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UPTAKE OF CONTRACEPTIVES AMONG FEMALE ADOLESCENTS (15-24YEARS) ATTENDING SENIOR HIGH SCHOOL IN TAMALE METROPOLIS

BY

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DECLARATION

I, Safianu Abdul Fatahi of the School of Public Health hereby declare that except for the ideas used which has been duly acknowledged, this dissertation is my original work under the supervision of Professor Philip Baba Adongo. To the best of my knowledge this dissertation, either in whole or part, has not been submitted to any research institution or university as a requirement for the award of any degree.

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ABSTRACT

Background

Studies have shown that the use of contraceptives among women in reproductive age reduces pregnancy-related complications and improves women and children's health. In sub-Saharan Africa it has been reported by the WHO that these complications are the leading cause of death among young women. Importantly, complications resulting in newborn deaths are 50% higher among adolescent mothers. The global community's response towards improving use of contraceptives is widely acknowledged. Despite these, contraceptive acceptor rates in developing countries are reportedly low. This study was designed to determine uptake of contraceptives among female adolescents (15-24years) attending senior high school in Tamale metropolis

Method

The study was a descriptive cross-sectional design that employed simple random sampling as a procedure for data collection. Participants were randomly selected by programmes and classes of study through balloting. A total of 399 female adolescents (15-24years) attending senior high school in the metropolis were recruited for the study. There were three schools that were selected purposively for the study. These were the Ghana Senior High, Dabokpa Technical Institute and Vitting Senior High/Tech. schools. Data was collected in January,2020 using self-administered questionnaire. The data was cross tabulated and analyzed using SPSS version 22. Statistically significant association between demographic variables and importance of contraceptives were determined at 95% confidence interval and a predictive value of 5%.

Results

The mean age of respondents was 20.2±2.6years. Prevalence of contraceptives was found to be 47% among study participants. There were misconceptions of infertility (67%) and developing cancer (53%) as reasons for not using contraceptives. Majority of the participants (61%) intimated that male condom was the most preferred form of contraception. Prevention of unwanted pregnancy (69%) was the most important reason why participants use contraceptives. However, cost of contraception was not a problem to participants as more than half (51%) said they could buy contraceptives. A chi- Square test to determine association suggest respondents who were between 20-24 had 2.99 increase odds of using contraceptives than those below 20years [AOR =2.99 (95%CI: 0.47, 2.08); P= 0.982] There were 4.91 increase odds of staying with both parents influences contraceptive use [AOR= 4.91 (95% CI: 1.36, 17.68), P= 0.015]

Conclusion

The importance of contraception to improving women and children's health cannot be overemphasized. The study revealed male condom was the most preferred method (61%) whilst prevention of unwanted pregnancy (69%) was the most important determinant for using contraception among participants studied. The study also underscored the influence of socio-cultural norms and challenges of adolescent-parent communication on contraceptive use. It is evident from the study that increase education and sensitization to dispel misconceptions associated with contraceptive use will result in increased uptake. The study further recommends research to explore sociocultural norms that prevents uptake as (81%) respondents averred that their ethnic background frowns on contraceptive use.

DEDICATION

I dedicate this dissertation to my lovely daughter Maryam Abdul Fatahi, and to all those who contributed in diverse ways to make this a reality

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I wish to express my gratitude to Almighty Allah for His guidance and protection throughout the period of my stay at the University of Ghana. I wish to also thank my academic supervisor Professor Philip Baba Adongo for his time and guidance in the cause of writing this dissertation. My engagement with Prof. Adongo has been worthwhile. The feedback I received has taught me the art of supervision. Constructive criticisms of my work motivated me to work harder in seeing to the completion of this dissertation. I am most grateful, Prof. I should also be grateful to all faculty members of the Department of Social and Behavioural Science as well as School of Public Health for the knowledge they imparted in me to write this dissertation.

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LIST OF ABBREVIATIONS

ASRH.	Adolescent Sexual and Reproductive Health
CI.	Confident Interval
GHS.	Ghana Health Service
GHS-ERC.	Ghana Health Service Ethics Review Committee
GNA.	Ghana News Agency
GSS.	Ghana Statistical Service
HIV.	Human Immunodeficiency Virus
ICPD.	International Conference on Population and Development
IUD's	Intrauterine Devices
LMIC.	Low-and Middle-Income Countries
NGO's	Non-Governmental Organisation
OCP's	Oral Contraceptives Pills
SDA.	Seventh Day Adventist
SPSS.	Social Science Statistical Package Software
SRH.	Sexual Health Right
SRHR.	Sexual and Reproductive Health Rights
STI's.	Sexually Transmitted Diseases
STIs.	Sexually transmitted infections
UNESCO.	United Nations Economic and Social Commission on Population and Development
WHO.	World Health Organisation

DEFINITION OF TERMS

Adolescents: The term adolescents used in the context of this study as participants who fall between the ages of 15-24years

Contraception: A method used by females in reproductive age to prevent pregnancy and sexually transmitted infections

CHAPTER ONE

1.1 Background

Adolescent Sexual and Reproductive Health (ASRH) is a major issue that has engaged the attention of countries across the globe (Crissman, Adanu, & Harlow, 2012. Morris & Rushwan, 2015) Despite its impact on the socio-economic development of countries (Grant & Shoham, 2018; Morris & Rushwan, 2015), challenges in accessing contraceptives, safe abortion, increasing rates of HIV and sexually transmitted diseases, early pregnancy and parenthood still exit (Nyarko, 2015).

Effective use of contraception is known to prevent unintended pregnancies and reduce to the barest minimum maternal mortality especially in developing countries. (Patel et al., 2018) More importantly, provision of knowledge on contraception to adolescents is known from findings to contribute to an increase in their knowledge on sexuality education, effective use of contraception and reduce teenage pregnancy. The importance of contraception to the health of young women is widely acknowledged (Salam et al., 2016). There is the need for policy makers to create an enabling environment for young adolescents to embrace these benefits to contraceptive use

There are both Cognitive Behavioral and Community levels theories that are employed in designing an intervention for public health problems. The Socioecological model targets behavior at the individual, relationship, community and the social level of intervention. At the individual level, empowerment of young adolescent is key to achieving positive change. The strategies for changing attitudes to contraception at the relationship level includes parental support, support from significant others as well as support from peers. This include not been judgmental of young adolescents on their choices (Svanemyr, Amin, Robles, & Greene, 2015).

Transforming social norms is relevant in influencing behavior of adolescents at the community level and lastly, strengthening laws and regulations that is tailored towards accepting family planning method could prove worthwhile in ensuring uptake of contraception (Svanemyr et al., 2015). The socioecological model will be examined in the context of this dissertation.

Adolescents in developing countries have an unmet need for contraception (Amoako Johnson, Padmadas, Chandra, Matthews, & Madise, 2012). There is not enough evidence of effective contraceptive services particularly in developing countries (Nyarko, 2015). In a study to examine peer influence on the sexual behavior of adolescents, Fearon, Wiggins, Pettifor, & Hargreaves, (2015) reported that adolescents are highly vulnerable to sexually transmitted diseases and unintended pregnancies.

The United Nations General Assembly's Sixty-Sixth Session Agenda thirteen on follow-up to the International Council on Population Development (ICPD) adopted a resolution for the highest decision-making body in the governance system of member countries to pursue the aims and objectives of the ICPD 1994 in Cairo. This is in recognition of the fact that objectives were not achieved within twenty years of the IPCD 1994 (Assembly, 2011). In the ICPD 1994 programme of action, The United Nations member countries arrived at a consensus to increase access to health, education and improve women's and adolescent rights to reproductive health services (United Nations Economic and Social Council Commission on Population and Development, 2014). The conference recognized the need to protect human dignity through reproductive rights choices free from coercion.

Available Statistics published by the Lancet Commission of Women and Health and reported by Pizzarossa & Perehudoff, (2017) suggest globally, an estimated 225 million women in LMICs have an unmet need for family planning services. The report further suggests an estimate of 75

million unintended pregnancies were at risk for unsafe abortion whilst 47,000 maternal deaths occur due to unsafe abortion. In furtherance to the above, 5 million maternal disabilities and 289,000 maternal mortalities are recorded every year. Further, 5.8million maternal complications occur due to sustained injury in the process of delivery.

According to Grant & Shoham, (2018), socio-economic, cultural and political factors have prevented adolescents access to information and knowledge on reproductive health rights (contraceptives), particularly in developing countries. This has negatively affected developments in those countries (Crissman et al., 2012; Kabakian-Khasholian, Mourtada, Bashour, El Kak, & Zurayk, 2017).

A study to examine the trend in inequality in seeking reproductive health services with the use of secondary data in Ghana (2003, 2008, 2014) and Nigeria (2003, 2008, 2013) revealed "horizontal" inequalities among women seeking reproductive health services (Ogundele, Pavlova, & Groot, 2018). It is evident from the paper that mass media contributes greatly to the information on family planning services to the affluent in society (Ogundele et al., 2018). Rigorous campaign on girl child education and strengthening of family planning services through health programmes would increase the use of contraceptives among female adolescents (Nyarko, 2015).

In a related development, Marrone, Abdul-rahman, & Coninck, (2017) observed findings from an examination of Ghana Demographic and Health Surveys (2003 and 2008) that adolescents have an unmet need for contraception. The study indicated a decline of 7% (4.4 percentage points) in adolescent females who have never use contraceptives and anticipate using it in the future. Factors that predict the use of contraceptives by adolescents (Marrone et al., (2017) further suggests residents in rural areas of the country were not likely to use any contraceptives method in comparison to residents in the urban areas.

According to Amoako et al . (2012) unmet need for family planning in Ghana is estimated above 30% among unmarried women Furthermore, fertility rates in Ghana show considerable variation due to geographical locations with northern Ghana recording higher fertility rates (Amoako et al . 2012). Evidence from literature averred improved access to family planning causes reduction in fertility rates, improves birth spacing, increased women's participation in the economic labor force thereby reducing youth dependency of women in reproductive age (Canning & Schultz, 2012).

There have been several studies on uptake of contraceptives among women in reproductive age. This study specifically investigates uptake of contraceptives among female adolescents attending Senior High School in the Tamale metropolis. As is evident from various publications, knowledge on contraceptives among women in reproductive age remains high What this study add to existing literature is to determine contraceptive user status among female adolescents attending Senior High School in Tamale metropolis. To this end, the perceptions of use of contraceptives, the reasons for choice of contraceptives and the barriers associated with uptake of contraceptives are examined in this dissertation.

1.2 Problem statement

There is evidence to suggest that effective use of contraception prevents unwanted pregnancy, sexually transmitted infections and maternal mortality (Patel et al., 2018). Young women who are not prepared for pregnancy often become pregnant because of their failure to use contraception. There are various methods of contraception available for sale in the hospitals, clinics, pharmacies and chemical shops (Dennis & Grossman, 2012). Uptake of contraception improves the health of adolescents' girls and makes them continue their education. In most developing countries such as Ghana, young girls do not take this opportunity due to misconceptions associated with its use and barriers preventing uptake.

Contraceptive rates in Ghana are low as reported by Adongo et al., (2014) Despite the effort to improve access to contraceptive use (Marrone et al., 2017), challenges among adolescent girls in Ghana on use of contraceptives is widespread (Marrone et al., 2017). Many factors and misconceptions have been associated with low uptake of contraceptives in northern Ghana (Adongo et al., 2014).

The Ghana News Agency (GNA) reports poor and low utilization of contraceptives in the Tamale metropolis The report intimated that contraceptive acceptor rate in Tamale is declining. In 2009, contraceptive rate in Tamale was 31%. This decline to 24 9% in 2010 and in 2011 the news agency reports about the same figure. Low utilization of contraceptives in Tamale according to the report is the major cause of maternal mortality, of which 20-30% occurred due to abortion (GNA, 2012)

A study conducted in Tamale among two other regional capitals Accra and Kumasi to determine perceptions and experiences of adolescents who have undergone abortion, the findings revealed that parents sack their children from home for being pregnant There is often a denial of pregnancy until it reaches a stage where it becomes obvious. At this point parental support of pregnant adolescents who offer to terminate pregnancy is nonexistent (Aziato et al., 2016) Similarly, data from a previous study at the Tamale Teaching hospital suggests that of the 280 maternal deaths, 10% occurred among 14-19years whilst 50% of deaths were recorded among 20-29years. This was between January 2006 and December 2010 (Gumanga et al., 2011).

The problem of risky sexual behaviour among adolescents as reported in a study to explore the influence of friendly health services on SRH in Tamale, is so pervasive and strongly associated with poverty (Dako-Gyeke & Ntewusu, 2012)

In a paper on challenges of reproductive health in Ghana (Thatte, Bingenheimer, Ndiaye, & Rimal, 2016) reported cost, poor access and embarrassment among Ghanaian youth as some of the perceived reasons for low utilization of contraceptives.

According to Adongo et al., (2014) misconceptions about the use of contraceptives among women are associated with diseases such as breast and cervical cancer, infertility and uterine fibroid. The study further suggests use of contraceptives is widely believed to be linked to a promiscuous lifestyle. Available statistics showed contraception rate of between 4.1 to 41.7 percent, and rates of use of modern methods of between 4.0 to 38.4 percent among districts of Ghana with northern Ghana reporting lower rates (Adongo et al., 2014; Amoako et al., 2012).

Adolescents in rural communities in Ghana were reported to have low uptake of contraception than those in urban communities (Marrone et al., 2017). Some of the consequences of low uptake of contraceptives to adolescents include; high rates of unwanted pregnancy, sexually transmitted diseases (STI's) (Bell et al., 2018; Hagan & Buxton, 2012; Okereke, 2010; Thatte et al., 2016) abortion, high early child fertility, maternal mortality and high early childbearing (Bell et al., 2018)

Data exist on the use of contraceptives among women of reproductive age. However, not much study has been done in the study area particularly among young females (15-24yrs) with regards to contraceptive use. This study was carried out to determine contraceptive user status, perceptions of adolescents on contraceptives, reasons for choice of a method of contraception and barriers in accessing contraceptive services among adolescent females attending senior high in schools of Tamale metropolis.

1.3 Significance of the study

The population of adolescents in Ghana is about 25% (Kyilleh, Tabong, & Konlaan, 2018). In a publication by Marrone et al., (2017), adolescent girls in Ghana are confronted with several challenges in accessing contraceptive services. These cohorts of young people decide based on their knowledge and perceptions of contraceptives without parental control and guidance

Over the years the Government of Ghana has invested resources in addressing adolescent health problems. The adolescent reproductive health (2000) and HIV and STI (2004) policies are some of the government's interventions aimed at addressing problems of adolescents (Kumi-Kyereme, Awusabo-Asare, & Darteh, 2014). Various bilateral and multilateral organizations have partnered government in the implementation of policies related to adolescents' sexual health. Established in Ghana in 2007, Marie Stopes is a global organization in promoting family planning and the use of contraceptives, STI's testing, pregnancy crisis management, pregnancy options counseling among others (Duvall, Thurston, Weinberger, Nuccio, & Fuchs-Montgomery, 2014).

Despite effort by Government and Non-Governmental Organizations working in collaboration to improve access to contraceptives, challenges of adolescents in uptake of contraceptives still exits. Some of these consequences of low uptake of contraceptives include unintended pregnancy, STI's, early parenting and high fertility (Bell et al., 2018; Hagan & Buxton, 2012; Okereke, 2010; Thatte et al., 2016).

As a result of these consequences, adolescents are unable to further their education which puts unbearable pressure on the socio-economic development of the country. Pressure is also brought to bear on parents and caregivers of these adolescents because of the additional increase in household and related expenditures. There are a few of existing literature on contraceptives use in Tamale which mostly takes into perspective women in reproductive age. This study is designed

with a focus on female adolescents (15-24yrs). The study will help in determining contraceptive user status and investigate the perceptions of contraceptives among women aged 15-24years. Further, the study will investigate the barriers associated with low uptake of contraceptives and establish reasons for the choice of any method of contraception.

In addition to the above, the study aims at providing reliable and current data to stakeholders in Tamale who are working in the provision of family planning services. The study will also serve as a basis for future research on female adolescents' use of contraceptives in Tamale and Ghana.

The government of Ghana will find this study useful in policy formulation on family planning, which is expected to result in increased use of contraceptives among female adolescents (15-24years). More also, the recommendations of the research work will help in achieving global initiative of increased access to contraceptives among women in reproductive age, improve women's health through birth spacing and reduced fertility rates as well as empower women economically to contribute to the socio-economic development of the country.

1.4 Research questions

(1) What are the perceptions of contraception among female adolescents (15-24years) attending Senior High School in Tamale metropolis?

(2) What are the reasons for choosing a method of contraception among female adolescents (15-24years) attending Senior High School in Tamale metropolis?

(3) What are the barriers in accessing contraception services among female adolescents (15-24years) attending Senior High School in Tamale metropolis?

1.5 General objective

The main objective of the study is to determine contraceptive user status among female adolescents (15-24years) attending Senior High School in the Tamale metropolis

1.6 Specific objectives

(1) To determine the perceptions of contraception among female adolescents (15-24years) attending Senior High School in Tamale metropolis

(2) To establish reasons for choice of a method of contraception among female adolescents (15-24years) attending Senior High School in Tamale metropolis

(3) To explore the barriers of accessing contraception services among female adolescents (15-24years) attending Senior High School in Tamale metropolis

1.7 Conceptual framework

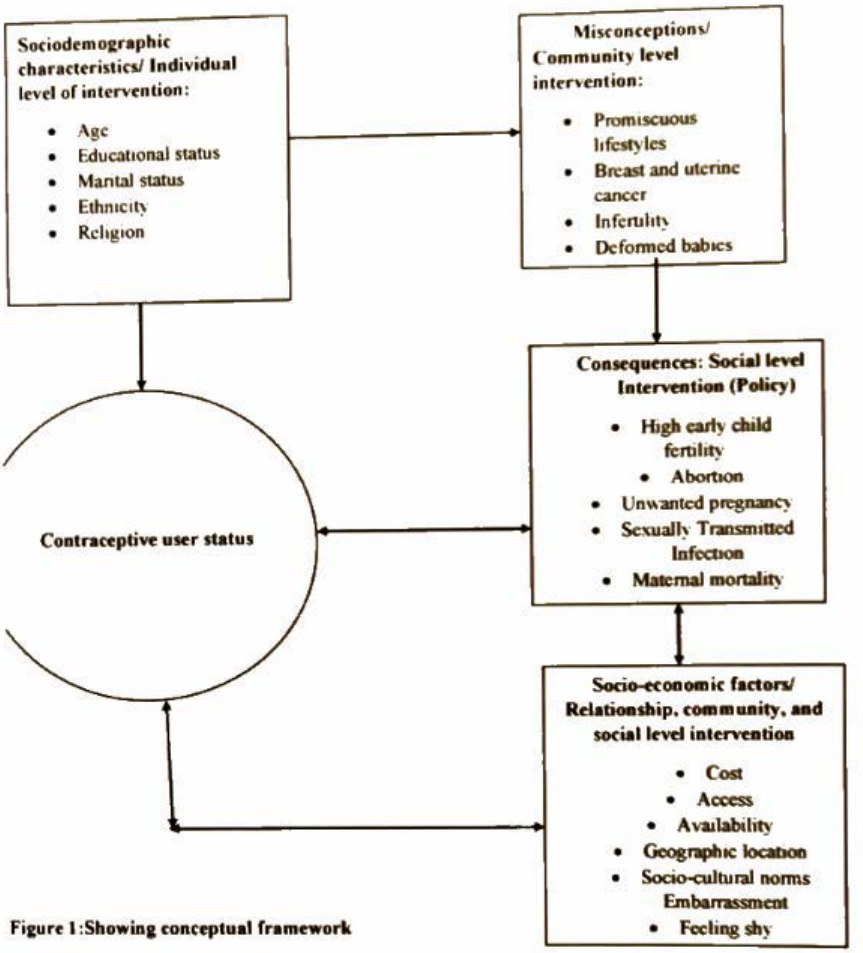

Figure 1:Showing conceptual framework

The Socioecological model of intervention is in four phases. First, the individual level intervention are practices that positively influence behaviour of individuals. In this case strategies are designed to target only the individual. Secondly, matters relating to contraceptive goes beyond the individual level. Peer pressure also influences adolescents' choices on contraceptives. It is crucial for interventions to not only be targeted at the individual but interpersonal relationship. Discussions of contraception by parents to adolescent is almost a taboo. This influence uptake thereby resulting in unwanted consequences.

Sociocultural practices in most ethnic groups in Ghana frowns upon uptake, and access and availability of contraception is a problem to rural dwellers. This has been largely attributed to long distance travel to health centres for better health care. Community level intervention seeks to break these barriers to increase use of contraception. A social level intervention is to formulate and implement friendly policies on abortion services to young people as well as providing free contraception and reproductive health services to the population.

Contraceptives is influenced by the level of education. The more educated a woman is, the more she is likely to take up family planning method. Women who are older and are in marital relationship tend to use contraceptive more as compared to younger adolescents. Although there is high level of awareness among adolescents, use of family planning method is very low. Religious beliefs have also been shown to influence uptake. Other studies point to the fact that contraceptive users are more in the higher socioeconomic class as opposed to those who earn meagre income. These factors result in low uptake of contraceptives.

Several other factors account for the low uptake of contraceptives in Ghana. Some of these factors as shown from recent studies are largely misconceptions surrounding the use of contraceptives. Young female adolescents (15-24years) are not immune from the misconception of use of family

planning method. Some of these misconceptions are that the use of contraceptives suggests living a promiscuous lifestyle. Other misconceptions are that contraceptives use causes breast and cervical cancer, uterine fibroid, and infertility.

In furtherance to the above, factors such as cost is a major hindrance to the uptake of contraceptives among young people. Young adolescents also reported embarrassment and feeling shy as reasons for not using contraceptives. There have been reports that suggest access and availability of contraceptives as a risk factor that prevents young Ghanaian adolescents from taking up any family planning method.

The use of contraceptives promotes women's health, increase productivity and improves quality of lives of women. In a similar vein, however, not using contraceptives or low uptake of contraceptives affects the overall socio-economic development of any country. These consequences are not limited to unwanted pregnancies, high rates of abortions with its attendant risks of infections, infertility, and deaths in some instances. Other consequences are that adolescents start parenting early in life which affects the dependency ratio among other socio-economic and health implications on adolescents. It is imperative to also underscore the fact that every pregnancy comes with a risk. For that matter not using contraceptives could lead to maternal mortality. Added to this is that low uptake of contraceptives results in high fertility rates. The high rates of fertility put unnecessary burden on family members and social support systems which are mostly underfunded. And lastly, a contraceptive such as condoms prevents and controls the spread of sexually transmitted infections.

CHAPTER TWO

Literature Review

:.0 Introduction

his section reviews publications on contraceptives across the globe. It begins by looking at ontraceptives from the global perspectives to the sub-regional level. Contraceptive use in Ghana nd Tamale are also featured prominently. The other areas covered in this section include the bjectives of determining perception, reasons for choice of a contraceptive and barriers in ccessing contraceptives. In seeking to discuss all aspects of the conceptual framework, the onsequences of low uptake of contraception is reviewed and presented below

.1 Global view on contraception

he International Conference on Population and Development (ICPD) held in 1994 in Cairo and he Fourth International Conference on Women held in Beijing in 1995 empower adolescents to eek information and services on their sexual and reproductive health rights (SRH) (WHO, 2014)

he ICPD was the fulcrum around which consensus was reached on understanding adolescent :productive health and in meeting the sexuality needs of adolescents (Chandra-Mouli et al., 2015). he Commission on Population and Development in addressing the broader concept of adolescent exual and reproductive health and rights was unambiguous in calling for global action on dolescent reproductive health (Chandra-Mouli et al., 2015).

tudies have shown that adolescents irrespective of whether in school or not have little to no nderstanding of adolescent reproductive health services (Kyilleh et al., 2018). A study to compare ie behavior of young and older adolescents in the US (Finer & Philbin, 2013) in comparison with dolescents age 12 and younger, sexual activity among older adolescents in America is reportedly

igher. It is estimated that 30% of adolescents between ages 15 to 16 have had sex. The data also howed that the use of contraceptives among adolescent girls age 15 is not different from those lder than 15. Findings from the research points to an increasing rate of sexual activity among dolescents older than 15 than those younger. Availability of contraceptives is known from indings to reduce teenage pregnancy among adolescents.

Data from Sweden showed that of 1001 women surveyed on their use of contraceptives, 721 epresenting 72.1% are using contraceptives compared with 268(26.8%) who did not use any ontraceptives. Further, the data also showed that 8.9% of women in Sweden have an unmet need or contraception. The results further suggest 220 women representing 22% of the population urveyed have an unintended pregnancy. Despite these indicators, Sweden is reportedly having nany unmet needs for contraception. Therefore, increasing use of contraceptives will go a long vay to reduce unintended pregnancy in Sweden (Kallner, Thunell, Brynhildsen, Lindeberg, & Danielsson, 2015).

n another study to determine the challenges of access to contraceptive use in the United States, indings are that access to contraceptives among women of low socio-economic status in Boston s not a problem. The result of the study also showed majority of the women obtain contraceptives rom over-the-counter points of sales. However, barriers such as time to visit health care centres nd limited number of contraceptives issued for a month contributes to hinder access to the use of referred method among section of the study population. The study further showed that there is a igh rate of unintended pregnancies in the US. However, cost of contraception raises cause for oncern among low-income earners (Dennis & Grossman, 2012)

.2 Contraceptive use in sub-Saharan Africa

ccording to Fearon et al., (2015) young people in sub-Saharan Africa are prone to HIV, other exually transmitted infections (STIs) and unintended pregnancies. They identify peer influence mong adolescents as the driving force of sexual behavior. They argue the lack of systemic review n contraception in Africa South of the Sahara. There is no available evidence on commitment to hange interventions towards minimizing the incidence of HIV and other related consequences of ow uptake of contraceptives (Fearon et al., 2015).

lganda is known to have the highest fertility and maternal mortality rates than any of the countries n East Africa (Namasivayam, Lovell, Namutamba, & Schluter, 2019). Despite this, there has not een enough research on the use of contraceptives in Uganda. It is important to underscore the fact nat patterns of contraceptive use are crucial in determining the effectiveness of the interventions eing rolled out on contraceptives use. This approach will enable an understanding of adolescents /ho have an unmet need for family planning.

n the same publication that studied the demographic and health survey of Uganda from 1995 to 016, 30.3% of the 50,027 women and 39.9% of 14,092 men sampled in the study were reported s those using contraceptives. This phenomenon showed an increase in use of contraceptives from 3.4% and 20.3% for women and men respectively during the period under study. In addition to iis, the use of modern methods saw an increase from 27.3% and 35.9% for women and men ompared with previous data of 7.4% for women and 10.4% for men in 1995 (Namasivayam et l., 2019).

he above statistic showed progress over the period. Evidence has shown that continuous nplementation of family planning programs and interventions have successfully resulted in

behavior changes across the Ugandan population. However, much more needs to be done to further reduce relatively high fertility and maternal mortality rates in Uganda (Namasivayam et al., 2019).

In a prospective cohort mixed-method study to determine the consequences of unintended pregnancy among commercial sex workers in Kenya, Luchters et al., (2016) reported high rates of unintended pregnancy and sexually transmitted infections among the study population. Of the four hundred study participants, 57% were using a modern contraceptive method. However, 36% of those using contraceptives were found to be using condoms inconsistently. It is also reported in the study that 24% had unintended pregnancy during the one year of follow-up. Not using contraceptives, the use of traditional methods or use of condoms only were reported as key predictors of unintended pregnancy (Luchters et al., 2016).

Low uptake of contraceptives among vulnerable groups such as commercial sex workers results in economic hardship, stigmatization and unsafe abortion practices. Low uptake is also associated with high rates of unintended pregnancy. Socially determined barriers among sex workers are manifest in the low uptake of contraceptives. Lack of control in a commercial relationship has been identified as a barrier contributing to STI's and unintended pregnancies. (Luchters et al., 2016).

In sub-Saharan Africa, Tabong et al., (2018) asserted that adolescent sexual and reproductive health is a driving force for socio-economic development that has engaged global attention. They further contend that access and information services on contraceptives are inadequate particularly in sub-Saharan Africa. However, an increase in enrollment of girls in schools has been identified as an avenue in engaging adolescent girls on contraceptive use and other sexual and reproductive health rights information and services. Lack of access and information on contraceptives (Tabong et al., 2018) causes adolescents to engage in risky sexual behavior. The drive to increase access

ınd information services is globally accepted and acknowledged as a way of increase utilization ›f contraceptives

Many social factors cause constraints in the implementation of sexual and reproductive health ights (SRHR). In Madagascar, for example, high drop-out rates coupled with stagnating school nrolment poses a challenge in reaching out to young people on sexuality education. Some of the nformal strategies that have been adopted and used in teaching young people about contraception nclude information on puberty and menstruation (Grant & Shoham, 2018)

?rom observations, other strategies such as sensitization of adolescent girls on their unique ›iological composition and the experiences of puberty are known to contribute to addressing some f the misconceptions associated with contraceptive use (Grant & Shoham, 2018). There is also ıe need for parents and teachers in collaboration with relevant stakeholders to increase community ensitization which would serve the needs of the youth and create awareness of the urgent demand ›r contraceptive use.

, qualitative study conducted in Mozambique to explore knowledge, attitudes and practices about umily planning among female and male adults, (Capurchande, Coene, Roelens, & Meulemans, 017) asserts that there was a high level of knowledge among study participants. The findings ›m the study suggest that social pressure, religious beliefs and expectations of family members l together contribute to determining family size. Issues of family planning and contraception is ›en by society as a woman's problem.

mong university students studied in Tanzania, the Majority (98.3%) of the 401 students, knew ›out contraceptives. However, the study reported low uptake of contraceptives among study ırticipants with 162 representing (40.4%) of women who were currently using any method of

ontraception. The most common methods that are often used are condoms, withdrawal and ibstinence. It was also reported that sources of information about contraception were from friends, elevision and health care workers (44.8%, 40.3%, and 39.0%, respectively). There is therefore the ieed for advocacy on the use of contraceptives among university students (Sweya, Msuya, Johnson Mahande, & Manongi, 2016).

.3 Contraceptive use in Ghana

dolescent represents a critical stage in the growth and development process of any country. bout 25% of Ghana's population are adolescents (Kyilleh et al., 2018). The stage is often referred o as the second decade of life. It is a period of transition from childhood to adulthood (NPC, 000). In Ghana and most sub-Saharan African countries, the rate of contraception is reportedly ow (Adongo et al., 2014). Besides, Ghana is one of few nations reporting a decline in the use of ontraceptives based on the two most recent national surveys (Hindin, McGough, & Adanu, 2014). hanaian women reported side effects as reasons for not using contraceptives (Hindin et al., 2014). he study also reported a lack of knowledge on mechanisms of contraceptives and basic productive biology. It further suggests the use of mass media, school-based curricula and rovision of training as ways by which knowledge on contraceptives will be increased and isabuse people's minds of misinformation on modern contraceptive use in Ghana (Hindin et al., 014). The paper reported concerns about menstrual irregularities caused with the use of hormonal ethods among Ghanaian women. The perception of women was that the hospital was the propriate place to get contraceptives. The reason according to them was that blood test is needed match with the appropriate method (Hindin et al., 2014).

milarly, a study conducted in Ghana to determine the correlates of sexual inactivity and met ed, 44% of 1532 women 15-24years were currently not using contraceptives compared to those

who need it (25%) (Atiglo & Biney, 2018). Whereas abstinence was reportedly high among single unmarried women, the data showed higher levels of met and unmet needs in young married women. Secondary education had a significant association with abstinence among single women with met needs (Atiglo & Biney, 2018). In furtherance to this, factors such as the age of the woman, previous history of pregnancy, ethnicity and region of residence determines the use of contraceptives among women. Compared with women who have given birth multiple times, those with one or no child were less likely of being abstinent and having met need for contraception. Generally, the study concluded that unmet need is high among young women (15- 24years), whilst having higher education is associated with abstinence and met need (Atiglo & Biney, 2018).

In a related development, Grindlay et al., (2018) asserts that 44% of young women in Accra reported using modern contraceptives. Similarly, modern contraceptive use was associated with higher education in comparison with having only primary education. There was however lacking awareness on some contraceptive methods. Also, almost 91% agreed that at least one method of contraceptive was unsafe. The data also suggest the likelihood of being pregnant among female respondents who had ever given birth whilst 45% of females reported unintended pregnancy (Grindlay et al., 2018). Overall, 44% reported current modern contraceptive use. The paper proposes measures to increase access and use of contraceptives, increase education on safety of use of modern methods as well as awareness creation on long acting-methods of contraceptives (Grindlay et al., 2018).

Data from the 2014 Ghana Demographic and Health Survey are that 51% of young women between the ages of 15 to 19years and 20 to 24years had an unmet need for contraception. A further 39% of all women in the reproductive age give birth before they reach 20years. Unintended pregnancy among young women 15-19 and 20-24years were 58% and 33% respectively.

In a study to determine uptake of emergency contraceptives, almost all women who participated in the study reported fear of side effects from the use of oral contraceptives pills (OCP's), intrauterine devices (IUD's) and injectables (L'Engle, Hinson, & Chin-Quee, 2011) In furtherance to the above, almost all women sampled for the study preferred emergency contraceptives to other methods. Study participants had little knowledge about other methods of contraception. The paper established that myths about contraception were widespread and suggest that future interventions be targeted at dispelling myths about OCP's, condoms and other modern methods (L'Engle et al., 2011).

In a related publication to determine knowledge and type of contraceptives use, attitudes towards contraceptive users and preference among the University of Ghana Business School Diploma students, Appiah-Agyekum & Kayi, (2013) averred students having little knowledge on modern contraceptives. Of the three focus group discussions, only one respondent indicated the use of contraceptives. Users of contraceptives were perceived as being promiscuous although respondents averred that they were not stigmatized (Appiah-Agyekum & Kayi, 2013). Condoms for both sexes were the major reported form of contraceptives even though they indicated a possibility of condom burst during sexual intercourse as a side effect.

Participants underscored the importance of contraceptives as protecting against STI's, prevention of abortions and unwanted pregnancies. Most respondents in the focused group discussion preferred OCP's as a method of contraception. Availability and accessibility of contraceptive services is an important way of ensuring a holistic and comprehensive reproductive health services among university students who participated in the study (Appiah-Agyekum & Kayi, 2013)

2.4 Use of contraceptives in Tamale

A study conducted in Tamale to determine awareness and use of emergency contraceptives among reproductive women suggests that 69% of study participants of 138 sampled were aware of ECPs (Amalba, Mogre, Appiah, & Mumuni, 2014). Further, 85% indicated the correct use and timing of ECP's. The study established factors such as cost, access, socio-cultural and religious factors as key determinants in the use of contraceptives. The authors of the publication intimated that emergency contraceptives are a way by which women can prevent pregnancies and unsafe abortions (Amalba et al., 2014).

According to (Mohammed, Abdulai, & Iddrisu, 2019) emergency contraceptives prevents 95% of unwanted pregnancies. They identified perceptions, lack of knowledge and health worker attitude as barriers to contraceptive use. More than 86.91% of nursing and midwifery students purposively sampled for the study knew emergency contraceptives before the study. They also averred that 38.74% indicated that the use of contraceptives is morally unacceptable.

The study also showed that 54.45% of participants suggested that the use of emergency contraceptive is indicative of an individual engaging in promiscuous lifestyles. A high level of awareness of emergency contraceptives was observed among study participants. However, there was lack of detailed knowledge on how to use some of the methods such as IUD's. Although the study found easy accessibility of emergency contraceptives, its usage was however very low among students studied (Mohammed et al., 2019).

In a similar development reported in Tamale, Beson, Appiah, & Adomah-Afari, (2018) contend that modern contraceptives use among women in reproductive age is vital to reducing maternal mortality and unintended pregnancy in other to control population growth particularly in developing countries. The paper, like most cited previously reported low uptake of contraceptives

among women. It was also reported that only 21% of 217 study participants were using modern method of contraception. Predictors of uptake included factors such as marital status, partner consent and support as key in deciding to use contraceptives.

2.5 Perceptions of contraceptives

A paper by Adongo et al., (2014) suggests that misconceptions of contraceptives use in both northern and southern Ghana were widespread. Key findings from the study are that condom use was widely perceived to inhibit erection. Whereas in northern Ghana study participants averred that use of condom has the potential of causing impotence in men, study participants in southern Ghana were generally of the view that use of condom reduces sensation and hence does not give sexual pleasure for men. Other misconceptions were that contraceptive use is suggestive of living a promiscuous lifestyle by the woman using it. Several other misconceptions of uptake on contraceptives includes the risk of getting breast and cervical cancer were reported (Adongo et al., 2014).

Adolescents reportedly perceived a negative attitude of health workers as a reason for not accessing reproductive health services. There were issues of trust and confidentiality of health service providers which is not guaranteed by the adolescents. Perceptions also hinges on social norms attached to seeking contraceptive services. The study also revealed that young people of both sexes also consider having multiple sexual partners as a source of pride (Kyilleh et al., 2018).

A qualitative study that reported perceptions of the use of emergency contraceptives among women suggest that women are predisposed to cancer, infertility and other reproductive health problems.(Luchters et al., 2016). Others averred that certain contraceptive devices can be displaced within the body which could impair future fertility. The observation from this study clearly showed

that most women lack information on contraceptive use. There was also the perception among half of the study participants that only married women should use contraceptives (Luchters et al., 2016).

The perception of side effects was widely observed among study participants. Some of these side effects described in a focus group discussion are that contraceptives "spoil the uterus". Others reported that the use of contraceptives make women infertile, experience back pains and cause vaginal itching. There are also the perceptions of foul smelly and wet vagina, having low to no libido with the use of contraceptives. Moreover, findings of the study revealed that use of contraceptives causes the growth of the vagina. Similarly, in an in-depth interview on the same study a participant contends that use of contraceptives before conception produces babies with deformities (Luchters et al., 2016).

In furtherance to the above, contraceptive users were generally perceived among university of Ghana business students as bad people although the study indicated they were not stigmatized. The study further showed that users of contraceptives are perceived as engaging in prostitution. Other findings on perceptions are that uptake of contraceptives is suggestive of people who were abreast with time. There was also the shared view that the socio-cultural environment of the Ghanaian society contributed to the labeling of people as bad (Appiah-Agyekum & Kayi, 2013).

There were also reported perceptions of oral contraceptive pills. Participants were of the view that after taking oral contraceptive pills, it takes 3 months for an individual to get pregnant. Even though participants believed that access to contraceptives was not a problem, some were of the view that contraceptives obtained from pharmacy and chemical shops are costly (Appiah-Agyekum & Kayi, 2013).

Several publications including publications by (Adongo et al . 2014. Mohammed et al . 2019) have demonstrated that the perceptions of adolescents and women in reproductive age on contraceptive use suggests the individual is living a promiscuous lifestyle. The moral judgement behind use of contraceptives has also been call into question. However, almost all participants in the study indicated that the correct use of emergency contraceptives among unmarried adolescents was safe (Mohammed et al . 2019)

Family planning is viewed as a woman's concern and therefore in most homes only women attend counseling sessions without the involvement of their spouses. Therefore attitude towards contraceptive use is mostly gendered (Capurchande et al., 2017) Societal pressure, expectation, and meaning attached to childbirth determine the number of children in a family. These demands from society often do not take in to account the concerns and choices of the couple. Social prestige of having large family sizes also adds to the burden of low uptake of contraceptives(Capurchande et al., 2017).

2.6 Reasons for choice of contraceptives

Studies have shown that the awareness level of contraceptives among adolescent are high However, not much study has been done in determining the reasons for choosing a method of contraception. In the West Gonja district of the savanna region, abstinence and use of condoms were reported as the contraceptives of choice in preventing pregnancy. (Kumi-Kyereme et al., 2014).

Emergency contraceptives among women studied in Accra was the preferred choice of contraceptives. Participants reported little side effects compared with IUD's, OCP'S and injectables. It was also reported that side effects from EC's are more tolerable comparatively.

There was little knowledge among participants on how other methods of contraception works. More also, condom use was not popular among study participants. A minor discomfort associated with the use of EC's was bleeding per vagina. It is imperative to state that findings from this study are limited to only women who participated in the study.

Another reason for the choice of contraceptives among section of women is the influence of friends based on negative experiences of contraceptives. Friends who have had unpleasant experience share those experiences which scare others from using it. There were reports from friends who could not conceive after using oral contraceptive pills. Another discomfort is the inconvenience of taking daily pills and concerns were expressed of forgetfulness in taking the pills. All these have a negative influence on the choice of using contraceptives (L'Engle et al., 2011).

The ease of assessing contraceptives is also reported as a factor that determines the choice of contraceptives (Hindin et al., 2014). Women were also concern about getting fat when they use contraceptives such as the hormonal method. Findings from the study also point to fear of side effects (31, 33.0%) and religious beliefs (26, 27.7%) as reasons for not using contraceptives. (Sweya et al., 2016). In a study to determine predictors of contraceptives, the authors reported that participants who had a positive attitude were more likely to use contraceptives than those with negative attitudes. Religious belief was found to significantly influence participants' decision in using contraceptives (Beson et al., 2018).

Contraceptives obtained from pharmacies are thought to be convenient and faster way of having access. Women in the state of California reported that obtaining contraceptives from pharmacy does not require physician prescription. Majority (81%) of the women get their contraceptives from pharmacies. Emergency contraceptive is effective within the first 72hrs of unprotected sexual intercourse. On average, it is reported that women sampled for the study obtained their

contraceptives within 36hrs. The pharmacy/chemical shop provides quick access to contraceptives which ensures that unintended pregnancies do not occur (Greene et al., 2006).

Important characteristics that determine the reason for which women choose contraceptives are its effectiveness and level of safety. In choosing contraceptives, women want to be certain that it can help prevent pregnancy. As noted earlier, users of contraceptives generally want to ensure that there is minimal to no side effects with their choice of contraceptives. Forty-seven percent (47%) of 721 users in a study indicated they want to feel good with the use of contraceptives. There is also the concern of easiness of contraceptive use as a factor that determines choice (Kallner et al., 2015).

Other considerations are that contraceptives use should not result in an increase in weight or cause an infection (Kallner et al., 2015). Similarly, 9% of the sample participants using family planning were of the view that the use of the family planning method should not cause bleeding, and if there is pain, it should be minimal. Lastly, contraceptive use should not interfere with the enjoyment of sex among many other considerations reported in the paper (Kallner et al., 2015).

2.7 Barriers to contraceptive use

A bivariate analysis to examine contraceptive use among female adolescents showed that contraceptives use was influenced by factors such as age, education, health facility attendance and marital status. The author concluded that rigorous campaigns on girl child education and strengthening of family planning services through health programs would increase the use of contraceptives among female adolescents (Nyarko, 2015). Several attempts have been made and continues to be made by various international organizations in reducing, for example, adolescent pregnancy in low- and middle-income countries (Bell et al., 2018). Inequalities in these counties

are a result of low socioeconomic status, socio-cultural norms, education among others (Bell et al., 2018)

In a related publication on factors that predict the use of contraceptives by adolescents', (Marrone et al., 2017) reported residents in rural areas of the country were not likely to use any contraceptives method in comparison to residents in the urban areas. Further, women who were married compared to their unmarried peers were also not likely to use contraceptives. The provision of contraceptives and reproductive health services needs to be enhanced in rural areas of the country (Marrone et al., 2017). Rigorous campaign on girl child education and strengthening of family planning services through health programmes would increase the use of contraceptives among female adolescents (Nyarko, 2015).

Other studies showed factors that prevent access to uptake of contraceptives as economic status, age, access to health services, parity of women and religious beliefs (Crissman et al., 2012; Nyarko, 2015). In furtherance to these, other factors as location and geographical area of residence of women influence their choice of contraceptives. A similar study further suggests that women who consult their spouses on their health decisions are more likely to use contraceptives as opposed to women who do not (Marrone et al., 2017; Nketiah-amponsah, Arthur, Aaron, September, & Arthur, 2015).

Among 1203 Ghanaian youth interviewed on three reproductive health services areas (Abortion, contraception, and HIV/STI testing) most commonly reported constraint was being embarrassed or shy among the youth. This complaint cut across all three service areas studied. Other challenges faced by the youth in seeking contraceptive services were fear of being safe, fear of family members and friends knowing the person is using contraceptives and the cost of accessing contraceptives services (Crissman et al., 2012; Thatte et al., 2016). Religious prohibition was

reportedly a major constraint in the uptake of contraceptives (Crissman et al., 2012. Thatte et al., 2016).

In a related development (Hagan & Buxton, 2012) asserted that information on contraception among adolescents in senior high school was both influenced by the media; mainly TV and radio (60%) and from peers (30%). Whereas 82% of 244 respondents were not using contraceptives, the majority of those using contraceptives preferred condoms to any other method (Hagan & Buxton, 2012).

Adolescents continue to face several challenges in accessing contraceptives as well as general reproductive health services. Some of these challenges include the lack of effective communication between adolescents and their parents. Challenges also exist with attitudes of health care personnel in the provision of contraceptive and reproductive health services. In describing health worker attitudes, the researchers contend that three major areas of poor attitude have been identified. These were; health workers who dictate to young people what they should do in respect of choices they make, health service providers who are judgmental of clients seeking contraceptive services, and lastly those who genuinely seek to help adolescents (Kumi-Kyereme et al., 2014; Morris & Rushwan, 2015).

Other factors like socio-cultural and economic status hinder access to information and services to young people (Morris & Rushwan, 2015). Concerns for irregular menstrual periods were expressed with the use of hormonal methods of contraception (Hindin et al., 2014). This prevents the use of contraception like injectables among others. According to Amalba et al., (2014) factors that prevent the use of contraceptives were availability and affordability.

2.8 Consequences of low uptake of contraceptives

In the Central Region of Ghana, a study showed that not using contraceptives results in teenage pregnancy and sexually transmitted diseases (Hagan & Buxton, 2012). Adolescent girls who get pregnant drop-out from school and are unlikely to have economic means of caring for themselves and unborn babies (Hagan & Buxton, 2012). The study also found that 82% of respondents (244) were not users of contraceptives, whilst 21% of respondents with knowledge of contraception were users of contraceptives. Participant's knowledge of sources of information on contraceptives suggest 60% from media and 30% from friends (Hagan & Buxton, 2012)

In a publication by (Okereke, 2010) it is reported that 27.2% of adolescent girls who have had sex reported having STI's, mostly gonorrhea and syphilis. Further, the study suggests that 30.2% of adolescent girls have had unintended pregnancies whilst 73.3% of them had recurrent pregnancies. The data also showed 19.6% of all females interviewed have had unplanned pregnancies (Okereke, 2010)

The World Health Organization reports that the death of women from childbirth and pregnancy-related causes occur every 2minutes (WHO, 2012). The report further suggests that 33% of these deaths occur in India and Nigeria. Statistically, India records 56,000 deaths whilst Nigeria records 40,000 deaths representing 20% and 14% of global deaths from pregnancy and childbirth-related complications. Between 1990 and 2010, the WHO reports that death rates have declined by 5% from more than 540,000 to 290,000. Despite these decline in statistics, women in about 40 sub-Saharan Africa including Ghana have the risk of dying from pregnancy and childbirth related complications (WHO, 2012).

Although there is also a global decline in birth rates among adolescents since the early 1990's, birth rates are high in Asia, Africa, the Caribbean and Latin America (WHO, 2012). Among

cohorts of adolescents aged 14-19, pregnancy-related death is the second leading cause of deaths after self-inflicted harm (WHO, 2012). According to Kumi-Kyereme et al., (2014) teenage pregnancy presents the biggest problem of young adolescent

Further, Luchters et al., (2016) asserted that consequences of low uptake of contraceptives among female commercial sex workers are unintended pregnancy, financial hardship, social stigma, risk of abandonment, or dangerous abortion practices. Rates of pregnancy among young adolescents' girls in the US are reportedly low although this is one of the consequences of not using contraceptives. There is a rate of 1 per 10,000 girls who become pregnant among 12-year-olds in the US (Finer & Philbin, 2013).

2.9 Summary of Literature Review

Contraception in Tamale is decline to 24% in 2010. Cost of contraception is a problem to young in-school adolescents. Other barriers are health worker attitude, access and availability of contraception. There is a yawning gap in the literature on female adolescents use of contraception. This could be addressed through research by employing robust design and appropriate sample size. In developing countries, the low uptake of contraception has had serious consequences on adolescents. They are unable to continue their education, they face social stigma and, in some instances, they lose their lives whilst giving birth. This study is designed to explore the perceptions of adolescents, their reasons for choice of contraception and the challenges they face in accessing contraception. As a result, the literature reviews contraception from the global to the local level where the study is being conducted.

CHAPTER THREE

Method

3.0 Introduction

This chapter discusses the method the researcher employed in the study. It begins with the design that was adopted in the conduct of the study, where the study was conducted and who the participants of the study were. The other aspects of the method include sample size determination, inclusion and exclusion criteria, procedure for data collection, data collection tools and data quality control. This section also examines the conduct of pre-testing of the questionnaire, what constitute the dependent and independent variables and how the data was analyzed. The rest of the report in this section looks at the ethical considerations that inform the conduct of the study.

3.1 Study design

Creswell (2014) made a distinction between quantitative and qualitative research. Whereas qualitative uses words to describe a phenomenon of interest, quantitative research is interested in numbers. In other words, quantitative research uses closed ended questions whilst qualitative adopts open-ended questions. Creswell further argues that the principal assumption underpinning any research would determine whether to adopt qualitative or quantitative study. He, therefore, defines quantitative research as a way of testing theories by looking at how variables are related. These variables are measured on an instrument and analyzed using statistical procedures. Control of extraneous variables and determination of appropriate sample size makes it easy to not only repeat the study but make inference to the entire population. This is however subject to the procedure that is adopted for data collection.

The study was a descriptive cross-sectional using a quantitative approach to data collection. A cross sectional study design is necessary in exploring opinions, perceptions, feelings, values, and beliefs among a defined population in a study. This approach was useful in determining prevalence of contraceptives among study participants. A quantitative design was necessary in answering the objectives of the study. Thus, the designed made it possible for participants to share their opinions and experiences based on findings from other studies. Variables in the study were appropriately categorized under various sections which answered the objectives of the study. Both external and internal threats were ensured by determining an accurate sample size and controlling of cofounders.

3.2 Study area

The study was conducted in the Tamale metropolis of the Northern region. Tamale is the northern regional capital of Ghana. Overall, there are 26 districts in the northern region (Fuseini, Yaro, & Yiran, 2017). Tamale is located 180 meters above sea level. The metropolis shares boundary with Savelugu to the north, central Gonja to the south. The eastern part of the metropolis shares boundary with Mion district whilst both Tolon and Kumbugu are to the west of Tamale. Within the metropolis, there are three sub-metros with a newly created district carved out from Tamale in 2012 (Fuseini et al., 2017). These are the Tamale Central sub-metro, Tamale South sub-metro, the Tamale North sub-metro as well as the Sagnerigu district (Fuseini et al., 2017).

The population of Tamale stood at 371,351 with a growth rate of 2.5 between the two most recent census in Ghana (2000-2010). This figure is below the national growth rate figure of 2.7 and regional growth rate of 2.9 (GSS, 2013). The size of Tamale as reported by Oppong & Yeboah, (2013) from a 2005 census report is about 922 kilometers with a population density of 318.6 persons per square kilometer. This is 12 times the regional population density of 25.9.

Traditionally Tamale is called Gukpegu which translates as 'part of Dagbon' The Tamale Metropolis is traditionally headed by the Gulkpe-Na The metropolis is a cosmopolitan area with its inhabitants from diverse socio-cultural backgrounds. There is largely the Dagomba ethnic group constituting 80.7% of the population (Oppong & Yeboah, 2013). Other minority ethnic groups include Gonja, Hausa, Dagaaba, Akan, among others.

In the Tamale metropolis, there are many schools from primary to university The Ghana Senior High, Dabokpa Technical Institute and Vitting Senior High schools are some of the secondary schools located east of the metropolis. There is also the University for Development Studies located south of Tamale and the Tamale Technical University located in the northern part of the city. This is where the Tamale and Bagabaga Colleges of Education and other second cycle institutions are located. These academic institutions admit students from all over Ghana.

The Dagomba ethnic group practices polygamy and for that matter the extended family system is highly valued by the people. Having many wives and children is regarded as being wealthy (Oppong & Yeboah, 2013). The patriarchal system of family inheritance is practiced with a head of family being an old surviving male child of the extended family. Within the Tamale township, there are many communities which are ruled by 49 divisional and sub-chiefs (Oppong & Yeboah, 2013). Dagomba's have their traditional capital as Yendi and the Yaa- Na which translates as the grand chief is the overlord of the kingdom.

Data from the Ghana Statistical Service (Ghana Statistical Service, 2013) suggest fertility rate in Tamale is lower (2.8) than the northern regional average of 3.5. Northern region has the highest fertility rate in Ghana with a national average of 4.2. There are several health facilities providing healthcare services in the Tamale metropolis. The Tamale Teaching Hospital is the referral center

for not only Tamale residents but the entire northern Ghana. Other health institutions are the Tamale Central Hospital, Tamale West Hospital, and Seventh Day Adventist (SDA) Hospital.

Aside from these, there are private health facilities augmenting the government hospitals and health institutions. Family planning and reproductive health services are provided by all these facilities. The Ghana Health Service implements health sector policies with the Northern Regional Health Directorate having direct oversight monitoring and supervision of health care delivery in the region. Within Tamale City, the Tamale Metropolitan Health Directorate monitor and supervises the hospitals, polyclinics and health centres in the metropolis

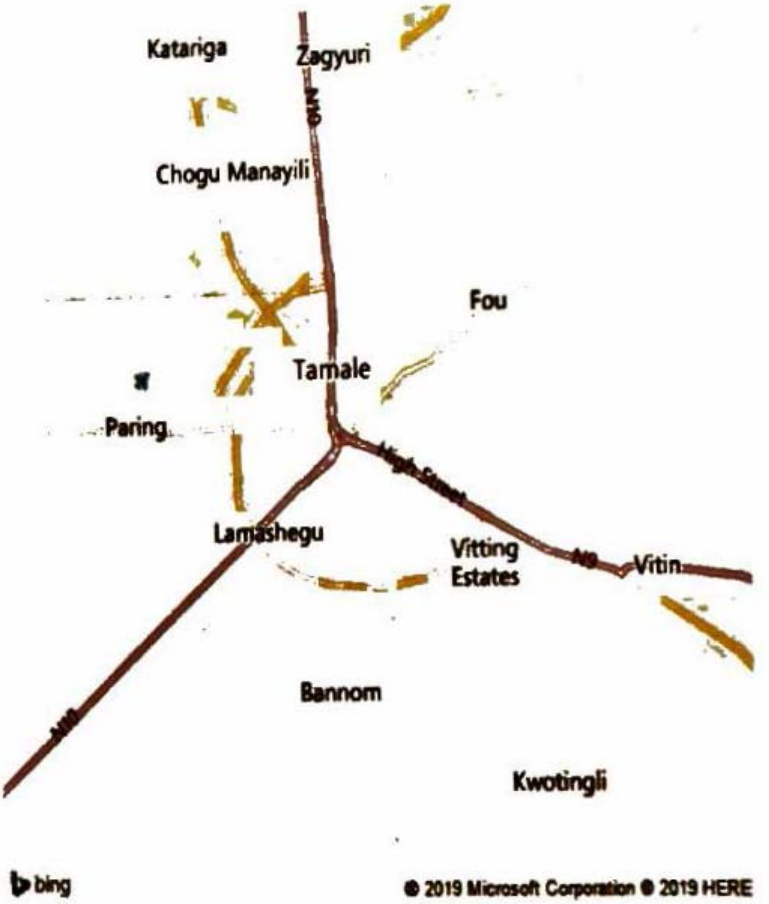

Figure 2: Showing Tamale and some of its suburbs

3.3 Study population

The population of the study was targeted at female adolescents in second cycle institutions within Tamale metropolis. These female study participants were between the ages of 15-24years. All participants were enrolled in secondary school located within Tamale metropolis. The schools from which the study was conducted were purposively selected. These were the Ghana Senior High, Vitting Senior High and Dabokpa Technical Institute.

3.4 Sample size

The assumption was that 50% of the population were users of contraceptives. Other approach of using previously reported prevalence of contraception either locally or nationally could have been adopted as well. A sample size determination formula by (Cochran & Wiley, 2004) was used with a 5% margin of error and 95% confidence interval as shown below

$n = Z2\ P\ (1-P) / d2$

Where n = minimum sample size required

Z2= 95% confidence interval (1.96)

p= 50% of proportion prevalence (0.5)

(1-P) = 50% of unknown prevalence in the population (0.5)

d = margin of error (5%) 0.05

Therefore n= 3.84 0.5(0.5)/0.0025 = 384

A non-response rate of 5% = 5/100×384=19.2 approximately 19.

384+19= 403

3.5 Sampling procedure

A simple random sampling technique was used in collecting data from participants. Participants were randomly selected by classes and programmes in all three schools. Arguably, there are many senior high schools in Tamale. However, resource constraint prevented a balloting to select schools for the study. These schools were selected purposively and based on the fact that they are located in the same area and have adequate number of female students to participate in the study.

In selecting the programme and classes, we first obtained a list of all programmes offered in the schools. This includes: Home Economics, Business, General Science, General Agriculture, General Arts and in one school Vocational Education and in another Visual Arts. These were numbered from 1-5 and in one instance up to 7. The research team then balloted to select from which programme among the listed programmes. A maximum of four was selected from the highest school with programmes and 3 from the others. For each programme, we then ascertained the number of classes used. For example, some had Science 1, 2 and 3 or Visual Arts A and B.

Having obtained all the possible list of classes (form 1 to from 3) from randomly selected programmes, we then proceeded to ballot also for the classes. This way there was a probability of randomly selecting 1 or 2 or even 3 classes (where applicable) for a particular programme from form 1, form 2 or form 3. We had at most 2 classes for a programme in a particular form. For each randomly selected class constituting the population of the study, participants were made to ballot by picking a small sheet of paper with either yes/no written on the paper. These pieces of papers were folded in a way that no participant had an idea of what they were picking and placed in a container. All participants who were between the ages of 15-24years were each asked to pick a piece of paper from the container.

Those who selected yes and were willing to take part in the study got recruited. None of the participants decline to take part in the study. This procedure was repeated in each of the randomly selected classes and programmes in all three schools visited. Purposively selected schools were assigned letters A, B and C with Ghana Senior High being A, Vitting Senior High being B and Dabokpa Technical Institute being C. These letters were a prefix to the identification numbers on each questionnaire.

There was a high response rate of 399 (97%) respondents from the three schools who participated in the study. Each participant consented to take part in the study before the questionnaire was administered to her. Ghana Senior High had the highest number of respondents 150 (37.6%), followed by Vitting Senior High 130 (32.6%) and Dabokpa Technical Institute 119 (29.8%).

3.6 Study inclusion criteria

Female adolescents who were between the ages of 15-24years and were in school at the time of the research qualified to be included in the target population. Most of the classes with different programmes where there were females from first year to third year took part in the study.

3.7 Study exclusion criteria

Female students who have completed their secondary education were excluded from the study. Female students who do not attend the selected schools were also excluded from the study. Female students who were in school but were above or below the stipulated ages of 15 to 24years were equally excluded from the study.

3.8 Data collection tools

Quantitative data was obtained through a self-administered questionnaire. With the assistance from the office of the headmasters, the questionnaires were administered in the various schools whilst

the students were in class. The researcher and his team of assistants as well as an officer assigned to the team went to each classroom at a time. Whilst the researcher was reading the instructions to the class, the assistants went around to ensure study participants adhered to instructions. Participants were given opportunity to ask for clarification after the purpose of the research was explained to them.

The process of administering the questionnaires lasted 20minutes after which the questionnaires were checked individually and collected the same day and time. The questionnaire begins with the demographic characteristics of the participants. The questionnaire also covered the three specific objectives in three different sections. These objectives were perceptions of contraceptive use, reasons for choosing a method and barriers faced in accessing contraceptive services.

3.9 Data quality control

To ensure data quality, four research assistants who were pursuing development education and community nutrition programmes from the University for Development Studies were trained on administration of the questionnaire. This training lasted for 3hours in a day. The training was to ensure they understood the purpose of the research and what would be expected of them during data collection. In the training session, they were made to demonstrate how to administer the questionnaire. A three-set each of the questionnaires had unique identification for all three schools' labeled A, B and C.

This is to ensure that the number of questionnaires to each school were not mixed up. It also helped in cleaning the data during analysis. The questionnaires were numbered with the three-letter alphabets as a prefix in other to identify whether all questionnaires have been filled and submitted. The questionnaire was written in the English Language. English Language is the medium of

instruction and communication in Ghana as well as in all educational institutions. Clarification of each item on the questionnaire was provided to the field assistants. The data was protected with a password accessible to only the investigator. Data was cleaned by checking and cross-checking for accuracy and completeness before analysis was done.

The questions were read to participants in their various classrooms. Participants answered the questions by tickling the most applicable as far as their opinion was concerned. The investigator and the field assistants went around to ensure participant did the right thing. In some instances, study participants asked for clarification and the team gave adequate explanation on specific variables and what was expected of participants. After participants finished answering questions, the team immediately crosschecked by scanning through to ensure the right thing was done.

These measures were taken to safeguard the quality of data and to also ensured that variables in the questionnaire were understood by the participants. Among other things, it also helped the researcher easily identified those questions participants genuinely declined to answer and was treated as such. These measures helped ensured data quality.

3.9.1 Pre-test

A pre-test of the questionnaire is done to determine the presence of sensitive questions. Among other things, it also ensures that variables are well organized and categorized appropriately. The logical sequence in which the questions flow was assessed during pretesting of the questionnaire. Data quality was ensured by pre-testing the questionnaires in a school with similar demographic characteristics. For this reason, 25 female adolescents from Alsalaam Excellent Academy located south of Tamale were recruited for pretesting of the tool. This exercise led to modification of the

tool by way of rewording of some questions and deleting others. Pretesting was done three days before the main data collection

3.10 Dependent variable

Contraceptive user status

3.11 Independent variable

Socio-Demographic characteristics

- Age
- Educational level (form)
- Religious beliefs
- Sexual relationship status
- Ethnicity
- Income status

Socioeconomic factors in accessing contraceptives

- Cost of contraceptives
- Access to contraceptives
- Availability of contraceptives
- Socio-cultural norms
- Geographical location
- Embarrassment and feeling shy

Misconceptions of contraceptives use

- Breast and Cervical cancers

- Promiscuous lifestyles
- Infertility
- Deformed babies

3.12 Data analysis

The data was cleaned and entered into computer software for analysis. The Social Science Statistical Package Software (SPSS) version 22 was used in analyzing the data. A Chi Square test and logistic Regression Analysis were done to show the association between variables. The results from the analysis was presented in a tabular form using frequencies. The background characteristics of the study was done by cross-tabulation of the sex. Results were presented and discussed under each objective of the research. A predictive value of 0.05 denotes statistically significant results which requires rejection of the null hypothesis at a Confidence Interval (CI) of 95% plus or minus 2SD. The margin of error was 5%. An association between demographic variables and importance of contraceptives was determined at 95% CI. The likelihood of using contraceptives between older and younger adolescents was also determined.

3.13 Ethical consideration

A proposal to conduct the study was submitted to the Ghana Health Service Ethics Review Committee (GHS-ERC) for approval. The study's protocol number as approved by GHS-ERC is GHS-ERC057/11/19. Approval was also sought from the study institutions and consent of study participants were required before the study was conducted. Every aspect of the study from explaining the purpose of it being academic to the variables in the questionnaires were explained to the study participants. Participants were assured of strict confidentiality of data collected.

Anonymity as a non-monetary incentive also requires that participants do not indicate their names on the questionnaires. The principal investigator is the only person who have access to the questionnaire. Soft copy of the data obtained from participants was stored on a hard drive and password. In furtherance to this, the hard copies of the questionnaires are kept under lock and key by the principal investigator for up to 5years before it will be burned.

There was no compensation for agreeing to take part in the study. There was no penalty for not taking part in the study either in the present or the future. The only risk in participating in the research was that most of the participants had never been involved in any study. But enough information was provided to minimize this risk. The study would help the Government of Ghana and its partners in contraceptives services to formulate and implement policies that will lead to increased use of contraceptives for the prevention of teenage pregnancies.

For each class of participants, the entire process of explaining the purpose of the study, consenting to take part in the study and filling the questionnaire took a maximum of 20 minutes. The investigator conducted this study as part of the requirement for graduation from the University of Ghana. This study was solely funded by the principal investigator. There was no conflict of interest.

CHAPTER FOUR

Results

4.0 Introduction

The study was on uptake of contraceptives among female adolescents (15-24years) attending Senior High School in the Tamale metropolis. In all a total of 399 female adolescents took part in the study. This chapter presents the findings of the data gathered during the study and the results are categorized into various sub-headings as they relate to the study objectives. Further analysis was done to determine the association between some dependent and independent variables considered in this study.

4.1 Socio-demographic characteristics of respondents

A total of 399 respondents were surveyed (Table 1). The mean age of the respondents was 20.2±2.6 years. More than half of the respondents 218 (55%) were in Form 3. Of the respondents, 105 (26%) were staying with their mother, 388(97%) were never married and 396 (99%) had no children. With regards to their parent's occupation, 189 (47%) were petty traders.

1. Table 1: Socio-demograhic characteristics of respondents

Variable	N (%)
Age	305 (76.0)
15-19	94 (24.0)
20-24	
Form	116 (29.0)
Form 1	65 (16.0)
Form 2	218 (55.0)
Form 3	
Stay with	105 (26.0)
Mother	34 (9.0)
Father	218 (55.0)
Both parents	3 (1.0)
Alone	26 (7.0)
Relatives	
Marital status	388 (97.0)
Never married	11 (3.0)
Cohabitating	
Have children	3 (1.0)
Yes	396 (99.0)
No	
Number of children	3 (100.0)
1	
Employment	399 (100.0
No	
Who takes care of you	221 (55.0)
Both parents	101 (25.0)
Single parent	77 (20.0)
Relatives	
Parent occupation	34 (9.0)
Government employee	189 (47.0)
Petty trader	176 (44.0)
Farmer	

4.2 Perceptions of contraceptives use among respondents

From the results presented in Table 2a, the data points to most of the respondents representing 53% suggesting that contraceptive use was not important to them whilst 36% of the respondents

did not consider contraceptive use as a sin against God. It was further revealed that majority of the respondents representing 81% said culture and ethnicity does not support contraceptive use

2. Table 2a: Perceptions of contraceptives use among respondents on a nominal scale

Variable	n (%)
Contraceptives use are important	
Yes	187 (47.0)
No	212 (53.0)
Contraceptive use is a sin against God	
Yes	255 (64.0)
No	144 (36.0)
My religion does not support contraceptive use	
Yes	88 (22.0)
No	311 (88.0)
My culture support contraceptive use	
Yes	77 (19.0)
No	322 (81.0)
Contraceptive use is cheating on your partner	
Yes	171 (43.0)
No	228 (57.0)

From Table 2b, participants were asked to rate their agreement level on a Likert scale item consisting of constructs constituting subscale on perception. findings revealed that most of the respondents, 112 (28%) agreed with the statement that contraceptive causes cancer whilst 69(15%) strongly disagreed with the statement that contraceptive use causes cancer. It was further revealed that 79(20%) of the respondents strongly agreed with the statement that contraceptive users are bad people whilst 166 (42%) disagreed with the statement that contraceptive users are bad people. The results further revealed that 74(19%) of the respondents strongly agreed with the statement that contraceptive use result in women giving birth to deformed babies whilst 115(29%) agreed with the statement that contraceptives use is the result of deformed babies and 63(16%) strongly disagreed with the statement.

3. Table 2b: Percentions of contraceptives use on the Likert Scale using various subscales

Variable	Strongly agreed	Agreed	Disagreed	Strongly disagreed
Contraceptive causes cancer	101 (25.0%)	112 (28.0%)	126 (32.0%)	69 (15.0%)
Contraceptive users are bad people	79 (20.0%)	95 (24.0%)	166 (42.0%)	59 (15.0%)
Contraceptives use causes women not to give birth (infertility)	108 (27.0%)	139 (35.0%)	104 (26.0%)	48 (12.0%)
Contraceptives cause deformed babies	74 (19.0%)	115 (29.0%)	147 (37.0%)	63 (16.0%)

4.3 Reasons for choice of contraceptives among respondents

There were 10 variables that were assessed under reasons for choice using nominal scale of measurement. These have been grouped in to two tables. From Table 3a, the results revealed that majority of the respondents representing 277 (69%) suggest prevention of unplanned pregnancy as the reason why they used contraceptives whilst 48 (12%) indicated preventing abortion as the reason for using contraceptive. The results of the study showed that a little over half (51%) of the respondents said that they can afford contraceptives. When views on effectiveness of contraceptives were explored, majority (56%) of study participants intimated that male condom was the most effective form of contraception. Whilst injectables (12%) and oral contraceptive pills (8%) were the next effective method.

4. Table 3a: Reasons for choice of contraceptives

Variable	n (%)
Contraceptives may not be effective	
Yes	194 (49.0)
No	205 (51.0)
Experience side effects with the use of contraceptives	
Yes	184 (46.0)
No	215 (54.0)
Able to afford contraceptives	
Yes	204 (51.0)
No	195 (49.0)
Cost of contraceptive inform your choice	
Yes	150 (38.0)
No	249 (62.0)
Why do you use contraceptive?	
To prevent unwanted pregnancy	277 (69.0)
To prevent STI's	57 (14.0)
To prevent abortion	48 (12.0)
To prevent death	6 (2.0)
to space childbirth	11 (3.0)
Effectiveness of contraceptive method	
Male condom	225 (56.0)
Female condoms	33 (8.0)
Intra-uterine devices	12 (3.0)
Injectables	48 (12.0)
Implants	7 (2.0)
Emergency contraception	11 (3.0)
Pills	30 (8.0)
Withdrawal method	33 (8.0)

Table 3b: Findings from table 3b suggests most common side effects reported with use of contraceptives is irregular menses (45%). From the table, majority of respondents (61%) say that condom is the most easily accessible form of contraception whilst only (1%) indicated implants as the most easily accessible. The rest of the results on reasons for choice are presented below

5. Table 3b: Reasons for choice of contraceptives

Variable	n (%)
Most common side effects of using contraceptives	
Bleeding	96 (24.0)
Discomfort	123 (31.0)
Irregular menses	180 (45.0)
Contraceptives methods easily accessible to respondents	
Male condom	239 (60.0)
Female condoms	51 (13.0)
Intra-uterine devices	10 (3.0)
Injectables	24 (6.0)
Implants	5 (1.0)
Emergency contraceptives	7 (2.0)
Pills (OCP's)	35 (9.0)
Withdrawal method	28 (7.0)
Which of these contraceptives is affordable to you?	
Male condom	245 (61.0)
Female condom	47 (12.0)
Intra-uterine devices	7 (2.0)
Injectables	14 (4.0)
Implants	2 (1.0)
Emergency contraception	14 (4.0)
Pills (OCP's)	44 (11.0)
Withdrawal method	26 (7.0)
Sources of contraceptives	
Pharmacy/chemical shop/drug store	312(78.0)
Public hospital/clinic	65(16.0)
Private hospital/clinic	22(6.0)

4.4 Barriers to contraceptive use among respondents

There was consistency in results as responses on nominal scale reflected on semantic differential scale as well. From the findings in Table 4 it was showed that a little over half 207 (52%) of the respondents said they were staying in the urban areas whilst 135(34%) said they were staying in the rural areas. The results of the study further showed fears of side effect (42%) was the mostly

commonly reported fears preventing the use of contraceptives. Other findings reported from the study are the feelings of being embarrassed and shy (48%) should partner know they are using contraceptives. The rest of the results in Table 4 are presented below.

6. Table 4: Barriers to use of contraceptives

Variable	Frequency	Percent
Place of resident		
Urban area	207	52.0
Peri-urban area	57	14.0
Rural area	135	34.0
How far from reproductive health services		
Very far	156	39.0
A bit far	113	28.0
Not far	100	25.0
Just near my house	30	8.0
Frequency of contraceptives discussion with parents		
Very often	46	12.0
Quite often	59	15.0
Never	259	65.0
I don't remember	35	9.0
Fears about contraceptives		
It cannot protect me from getting pregnant	64	16.0
I fear the side effects	168	42.0
It changes my regular menstrual cycle	79	20.0
It is inconvenient to use	30	8.0
There is discomfort with its use	58	15.0
Partner knows you are using contraceptives		
I feel normal	145	36.0
I feel embarrassed and shy	193	48.0
I don't feel anything	61	16.0
Discuss issues of contraceptives with your parents		
Yes	108	27.0
No	291	73.0
Partner aware you are using contraceptives		
Yes	157	39.0
No	242	61.0
Attitudes of health workers prevent use		
Yes	154	39.0
No	245	61.0

From the results presented in Figure 3, majority of the respondents representing 56% said if their friends find out they are using contraceptive they would label them as bad people whilst 28% said they would tell other people about it.

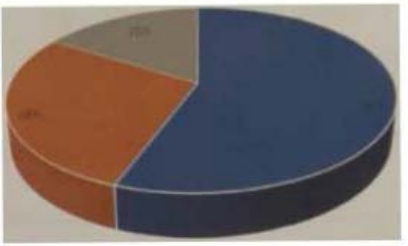

Figure 3: Friends find out using contraceptives

The results in Figure 4 showed that majority of the respondents representing 52% said that they feel health workers want to help them whilst 12% said they dictate to them which contraceptive they should use. See Figure 4.

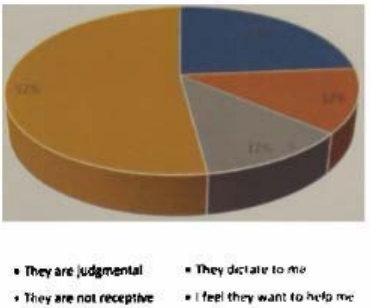

Figure 4:Health worker attitudes prevent you from accessing contraceptives

Table 5 shows that there was an association between age grouped of respondents and considering contraceptive use as important ($\chi 2 = 6.21$, $p=0.013$, $\alpha=0.05$). Also, there was no association between the form in which participant is and perceiving contraceptive use as important ($\chi 2 = 7.01$, $p=0.341$, $\alpha=0.05$). Further, there was an association between who respondents stayed with (their parents) and seeing contraceptive use as important ($\chi 2=10.69$, $p<0.001$, $\alpha=0.05$).

7. Table 5: Association between demographic factors and perception of contraceptive use

Variable	n (%)	Chi-square (p-value)
Age (group) in years		6.21 (0.013)
15-19	305 (76.0)	
20-24	94 (24.0)	
Form		7.01 (0.341)
Form 1	116 (29.0)	
Form 2	65 (16.0)	
Form 3	218 (55.0)	
Stay with		10.69 (p<0.001)
Mother	105 (26.0)	
Father	34 (9.0)	
Both parents	218 (55.0)	
Alone	3 (1.0)	
Relatives	26 (7.0)	
Marital status		1.82 (0.178)
Never married	388 (97.0)	
Cohabitating	11 (3.0)	
Have children		3.82 (0.278)
Yes	3 (1.0)	
No	396 (99.0)	
Who takes care of you		0.01 (0.941)
Both parents	221 (55.0)	
Single parent	101 (25.0)	
Relatives	77 (20.0)	
Parent occupation		2.12 (0.218)
Government employee	34 (9.0)	
Petty trader	189 (47.0)	
Farmer	176 (44.0)	

In Table 6 findings are that respondents who were aged 20-24 years had 2.99 increase odds of perceiving contraceptive use as important compared to those who were less than 20 years [AOR =2.99 (95%CI: 0.47, 2.08); P= 0.982]. In addition, respondents who were cohabitating had 2.79 increase chance of perceiving contraceptive use as important compared to those who were married [AOR = 2.79 (95%CI:0.22-2.80), P=0.724]

8. Table 6: Demographic data and association with contraceptive use

Variable	Crude Odds Ratio (COR) (95% CI) p-value	Adjusted Odds Ratio (AOR) (95% CI) p-value
Age (group) in years		
15-19	1	1
20-24	0.72 (0.36, 1.43) 0.351	2.99 (0.47, 2.08) 0.982
Form		
Form 1	1	1
Form 2	1.62 (0.54, 4.87) 0.389	1.26 (0.21, 7.59) 0.797
Form 3	4.67 (1.72, 12.71) 0.002	2.90 (0.35, 24.05) 0.322
Stay with		
Mother	1	1
Father	2.63 (0.72, 9.55) 0.141	2.72 (0.73, 10.18) 0.135
Both parents	7.26 (2.11, 24.88) 0.002	4.91 (1.36, 17.68) 0.015
Alone	1.26 (2.11, 24.88) 0.004	1.26 (2.11, 24.88) 0.004
Relatives	2.26 (2.11, 24.88) 0.003	2.26 (2.11, 24.88) 0.003
Marital status		
Never married	1	1
Cohabitating	2.48 (1.19, 5.14) 0.015*	2.79 (0.22, 2.80) 0.724

CHAPTER FIVE

Discussion

5.0 Introduction

This chapter presents the discussion of the results from the study. There was a high level of response rate among study participants. Prevalence of contraceptive among participants was 47%. The discussion of key findings is done according to study objectives

5.1 Perception of contraceptive use

Perceptions on use of contraceptives among participants were varied. There were some perceptions that agree with findings from literature whilst others do not. Influence of socio-cultural norms result in how participants in the study perceived contraceptive use status. When asked to rate their agreement level on a Likert scale, 62% of participants believed contraceptives cause infertility in women. This observation was made in a qualitative study on misconceptions of contraceptives in Ghana (Adongo et al., 2014). Similarly, among female sex workers in Kenya, Luchters et al., (2016) reports concerns by women that indicate the possibility of becoming infertile as reasons for not using contraceptives.

Other misconceptions in this study that agrees with findings from other studies are that the use of contraceptive predisposes women to having cancer. In this study for example, 53% of students in Secondary School intimated that contraceptive use causes cancer. In similar vein (Adongo et al., 2014; Luchters et al., 2016) reported misconceptions of developing breast and cervical cancer as a result of using contraceptives. The socio-cultural environment may have contributed to this development. In addition, lack of knowledge on causes of cancer among study participants may have resulted in the negative perception.

Religion plays an important role in the lives of people across the world. The study investigated whether religious beliefs influence perception of participants. Findings from the study agrees with similar study conducted in Nigerian to examine the differences in use of contraceptives between north and south of the country. In this study, only 22% of respondents intimated that religion support use of contraceptives. In the Nigerian study, the influence of religion was found to be 7.6% (Babalola & Oyenubi, 2018).

Whereas the plausibility of religious influence cannot be downplayed, these studies have, however, demonstrated that religious influence on use of contraceptive may not be a key determinant in changing perceptions of contraception, as majority of respondents did not perceived religion as influencing their attitudes towards contraceptive use. Being in secondary school could have downplayed religious influence on contraception. It has been suggested severally that education results in positive attitudes towards family planning.

In contrast to religion as a factor, the study suggest that culture and an individual's ethnic background do not support the use of contraceptives. Findings are also consistent with a study by Capurchande, Coene, Roelens, & Meulemans, (2017) which makes the assertion that the socio-cultural environment and the meaning families attach to childbearing influences the use of contraceptives. In this study, 81% of participants believe that their culture frowns on contraceptive use. In some ethnic groups in Ghana, there is the notion that the main reason why a woman marries is to give birth. It is reprehensible for women to be using contraceptive as a way of limiting childbirth. Findings from this study share similar opinion with the cultural beliefs on contraception pertaining in most ethnic groups in northern Ghana.

However, majority of study participants believed that use of contraceptives does not suggest living a promiscuous lifestyle. Although the use of contraceptives among women of reproductive age has

been attributed to engaging in sexual promiscuity, findings from this study disagrees with findings from other studies that were conducted to explore participants view on contraceptives (Adongo et al., 2014; Appiah-Agyekum & Kayi, 2013; Mohammed et al., 2019). According to (Mohammed et al., 2019), more than 54% of students in the Tamale Nursing Training College perceived use of contraceptives by women to mean cheating on your partner. This finding could possibly be the result of increased education among adolescents on comprehensive sexuality education and the influence of peers, radio and television on uptake of contraceptives.

In deprived communities, it is common to see children born with various types of deformities. These are the results of multiplicity of factors. Among which are genetic composition, social and physical environments, exposure to radiation and toxic chemicals and the use of unprescribed drugs in the first trimester of pregnancy. Similarly, 48% of participants sampled for the study disagree with findings from a study in Kenya that suggest contraceptive use results in giving birth to babies with deformity (Luchters et al., 2016). Participants may have been exposed to education on causes of pregnancy related complications as taught at their level.

5.2 Reasons for choice of a method of contraception

Study participants opinion on why they choose a method of contraception were explored. Among other things, it emerged from the data that condom was the most preferred method. This, participants say was to prevent them from getting pregnant. This finding is consistent with the study conducted among university students in Tanzania, which reported condoms as the most preferred method of contraception, Sweya, Msuya, Johnson Mahande, & Manongi, (2016).

Similarly, the findings also agreed with the study by L'Engle, Hinson, & Chin-Quee, (2011) who reported nearly all women in the study complained of side effects with the use of injectables, intra-

uterine devices and oral contraceptive pills. Side effects of contraceptives are common but not life-threatening. Side effects have been reported mostly with hormonal methods. It is believed that with appropriate counselling and reassurance participants would weigh the options of using contraceptives against the side effects.

Furthermore, the fear of side effects is a major determinant in deciding which contraceptives to use. The result from the study showed side effects of contraceptives is the reason why adolescent girls do not want to use it. There were 46% of respondents who suggested that side effect prevents them from using contraceptives. Among the three side effects asked of participants, irregular menstruation was found to be high (45%). This was followed by discomfort (31%) and bleeding (24%). The above findings are consistent with the findings reported of Ghanaian women using hormonal method of contraception (Hindin et al., 2014).

Although concerns over irregular menses are genuine and have been reported extensively, lack of assurance and education of women of reproductive age by services providers could potentially be the reason why women do not want to use contraceptive. In the circumstances, it is also plausible that alternative methods of contraception are not being explored by women to increase uptake.

In furtherance to that, Appiah-Agyekum & Kayi, (2013) also reported from a study on University of Ghana Business students that condom was the most preferred method. This study also showed that condoms are the most preferred contraceptive method. In this study, 56% of participants averred that condom is the most effective method of contraception. This finding could be the result of easy access of condoms in urban areas of the country. Another possibility of the consistency in this finding could also be that condoms are easily affordable and has minimal side effects compared with other forms of contraception.

Evidence from meta-analysis and grey literature have shown that having access to contraceptives influence choice. In deprived communities' availability of contraceptives is a problem. Where there are available, choices are limited. Accessibility and availability of contraceptives were determined in this study. Consistent with other studies (Appiah-Agyekum & Kayi, 2013. Hindin et al., 2014), this study found out that majority of the respondents (60%) have access to male condoms as opposed to (1%) who had access to implants. The study also agrees with findings from similar studies that suggested access contributes to an increase uptake of contraception (Amalba et al., 2014).

Contraceptives being available and accessible is different from an individual's ability to afford. To this end, the study explored the affordability of participants as a factor that could potentially result in choosing a method of contraception. More than half (51%) of the participants indicated they could afford contraceptives. In support of this finding, about 62% of participants in the study said cost does not inform their choice on which contraceptives to use. However, this finding is inconsistent with findings by Appiah-Agyekum & Kayi, (2013) that suggest cost as a determinant in deciding to use contraceptives.

The findings of this study with regards to cost is may likely not be surprising because majority of the participants say they could afford the male condom. It may also not be surprising because the male condoms are often the contraceptive of choice that is distributed to students in most reproductive health programmes.

Among the reasons of using contraceptives, prevention of unwanted pregnancy was found to be high (69%). This finding agrees with findings from a study that intimated that contraceptive prevents 95% of unwanted pregnancy(Mohammed et al., 2019). Preventions of sexually transmitted disease (14%) and abortion (12%) were also cited as reasons for using contraceptives.

The findings are also consistent with findings of studies of University of Ghana Business School diploma students (Appiah-Agyekum & Kayi, 2013), cost-effective intervention to reduce mortality among women in Ghana (Beson et al., 2018) and attitudes of Swedish women towards contraceptives (Kallner et al., 2015).

A major cause for worry reported in the GDH survey was about unintended pregnancy among adolescents. The problem of teenage pregnancy is a global cause for concern. About 95% of adolescent pregnancies occur in sub-Saharan Africa (WHO, 2014). An adolescent girl who become pregnant is most likely to end her education at the basic level. With these staggering realities, participants consider preventing unwanted pregnancy to be the foremost priority of using contraceptives. This phenomenon may be suggestive of the result of increase advocacy on the socioeconomic consequences of teenage pregnancies.

Another reason could be that social marketing strategies of selling healthy behavior by way of promoting condom use and responsible sexual behavior may have contributed to heightened fears on dangers of unprotected sex among study participants. It is also plausible that stigmatization of pregnant adolescents by their peers may have contributed to prevention of unwanted pregnancy as the foremost reason for use of contraceptives.

Reproductive health services are provided in the hospitals and clinics. Private individuals also operate pharmacies and chemical shops where contraceptives are sold to the general public. There are other designated centres which are most often attached to health centres in deprived communities across the country. These reproductive health corners, as they are called, are woefully inadequate. Nevertheless, there is a public-private partnership that coordinate activities of these centres. These private organizations do not only operate in their premises, but they also supply reproductive health materials and boost capacity of staff involved in provision of services.

To this end, participants were assessed on which of these places they get contraceptives, as this is most likely to influence their choice. About 78% of respondents said they obtained their contraceptives from chemical shops, pharmacy and drug stores. This is in line with a study that suggest participants mostly obtained their contraceptives from pharmacy and chemical shop (Dennis & Grossman, 2012)

5.3 Barriers to use of contraceptives

Whereas the use of contraceptives has consistently been proven to improve women's health and reduce mortality among women in reproductive age, there are challenges that make it difficult for women to access contraceptives. Findings from the study revealed that 34% of participants lived in rural communities. This makes access to contraceptives difficult for some female adolescents in the study. The finding is consistent with findings on predictors of contraceptives suggesting that geographical location had influence on uptake. Women in rural areas were less likely to use contraceptives compared with women in urban areas (Marrone et al., 2017).

From the sociodemographic characteristics, it was observed that most of the study participants come from the five northern regions. These regions are the most deprived of all the regions in Ghana. Towns and villages in these regions are mostly rural and lack basic social services. Differences in areas of residence has the likelihood of preventing access to contraceptives as is evident in the study.

The study explored frequency of interaction with parents to determine whether it has any impact on uptake of contraceptives. It was evident from the study that discussion on contraception is almost a taboo in adolescent-parent communication. This finding agrees with the findings by Crissman, Adanu, & Harlow, (2012) that indicate being shy and embarrassed were the reasons

why adolescents do not discuss contraception with their parents. Adolescents also reportedly express fears of family members finding out if they are using contraceptives. Not only that, but there were also concerns of feeling shy and embarrassed should partners know they are using contraceptives.

In most homes in northern Ghana, issues relating to sex is the preserved for married adults. The socio-cultural environment does not allow young people to freely express themselves on matters of sexuality. Parents whose children are engaged in such open and frank discussion are rebuked and seen as not well-mannered. There is also the shared believe that discussing contraception and related subjects with adolescents is a form of license for indulging in immorality.

Health worker attitude is one of the factors that prevent uptake of contraceptives among women in reproductive age. The study sought to know from participants whether health worker attitudes serves as barrier to uptake. Inconsistent with other studies, majority of the participants averred that they feel health workers want to help them choose the appropriate method. This finding contrast with findings that argues that health workers dictate to young people on their choices of contraceptives (Morris & Rushwan, 2015)

Consistent with variables on semantic differential scale, the nominal scale also showed evidence that health worker attitude does not prevent participants from using contraceptives. Surprisingly, several studies cited in this dissertation (Kyilleh et al., 2018; Mohammed et al., 2019) have had cause to complain on health worker attitude. This assertion maybe suggestive to the extent that majority of the participants (78%) in the study obtained their contraceptives from chemical shop and pharmacies. It is possible that female adolescents do not visit hospitals and clinics to access reproductive health services. A question on whether participants had ever had encounter with health workers could prove different from this finding.

5.4 Limitations of the study

Within the Tamale metropolis, there are many public and private senior high schools. Inadequate resources resulted in purposive selection of three schools for the study instead of randomly selecting from all schools in the metropolis. Secondly, there were noticeable discrepancies of ages of some participants. Before the preamble on the questionnaire, participants were asked to state their ages and the first item on the questionnaire was to state their ages at last birthday. Although adequate explanation was given to the mean the same thing, it was detected during data verification that in about 10% of the questionnaire a few of the participants gave two different ages. In which case the age at last birthday was used during analysis.

CHAPTER SIX

Conclusion and Recommendation

6.0 Introduction

Uptake of contraceptives among adolescents is important to the socioeconomic development of every nation. Every pregnancy comes with a risk. It is important that women and their spouses plan their families in other to minimize some of these risks. Among other things, use of contraceptives contributes to decrease maternal mortality and promotes the growth and wellbeing of women and their children. This chapter presents the conclusion and recommendations of the findings from the study. The following observations were made from the study

1 There were misconceptions on contraceptive use among majority of the participants

2 Side effects particularly with hormonal methods results in low uptake of contraception

3 Majority of the study participants believed that the socio-cultural environment does not support contraception and majority of the study participants have never had discussion on contraception with their parents.

6.1 Conclusion

The study investigated contraceptive user status among in-school female adolescents in the Tamale metropolis. This study became necessary as a result of the gap in the literature on the specific cohort of adolescents in the Tamale metropolis. Most pregnancies are unplanned which result in unintended consequences. The use of contraceptive is to prevent or reduce to the minimum these unintended consequences. This will help young adolescents to further their education and become productive in the socioeconomic development of the country. It emerged from the findings that

prevalence of contraceptives was 47%. To arrive at this finding, the study had three objectives based on which variables constituting subscales were asked of participants. Factors such as socio-culture environment, access and availability of contraceptives, type of contraceptives as well as geographical location had influence on uptake of contraceptives among participants. Most commonly reported side effect which negatively influence uptake of contraceptives was irregular menses. These factors correspond well with findings from both peer reviewed articles and grey literature.

Most likely, perceptions on use of contraceptives was reflective in the opinions of participants. There is still the notion that contraceptive causes infertility and cancer among majority of respondents. Adolescents also reported not discussing contraceptives with their parents because the socio-cultural norms prevailing in the rural areas and some ethnic societies does not support uptake of contraceptives. Feelings of shyness and embarrassment should parents and friends know they are using contraceptives were also reported.

There was evidence of statistically significant association between age and use of contraceptives. Those between 20-24years consider contraceptives use more important than their younger counterpart. Majority of the participants were in their final year and there was no indication that the higher the level of education, the more women consider contraceptives use as important in this study. Similar observations were made with those in sexual relationship (cohabitating) against those who are not. Whereas prevention of unwanted pregnancy was the most important determinant in uptake of contraception, male condoms was the most preferred form of contraception.

6.2 Recommendations

Based on these findings from the study, the following recommendations are made to help increase use of contraceptives

1 Teachers must take the responsibility of educating adolescents particularly in areas of misconceptions associated with the use of contraceptives and promote safer sex to prevent sexually transmitted infections

2 Appropriate counselling including information on side effects of various methods of contraception should be provided at the point of service to adolescents for inform decision

3 Future research on contraceptives among in-school adolescents should focus on exploring adolescent-parent communication on contraceptives use and examine the socio-cultural norms among the diverse ethnic groups that make it impossible for uptake of contraceptives

REFERENCES

Adongo, P. B., Tabong, P. T. N., Azongo, T. B., Phillips, J. F., Sheff, M. C., Stone, A. E., & Tapsoba, P. (2014). A comparative qualitative study of misconceptions associated with contraceptive use in southern and northern Ghana. *Frontiers in Public Health*, *2*(SEP), 1–7. https://doi.org/10.3389/fpubh.2014.00137

Amalba, A., Mogre, V., Appiah, M. N. A., & Mumuni, W. A. (2014). Awareness, use and associated factors of emergency contraceptive pills among women of reproductive age (15-49 years) in Tamale, Ghana. *BMC Women's Health*, *14*(1), 1–6. https://doi.org/10.1186/1472-6874-14-114

Amoako Johnson, F., Padmadas, S. S., Chandra, H., Matthews, Z., & Madise, N. J. (2012). Estimating unmet need for contraception by district within Ghana: An application of small-area estimation techniques. *Population Studies*, *66*(2), 105–122. https://doi.org/10.1080/00324728.2012.678585

Appiah-Agyekum, N. N., & Kayi, E. A. (2013). Students' perceptions of contraceptives in university of ghana. *Journal of Family & Reproductive Health*, *7*(1), 39–44.

Assembly, U. N. G. ICPD 19942011., A/RES/6523 United Nations General Assembly 8 (2011).

Atiglo, D. Y., & Biney, A. A. E. (2018). Correlates of sexual inactivity and met need for contraceptives among young women in Ghana. *BMC Women's Health*, *18*(1), 1–10. https://doi.org/10.1186/s12905-018-0630-0

Aziato, L., Hindin, M. J., Maya, E. T., Manu, A., Amuasi, S. A., Lawerh, R. M., & Ankomah, A. (2016). Adolescents' Responses to an Unintended Pregnancy in Ghana: A Qualitative Study. *Journal of Pediatric and Adolescent Gynecology*, *29*(6), 653–658. https://doi.org/10.1016/j.jpag.2016.06.005

Babalola, S., & Oyenubi, O. (2018). *Factors explaining the North – South differentials in contraceptive use in Nigeria : A nonlinear decomposition analysis Author (s): Stella Babalola and Olamide Oyenubi Source : Demographic Research , JANUARY - JUNE 2018 , Vol . 38 (JANUARY - JUNE Published by : Max-Planck-Gesellschaft zur Foerderung der Wissenschaften Stable URL : http://www.jstor.com stable/26457046 REFERENCES Linked*

references are available on JSTOR for this article . reference = references tab contents You may need to log in to JSTOR to access the linked references . Research Article Factors explaining the North South differentials in contraceptive use in Nigeria A nonlinear decomposition analysis Stella Babalola Olamide Oyenubi 38(June), 287–308 https://doi.org/10.4054/DemRes.2018.38.12

Bell, S., Kennedy, E., Black, K., Vallely, A., Vallely, L., Mola, G., Kelly-Hanku, A. (2018) Youth-centred research to help prevent and mitigate the adverse health and social impacts of pregnancy amongst young Papua New Guineans *Reproductive Health Matters*, *26*(54), 5–12. https://doi.org/10.2307/26605081

Beson, P., Appiah, R., & Adomah-Afari, A. (2018) Modern contraceptive use among reproductive-aged women in Ghana Prevalence, predictors, and policy implications *BMC Women's Health*, *18*(1), 1–8. https://doi.org/10.1186/s12905-018-0649-2

Canning, D., & Schultz, T. P. (2012). The economic consequences of reproductive health and family planning. *The Lancet*, *380*(9837), 165–171. https://doi.org/10.1016/S0140-6736(12)60827-7

Capurchande, R., Coene, G., Roelens, K., & Meulemans, H. (2017). "If I have only two children and they die, who will take care of me?" -a qualitative study exploring knowledge, attitudes and practices about family planning among Mozambican female and male adults. *BMC Women's Health*, *17*(1), 1–15. https://doi.org/10.1186/s12905-017-0419-6

Chandra-Mouli, V., Svanemyr, J., Amin, A., Fogstad, H., Say, L., Girard, F., & Temmerman, M. (2015). Twenty years after international conference on population and development: Where are we with adolescent sexual and reproductive health and rights? *Journal of Adolescent Health*, *56*(1), S1–S6. https://doi.org/10.1016/j.jadohealth.2014.09.015

Cochran, W. G., & Wiley, J. (2004). *Sampling Techniques third edition*.

Creswell, J. W. (2014). *Reserch Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th Editio; B. B. Vicki Knight, Jessica Young, Kalie Koscielak, ed.). California: SAGE Publications,Inc. California

Crissman, H. P., Adanu, R. M., & Harlow, S. D. (2012). Women's Sexual Empowerment and

Contraceptive Use in Ghana. *Studies in Family Planning*, *43*(3), 201–212. https://doi.org/10.1111/j.1728-4465.2012.00318.x

Dako-Gyeke, M., & Ntewusu, J. (2012). Exploring the Use of Adolescent Sexual and Reproductive Health Services: Opinions of Adolescents, Parents and Service Providers. *Journal of Alternative Perspectives in the Social Sciences*, *5*, 101–123. Retrieved from http://prx.library.gatech.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=85222351&site=ehost-live

Dennis, A., & Grossman, D. (2012). *Barriers to Contraception and Interest In Over-the-Counter Access Among Low-Income Women : A Qualitative Study. Linked references are available on JSTOR for this article : Barriers to Contraception and Interest In Over-the-counter Access Among Low-Income Women : A Qualitative Study*, *44*(2), 84–91.

Duvall, S., Thurston, S., Weinberger, M., Nuccio, O., & Fuchs-Montgomery, N. (2014). Scaling up delivery of contraceptive implants in sub-Saharan Africa: Operational experiences of Marie Stopes International. *Global Health Science and Practice*, *2*(1), 72–92. https://doi.org/10.9745/GHSP-D-13-00116

Fearon, E., Wiggins, R. D., Pettifor, A. E., & Hargreaves, J. R. (2015). Is the sexual behaviour of young people in sub-Saharan Africa influenced by their peers? A systematic review. *Social Science and Medicine*, *146*, 62–74. https://doi.org/10.1016/j.socscimed.2015.09.039

Finer, L. B., & Philbin, J. M. (2013). Sexual initiation, contraceptive use, and pregnancy among young adolescents. *Pediatrics*, *131*(5), 886–891. https://doi.org/10.1542/peds.2012-3495

Fuseini, I., Yaro, J. A., & Yiran, G. A. B. (2017). City profile: Tamale, Ghana. *Cities*, *60*, 64–74. https://doi.org/10.1016/j.cities.2016.07.010

Ghana Statistical Service. (2013). 2010 Population & Housing Census Report: Children, Adolescents & Young People in Ghana. *Ghana Statistical Service*, 1–130. Retrieved from http://www.statsghana.gov.gh/docfiles/publications/2010phc_children_adolescents_&young_people_in_Gh.pdf

Grant, R., & Shoham, T. (2018). A critical examination of the barriers and social determinants of health impacting the implementation of a national sexual and reproductive health rights

curriculum in Madagascar. *Reproductive Health Matters*, *26*(52), 62–66. https://doi.org/10.1080/09688080.2018.1555422

Greene, D., Landau, S. C., Monastersky, N., Kim, N., Melton, M., Meghee, B. T., … Stewart, F. (2006). *Pharmacy Access to Emergency Contraception in California Linked references are available on JSTOR for this article : Pharmacy Access to Emergency Contraception in California*. *38*(1), 46–52.

Grindlay, K., Dako-Gyeke, P., Ngo, T. D., Eva, G., Gobah, L., Reiger, S. T., … Blanchard, K. (2018). Contraceptive use and unintended pregnancy among young women and men in Accra, Ghana. *PLoS ONE*, *13*(8), 1–13. https://doi.org/10.1371/journal.pone.0201663

Gumanga, S. K., Kolbila, D. Z., Gandau, B. B., Munkaila, A., Malechi, H., & Kyei-Aboagye, K. (2011). Trends in maternal mortality in Tamale Teaching Hospital, Ghana. *Ghana Medical Journal*, *45*(3), 105–110. https://doi.org/10.4314/gmj.v45i3

Hagan, J. E., & Buxton, C. (2012). Contraceptive Knowledge, Perceptions and Use among Adolescents in Selected Senior High Schools in the Central Region of Ghana. *Journal of Sociological Research*, *3*(2). https://doi.org/10.5296/jsr.v3i2.2311

Hindin, M. J., McGough, L. J., & Adanu, R. M. (2014). Misperceptions, misinformation and myths about modern contraceptive use in Ghana. *Journal of Family Planning and Reproductive Health Care*, *40*(1), 30–35. https://doi.org/10.1136/jfprhc-2012-100464

Kabakian-Khasholian, T., Mourtada, R., Bashour, H., El Kak, F., & Zurayk, H. (2017). Perspectives of displaced Syrian women and service providers on fertility behaviour and available services in west Bekaa, Lebanon. *Reproductive Health Matters*, *25*, S75–S86. https://doi.org/10.1080/09688080.2017.1378532

Kallner, H. K., Thunell, L., Brynhildsen, J., Lindeberg, M., & Danielsson, K. G. (2015). Use of contraception and attitudes towards contraceptive use in Swedish women - A nationwide survey. *PLoS ONE*, *10*(5), 1–13. https://doi.org/10.1371/journal.pone.0125990

Kumi-Kyereme, A., Awusabo-Asare, K., & Darteh, E. K. ofuo. M. (2014). Attitudes of gatekeepers towards adolescent sexual and reproductive health in Ghana. *African Journal of Reproductive Health*, *18*(3), 142–153.

Kyilleh, J. M., Tabong, P. T. N., & Konlaan, B. B. (2018). Adolescents' reproductive health knowledge, choices and factors affecting reproductive health choices: A qualitative study in the West Gonja District in Northern region, Ghana. *BMC International Health and Human Rights*, *18*(1), 1–12. https://doi.org/10.1186/s12914-018-0147-5

L'Engle, K. L., Hinson, L., & Chin-Quee, D. (2011). "I love my ECPs": Challenges to bridging emergency contraceptive users to more effective contraceptive methods in Ghana. *Journal of Family Planning and Reproductive Health Care*, *37*(3), 146–151. https://doi.org/10.1136/jfprhc-2011-0077

Luchters, S., Bosire, W., Feng, A., Richter, M. L., King'Ola, N., Ampt, F., ... Chersich, M. F. (2016). "A baby was an added burden": Predictors and consequences of unintended pregnancies for female sex workers in Mombasa, Kenya: A mixed-methods study. *PLoS ONE*, *11*(9), 1–20. https://doi.org/10.1371/journal.pone.0162871

Marrone, G., Abdul-rahman, L., & Conínck, Z. De. (2017). *Women 's Health and Action Research Centre (WHARC) Predictors of Contraceptive use Among Female Adolescents in Ghana Johansson Source : African Journal of Reproductive Health La Revue Africaine de la Santé Published by : Women 's Health and Action R.*

Mohammed, S., Abdulai, A.-M., & Iddrisu, O. A. (2019). Pre-service knowledge, perception, and use of emergency contraception among future healthcare providers in northern Ghana. *Contraception and Reproductive Medicine*, *4*(1), 1–7. https://doi.org/10.1186/s40834-018-0082-9

Morris, J. L., & Rushwan, H. (2015). Adolescent sexual and reproductive health: The global challenges. *International Journal of Gynecology and Obstetrics*, *131*, S40–S42. https://doi.org/10.1016/j.ijgo.2015.02.006

Namasivayam, A., Lovell, S., Namutamba, S., & Schluter, P. J. (2019). Improved contraceptive use among women and men in Uganda between 1995-2016: A repeated cross-sectional population study. *Plos One*, *14*(7), e0219963. https://doi.org/10.1371/journal.pone.0219963

National Population Council. (2000). Adolescent Reproductive Health Policy National Population Council. *Health Policy*, (October).

Nketiah-amponsah, A. E., Arthur, E., Aaron, A., September, N., & Arthur, E. (2015). *Women's Health and Action Research Centre (WHARC) Correlates of Contraceptive use among Ghanaian women of Reproductive Age (15-49 Years) All use subject to JSTOR Terms and Conditions Correlates of Contraceptive use among Ghanaian women of Reproducti 16*(3), 155–170

Nyarko, S. H. (2015). Prevalence and correlates of contraceptive use among female adolescents in Ghana. *BMC Women's Health*, *15*(1). https://doi.org/10.1186/s12905-015-0221-2

Ogundele, O. J., Pavlova, M., & Groot, W. (2018). Examining trends in inequality in the use of reproductive health care services in Ghana and Nigeria. *BMC Pregnancy and Childbirth*, *18*(1). https://doi.org/10.1186/s12884-018-2102-9

Okereke, C. I. (2010). *43 Reproductive Health Needs and Health-Seeking Behaviour African Journal of Reproductive Health* (Vol. 14)

Oppong, R., & Yeboah, E. (2013). Empirical Examinations of Conflicts and Contradictions in Architecture, Land and Suburban Sprawl: The Case of Tamale, Ghana. *Journal of Science and Technology (Ghana)*, *33*(1), 92–104. https://doi.org/10.4314/just.v33i1.10

Patel, R. C., Bukusi, E. A., Baeten, J. M., Diseases, I., Health, G., & Health, G. (2018). *HHS Public Access*. *19*(1), 1–12. https://doi.org/10.1080/14656566.2017.1378345 Current

Pizzarossa, L. B., & Perehudoff, K. (2017). The President and Fellows of Harvard College Global Survey of National Constitutions: Mapping Constitutional Commitments to Sexual and Reproductive Health and Rights. *Source: Health and Human Rights*, *19*(2), 279–293. https://doi.org/10.2307/90016132

Salam, R. A., Faqqah, A., Sajjad, N., Lassi, Z. S., Das, J. K., Kaufman, M., & Bhutta, Z. A. (2016). Improving Adolescent Sexual and Reproductive Health: A Systematic Review of Potential Interventions. *Journal of Adolescent Health*, *59*(2), S11–S28. https://doi.org/10.1016/j.jadohealth.2016.05.022

Svanemyr, J., Amin, A., Robles, O. J., & Greene, M. E. (2015). Creating an enabling environment for adolescent sexual and reproductive health: A framework and promising approaches. *Journal of Adolescent Health*, *56*(1), S7–S14.

https://doi.org/10.1016/j.jadohealth.2014.09.011

Sweya, M. N., Msuya, S. E., Johnson Mahande, M., & Manongi, R. (2016). Contraceptive knowledge, sexual behavior, and factors associated with contraceptive use among female undergraduate university students in Kilimanjaro region in Tanzania. *Adolescent Health, Medicine and Therapeutics*, *Volume 7*, 109–115. https://doi.org/10.2147/ahmt.s108531

Tabong, P. T. N., Maya, E. T., Adda-Balinia, T., Kusi-Appouh, D., Birungi, H., Tabsoba, P., & Adongo, P. B. (2018). Acceptability and stakeholders perspectives on feasibility of using trained psychologists and health workers to deliver school-based sexual and reproductive health services to adolescents in urban Accra, Ghana. *Reproductive Health*, *15*(1), 1–16. https://doi.org/10.1186/s12978-018-0564-x

Thatte, N., Bingenheimer, J. B., Ndiaye, K., & Rimal, R. N. (2016). Unpacking the barriers to reproductive health services in Ghana: HIV/STI testing, abortion and contraception. *African Journal of Reproductive Health*, *20*(2), 53–61.

United Nations Economic and Social Council Commission on Population and Development (2014). *Framework of Actions for the follow-up to the Programme of Action of the International Conference on Population and Development (ICPD) Beyond 2014*. (January), 1–20. https://doi.org/EB.AIR/WG.5/2001/7

WHO_RHR_15.10_eng. (2014).

WHO. (1949). World health statistics. In *The Milbank Memorial Fund quarterly* (Vol. 27). https://doi.org/10.2307/3348165

WHO. (2014). *Adolescent pregnancy fact sheet*. Geneva 27, Switzerland.

APPENDIX A

Information Sheet

Title of Study Uptake of Contraceptives Among Female Adolescents (15-24years) Attending Senior High School in Tamale Metropolis

Hello, my name is Safianu Abdul Fatahi I am a student at the University of Ghana As part of the requirement for the award of Master of Public Health Degree, the University requires that I submit a dissertation I am conducting this study on the Uptake of Contraceptives Among Female Adolescents (15-24years) Attending Senior High School in Tamale

The objective of the research is to determine the number of female contraceptives users in schools of Tamale. This study is in partial fulfillment for the requirement of the award of Master of Public Health degree by the University of Ghana.

The study will be conducted in three Senior High Schools of Tamale Metropolis These are, Ghana Senior High, Vitting Senior High and Dabokpa Technical Institute The study participants will be drawn from these schools. A total of 403 female adolescents (15-24years) will be recruited from the school's base on sample proportionate to size.

The time that will be spent in answering questions will last 15minutes Participation in the study is voluntarily. Participants have the right to withdraw from the study. There is no penalty if you decide to withdraw. Study participants have the option of answering questions by tickling/ circling appropriate responses or questions will be read out to participants and responses ticked by the investigator and field assistants. As participants, you also have the option not to answer any question you deem inappropriate. There is the anticipated risk of anxiety and psychological trauma due to unfamiliarity with the research team and in most cases due to lack of participation in any research.

The recommendations of the study will help the Government of Ghana and the Ghana Education Service in formulating and implementing policies on contraceptives that will help improve the health of all female adolescents in the country. The cost to this project is taken care off by the principal investigator. You are not charge any money in agreeing to participate in the study. The time you spent in answering the questions will be appreciated. You are assured that the information

you will provide will be strictly private and confidential, and your name is not needed in any of the questions. These questionnaires will be kept under lock and key and can be accessed by only the investigator and supervisor. It will be destroyed five years after the submission of the dissertation. Your confidentiality and privacy are assured. Further, you will be notified in writing through your school authority for onward dissemination of acceptance of dissertation by the University of Ghana within one month.

A copy of this information sheet and consent form will be given to you after you agree to consent to the study. This is to enable you clarify with the investigator and the Ethics Review Committee of The Ghana Health Service any such information you require in respect of the study.

Do you please have any question/s for me?

I have read, or the above statement has been read to my understanding. I have asked questions and answers to which have been provided to my satisfaction. I, therefore, consent voluntarily to participate in the study.

Contact Persons:

1 Name of Principal Investigator: Safianu Abdul Fatahi

Address: C/O School of Public Health, University of Ghana, Legon P O BOX 13L

Tel: 0243781533

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2 Nana Abena Apalu

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APPENDIX B

Consent Form

STUDY TITLE Uptake of Contraceptives Among Female Adolescents (15-24years) Attending Senior High School in Tamale metropolis

PARTICIPANTS' STATEMENT

I acknowledge that I have read or have had the purpose and contents of the Participants' Information Sheet read and all questions satisfactorily explained to me in a language I understand (English Language). I fully understand the contents and any potential implications as well as my right to change my mind (i.e. withdraw from the research) even after I have signed this form

I voluntarily agree to be part of this research.

Initials of Participant..... ID Code

Participants' Signature ..... OR Thumb Print

Date:.....

INVESTIGATOR STATEMENT AND SIGNATURE

I certify that the participant has been given ample time to read and learn about the study. All questions and clarifications raised by the participant have been addressed.

Researcher's name Safianu Abdul Fatahi

Signature .....

Date.....

APPENDIX C

Assent Form (15-17years)

STUDY TITLE: Uptake of Contraceptives Among Female Adolescents (15-24years) Attending Senior High School in Tamale metropolis

PARENTS/GURDIAN'S STATEMENT

I acknowledge that I have read or have had the purpose and contents of the Participants' Information Sheet read and all questions satisfactorily explained to me in a language I understand (English Language). I fully understand the contents and any potential implications as well as the right to of my daughter/student to change her mind (i.e. withdraw from the research) even after I have signed this form.

I voluntarily agree for my daughter/student to be part of this research.

Initials of Participant..... ID Code .....

Participants' Signature .....OR Thumb Print .....

Date.....

MINORS (15-17years) STATEMENT:

I acknowledge that I have read or have had the purpose and contents of the Participants' Information Sheet read and all questions satisfactorily explained to me in a language I understand (English Language). I fully understand the contents and any potential implications as well as the right to change my mind (i.e. withdraw from the research) even after I have signed this form.

Initials of Participant..... ID Code .....

Participants' Signature .....OR Thumb Print .....

Date:.....

INVESTIGATOR STATEMENT AND SIGNATURE

I certify that the participant has been given ample time to read and learn about the study. All questions and clarifications raised by the participant have been addressed.

Researcher's name Safianu Abdul Fatahi

Signature .....

Date.....

APPENDIX D

Questionnaire

UPTAKE OF CONTRACEPTIVES AMONG FEMALE ADOLESCENTS (15-24years) ATTENDING SENIOR HIGH SCHOOLS IN TAMALE METROPOLIS

Form ID .....

Date .....

Age .....

Dear Respondent,

I would like to spend 15 minutes of your time to answer a few questions. You are assured the answers you give will be strictly confidential and your name will not be mention in my report. Please tick where appropriate. Should you encounter difficulty in understanding any question, please let me know. Thank you.

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS

Question Number	Question	Response
101	Sex (Do not ask) Female	☐
102	What is your age at last birthday?	☐
103	What is your religious denomination? 1 Islam 2 Christianity 3 Traditional Religion 99 Other (Specify)	☐ ☐ ☐
104	What form are you? 1 Form 1 2 Form 2 3 Form 3	☐ ☐ ☐
105	Who do you stay with? 1 Mother 2 Father 3 Both Parents 4 Uncle/Aunt 5 Brother/Sister 4 Alone 99 Other Specify.....	☐ ☐ ☐ ☐

106	What is your marital status? 1 Single 2 Married 3 Cohabitating 99 Others Specify	
107	Are you employed? 1 Yes 2 No	
108	If yes, which type of employment 1 Self-employed 2 Privately employed 3 Government employed 4 Non-Government employed 99 Others Specify	
109	If no, who takes care of you? 1 Both Parents 2 Single Parents 3 Uncle/Aunty 4 Brother/Sister 99 Others Specify.....	
110	Which work is your parent/guardian doing? 1 Trader 2 Farmer 3 Artisan 4 Government employee 99 Others Specify.....	
111	Which ethnic group do you belong? 1 Dagomba 2 Gonja 3 Mamprusi 4 Hausa 5 Grusi 6 Akan 7 Ga/Dangbme 8 Waala 99 Other Specify.....	

SECTION B Perceptions of contraceptives of young females

201	Are contraceptives use important to you? 1 Yes 2 No	
202	Do you consider contraceptive use as a sin against God? 1 Yes 2 No	
203	Does your religion support contraceptive use? 1 Yes 2 No	
204	What do you think about this statement 'contraceptives cause cancer'? 1 Strongly agreed 2 Agreed 3 Disagreed 4 Strongly disagreed	
205	In your opinion are contraceptives users' bad people 1 Strongly agreed 2 Agreed 3 Disagreed 4 Strongly Disagreed	
206	What do you make of this statement 'contraceptives use causes, women, not to give birth (infertility)'? 1 Strongly agreed 2 Agreed 3 Do not agreed 4 Strongly Disagreed	
207	Contraceptives use makes women give birth to deformed babies 1 Strongly agreed 2 Agreed 3 Disagreed 4 Strongly Disagreed	
208	Does your culture or ethnicity support contraception? 1 Yes 2 No	

209	Is there a belief in your culture that contraceptive use means you are cheating on your partner? 1 Yes 2 No	☐☐

SECTION C Reasons for choice of a method of contraception among female adolescents

301	Why do you use contraceptives? 1 To prevent pregnancy 2 To prevent STI's 3 To prevent abortion 4 To prevent death 5 To space childbirth 99 Others Specify	☐☐ ☐☐ ☐☐ ☐☐ ☐☐
302	Do you fear that the contraceptives you are using may not be effective? 1 Yes 2 No	☐☐
303	Which of these methods do you consider effective? 1 Male condom 2 Female condoms 3 Intra-uterine devices 4 Injectables 5 Implants 6 Emergency contraception 7 Pills 8 Withdrawal method 99 Others Specify.....	☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐
304	Do you experience side effects with the use of contraceptives? 1 Yes 2 No	☐☐
305	Which of these side effects mostly likely prevents you from using contraceptives? 1 Bleeding 2 Discomfort 3 Irregular menses 99 Others Specify.....	☐☐ ☐☐ ☐☐
306	Which of these contraceptives' methods are easily accessible to you? 1 Male condom 2 Female condoms	☐☐ ☐☐

	3 Intra-uterine devices 4 Injectables 5 Implants 6 Emergency contraceptives 7 Pills (Oral Contraceptive Pills) 8 Withdrawal method 99 Others Specify	
307	Where do you get your contraceptives? 1 Pharmacy/chemical shop/drug store 2 Public hospital/clinic 3 Private hospital/clinic 99 Others Specify	
308	Are you able to afford contraceptives? 1 Yes 2 No	
309	Does the cost of contraceptives inform your choice? 1 Yes 2 No	
310	Which of the contraceptives is affordable to you? 1 Male condom 2 Female condoms 3 Intra-uterine devices 4 Injectables 5 Implants 6 Emergency contraception 7 Pills 8 Withdrawal method 99 Others Specify.....	

SECTION C: Barriers to contraceptive use

401	Where do you leave in Tamale? 1 Urban area 2 Peri-Urban area 3 Rural Area	
402	How far are you from the reproductive health services corner? 1 Very far 2 A bit far 3 Not far 4 Just near my house	
403	Do you discuss issues of contraceptives with your parents/guardians? 1 Yes 2 No	

404	How often do you discuss contraceptives with your parents/guardians? 1 Very often 2 Quite often 3 Never 4 I don't remember	
405	What are your fears about contraceptives? 1 It cannot protect me from getting pregnant 2 I fear the side effects 3 It changes my regular menstrual cycle 4 It is inconvenient to use 5 There is discomfort with its use	
406	Is your partner aware you are using contraceptives? 1 Yes 2 No	
407	How would do you feel if your partner knows you are using contraceptives? 1 I feel normal 2 I feel embarrassed and shy 3 I don't feel anything	
408	What will your friends say if they found out you are using contraceptives? 1 They will say I am bad 2 They will tell other people 3 They won't say anything	
409	Do attitudes of health workers prevent you from accessing contraceptives? 1 Yes 2 No	
410	Which of these health worker attitudes prevents you from using contraceptives? 1 They are judgmental 2 They dictate to me 3 They are not receptive 4 I feel they want to help me	

Ethical Approval

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

Research & Development Division
Ghana Health Service
P. O. Box MD 190
Accra
GPS Address: GA-050-5301
Tel: +233-302-681109
Fax: +233-302-665420
Mob: +233-050-3536896
Email: ethics.research@ghsmail.org

25th November 2019

Abdul Fatahi Sulley
C/O Ghana Health Service
P. O. Box 99
Northern Regional Health Directorate
Tamale

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol

GHS-ERC Number	GHS-ERC 057/11/19
Project Title	Uptake of Contraceptives among Female Adolescents (15-24 Years) Attending Senior High School in Tamale Metropolis
Approval Date	25th November, 2019
Expiry Date	24th November, 2020
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

- Submission of yearly progress report of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months.
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing
- Submission of a final report **after completion** of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings

Please note that any modification of the study without ERC approval of the amendment is invalid

The ERC may observe or cause to be observed procedures and records of the study during and after implementation

Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED
Dr. Cynthia Bannerman
(GHS-ERC Chairperson)

Cc The Director, Research & Development Division, Ghana Health Service, Accra

GES Introductory Letter

GHANA EDUCATION SERVICE

REPUBLIC OF GHANA

LETTER OF INTRODUCTION
MR. SAFIANU ABDUL FATAHI

I am pleased to introduce to you Mr. Safianu Abdul Fatahi, a graduate student from the University of Ghana, for your necessary assistance.

As part of the requirement for graduation from the University of Ghana, Mr. Safianu Abdul Fatahi is conducting a research that will lead to the awaward of Master of Public Health Degree. His topic of study is "Uptake of contraceptives among female adolescents (15 – 24) attending Senior High Schools in the Tamale Metropolis. To this end, he has selected three (3) Senior High Schools namely, Ghana Senior High School, Vitting Senior High/Tech. School and Dabokpa Technical Institute for his study.

We kindly request your assistance to facilitate his study either to himself or his assigns.

Counting on your kind cooperation

(AMATUS D. TUG-LL)
METROPOLITAN DIRECTOR OF EDUCATION
TAMALE

ALL CONCERNED SCHOOLS
TAMALE

Cc: Mr. Safianu Abdul Fatahi
. University of Ghana
School of Public Health
Accra

Approval Letter from A Study Institution

VITTING SENIOR HIGH/TECH. SCHOOL

TEL: 017/0

DATE 16TH JANUARY, 2020

RE-REQUEST FOR ETHICAL REVIEW

I write to confirm that Mr Safianu Abdul Fatahi of University of Ghana has been granted a request dated 17th January, 2020 from the above institution to collect data on a research proposal leading to the award of Master of Public Health Degree on the topic 'Uptake of Contraceptives Among Female Adolescents (15-24years) Attending Senior High School in the Tamale Metropolis'

Thank you

Yours faithfully,

Mr Suaibu Jibakatie Amadu
(Assitant Head Academics)
For Headmaster

Cc: University of Ghana
School of Public Health

Mr Safianu Abdul Fahati
University of Ghana
School of Public Health