGE III

- Finally purposive sampling technique will be used to specifically sample approximately 385 Muslim women and adolescent girls in the Asokore Mampong municipality for the study. "Purposive sampling is widely used to identify and select individuals" or groups that "are especially knowledgeable or experienced with" a phenomenon of interest (Patton, 2002; Cresswell and Plano Clark, 2011). This technique is appropriate for the study because the focus is on girls and women from the ages of 15 – 49 years and also they should be inclined to the Islamic faith.

3.10.3 Data Collection

The survey data collection method was used in this study with the help of both structure and semi-structured questionnaires. This was done through *face-to-face* interviewing of the respondents in order to administer the questionnaire (Dudovskiy, 2022). The paper-and-pencil personal interviewing (PAPI) was used in this study. The motivations for adopting the survey methods in this study is that, it is the most dependable method of accessing the sample target population, and relatively easy to administer. Also, survey method is considered cost-effectiveness in the context of this study, and the ability to collect data from large number of respondents, thus, reducing the chances of several errors (Kabir, 2016).

3.10.4 Data collection Tools

This a step-by-step process that the researcher follows in order to obtain data for intent and purposes of the study. In this study, the data collection procedure started with a design of the research instrument, testing the validity and reliability of the research instrument and administering of the questionnaires.

3.10.5 Design of Questionnaire

The researcher designed questionnaire using both closed-ended-questions and open-ended questions. Both the closed and open-ended questions were used because, the phenomenon under study requires exploring and explaining respondents (Krosnick, 2018), feelings about family planning practices. According to Krosnick (2018), the questions in the questionnaire should not voilate the conversational norms and conventions. So long as the research do not pay attention to this, the quality of the results to be generated from the study would be undermined. Based on this

the researched paid due attention to categorisation of the questions in the questionnaire. Thus, the questions were put into normal, ordinal, scale and numeric categorisations. According to Janice and Martyn (2007), it is important for the research to consider what the questionnaire would measure in the desing stage. In effect, the questionnaire were designed to measure respondents demograpic variables, knowledge of family planning, respondents family planning practices, islamic factors that affect respondents uptake of family planning services in the context of this study and other factors factors affecting the uptake of family services.

3.10.6 Testing Questionnaire Validity and Reliability

The validity of the research instrument examine the extent to which the scores of a measure depicts the variable they intent to measure. The validity of the research instrument was measured through content and criterion validity measures (Taherdoost, 2016). The content validity was measure by comparing the measurement methods against the conceptual definition of the variables. Again the cretirion validity was measured by examining the extent to which people scores are correlated. This was done through Multicollinearity to determine the degree to which two or more variables are intercorrelated. According to Shrestha (2020), the inter-correlation among “variables should not exceed 0.90. So any” inter-correlation “between variables that is in excess of 0.90 will have to be” excluded.

The “reliability of the research instrument” examines the consistency of a measure in a study. Reliability test look out for three types of consistency; over time consistency, across items consistency and across different researchers consistency. In this study, the across items consistency was measured by means of the Cronbach’s alpha to determine the reliability of the variables in the research instrument (Taherdoost, 2016). Based on this, a Cronbach’s alpha of .70 and above

was considered as relaible while apha coefficient of .69 and below was considered as unreliable (Taber, 2018).

3.10.7 Questionnaire Administration

According to Abawi (2014), questionnaire allow the researcher to collect a complete as possible "accurate data in a logical sequence. This is done in order to reach reliable" and valid conclusion from what the research intent to observe. In this regard, both structured and semi-structured questionnaires was used to interview women and girls from 15- 49 years of age in nine (9) electoral within the Asokore Mampong municipality. The electoral areas include Aboabo No. 1, Aboabo No. 2, Sepe Timpom, Akorem, Adukrom, Asawase, New Zongo, Sawaba, and Asokore Mampong.

3.10.8 Data Analysis and Presentation

Data from respondents will be entered into SPSS v.24 set at 0.05 significant level. Responses will be well coded before analysis will be run to show association between marital status, educational status, age, religious factors, other factors etc. and FP uptake among respondents. Descriptive statistics will be used to provide explanation to some of the statistics the data will produce. Results will be presented in tables and charts.

3.10.9 Descriptive Statistics

Data "on socio-demographic characteristics of respondents" were analysed "by means of descriptive statistics" where "frequency- percentage, mean, and standard deviation" were used. "According to Kaur, Stoltzfus, and Yellapu, (2018), descriptive statistics" are used to describe the characteristics and behavior of a data in an organised manner. The demographic characteristics,

knowledge of family planning and access to family planing services were analysed using decriptive statistics such as mean, with frequency distribution. Also, measure of variability such as standard deviation was used to estimate the variability of the means of the data distribution.

3.10.10 Regression Analysis

The binary Probit regression model was used in this study to assess the marginal effect of the independent variables on the dependent variable. The Probit model was used in this study because it has the power to limit the utility value of the dependent variable (family planning services uptake) to lie within zero and one, and the ability to resolve the problem of heteroscedasticity (Adams, 2018), hence the perfect model for this study.

Based on this, the dependent variable, family planning services uptake (Y_j) took only two values: 1 if the Muslim women and adolescent girls access and use FP services and 0 if Muslim women and adolescent girls do not access and use FP services. This is specified in the model below:

$$Y_j = \begin{cases} 1 & if\ Access \quad FP \\ 0 & otherwise \end{cases} \qquad 2$$

Given the set of independent variables X_j which assumed to explain access and use of FP services Y_j, the probability of Y_j can be determined given the set X_j.

The Probit model employed to determine the factors X_j affecting Muslim women and adolescent girls' access and use of FP services is specified below:

$$Y_j = \beta_0 + \beta_1 Age + \beta_2 MS + \beta_3 TSM + \beta_4 LFE + \beta_5 TF + \beta_6 Occupation + \beta_7 \text{Re}\, ligion + \beta_8 CB + \varepsilon_5$$

Where;

- Y_j is the dependent variable (Muslim women and adolescent girls do not access and use FP services)

- X_j is the independent variables: *Age, Marital status (MS),Time spent on marriage (TSM), Level of formal education (LFE), Type of facility (TF), Occupation, Religion and Cultural believes (CB).*

Table 3.3 below presents the description of variables used in the study and their measurements.

Table 3. 1: Description of Variables used in the study and their Measurements

Variable	**Description**	**Measurement**
Age	Age of respondents	years
Marital status	Marital status of respondents	Multi-choice: single=1, married=2, widowed=3, separated=4
Time spent on marriage	The duration respondents have been married	Months/years
Children delivered	Whether respondents have any children	Dummy: Yes=1, No=0
Number of children delivered	The total number children ever born by respondent	Multi-choice: none=1, 1-3=2, 4-6=3, 7-10=4, >10=5
Level of formal education	Formal education attainment of respondents	Multi-choice: No FME=1, primary=2, JHS=3, SHS=4, TVE=5, Tertiary=6
Occupation	Occupation of respondents	Multi-choice: trader=1, public servant=2, student=3, unemployed=4
Knowledge of FP	Respondent knowledge of FP	Dummy: Yes=1, N =0

FP practice	Whether respondents are practicing FP	Dummy: Yes=1, N =0
FP services used	The FP products respondents aware of and use	Multi-choice: condom=1, IUD=2, Tubal ligation=3, Implant=4, Injection=5, others,……
Side effect of FP	Whether respondents experienced any side effects of FP practice	Dummy: Yes=1, N =0
Husbands aware of FP	Whether respondents discuss FP with husbands	Dummy: Yes=1, N =0
Husbands reaction to FP	Respondents husbands reaction to FP	Multi-choice: support it=1, against it=2, indifferent=3
Access to FP services	Whether respondents access FP services	Dummy: Yes=1, N =0
Source of FP services	Where respondents access FP services	Multi-choice: health facility=1, drug store=2, others……
Attitude of FP service providers	Whether FP service providers affect the uptake of FP services	Dummy: Yes=1, N =0
Islamic factors affecting FP uptake	Whether respondents know any Islamic reasons against/for FP uptake	Dummy: Yes=1, N =0
FP decision and Islam	Whether respondents decision to use or not to use FP services	Dummy: Yes=1, N =0
Perceived Islamic teachings influencing FP uptake	Whether respondents have any Islamic perception against FP uptake	Dummy: Yes=1, N =0
Source of Islamic reasons for or against FP	Where respondents learn the Islamic reasons that support or against FP	Multi-choice: Quran=1, Imam=2, Husband=3, relative=4, friend=5

Source: Author's Construct, 2022

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter focuses on analysis, interpretation and finding of our research work. The "content of this chapter is in the order of demographic characteristics of the respondents" "relationship between independent and dependent variables, the probit model results and conclusion"

4.2 Demographic Characteristics of Respondents

This section presents the demographic characteristics of the respondents. These demographic characteristics are; age of respondents, religion of respondents, marital status of respondents, level of education, religion of respondents, and occupation of the respondents.

4.2.1 Age of respondents

The results indicate that a total of 385 respondents responded to the question age category from the survey. Of the 385 valid respondents, 3.9% were in the age category of '45-49 years,' 5.5% were in the age category of '40-44 years', 20.5%, 30.9%, 18.2%, 14%, and 7% were in the age category of '35-39 years', '30-34 years', '25-29 years', '20-24 years', and '15-19 years' respectively. This implies that majority of the respondents were in the age category of '30-34 years', followed by the category of '25-29 years', '35-39 years'. These age groups with the highest percentage of the respondents are the high reproductive age bracket. The implication here is that, most of the respondents fall within the active fertility age group. Thus, the uptake of family planning services is expected to be high among these age groups. Again, '40-44 years', with the category of '45 -49 years' age group recorded the list number of respondents with FP services uptake among Muslim women. The above findings of the study is similar to Suchithra and Sujina

(2016), who indicate that the prevelance use of FP methods was 26.1% among girls in the 15-19 years age cohort. Letamo and Navaneetham (2015), also, indicate in their study that women within the age group 25-34 are less likey to experience unmet need for FP services. This prevelance rate of current use of FP methods declined to 17.7% among women in the age group of 30-39 years, and then 4.9% among women in the age group of 40-49 years. Also, the study by Nettey, et al., (2015), revealed similar results, that contraceptive prevelance rate is high (20.4%) among women in the 15-19 years age cohort, and falls to 10.9% among women in the 40-44 years age cohort. Futhermore, Nettey, et al., (2015), indicated that the uptake of FP services diminishes among women who transit out of the active reproductive age group in the Kintampo districts, with current FP prevelance among women in the age group of 45-49 declined to 8.7%. Figure 4.1 below presents a summary of the age distribution of respondents.

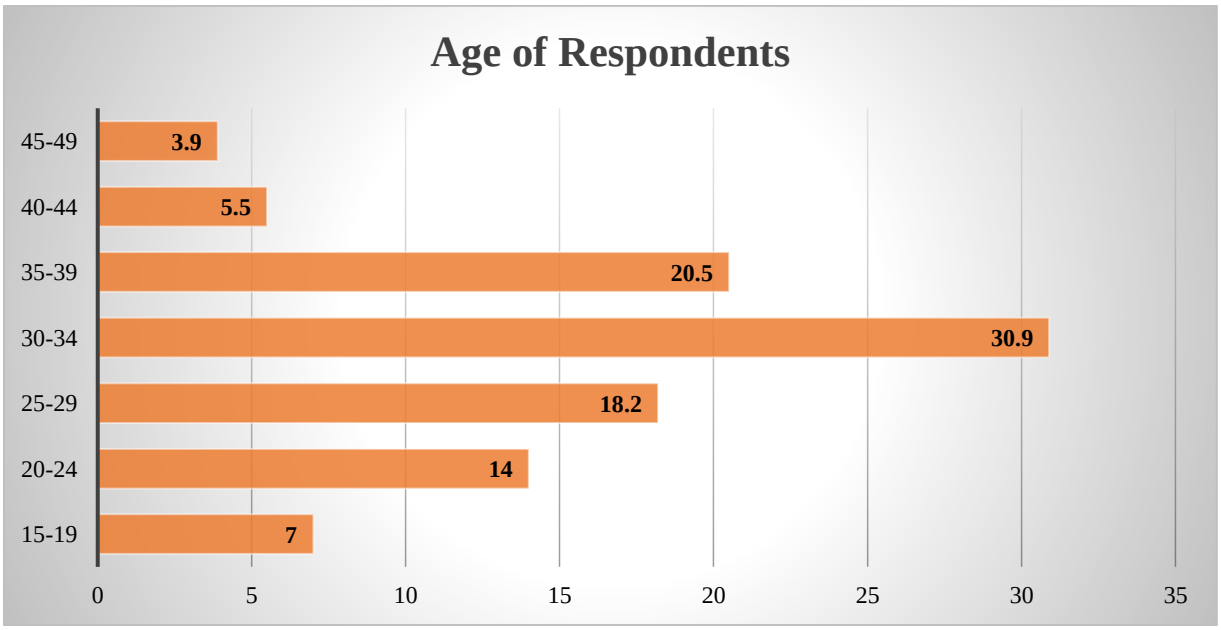


Figure 4. 1: Summary of Age of Respondents

Source: Field Survey, 2022.

4.2.2 Religion of the Respondents

The results shows that most of the respondents were practicing Muslims representing 76% in the study whiles the remaining 24% were non-practicing Muslims. This study was mainly focused on Muslim women and adolescent girls. Thus the researcher opted to classify Muslims into practicing and non-practicing Muslims. The 76 % of women and adolescent girls who are practicing Muslims indicates the dominance of Islam in the Asokore Mampong Municipality. According to the study by Nettey, et al., (2015), FP uptake among Muslims in the Kintampo district was 26.8%. On the other hand, Suchithra and Sujina (2016), study indicated a very low(1.9%) uptake of FP services among among Muslims in the Thrissur district in India. Also, Letamo and Navaneetham (2015), indicate that the unmet need for family planning is more likely to be high among non-Christians. Figure 4.2 below gives a summary of respondents' religious orientation in the study area.

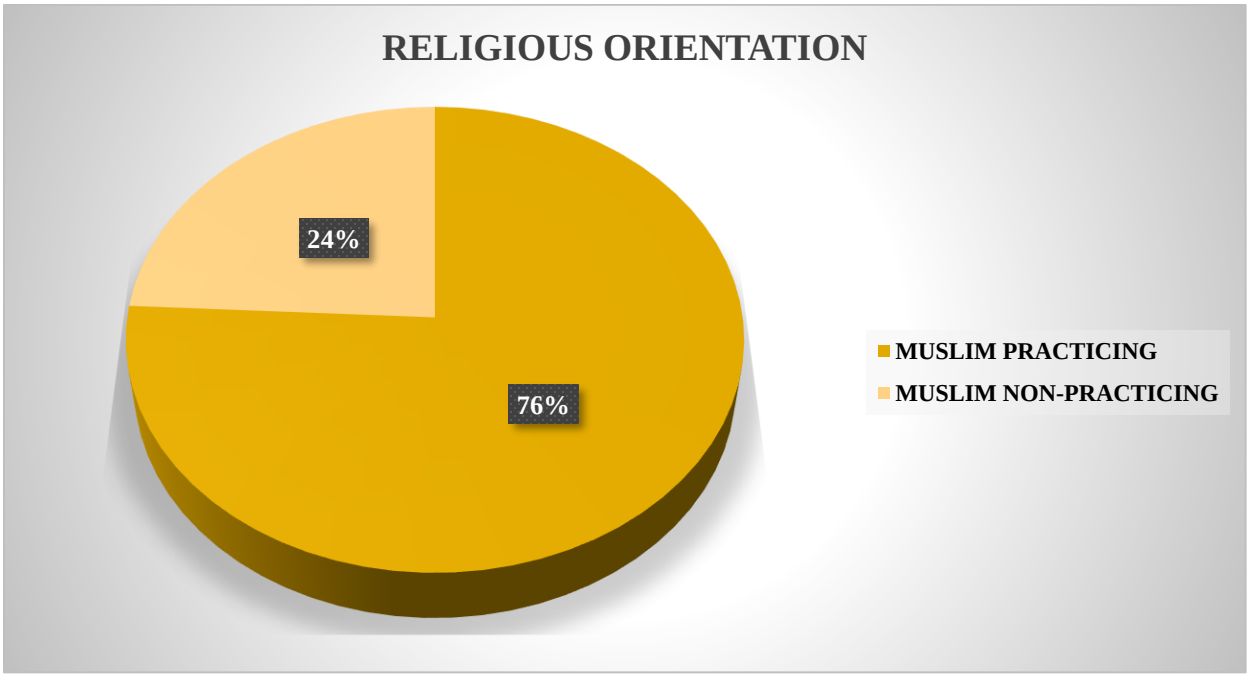


Figure 4. 2: Religious Orientation of Respondents in the Asokore Mampong Municipality

Source: Field Survey, 2022.

4.2.3 Marital Status of Respondents

The results indicate that most of the respondents were married representing 60.8% of the study population. This was followed by 32.2% of the respondents being single and 4.7% them were widowed. The least of the respondents (2.3%) were separated based on Marital Status. This result indicates that most of the respondents were matured and eligible to give accurate information on FP services, since they are married and looking further to better their families. The implication of the findings is that if married women intend to reduce having a silver set of children, they would accept the use of contraception in order to maintain a healthy family. However, the possibility of high acceptability of FP services is contextual, because Asif & Pervaiz (2019), indicate "that the likelihood of unmet need for" FP "among married women in Pakistan goes on to decrease with an increase in their age" Also, the study by Letamo and Navaneetham (2015), indicate that the "unmet need for family planning among married women in Botswana" is generally low at 9.6%. Table 4.1 represent marital status of the respondents

Table 4. 1: Marital Status of Respondents

Marital status of respondents	Frequency	Percent (%)
Single	124.0	32.2
Married	234.0	60.8
Widowed	18.0	4.7
Separated	9.0	2.3
Total	**385.0**	**100.0**

Source: Field Survey, 2022.

4.2.4 Occupation of the respondents

Occupation of women was considered as one other factors that could have a bearing effects on women FP services uptake. The results show that most of the respondents (58%) engage in trade as a source of income, this was followed by 16% of them who were students, and 15% of the respondents being public servants. The least respondents (10%) were Unemployed and 1% of the respondents being contract service providers which recorded the least occupation of the respondents. Asif, Pervaiz, Afridi, Abid, Lassi (2021), study indicate that the odds of unmet need for FP is lower among women who are employed compared to those who are unemployed. The reasons is that women who are employed would be able to afford the cost of FP services than women who are unemployed. Thus in this study women who are traders and public servants as well the contract service workers are high likely to have access to FP services than adolescent girls who are students and the unemployed women. Figure 4.3 represent occupation of the respondents.

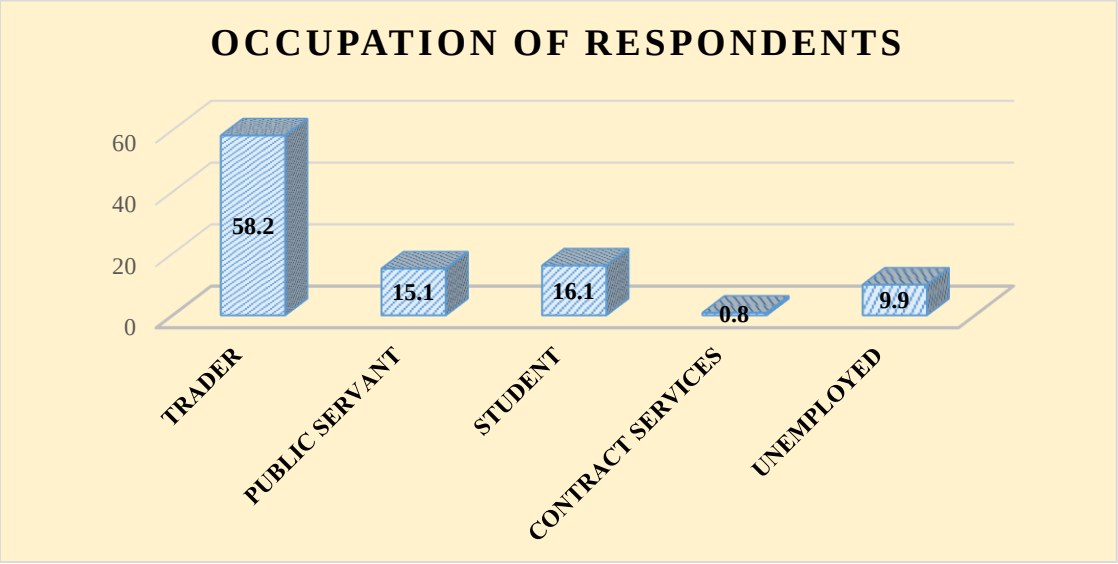


Figure 4. 3: Occupation of Respondents

Source: Field Survey, 2022.

4.2.5 Educational level of respondents

The results show that majority of the respondents were in tertiary institution representing 31.2% of the total respondents, also 28.6% of the respondents were in SHS, 19.5% were in JHS, and 10.5% were no formal education with technical vocation recorded the least number of respondents representing 10.1%. This means that majority of the respondents were well educated. The level of education of respondents was considered an important variable because, education enables an individual to be well informed about the healthy life of his/her family. Thus the need to plan the birth patterns in order to promote their health and wellbeing (Asif & Pervaiz, 2019). Also, Asif et al. (2021), study affirms the importance of education to uptake of FP services. Their study indicate that the odds of unmet need for FP is high among people with formal education than those with no formal education in Pakistan. Furthermore, Asif & Pervaiz (2019), found in their study that the probability of unmet need for FP services among married women in Pakistan decrease with high education, because they are well inform about birth control and the need to improve in maternal and child health. Again, Nzokirishaka and Itua (2018), found in their study that the odds of unmet need for FP is lower among women with primary and secondary education in Burundi. Table 4.2 represent the respondents' level of education.

Table 4. 2: Respondents Level of Education

Respondents level of education	Frequency	Percent (%)
No formal education	41.0	10.6
JHS	75.0	19.5
SHS	110.0	28.6
Technical/vocational	39.0	10.1
Tertiary	120.0	31.2
Total	**385.0**	**100.0**

Source: Field Survey, 2022.

4.2.6 Dependency level of respondents

The results from the study indicate that 33.8% of respondents with 6-10 dependents, this was followed by 20 and above dependents which is 31.2%. Also, respondents with 11-16 dependents were 21.8% and 0-5 dependents being 10.1% of the respondents. Only 3.1% of the respondents had dependents in the range of 16-20. The implication of the above finding is that respondents with high number of dependents could place less regard to uptake of FP service whereas respondents with less dependents have given high regard to uptake of FP services. This is in line with the argument made by Sundararajan, et al. (2019), that FP is acceptable among women given their moral responsibility to take proper care and protect their children, thereby limiting the family size and dependents. Also, Kabagenyi, et al. (2014), indicate in their study that high predisposition for large family size is uninhabited by prolonged birth spacing. Thus couples with high preference for large family size do not give any recource to the responsibility of taking good care of their dependents. Table 4.3 below gives a summary of respondents number of dependents.

Table 4. 3: Respondents dependency level

Number of dependents	Frequency	Percent (%)
0-5	39.0	10.1
6-10	130.0	33.8
11-16	84.0	21.8
16-20	12.0	3.1
>20	120.0	31.2
Total	**385.0**	**100.0**

Source: Field Survey, 2022.

4.3 Muslim women and adolescent girls' knowledge of FP services in AMM

4.3.1 Knowledge of FP services

The individual wealth of "knowledge about fertility control is" a requisite step towards gaining access to contraceptive methods and the use of appropriate method in an effective and timely manner (Hakizimana & Odjidja, 2021). The study thus assessed the knowledge of Muslim women and adolescent girls about FP services in the Asokore Mampong municipality. The results of the study indicate that majority (69 %) of the respondents have some knowledge about FP services whereas (31 %) of the respondents do not have any knowledge about FP services in the municipality. The findings above indicate that respondents knowledge about FP services do not entirely define access to contraceptive methods in the municipality as about (71%) of the respondents get access to FP services against (29%). Guure, et al. (2019), indicate in their study that knowledge of contraceptive methods is considered as need based factor that enables the individual to define the perceived FP services needs. Also, Mustafa, et al. (2015), indicate in their study that as majority have some knowledege about some modern contraceptive methods, the use of contraceptive methods is generally low in Paskistan. Thus the above findings of Mustafa, et al. (2015), confirms this current study as knowledge of contraceptive methods do not translate into access of any contraceptive method. Table 4.4 below gives a summary of the results of the data analysis.

Table 4. 4: Knowledge of FP Services

Response	Frequency	Percent (%)
Yes	266	69
No	119	31
Total	**385**	**100**

Source: Field Survey, 2022.

4.3.2 Knowledge of FP side effects

Respondent's knowledge of any side effects of using contraceptive methods was assessed to ascertain the common side effects FP among Muslim women and adolescent girls in the municipality. The results of the data analysis indicate that majority (68%) of the respondents do not have any foreknowledge of FP side effects whereas 32% of the respondents have some knowledge of FP side effects in the municipality. The above findings implies that few of the majority (71%) who get access to FP services have some knowledge about FP side effects and the rest do not have some knowledge about FP side effects. Since majority do not know any side effect of FP in the municipality, the deterrent effect of any FP side effects would be low in the municipality. This argument is in line with Mustafa, et al. (2015), who indicate that side effects of contraceptive use has a deterrent effect that reduces individuals desire to use any contraceptive method. Similarly, Aryeetey, Kotoh, and Hindin (2010), also found in their study that individual's experiences of any side effect of using contraceptive method discourage the repeated use of such or any contraceptive method. Figure 4.4 below indicate the results of the analysis of knowledge of FP side effects.

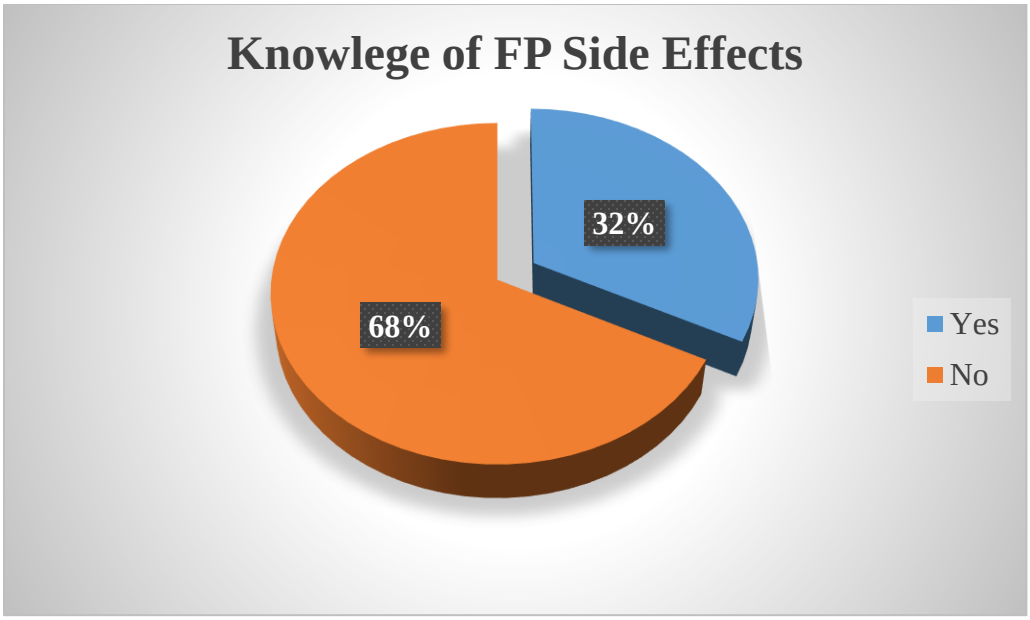


Figure 4. 4: Respondents Knowledge of FP Side Effects

Source: Field Survey, 2022.

4.3.3 Husband/Partner(s') Knowledge of FP

It is argued that husbands play a critical role towards women's access to health care services such family planning (Chekole, Kahsay, Medhanyie, Gebreslassie, & Bezabh, 2019). The results of the study indicate that majority of the respondents (57 %) husbands do not have any knowledge about FP services whereas 43 % of the respondents' husbands have some knowledge about FP services. This variation in husbands knowledge of FP services is attributed to the fact that some husbands do not have formal education, and also the wives do not communicate their intentions to the husbands who lack FP knowledge for delibration. Chekole, et al.(2019), indicate in their study that husbands involvement by women in their FP uptake decisions decrease the odds of using any contraceptive method by the woman, since the husbands always opposed and disapproved women intensions to accept a particular contraceptive method. Furthermore, Asif, et al. (2021), also indicate that husbands knowledge about FP products is highly associated with their acceptance of any contraceptive method for the family well being. Again the study conducted by Durowade, et

al.(2017), identified husband knowledge and approval of FP decision as one of the barriers to FP uptake among women of reproductive age. Table 4.5 below present the husbands knowledge of FP in the Asokore Mampong municipality.

Table 4. 5: Husband/Partner(s') Knowledge of FP

	Response	Frequency	Percent (%)
Valid	Yes	166	43
	No	219	57
Total		**385**	**100**

Source: Field Survey, 2022.

4.3.4 Husband reaction to FP Service

Husbands have multifaceted and evolving reaction to FP services such that male partners play an important role to FP uptake and use among women. Husbands' reactions influenced dynamics of FP uptake and use. This is attributed to their understanding of FP information available to them (Kriel, et al., 2019). The study revealed that majority of the respondents (55.32%) husbands are in support of their wives decision to use any contraceptive method. This was followed by 25.97% of the respondents whose husbands against their decision to use any contraceptive method. Whereas just 18.70% of the respondents husbands remain indifferent to their wives decision to use any contraception method. Kriel, et al. (2019) study identified some pathways through which male partners can positively influenced Family Planning/Contraceptive uptake and access including: social support, adequate information, and shared responsibility. Also, Kwawukume, Laar, and Abdulai (2022), study indicate that if men had a higher propensity of supporting a FP method use then they would support their spouse decision on FP method thus increasing a contraceptive method usage. Thus, in the Asokore Mampong municipality, it is expected that women uptake of

FP is at increase among married/in union women since their partners support FP service use. Table 4.6 below presents a summary results of men reaction to FP.

Table 4. 6: Husband Reaction to FP

Husband reaction to FP	Frequency	Percent (%)
Supportive	213.00	55.32
Against it	100.00	25.97
Indifferent	72.00	18.70
Total	**385.00**	**100.00**

Source: Field Survey, 2022.

4.3.5 The Type of Male FP Product Respondents know

The research attempted to ascertain the extent of male contraceptive used in the Asokore Mampong municipality (AMM). The results of the data analysis indicate that condom is the most common (60.77%) male contraceptive method used from the survey since it recorded the higher percentage of male contraceptive usage. This is followed by the tradition method of withdrawal (9.35%) and the vasectomy (0.77%). The above findings imply that male partners accept a contraceptive method taking into consideration the possible side effects it may have on them. Thus, males accept and use a contraceptive method if they are aware and certain about its minimal side effects on them. Figure 4.5 below gives a summary results of male contraceptive used.

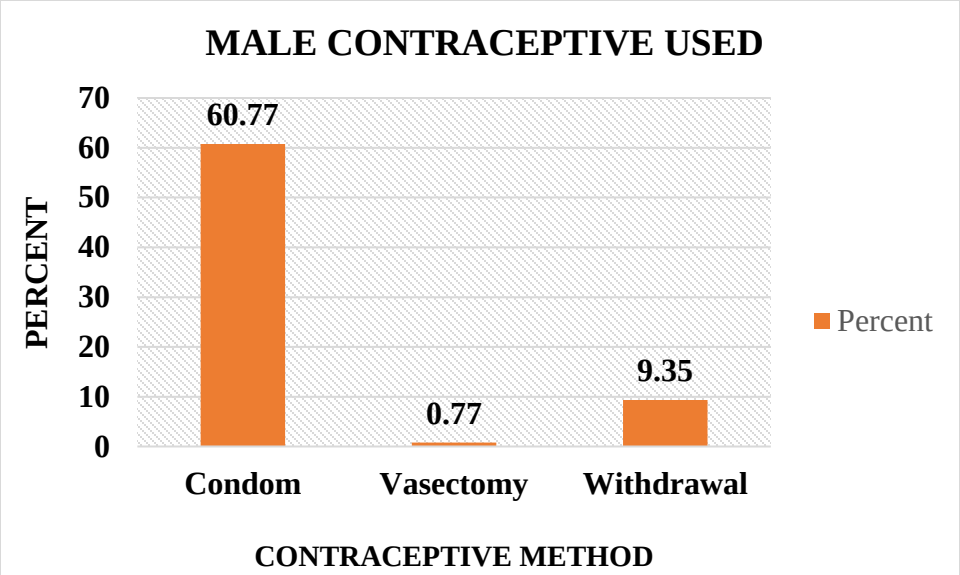


Figure 4. 5: Male Contraceptive Used in AMM

Source: Field Survey, 2022.

4.4 Access to FP services by Muslim women and adolescent girls in AMM

This section presents the results on respondents' access to FP services among Muslim women and adolescent girls in the AMMA. The access to the FP services was measured by whether or not FP services is available, common point of accessing FP services, common FP products available and the satisfaction of services provided by FP service providers in the AMMA. The results of the findings in these regard are presented in the following sections.

4.4.1 Access to FP services in Asokore Mampong municipality

Access to FP services among women and adolescent girls of the Islamic was determined by the use of dummy of Yes or No. In this regard, respondents were asked whether or not they get access to FP services in the municipality. The results indicate that majority (71%) of the respondents affirmed that they get access to FP services in the municipality whereas 29% of the respondents indicate that they do not get access to FP services. This finding is attributed to the urban and rural

divide of in terms of access to modern development infrastructure and services as more that 50% of the population (GSS, 2010) in the municipality lives in urban settlements. This imply that in terms of access to social services such as health, it is expected that majority should have access due to the availability of those services in urban areas than the rural areas. The above findings produced by the study is validated by that of Eliason, et al. (2014), study which indicate just 19% of access to FP services in the Nkontan district in which "majority of the population reside in rural" communities. Again Awingura and Adam (2015), study in the Talensi district in the upper east region of Ghana also revealed a disproportionate results in terms of access to FP services, where access to FP services is generally high in areas where health services are accessible. In effect, the results of this study imply that access to FP services in rural communities in the Asokore Mampong municipality is still low and this could reuslts into uptake of FP services being skewed towards the urban population. Figure 4.6 below presents the results of FP access among respondents in the study area.

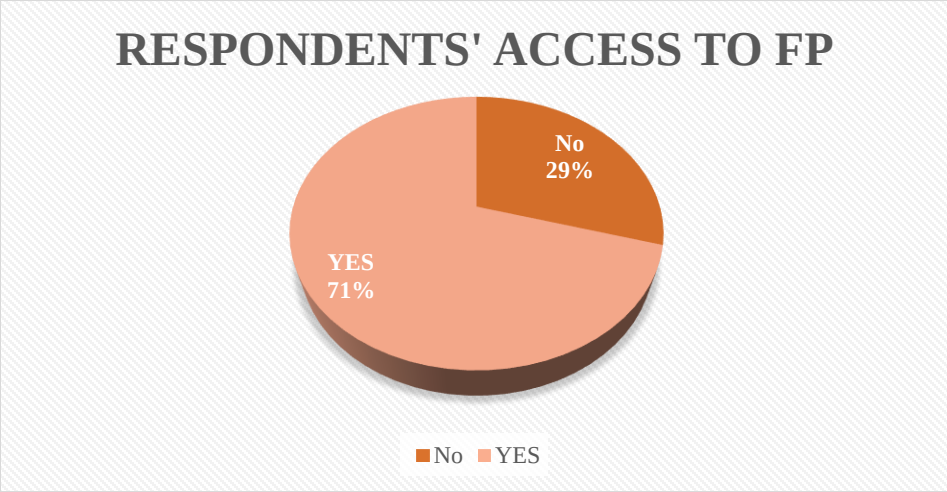


Figure 4. 6: Access to FP services among Respondents

Source: Field Survey, 2022.

4.4.2 Common access point of FP services

Where respondents get access to FP services in the Asokore Mampong municipality was examine. The rationale of this was to bring to bear the access point of FP services that is common to the respondents. This, in effect would help guide the direction of policy interventions of FP services in the municipality. The results of the thus, shows that majority (52 %,) of the respondents were getting the FP products from hospital whereas 39 % of the respondents were also getting the FP product from Drug store and the remaining 9 % from other sources. Most scholars generally believed that when FP services are accessible by the population, it will result into people getting informed about the benefits of the FP services to controlling unintended pregnancies and birth patterns (Dey, et al., 2021; Eliason, et al., 2014; Kabagenyi, et al., 2014). Also, Machiyama and Cleland (2014), study found that lack of access to FP services is one of the precursors of increasing unmet need for FP in sub-Saharan Africa. Thus, based on the results of this study, it implies that respondent are less likely to use wrong contraceptive methods since majority of the (51.9%) seek FP services from a nearby health facility. Table 4.7 below gives a summary of results on the common point of access to FP services residence in the Asokore Mampong municipal.

Table 4. 7: Common Access point of FP services

Where FP product Access	Frequency	Percent (%)
Hospital	200.00	52
Drug store	152.00	39
Other	33.00	9
Total	**385.00**	**100.00**

Source: Field Survey, 2022.

4.4.3 Common FP products respondents get accessed

The type FP products respondents accessed was considered in order to acertain the trends and diversity of FP services available to the population in the Asokore Mampong municipal. The results of the study revealed that majority (18 %) of the respondents get access to implant as an option for modern contraceptive uptake in the municipality. This was followed by 14 % of the respondents who access pills as alternative for modern contraceptive use. Also, 12 % of the respondents access condom as contraceptive method, whereas 10 % of the respondents access IUD as contraceptive method. The remaining of the respondents (2 %, 1% and 1%) access injection, tubal ligation, and spermicide respectively for the modern contraceptive needs. Over all about 58 % of the respondents accessed different FP products for their contraceptive needs in the municipality. The implication of the above finding is that injection, tubal ligation, and spermicide are less access FP products in the municipality, and this is attributed to limited availability of those products or respondents dislike of these products in attempt to meet their contraceptive needs. According to Guure, et al. (2019), the unmet needs for FP among women can best be addressed if there is availability of the contraceptive methods they desired to patronised. Similarly, Dey, et al. (2021), indicate that the orientation of women about a particular contraceptive method has a limiting effect on the use of such method. Thus, in the Asokore Mampong municipality, the use of a particular FP product by the people is informed by their orientation about such product and its availability. Table 4.8 below presents the common FP products accessed by respondents in the municipality.

Table 4. 8: Common FP products accessed by Respondents

	FP Products Accessed	Frequency	Percent (%)
Valid	Condom	47	12
	IUD	39	10
	Tubal Ligation	3	1
	Implant	71	18
	Injection	9	2
	Pill	52	14
	Spermicide	3	1
	Total	224	58
Missing	System	161	42
Total		**385**	**100**

Source: Field Survey, 2022.

4.4.4 Respondents' Rating of FP service providers

It is common economic knowledge that the satisfaction a consumer derived from consuming a commodity has an influence on his/her future consumption decision of the product in question. Based on this principle, respondents were asked to rate the FP service providers based on their experiences and satisfaction in using any FP products from the service providers. The results of the study revealed that majority (30 %) of the respondents rated FP service providers "good". This was followed by 24 % of the respondents who rated FP service providers "average". About 23 % of the respondents rated FP service providers "very good" whereas 14 % of the respondents rated FP service providers "excellent". Very few (9 %) of the respondents rated FP service providers "poor". The above findings indicate that the service provision of FP in the area is relatively satisfactory among respondents since less of the respondents (9 %) expressed a dissatisfaction rating of FP service provision in the municipality. The reason for this relatively high satisfaction for FP service provision could be attributed to the fact that majority (52 %) of the respondents access their FP needs at the hospital, where professionally trained personnel provide FP services

to individuals and couples who need them. The above findings from the study support the study by Akamike, Okedo-Alex, Eze, & Ezeanosike (2020), attribute low uptake FP services to FP service providers approach to FP service provision. Furthermore, the study confirms Eliason, et al. (2014), who found that attitude of FP service providers has a disincentive effect on the use of FP products among individuals and couples. Again, Dey, et al. (2021), identified quality of family planning counselling to have an effect on clients' decision to use FP products. Table 4.9 below gives a summary of respondents rating FP service providers in the Asokore Mampong municipality.

Table 4. 9: Respondents Rating of FP service providers

	Responses	Frequency	Percent (%)
Valid	Poor	6	9
	Average	64	24
	Good	85	30
	Very Good	56	23
	Excellent	23	14
Total		**385**	**100**

Source: Field Survey, 2022.

4.5 Islamic Factors affecting uptake of FP among women and adolescent girls in AMMA

This section examined the Islamic factors affecting FP uptake among female Muslims in the Asokore Mampong municipality. Based on this, the study assessed some Islamic reasons against FP, source of these reasons against FP, the Islamic reasons supporting FP and the influence of Islamic teachings on decision to use FP among Muslim women and adolescent girls.

4.5.1 Some of the Islamic reasons against FP

Respondents were queried to ascertain whether or not they know any Islamic religious reasons against FP. The Islamic religious on which this study is centered on is believed to have some faith

underpinnings teachings against FP uptake (Sundararajan, et al., 2019; Raza, Shiraz, & Zafar, 2012; Guure, et al., 2019). From the survey results, majority (62 %) of the respondents affirmed they know any Islamic reasons against FP whereas (38%) of them said they had no knowledge of any Islamic reason against FP. The above findings implies that respondents FP uptake would be influence by their religious orientation about FP. This argument is supported by Sundararajan, et al. (2019), study who indicated that the utmost "reason for the poor uptake of family planning in Tanzania is that women and their partners are uncertain about whether pregnancy prevention is compatible with their religious beliefs". Also, Guure, et al. (2019), reported in Ghana that religious teachings have high limiting effect on FP uptake among Muslim women. From the results of the study, some of the Islamic religious reasons against FP according the respondents include; FP practice is act of infanticide, the act of FP denounce Prophet Muhammad teachings that muslims should give birth to multiply the "Umma" population and not to limit birth due to fear of sustenance. Some of the respondents have the following words to share:

> *"Yes, Islam do not accept FP in a broader perspective that any practice that prevent or aborts pregnancy is amounted to infanticide which is repeatedly condemned in the Quran as follows: ("Do not slay your children for fear of poverty, We will provide for you and for them": Quran 7:151)"* (Hajia No.1; Asawase, 2022).

Also, another respondents indicated how Islamic scholars preach against FP in the following words:

> *"I will say yes because, our Ullamaa always admonished us in their Friday surmons on how the FP of FP is not acceptable in Islam because children are*

blessing from God, and is an act of sin to reject what Allah has given you" (Hajia No. 2, Aboabo, 2022).

Despite the reasons duduced by respondents as the reasons against FP practice, some of the respondents have counter agument over what have been stated above. A respondent in Asawase made the following counter argument in the following words:

> *"Hmm… to me, I will say no because the Quran do not frowns on birth spacing in which FP aimed to achieve. What most of our Imams preached against is abortion, which involve stopping the development of the pregnancy"* (Hajia No. 3, Adukrom, 2022)

Based on the above finding, it is evident that some people accept or reject FP uptake due to their level of understanding of the Islamic religious preaching on FP. Table 4.10 below gives a summary of results on Islamic religious preaching against FP.

Table 4. 10: Do you know any Islamic reason against FP?

	Response	Frequency	Percent (%)
Valid	Yes	238	62
	No	147	38
Total		**385**	**100**

Source: Field Survey, 2022.

4.5.2 Source of Islamic reason against FP service

Given the overwhelming affirmation of respondents over some Islamic reasons against FP, they further probed to indicate the source of the Islamic reasons they hold against FP in the study area. The results of the study revealed that majority (75 %) of the respondents were getting access to the Islamic reason against FP from relatives. This was followed 13 % of the respondents who get

to know the reasons against FP from Imams in the community. Also, 5 % of the respondents get the Islamic reasons against FP from the holy Quran. Furthermore, about 4 % of the respondents reported to have gotten the Islamic reasons against FP from their husband, whereas 2 % and 1 % respectively reported that they get the Islamic reasons against FP from other sources and friends in the Asokore Mampong Municipality**.** Based on the principles of Islam that the knowledge of the religion should be sought from the Quran and the hadith of Prophet Mohammed, it is safe to say that respondent who got their reasons against FP from the Quran and Imams is devoid of deviation due personal conjectures. Also, the study by Raza, Shiraz, and Zafar (2012), indicate that the role of religious leaders demonstrates to be significant "in molding women's attitudes towards the use of contraceptives and it is also statistically significant in relation to the contraceptive practices". Furthermore, Durowade, et al. (2017), indicate in their study that nonexistence of spousal support for utilizing modern FP approaches also influence uptake of FP service. The characteristic of woman in Sub-saharan Africa still relies on their husband for key decision making including healthcare. Again, Asif, et al. (2021), indicate the role of husband play in influencing women uptake of family planning services. They argued that, husbands decision against FP uptake might not necessarily emanated from any religious doctrine. Table 4.11 below presents the major sources of Islamic religious factors against FP.

Table 4. 11: Source of Islamic reasons against FP

Source of Islamic reason against FP	Frequency	Percent (%)
Directly from Quran	21.0	5
Imam	49.0	13
Husband	17.0	4
Relative	288.0	75
Friend	3.0	1
Other	7.0	2
Total	**385.0**	**100.0**

Source: Field Survey, 2022.

4.5.3 Islamic reason supporting FP services

The Islamic perspective of family planning remains a key contested issues in the jurisprudence of the Islamic faith. Whilst there is various varied interpretations of the Quranic verses on family planning, there is no clear verse in the Quran that limits or allows family planning practices, but only scholarly interpretations that allow or limit family planning practices (Roudi-Fahimi, 2004). The researcher thus, asked respondents whether or not they knew any Islamic reason in support of family planning. The results indicate that majority (78%) do not know any Islamic reason in support of family planning whereas 22% expressed their knowledge of Islamic reasons in support of family planning. Some of the respondents expressed their view on Islamic reasons in support of family planning as follows;

> *"Yes I will say there is Islamic reason supporting family planning, and this is from the Quran. I can't actually give you a vivid quotation of the verse, but somewhere in chapter* 7 *verse* 189 *that Allah says men should dwell in their wives in tranquility. And the tranquility here means you can have sex with your wife at any point in time*

whether you want a child or not. That is why the scholars who support family planning recommend the withdrawal method, when you don't need a child" (Hajia No. 4, Aboabo 2022).

Similarly, another respondent have advanced a reason in support of family planning by using Quranic verse as follows;

I decide to practice family planning based on the Quranic teaching in chapter 30 verse 21; "And one of [God's] signs is that He has created for you mates from yourselves, that you may dwell in tranquility with them, and has ordained between you Love and Mercy". This Quranic verse is my basis for practicing family planning". (Hajia No. 5, Asawase 2022).

Table 4.12 below therefore presents a results of respondents' knowledge of the reasons in support of family planning.

Table 4. 12: Islamic reason supporting FP services

	Response	Frequency	Percent (%)
Valid	Yes	86	22
	No	299	78
Total		**385**	**100**

Source: Field Survey, 2022.

4.5.4 Is your decision to use FP influence by Islamic Teachings?

Respondents were asked whether or not their decision to use FP influenced by Islamic teachings. The results of the study indicate that majority (70%) of the respondents decision to use FP is not influenced by Islamic teachings. The remaining of the respondents 30% used of FP is influenced by Islamic teachings. The above findings indicate that though majority of the respondents use FP,

their use of any contraceptive method do not have Islamic basis. Furthermore, some respondents' use of contraceptive method is based on Islamic teachings. This further indicate that the people in Asokore Mampong Municipality are in to FP service out of their own reasons. Figure 4.7 below presents respondents' decision to use FP.

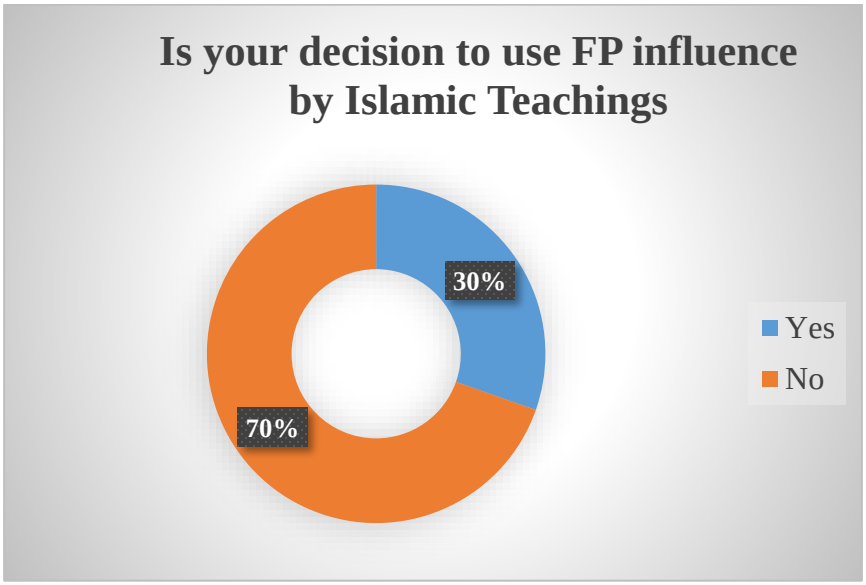


Figure 4. 7: Decision on the use of FP in Asokore Mampong Municipality

Source: Field Survey, 2022.

4.6 Effects of Predictor Variables on Accessibility to FP Services

The result from the probit analysis in the table above indicates that most of the explanatory variables are significant at 5%. The significant variables are age", marital status, time spent in marriage, level of formal education, Type of facility, religion, and cultural believed. However, occupation was found not to be significant.

Table 4. 13: Estimated Coefficients of Predictor Variables on Accessibility to FP Services from Binary Logistic Regression

Uptake of FP services	Coef.	std.Erro	z	P	[95% conf.	interval
Age	-0.5151	0.1282	-2.81	0.005**	-0.7056	-0.1246
Marital status	1.2301	0.5985	1.76	0.076**	-0.1213	2.3815
Time spent in marriage	0.4738	0.1039	2.41	0.015**	0.0506	0.4970
Level of formal education	-0.4342	0.0781	-2.93	0.003*	-0.3912	-0.0772
Type of facility	0.2659	0.2088	1.74	0.087**	-0.0440	0.7758
Occupation	-0.0890	0.0748	-1.04	0.278	-0.2563	0.0761
Religion	-0.7459	0.3057	-2.86	0.004*	-1.2394	-0.2325
Cultural believed	-0.8620	0.2995	-2.66	0.007**	-1.5279	-0.2362
_cons	**2.7035**	**1.3780**	**1.87**	**0.060**	**-0.1150**	**5.3220**

***= significant at 5% significance level, **=significant at 10% significance level,**

Number of observation = 227

LR chi2 (5) = 38.20

Probability > chi2 = 0.0000

Pseudo R2 = 0.1693

Source: Field Survey results, 2022.

Age: from the table 4.13 it was observed that the age of a person has a significant effect on accessibility to FP services. However, age is very important when it comes to FP services since the P- value (0.005) associated with it is highly significant, the negative coefficients indicates a negative relationship between age and accessibility to FP services. It then means that age decreases a person likelihood of getting access to FP services. For instance, Bhatt, et al. (2021) found in their study that some adolescent girls "were not fully aware of the available family planning services" in Eastern Nepal and this was attributed to their age. The age of the individual was then

considered as a perceived barrier to the use of family planning which is induced by lack of knowledge about family planning products and services. Again, they indicate that age exert fear of side effects of modern family planning methods on the individual thus, accelerating lack of access. Letamo and Navaneetham (2015), study further indicate that the experience of unmet need for FP services among women within the age group 25-34 are less likey as compare to the adolescent group within the age 15-19 where the prevelance use of FP methods is generally low and that is attributed to the age differentials between these groups (Suchithra & Sujina, 2016).

Marital status: from the output we also realized that marital status is a good predictor of a person accessibility to FP services since the p- value of 0.076 is significant at 10% level. Again, been married or not has an influence of a person chance of involving to FP services. The variable shows a positive coefficient indicating a positive relationship between marital status and accessibility to FP service, hence marital status increases a person chances of getting access to FP services. Bhatt, et al. (2021), study found that couples' nerviness nature have a negatively influence on the uptake of family planning services due to their familial. Furthermore, Samachew Kasa, Tarekegn, and Embiale (2018), also indicate that marital status of women is one of the factors highly associated with FP practices.

Time spent in marriage: from the output we observed that the number of years a person spent in marriage is also a good predictor or has a strong correlation in determine a person accessibility to FP services since the associated p – value of (0.015) is significant at 10%. Hence, we can predict a person accessibility to FP when we know the time spent in marriage. It also shows a positive relationship between time spent in marriage and accessibility to FP services, since the coefficient is positive. Hence the number of years a person spent in marriage turn to increases his/ her chances of getting access to FP services.

Level of formal education: the output of the analysis indicated that, a person accessibility to FP services can be predicted by the level of education attained since the analysis returned a p- value of (0.003) at 5% significant level. But this variable shows a negative coefficient indicating a negative relationship between the two variables. This implies that low education increases an individual unmet need for family planning whereas high education decreases an individual unmet family planning need. The above findings is similar to Samachew Kasa, Tarekegn, and Embiale (2018), study where, they indicate that education of a woman has a strong association with FP practice. Hence level of formal education decreases a person likelihood of getting access to FP services.

Type of Facility: from the output we observed that the type of facility an individual has in his/her locality is also a good predictor or has a strong correlation in determine a person accessibility to FP services since the associated p – value of (0.087) is significant at 10%. Hence, we can predict a person accessibility to FP when we know the type of facility in his/her locality. The variable also shows a positive relationship with the dependent variable, since the coefficient is positive. Hence the type of facility a person has in his/her area turn to increases his/ her chances of getting access to FP services. Dey, et al. (2021), found that quality of FP services such counselling service influence the uptake of FP among women, and there generally high quality of FP services among tranined health professional at the health facility than the ad hoc service providers such the chemical shops and other informal services. Again, Aryeetey, Kotoh, and Hindin (2010), study have indicate that having FP service provider of the opposite gender, young age service provider and contraception not being effective all tied to the type of facility have some influence on the uptake of FP services in Ghana. . Bhatt, et al. (2021), FP is a choice for several youth and

adolescents, but they often encounter "barriers such as negative provider attitudes, long distances to healthcare facilities, and inadequate stock of preferred contraceptives".

Occupation: the output indicated that occupation is not a good predictor of a person accessibility to FP services, since we don't have a significant p- value (0.278). The implication of the above finding is that occupation is a good determinant of a person's access or uptake of FP service. The above findings validates that of Vijayasree (2017), who found in India that occupation of the individual did not have any significant relationship with contraceptive usage. Furthermore, Samachew Kasa, Tarekegn, and Embiale (2018), study revealed occupation as one of the facotors associated with FP practices among women. They argued that women in time demanding occupations are likely to accept FP services in order to free time off child nursing for job activities. Based on this we cannot predict a person accessibility to FP service with the occupation of the individual.

Religion: from the table we observed that the religion of an individual has a significant effect on accessibility to FP services. However, religion is very important when it comes to FP services since the P- value (0.004) is statistically significant at 5% level. The negative coefficients indicate a negative relationship between the type of religion a person belong and accessibility to FP services. This implies that the religion of a person has a decreasing effect on the likelihood of her/his uptake of FP services in the Asokore Mampong municipality. The findings above coheres with that of Bhatt, et al. (2021) who indicate that individual's religious beliefs, myths, misconceptions about FP from the perspectives of faith has an influence on the uptake of FP services. Furthermore, Barro and Bado (2021), study indicate similar results that religious leaders are reluctant to promote the use of FP methods and that has a negative influence on uptake of FP. The above findings by Barro and Bado (2021), imply that religion do not have an expressed

negative concerns against the use of FP services, but religious leaders intend to discourage the use of FP services.Hence, we can predict a person accessibility to FP services when the her/his religion is known.

4.7 "Conclusion: In this chapter, respondents' demographic characteristics have been analyzed via frequencies and charts. A Probit model was used to establish the relationship between demographic variables (age, marital status", level of formal education, time spent in marriage, religion, the type of facility, and Occupation). The frequencies and the chats were used to display the preliminary analysis of the variables, "whiles the Probit results revealed the influence of all the independent variable on" the dependent variable (Accessibility/uptake of FP services) in this study.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter presents the "summary of the research findings, conclusions and recommendations. The summary of the research findings" and conclusions are respectively presented in section 5.2 and 5.3. The Section 5.4 presents the recommendations for policy development based on the research findings. And finally, suggestions for future research are also presented in section 5.5.

5.2 Summary

The study examine Islam and family planning uptake among Muslim women and adolescent girls in the Asokore Mampong municipality in the Ashanti region of Ghana. The specific objectives of the study were: first, to assess Muslim women and adolescent girls' knowledge of family planning services in Asokore Mampong municipality. The basis of this objective was to find out whether or not Muslim women and adolescent girls have some knowledge of family planning services in the Asokore Mampong municipality. Primary data was collected through survey and analysed using descriptive statistics to establish the following indicators: whether they have some knowledge of family. If they have some knowledge do they have knowledge of family planning side effects, their husbands/partners knowledge of family planning and the male family planning they knowledge. The rationale is that if women know family planning, it can help them figure out which FP package to go for. Again, if they know the side effect of FP they would be able to make appropriate complain to the service providers for necessary redress and if their husbands know family planning it can enable them agreed on the best FP package. The major findings were that, 69 % of women and adolescent girls have a fair knowledge of family planning. Also 68 % of respondents do not have knowledge on the side effects of family planning. Again, majority (57 %) of respondents'

husbands do not have knowledge of family planning. The implication of the above findings would be a slow uptake of family planning services due to some reservations women and adolescent girls and their husbands/partners would have about family planning.

The second objective was to assess the extent to which Muslim women and adolescent girls gain access to FP services in Asokore Mampong municipality. The basis of this objective was to ascertain whether or not Muslim women and adolescent girls gain access to family planning services. Also, primary data was collected through survey and analysed using descriptive statistics to ascertain the following indicators. If they get access to family planning, the access point, and the common family planning products they get access to and their satisfaction of the services provided. The major findings were that 71 % of the respondents gain access to family planning services in the Asokore Mampong municipality. The common access points of family planning include; hospitals (52 %), drug stores (39 %) and other sources (9 %). The common family planning products accessed by women and adolescent girls include; condom (25 %), IUD (23 %), Tubal ligation (1 %), implant (32 %), injection (3 %), pills (14 %) and spermicide (2 %). Finally, women and adolescent girls were much satisfied with family planning services provided as majority of the rate FP service providers as average (24 %), good (30 %), very good (23 %) and excellent (14 %).

The third objective was to identify and analyse Islamic religious factors influencing the access to FP in Asokore Mampong Municipality. The rationale of this objective was to determine whether women and adolescent girls know the Islamic reasons against or supporting family planning, source of the reasons for against or supporting family planning, whether decision to use family

planning is influence by Islamic teachings and the effect of the Islamic religion on family planning. The major findings were that, majority (62 %) of the respondents know some Islamic reasons against family planning and the reasons against family planning are that FP is an act of infanticide, children are blessing from God and any act to stop childbearing is an act of sin, and that sustenance is from God and that no one should prevent childbearing due to sustenance challenges. Also, the study found that the source of Islamic reasons against family planning include the Quran (5 %), Imams (13 %), and husbands (4 %). Furthermore, majority of the respondents indicate that they do not know any Islamic reasons supporting family planning. Again, the respondents indicate that their decision to used family planning is not entirely influence by Islamic teachings but along other factors. Finally, the binary probit regression analysis indicate that the use of family planning among Muslim and adolescent girls is significantly influenced by the Islamic religion.

The fourth and final objective was to identify and assess other factors influencing the access to FP in the Asokore Mampong municipality. The rationale of this objective was to determine whether other predisposing, enabling and need factors affect uptake of family planning among Muslim women and adolescent girls in the Asokore Mampong municipality. Primary data was collected through survey and analysed using binary probit regression. The major findings are that age, marital status, time spent on marriage, level of formal education, and cultural believes significantly influence uptake of family planning among Muslim women and adolescent girls in the municipality.

5.3 Conclusions

The research revealed that the Muslim women and adolescent girls in the Asokore Mampong municipal have some knowledge of family planning, however, their knowledge is not versatile as most of them do not know the side effects of family planning and their husbands/partners equally do not wealth knowledge of family planning. Also, access to family planning among Muslim women and adolescent girls in the municipality is very high. Whereas majority of the women and adolescent girls know some Islamic reasons against family planning, few of the respondents know Islamic reasons supporting family planning. The study, predict that Islamic religious reasons against family planning significant influenced uptake of family planning among Muslim women and adolescent girls however, other factors such age, marital status, time spent on marriage, level of formal education, and cultural believes have significant influence on uptake of family planning among Muslim women and adolescent girls.

In conclusion, this research demonstrated that despite high levels of knowledge of respondents on FP, their understanding of side effects of FP is low. has delivered understanding on how and rate at which Islamic religion and each other factors predicts the uptake of family planning services among Muslim women and adolescent girls in Asokore Mampong municipal. Therefore is "important for other researchers to have an in-depth research into" "other predisposing, enabling and need factors greatly influence both men and women uptake of family planning. This is imperative as family planning is the guaranteed way to reduce health risk associated with pregnancy and maternal and child mortality".

5.4 Recommendation

5.4.1 The need for family planning education and advocacy

1. The study recommends that family planning units in the Asokore Mampong Municipality as well as stakeholder organizations like Marie Stopes, Planned Parenthood Association of Ghana (PPAG) including government agencies should rollout intensive programmes on family planning and effects of family planning products in the Asokore Mampong Municipality since the knowledge on side effects of family planning is limited. Also, men have to be targeted in the sensitization.
2. Also, the study found a mixed experience among Muslim women and adolescent girls on Islamic reasons for or against family planning. Based on this Islamic religious leaders within the Asokore Mampong Municipality should be educated about the importance of family and get involve in FP programmes in order to address the unmet need for family planning among few Muslims who against family planning. Again, education should target adolescent girls to raise their awareness of family planning and its importance in their lives.

5.4.2 Widen up access to family planning services

1. Stakeholder holder agencies like PPAG and Marie Stopes should extend their activities to the peri-urban and rural areas of the Asokore Mampong Municipality to enable dwellers there to easily gain access to family planning education. Also, government agencies, health facilities and family planning units should facilitate the expansion of family education as well as make family planning products available to people in the peri-urban and rural parts of the municipalities.

2. Also, family planning counseling services should be intensified across health facilities and all service provision point to reduce the cultural, other barriers that affect the reduction of unmet needs for family planning in the municipality.

5.5 Suggestion for Future Research

5.5.1 Using Large Sample Size and Broader geographical Area

With reference to the law of large numbers, Hamed (2016), supported that larger sample size is highly probable to be representative and the sample mean is further likely to equal the population mean. Majid (2018), thus suggested to researchers to take a larger sample size to enhance the accuracy and representativeness of the sample. The researcher thus suggest for this larger sample size to be taking from all the zonal councils of the municipality in other to make it more representative and make broader generalisation easy.

5.5.2 Adopting a longitudinal study

The researcher "wishes to suggest to future researchers to conduct a longitudinal study to enable them observe and monitor the" uptake of family planning in the Asokore Mampong municipality over time. This would enable the researchers to add valuable data which would offer a more precise understanding of trends in family uptake over time.

5.5.3 Using Multiple Data Collection Methods

The researcher suggests to future researchers to use multiple data collection methods to gather data on family planning uptake in the Asokore Mampong municipality. This will assist them reduce the

possible bias and also lessen the effects of the inefficiency of data collection methods and instruments.

5.5.4 Inclusion of enabling and need factors

The researcher also suggests that beyond the predisposing factors such as age, marital status, level of formal education, religion and cultural believes, studied, future researchers could extend the study of these variables to include the enabling and need factors that could affect uptake of family planning. An in-depth study into enabling and need variables will championed a more all-inclusive understanding on the factors influencing uptake of family planning.

References

Abawi, K. (2014). Data Collection Instruments (Questionnaire & Interview). Geneva: Geneva Foundation for Medical Education and Research.

Agbaglo, E., Agbadi, P., Tetteh, K. J., Ameyaw, K. E., & Adu, C. N. (2022). Trends in total fertility rate in Ghana by different inequality dimensions from 1993 to 2014. *BMC Women's Health, 22*(49), 1-8. doi:10.1186/s12905-022-01629-w

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behaviour and Human Decision, 50*, 179-211. doi:doi:10.1016/0749-5978(91)90020-t

Akamike, C. I., Okedo-Alex, N. I., Eze, I. I., & Ezeanosike, B. O. (2020). Why does uptake of family planning services remain sub-optimal among Nigerian women? A systemstic review

of challenges and implications for policy. *Contraception and Reproductive Medicine, 5*(30), 1-11. doi:10.1186/s40834-020-00133-6

Amporfu, E., Arthur, E., & Novignon, J. (2020). *Cost-Benefit Analysis of Family Planning in Ghana.* Copenhagen : Copenhagen Consensus Center.

Aryeetey, R., Kotoh, A. M., & Hindin, M. J. (2010). Knowledge, Perceptions and Ever Use of Modern Contraception among Women in the Ga East District, Ghana. *African Journal of Reproductive Health, 14* (4), 27-32.

Asif, F. M., & Pervaiz, Z. (2019). Socio-demographic determinants of unmet need for family planning among married women in Pakistan. *BMC Public Health, 19*(1226), 1-8. Retrieved from http://doi.org/10.1186/s12889-019-7487-5

Asif, F. M., Pervaiz, Z., Afridi, R. J., Abid, G., & Lassi, S. Z. (2021). Role of husband's attitude towards the usage of contraceptives for unmet need of family planning among married women of reproductive age in Pakistan. *BMC women's Health, 21*(163), 1-7. Retrieved from https://doi.org/10.1186/s12905-021-01314-4

Awingura, P. A., & Adam, A. M. (2015). Factors influencing the uptake of family planning services in the Talensi District, Ghana. *Pan African Medical Journal. , 20*(10), n.n. doi:doi:10.11604/pamj.2015.20.10.5301

Barro, A., & Bado, R. A. (2021). Religious Leaders' Knowledge of Family Planning and Modern Contraceptive Use and Their Involvement in Family Planning Programmes in Burkina Faso: A Qualitative Study in Dori in the Sahel Region. *Open Access Journal of Contraception, 12* , 123–132.

Bhatt, N., Bhatt, B., Neupane, B., Karki, A., Bhatta, T., Thapa, J., . . . Budhathoki, S. S. (2021). Perceptions of family planning services and its key barriers among adolescents and young people in Eastern Nepal: A qualitative study. *PLoS ONE, 16*(5), 1-16. doi:doi.org/10.1371/journal.pone.0252184

Bill & Melinda Gates Foundation. (2022, 5 25). *gatesfoundation.org*. Retrieved from Bill & Melinda Gates Foundation: https://gatefoundation.org/our-work/programs/global-development/family-planning

Bongaarts, J. (2020). Trends in fertility and fertility preferences in sub-Saharan Africa: the roles of education and family planning programs. *Genus, 76*(32), 1-15. Retrieved from https://doi.org/10.1186/s41118-020-00098-z

Chekole, K. M., Kahsay, H. Z., Medhanyie, A. A., Gebreslassie, A. M., & Bezabh, M. A. (2019). Husbands' involvement in family planning use and its associated factors in pastoralist communities of Afar, Ethiopia. *Reproductive Health*, 1-7. doi:10.1186/s12978-019-0697-6

Dey, K. A., Averbach, S., Dixit, A., Chakraverty, A., Dehingia, N., Chandurkar, D., . . . Raj, A. (2021). Measuring quality of family planning counselling and its effects on uptake of contraceptives in public health facilities in Uttar Pradesh, India: A cross-sectional analysis. . *PLoS ONE , 16*(5), 1-15. doi:e0239565.

Dudovskiy, J. (2022). *The Ultimate Guide to Writting a Dissertation in Business Studies: A Step-by-Step Assistance* (Vol. 6). New York: BRM .

Durowade, A. ,., Omokanye, O. L., Elegbede, E. O., Adetokunbo, S., Charles, O. O., Akinyosoye, D. A., . . . Taofik, A. S. (2017). Barriers to Contraceptive Uptake among Women of

Reproductive Age in a Semi-Urban Community of Ekiti State, Southwest Nigeria. *Ethiop Journal Health Science*, 121-128. doi:doi.org/10.4314/ejhs.v27i2.4

Eliason, S., Awoonor-Williams, K. J., Eliason, C., Novignon, J., Nonvignon, J., & Aikins, M. (2014). Determinants of modern family planning use among women of reproductive age in the Nkwanta district of Ghana: a case–control study. *Reproductive Health, 11*(65), 1-10. Retrieved from http://www.reproductive-health-journal.com/content/11/1/65

Ghana Ministry of Health. (2015). *Ghana Family Planning Costed Implementation Plan.* Accra: Government of Ghana.

Ghana National Population Council, & USAID. (2012). *GAP: Estimating the Resources Requirement for Family Planning in Ghana.* Accra: Ghana National Population Council.

Guure, C., Maya, T. E., Dery, S., Vrom, d.-C. B., Alotaibi, M. R., Rezk, R. H., & Yawson, A. (2019). Factors influencing unmet need for family planning among Ghanaian married/union women: a multinomial mixed effects logistic regression modelling approach. *Archives of Public Health, 77*(11), 1-13. doi:0.1186/s13690-019-0340-6

Hakizimana, S., & Odjidja, N. E. (2021). Beyond knowledge acquisition: factors influencing family planning utilization among women in conservative communities in Rural Burundi. *Reproductive Health, 18-94*, 1-9. doi:10.1186/s12978-021-01150-7

Hamed, T. (2016). Sampling Methods in Research Methodology; How to Choose a Sampling Technique for Research. *SSRN Electronic Journal, Vol. 5*(2), 18-27.

Holy Quran. (Al-A'Raf (Sura 7:189)). Sura Al-A'Raf (Sura 7:189). In Holy Quran, *AL Quran* (p. n.n). Mecca.

Holy Quran. (Al-Roum (Sura 30:21)). Sura Al-Roum (Sura 30:21). In A. Quran, *Al Quran Kareem* (pp. n,n).

Janice, R., & Martyn, C. J. (2007). Essential Elements of Questinnaire Design and Development. *Journal of Clinical Nursing, 16*(2), 234-243. doi:doi:10.111/j.1365-2702.2006.01573.x

Kabagenyi, A., Larissa, J., Reid, A., Nalwadda, G., Ntozi, J., & Atuyambe, L. (2014). Barriers to male involvement in contraceptive uptake and reproductive health services: a qualitative study of men and women's perception in two rural districts in Uganda. *Reproductive Health, 11*(21), 1-9.

Kan, P. H., & Fabrigar, R. L. (2017). Theory of Planned Behavior. *Encyclopedia of Personality and Individual Differences*, 1-8. doi:10.1007/978-3-319-28099-8_1191-1

Kaur, P., Stoltzfus, J., & Yellapu, V. (2018). Descriptive Statistics. *International Journal of Academic Medicine, 4*(1), 60-63. doi:10.4103/IJAM.IJAM_7_8

Kriel, Y., Milford, C., Cordero, J., Suleman, F., Beksinska, M., Steyn, P., & Smit, A. J. (2019). Male partner influence on family planning and contraceptive use: perspectives from community members and healthcare providers in KwaZulu-Natal, South Africa. *Reproductive Health, 16*(89), 1-15. doi:10.1186/s12978-019-0749-y

Krosnick, J. A. (2018). Questionnaire Design. In D. L. Vannette, & J. A. Krosnick, *The Palgrave Handbook of Survey Research* (pp. 439-455). Standford: Palgrave Macmillan, Cham.

Kwawukume, A. K., Laar, S. A., & Abdulai, T. (2022). Assessment of men involvement in family planning services use and associated factors in rural Ghana. *Archives of Public Health, 80*(63), 1-8. doi:10.1186/s13690-022-00822-5

LaMorte, W. W. (2019, September 9). *sphweb.bumc.bu.edu* . Retrieved from Boston University School of Public Health Wibe site: https://sphweb.bumc.bu.edu/otlt/mphmodules/sb/behavioralchangetheories/BehavioralChangeTheories3.html

Letamo, G., & Navaneetham, K. (2015). Levels, trends, and reasons for unmet need for family planning among married women in Botswana. *BMJ Open*, 1-11. doi:10.1136/bmjopen-2014-006603

Machiyama, K., & Cleland, J. (2014). Umet Need for Family Planning in Ghana: The Shifting Contributions of Lack of Access and Attitudinal Resistance. *Studies in Family Planning, 45*(2), 203-226.

Majid, U. (2018). Research Fundamentals: Study Design, Population, and Sample Size. *Undergraduate Research in Natural and Clinical Science and Technology (URNCST) Journal Vol. 2, Issue 1, DOI Link: https://doi.org/10.26685/urncst.16*, 1-7.

Max, R. (2017, 2 December). *"Fertility Rate" OurWorldInData.org.* Retrieved 6 4, 2022, from Our World In Data webside: https://ourworldindata.org/fertility-rate?source=content_type%3Areact%7Cfirst_level_url%3Article%7Csection%3Amain_content%7Cbutton%3Abody_link#citation

Mbacke, C. (2017). The Persistence of High Fertility in Sub-Saharan Africa: A Comment. *Population and Development Reveiw, 43*(Fertility Transition in sub-Saharan Africa), 330-337.

Muhammad, Shahbaz, M. Q., & Ahmad, M. (2018). *Sampling Techniques: Methods and Applications Mathematics Research Development* (Illustrated ed.). New York City: Nova Science Publishers, Incorporated .

Mustafa, G., Azmat, K. S., Hameed, W., Ali, S., Ishaque, M., Hussain, W., . . . Munroe, E. (2015). Family Planning Knowledge, Attitude, and Practices among Married Men and Women in Rural Areas of Pakistan: Findings from Qualitative Need Assessment Study. *International Journal of Reproductive Medicine, 2015*(190520). doi:doi:10..1155/2015/190520

Nettey, E. A., Yeetey, A. E., Emmanuel, M., Abubakari, S., George, A., Stephaney, G., . . . Livesy, A. (2015). Family Planning Awareness, Perceptions and Practice among Community Members in the Kintampo Districts of Ghana. *Advances in Reproductive Sciences, 3*, 1-12. Retrieved from http://dx.doi.org/10.4236/arsci.2015.31001

Nzokirishaka, A., & Itua, I. (2018). Determinants of unmet need for family planning among married women of reproductive age in Burundi: A cross-sectional study. *Contraception and Reproductive Medicine, 3*(11), 1-13. doi:doi.10.1186/s40834-018-0062-0

Pawar, N. (2020). Type of Research and Type Research Design. *Social Research Methodology (An Overview), n.n*(n.n), 46-57.

Prata, N., Weidert, K., & Sreenivas, A. (2013). Meeting the need: youth and family planning in sub-Saharan Africa. *Contraception, 88*, 83-90. Retrieved from http://dx.doi.org/10.1016/j.contraception.2012.10.001

Raza, H., Shiraz, A., & Zafar, R. (2012). Effect of Islamic Perceptions on Family Planning Practices. *OIDA International Journal of Sustainable Development, 05*(03), 85-96.

Roudi-Fahimi, F. (2004). *Islam and Family Planning* . Washington DC: Population Reference Bureau.

Samachew Kasa, A., Tarekegn, M., & Embiale, N. (2018). Knowledge, attitude and practice towards family planning among reproductive age women in a resource limited settings of Northwest Ethiopia. *BMC Research Notes, 11*(577), 1-6. doi:10.1186/s13104-018-3689-7

Schrumpf, A. L., Stephens, J. M., Nsarko, E. N., Akosah, E., Baumgartner, N. J., Ohemeng-Dapaah, S., & Watt, H. M. (2020). Side effect concerns and their impact on Women's uptake of modern family planning methods in rural Ghana: a mixed method study. *BMC Women's Health, 20*(57), 1-8.

Shrestha, N. (2020). Detecting Multicollinearity in Regression Analysis. *American Journal of Applied Mathematics and Statistics, 8*(2), 39-42.

Suchithra, E., & Sujina C., M. (2016). Current Practice and Determinants of Family Planning Methods among Married Females in the Reproductive Age Group (15-49yrs) in a Rural Setting, Kerala. *Indian Journal of Forensic and Community Medicine, 3*(1), 13-19. doi:DOI: 10.5958/2394-6776.2016.00002.3

Sundararajan, R., Yoder, M. L., Kihunrwa, A., Aristide, C., Kalluvya, E. S., Downs, J. D., . . . Downs, A. J. (2019). How gender and religion impact uptake of family planning: results from a qualitative study in Northwestern Tanzania. *BMC Women's Health, 19*(99), 1-10. doi:10.1186/s12905-019-0802-6

Taber, K. (2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education, Vol. 48*(1), 1-24.

Taherdoost, H. (2016). Validity and Reliability of Research Instrument; How to Test the Validity of a Questionnaire/Survey in Research. *International Journal of Academic Research in Management (IJARM), Vol.5*(3), 28-36.

Tessema, A. G., Gomersall, S. J., Mahmood, A. M., & Laurence, O. C. (2016). Factors Determining Quality of Care in Family Planning Services in Africa: A Systematic Review of Mixed Evidence. *PLOS ONE, 11*(11), 1-23. doi:10.1371/journal.pone.0165627

United Nation General Assembly. (2014). *Follow-up to the International Conference on Population and Development beyond 2014.General Assembly Resolution 65/234. Available from http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/65/234.* . New York: United Nations.

United Nations. (2017). *World Family Planning.* New York: United Nations.

United Nations. (2020). *World Fertility and Family Planning 2020 Highlights.* New York: UN Department of Economic and Social Affairs Population Division.

United Nations Department of Economics and Social Affairs Population Division. (2014). *World Contraceptive Use 2014 (POP/DB/CP/Rev2014).* Geneva: United Nations.

United Nations Population Fund Ghana. (2018). *Promoting Rights and Choices Through Family Planning.* Accra: UNFPA Ghana Programme.

Vijayasree, L. (2017). A Study on the influence of education and occupation on family planning practices in rural Shamirpet, R.R. District, T.S., India. *International Journal of Bioassays, 6*(11), 5525-5529. Retrieved from https://dx.doi.org/10.21746/ijbio.2017.6.11.1

Webster, J., Krishnaratne, S., Hoyt, J., Demissie, D. S., Spilotros, N., Landegger, J., . . . Hamon, K. J. (2021). Context-acceptability theories: example of family planning interventions in five African countries. *Implementation Science, 16*(12), 1-14. Retrieved from https://doi.org/10.1186/s13012-020-01074-z

World Health Organization. (2008). *Family Planning.* Geneva: WHO Department of Reproductive Health and Research.

Zaidi, B., & Morgan, S. P. (2017). The Second Demographic Transition Theory: A Review and Appraisal. *Annu Rev Sociol., 43*, 473–492. doi:doi:10.1146/annurev-soc-060116-053442

Apanga P.A., Adam, M.A. (2015). Factors influencing uptake of family planning services in the Talensi District, Ghana. *Pan Afr. Med J.* 2015; 8688:1–9.

Askew, Ian (2012). AMB. Reviewing the Evidence and Identifying Gaps in Family Planning Research: The unfinished agenda to meet FP2020 goals. Backgr. doc family plan res donor meet Washington DC, 3–4 New York Popul Counc.

Bartlett, J. E., Kotrlik, J. W. & Higgins, C. C. 2001. Organizational Research: Determining Appropriate Sample Size in Survey Research. Learning and Performance Journal, 19, 43-50.

Bhattathiry, M. M., & Ethirajan, N. (2014). Unmet need for family planning among married women of reproductive age group in urban Tamil Nadu. *Journal of family & Community medicine*, *21*(1), 53.

Bongaarts John Cleland, John Townsend, John W, Bertrand Jane T, Das Gupta M. (2012). Family Planning Programs for the 21st Century; rationale and Disign. Population Council New York. NY 10017 USA.

Cresswell, J.W. (2011). Plano Clark VL. *Designing and conducting mixed method research.* 2nd Sage; Thousand Oaks, CA.

Eliason S, Awoonor-Williams J.K., Eliason C, Novignon J, Nonvignon J, Aikins M. (2014). Determinants of modern family planning use among women of reproductive age in the Nkwanta district of Ghana: A case–control study. Reproductive Health 2014; 11:65.

FP2020 Partnership. FP2020 Momentum at the Midpoint 2015–2016. 2017. http://2015-2016progress.familyplanning2020.org. Accessed 1 Nov 2020.

Gaetano M, Lutuf A, Zaake D, Annika J. (2014). Predictors of Contraceptive use Among Female Adolescents in Ghana. *African Journal of Reproductive Health* 18(1): 102

Ghana Statistical Service (2014). 2010 Population and Housing Census. District Analytical Report. Asokore Mampong Municipality.

Ghana News Agency (2019). Health Directorate Worries about the Low uptake of Family Planning in the Asokore Mampong Municipality. Reported by Yussif Ibrahim. https://theworldnews.net/gh-news/health-directorate-worries-about-low-uptake-of-family-planning accessed on 20th October, 2020.

Hallfors DD, Iritani BJ, Zhang L, Hartman S, Luseno WK, Mpofu E. (2016). "I thought if I marry the prophet I would not die": the significance of religious affiliation on marriage, HIV testing, and reproductive health practices among young married women in Zimbabwe. SAHARA J. 13:178–87 1sted. Taylor & Francis.

Izugbara, C., Ibisomi, L., Ezeh, A.C. and Mandara, M. (2010). Gendered Interests and Poor Spousal Contraceptive communication in Islamic Northern Nigeria, J Fam. Plann. Reprod. Health Care. 36 (4); 219-94.

Kabagenyi, A., Jennings, L., Reid, A., Nalwadda, G., Ntozi, J., & Atuyambe, L. (2014). Barriers to male involvement in contraceptive uptake and reproductive health services: a qualitative study of men and women's perceptions in two rural districts in Uganda. *Reproductive health*, *11*(1), 21.

Lauria, L., Donati, S., Spinelli, A., Bonciani, M., & Grandolfo, M. E. (2014). The effect of contraceptive counselling in the pre and post-natal period on contraceptive use at three months after delivery among Italian and immigrant women. *Annali dell'Istituto Superiore di Sanità*, *50*, 54-61.

Meldrum, R.M., Liamputtong, P., Wollersheim, D. (2016). Sexual Health Knowledge and Needs: Young Muslim women in Melbourne. Aust. Int. J Health Serv. 46 (1):124-40.

Mohammed, U.I.R (2013). Islam and Family Planning in Ghana: A study of Mampurugu Muslim Communities. Thesis. Department of Religious Studies. Kwame Nkrumah University of Science and Technology.

Mosha IH, Ruben R. (2016). Communication, knowledge, social network and family Planning utilization among couples in Mwanza, Tanzania. African Journal of Reproductive Health.17:57–69.

NEDARC (2010). Descriptive Cross-sectional Survey. https://www.nedarc.org/statisticalHelp/projectDesign/descriptiveStudy.html Accessed on 13-February, 2021

Odimegwu C. (2005). Influence of religion on adolescent sexual attitudes and behaviour among Nigerian University students: Affiliation or commitment?. *African Journal of Reproductive Health* 9(2): 125-140.

Pell, S. (2017). Reproductive decisions in the lives of West Bank Palestinian women; dimensions and contradictions, Global Public Health. 12 (2); 135-55.

Patton M.Q. (2002) *Qualitative research and evaluation methods.* 3rd Sage Publications; Thousand Oaks, CA:

Prata N. (2009). Making family planning accessible in resource-poor settings. Philos Trans R Soc Lond B Biol Sci. 364(1532):3093–3099. doi: 10.1098/rstb.2009.0172.

Requejo, J., Bryce, J., and Victora, C. (2012). Building a future for women and children: the 2012 report. Geneva: World Health Organization; Co-published by UNICEF.

Reynolds H, Janowitz B, Homan R, Johnson L (2005) Cost-effectiveness of two interventions to avert HIV-positive Births.

Sakpota, D., Adhikari, S.R., Bajracharya, T., Sakpota V.P. (2016). Designing Evidence Based Family Planning Programs for the marginalized community: an example of Muslim Community in Nepal. Front Public Health: 4:122

Schummers, L., Hutcheon, J. A., Hernandez-Diaz, S., Williams, P. L., Hacker, M. R., VanderWeele, T. J., and Norman, W. V. (2018). Association of short interpregnancy interval with pregnancy outcomes according to maternal age. *JAMA internal medicine*, *178*(12), 1661-1670.

Sensoy, N., Korkut, Y., Akturan, S., Yilmaz, M., Tuz, C., & Tuncel, B. (2018). Factors Affecting the Attitudes of Women toward Family Planning. *Family Planning*, 33.

Serour, G.I. (2013). Ethical issues in human reproduction: Islamic perspectives. Gynecology Endocrinol. 2013; 29:949–52.

Setia, M. (2016). Methodology Series Module 3: Cross-sectional Studies. Indian Journal of Dermatology. 61. 261-264. 10.4103/0019-5154.182410.

Shaikh S. (2011). Family planning, contraception, and abortion in Islam: undertaking Khilafah. In: Maguire DC, editor. Sacred Rights: The Case for Contraception and Abortion in World Religions: Oxford Scholarship Online; p. 105–28.

Shariati, M., Babazadeh, R., Mousavi, S. A., & Najmabadi, K. M. (2014). Iranian adolescent girls' barriers in accessing sexual and reproductive health information and services: a qualitative study. *Journal of Family Planning and Reproductive Health Care*, *40*(4), 270-275.

Starbird, E. and Norton, M. (2016). Investing in family planning: key to achieving the sustainable development goals health. *Glob Heal Sci Pract*. 2016; 2020:1–20.

Sundararajan, R., Yoder, L. M., Kihunrwa, A., Aristide, C., Kalluvya, S. E., Downs, D. J., and Downs, J. A. (2019). How gender and religion impact uptake of family planning: results from a qualitative study in Northwestern Tanzania. *BMC Women's Health*, *19*(1), 99.

Taherdoost, H. (2016). Sampling Methods in Research Methodology; How to Choose a Sampling Technique for Research. International Journal of Advance Research in Management, 5(2), 18-27.

Taherdoost, H. (2017). Determining Sample Size; How to Calculate Survey Sample Size. *International Journal of Economics and Management Systems* http://www.iaras.org/iaras/journals/ijems vol. 2. Pp 1-4.

UNFPA (2015). Contraception an Investment in Lives, Health and Development Women's ability to practice contraception is essential to protect (5).

Varley E. (2012). Islamic logics, reproductive rationalities: family planning in Northern Pakistan. Anthropol Med. 19:189–206

Wang, X. and Zhenshun, C. (2020). Cross-Sectional Studies. Strengths, Weaknesses and Recommendations. CHEST 2020; 158(1S):S65-S71 https://doi.org/10.1016/j.chest.2020.03.012

West, L., Isotta-Day H, Ba-Break M, Morgan, R. (2017). R. Factors in use of Family Planning services by Syrian women in a Refugee camp in Jordan. J Fam. Plann. Reproductive Health Care. 43 (2); 96-102.

World Health Organization (2005). Report of a WHO Technical Consultation on Birth Spacing. 2005. https://www.who.int/do/documents/birth_spacing05/en/. Accessed 1 Nov 2020.

World Health Organization. (2012). Trends in Maternal Mortality: 1990 to 2010. Geneva: World Health Organization; 2012.