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UTILIZATION OF REPRODUCTIVE HEALTH SERVICES AMONG ADOLESCENTS IN GHANA: ANALYSIS OF THE 2007 AND 2017 GHANA MATERNAL HEALTH SURVEYS

BY

JAMES TETTEH-BOAWOLOR EHIAWEY
(10316744)

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DECLARATION

I, James Tetteh-Boawolor Ehiawey declare that this thesis is the product of my original independent research conducted using the 2007 and 2017 Ghana Maternal Health Survey Data under the supervision of Dr Adom Manu.

I affirm that this dissertation either in whole or in part has not been presented elsewhere for another degree. All references made to other researchers' work are duly acknowledged.

…….. …….

JAMES TETTEH-BOAWOLOR EHIAWEY DATE

STUDENT

…… ……

DR ADOM MANU DATE

SUPERVISOR

DEDICATION

This work is dedicated to my father, Abraham Kofi Ehiawey and my mother Beatrice Akorkor Ehiawey for supporting my education up to this level. My brother, Cornelius Teye Ehiawey and my Sisters Dorcas and Zipporah are also not left out.

My final dedication goes to my wife Benedicta Darko and my wonderful friend Charles Lwanga Noora.

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ABSTRACT

Introduction: Adolescents aged 10 and 19 years constitute about 1.2 billion of the global population. In Ghana, adolescents form about a quarter of the population. The developmental changes that occurs during adolescence predisposes them to some health risks.

In all regions in the world, young people are reaching puberty earlier; this influences them to engage in sexual activity at a younger age while delaying marriage. This increases the risk of exposure to HIV and other sexually transmitted infections, unwanted pregnancies with attendant issues like unsafe abortion. Many adolescents in Ghana underuse Sexual Reproductive Health (SRH) services primarily due to the stigma attached to adolescent sexual activities.

Aim: This study examined the utilization of SRH services among adolescents aged 15-19 years in Ghana over a ten-year period.

Methods: The study utilized data from the 2007 and 2017 Ghana Maternal Health Survey (GMHS) on 2,056 and 4909 adolescents respectively. Data was analyzed using STATA 15 version. The extracted data was presented using frequency tables. The Pearson's chi-squared test was used to assess the relationship between the independent variables and utilization of SRH services. Logistic regression was fitted to examine the determinants of SRH utilization. Odds ratio and their 95% confidence intervals were used to assess the strength of association. A P-value of 0.05 was used to determine statistical significance.

Results: The mean (SD) age of the respondents was 16.8 ±1.4 for both 2007 and 2017 study. Percentage of respondents with no education declined from 10.0% in 2007 to 5.5 in 2017. Age at first sex is highest among 15-17year old in both 2007 and 2017 [15(24.7/26.0), 16(21.4/23.4) & 17(17.7/18.4)]. Among respondents who were using contraception and had

ever had sex declined from 28.3% to 22.5% over the ten years period however modern contraception use had increased from 44.9% to 71.8% over the same period.

The 2007 bivariate and multivariate analysis showed that ever had sex, age at first sexual intercourse and ever given birth showed association with utilization of . The 2017 bivariate analysis showed that age, educational level, region, residence, ever had sex, age at first sexual intercourse, ever given birth, knowledge about abortion and knowledge about source of family planning had significant relationship with utilization.

The logistic regression analysis showed that age, ever given birth, educational level, ever had sex, age at first sexual intercourse and knowledge about source of family planning were significant. When all the variables were adjusted, age, ever had sex, age at first sexual intercourse, ever given birth, educational level and knowing source of family planning showed significant association with utilization.

Test of proportion on utilization of sexual and reproductive health (SRH) services between 2007 and 2017 showed a significant decline among those currently using family planning. However there has been significant increase among respondents who used modern methods. There was no significant change in the utilization of abortion services over the period.

Conclusion: Utilization of family planning methods has significantly declined between 2007 and 2017. However modern family planning methods utilization has increased significantly between 2007 and 2017. Sexual activities are important determinants of utilization of SRH.

TABLE OF CONTENTS

Content **Page**

LIST OF TABLES

LIST OF FIURE(S)

LIST OF ABBREVIATIONS

AHSPS	Adolescent Health Service Policy and Strategy
AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-Retroviral Therapy
ASRH	Adolescent Sexual and Reproductive Health
CSE	Comprehensive Sexuality Education
CSOs	Civil Society Organizations
DHS	Demographic and Health Survey
FP	Family Planning
GDHS	Ghana Demographic and Health Survey
GHS	Ghana Health Service
GMHS	Ghana Maternal Health Survey
GSS	Ghana Statistical Service
HIV	Human Immunodeficiency Virus
LMICs	Low and Middle-Income Countries
MOH	Ministry of Health
NGOs	Non-Government Organizations
SHEP	School Health Education Programme
SRH	Sexual and Reproductive Health
SRHS	Sexual and Reproductive Health Services
STI	Sexually Transmitted Infection
UKaid	United Kingdom Aid
WHO	World Health Organization

LIST OF OPERATIONAL DEFINITIONS

1. Adolescent-Refers to young people aged 15-19years.
2. Utilization- Using any of the SRHS:
    - Family planning
    - Abortion services
3. Knowledge about SRH- Defined as knowing source of family planning, knowing where to get abortion, have heard about family planning methods, have heard about abortion and knowing if abortion is legal in Ghana.
4. Risky behaviours- Engaging in one or more of the following activities:
    - Two or more sexual partners
    - Having sex when drunk or other substances that can impair correct judgement
    - Non-use of condom during sex
    - Non-use of contraception

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

The World Health Organization (2016), defines adolescents as young people between the ages of 10 and 19 years. However, for purpose of this study, an adolescent shall be defined as young people aged between 15-19 years. The period of adolescence is characterized by rapid growth and development physically, mentally, emotionally and psychologically. These rapid changes drive adolescents to unhealthy behaviours such as sex experimentation, unsafe sexual activities and multiple sexual partners thereby exposing them to sexually transmitted infections (STIs) like HIV/AIDS, chlamydia, syphilis and gonorrhea. The ones who get pregnant may attempt to terminate the pregnancy due to the stigma attached to it, which may result in complications and deaths. Those who are unable to terminate them, face societal stigma which may lead some to drop out of school and attempt suicide. Some are chased out of their homes by parents who feel embarrassed by the presence of a pregnant daughter.

Adolescents make up 1.2billion of the world's population while constituting about one third of the population in most low and middle-income countries in Africa, Latin America, and Asia, where approximately 2·5 million births occur annually to girls under the age of 16 years (Owolabi et al., 2017).

In low and middle-income countries, pregnancies in adolescent girls carry a higher risk of severe morbidities such as eclampsia compared with older women(Grønvik & Sandøy, 2018). Children born by adolescent mothers have a higher risk of death in their first 5 years.

Globally, about 16 million girls aged 15-19 years give birth every year, which is approximately 11% of all births worldwide (Morris & Rushwan, 2015). Globally, pregnancy and childbirth were the leading causes of death in adolescent girls aged 15–19 years in 2015. The authors in this study further revealed that ninety-five percent (95%) of this occurs in Low and Middle-income countries (LMICs). Pregnancy among young mothers is a significant problem in LMICs, almost 10% of girls become mothers by age 16 years with the highest rates in Sub-Saharan Africa, South, Central and Southeast Asia.

Sub-Saharan Africa has the second highest maternal mortality and the highest global rate of adolescent pregnancy and childbearing(Radovich et al., 2018). Adolescents in this region also had the lowest use of contraception (7%) between 1998 and 2011(Owolabi et al., 2017). This study projected that adolescents from West and Central Africa will make up the highest percentage of married adolescents (28%) in sub-Saharan Africa by 2030.

Adolescents aged 10-19 constitute nearly a third of the population of Ghana.

In Ghana, according to the Adolescent Health Service Policy and Strategy, sexual activity is high among adolescents and youth (Ghana Health Services, 2017). Exposure to sexual activities begins at early ages and this trend has increased in proportion over the past decades. The proportion of adolescent girls 15-19 years having first sexual activity by 15years has increased by 61.6% in 15 year period; from 7.3 per cent in 1998 to 11.8 per cent in 2014 (GSS; GHS; ICF International, 2015). On the other hand, sexual debut by 18year old adolescents has decreased from 56.7 per cent to 43.3 per cent for the 20-24 years age group for the same period. Risky sexual practices are prevalent among adolescents. This is

exemplified by persistence of multiple sexual partners, concurrent partners, and non-use of condoms by those sexually active (Ghana Health Services, 2017).

Availability and accessibility of sexual and reproductive health services for adolescents are very crucial for prevention and control of sexual and reproductive health problems. These services also play vital roles in the promotion of adolescents' sexual and reproductive health generally.

Adolescent sexual and reproductive health is now receiving increased attention by policy makers in Ghana (Aninanya et al., 2015). The authors of this study further stated that many sexually active Ghanaian adolescents encounter sexual and reproductive health (SRH) problems, yet their usage of the available services remains low.

Understanding the factors associated with sexual and reproductive health services utilization will help to minimize risky behaviours and improve adolescents' reproductive health.

1.2 Problem Statement

The world is currently experiencing the largest cohort of adolescents in history (Morris & Rushwan, 2015). A significant proportion of the global population is between the ages of 10-19years (Gottschalk & Ortayli, 2014).

The transition of adolescents to sexual and reproductive maturity comes with its own associated risks such as pregnancy with its attendant issues (Morris & Rushwan, 2015). Currently, eighty-eight percent (88%) of the 1.2 billion adolescents live in developing countries where universal access to SRH is yet to be realized, and they face a higher unmet need for SRH services and higher burden of unplanned pregnancies and contracting

sexually transmitted infections (STIs) than their peers in the developed world (Gottschalk & Ortayli, 2014).

The increase in the rate of these SRH problems among young people in sub-Saharan Africa is alarming (Odo, Samuel, Nwagu, Nnamani, & Atama, 2018). This suggests the need for adequate attention towards adolescents' sexual and reproductive health.

However, adolescents' SRH needs and problems are yet to receive adequate attention especially in developing countries like Ghana. Youth-friendly health services has been recognized as a way of improving adolescent access and utilization of SRH services yet it does not seem to be working as expected (Ghana Health Services, 2017).

Efforts to attain quality sexual and reproductive health are constrained by inadequate access to and inequitable distribution of quality SRH services especially in sub-Saharan African countries (Odo et al., 2018). These have resulted in the poor utilization of SRH services among young people in sub-Saharan African countries, leading to a high level of sexual and reproductive health problems especially among adolescents. According to Aninanya et al. (2015), the Government of Ghana through the Ministry of Health has worked to support adolescents through Adolescent Reproductive Health Policy (2000) and National HIV/AIDS and STIs Policy (2001) initiatives, while Ghana Health Services (GHS) promote youth-friendly policies. The study further stated, that evidence suggested that Ghanaian adolescents still avoid SRH services, particularly due to stigma around premarital sex, while over 750,000 adolescents become pregnant annually.

SRH services are available yet not accessible to many adolescents in Ghana due to barriers such as cost of services, lack of awareness about where to get contraceptives and STI treatment and negative provider attitudes (Owusu-Addo et al, 2016).

Although there have been many studies on adolescent SRH in Ghana, very few have focused on utilization of SRH Services nationwide. This study sought to examine the use of Sexual and Reproductive Health services by adolescents in Ghana.

1.3 Conceptual Framework

Health services utilization is not influenced by a single factor but is a myriad of factors interacting with each other (Kim & Lee, 2016). This forms the theoretical foundation for explaining health services utilization.

Several researchers have developed frameworks that seek to identify and explain factors that influence individual's decision on what kind of health service to use. One of such frameworks which has been widely used is the Andersen and Newman framework for Health services utilization. This study adopted the Andersen and Newman framework as a conceptual basis for examining health services utilization among adolescents.

1.3.1 Description of Framework

The framework was designed to explain the conditions that promotes or impedes utilization of SRH by adolescents.

Three categories of factors influence utilization, namely predisposing factors, enabling factors and need factors.

Predisposing factors are socio-cultural characteristics of individuals (such as age, educational level, religion, ethnicity) that influences the utilization of health services. These can be likened to primary factors that compel adolescents to patronize SRH services. These factors define the worldview of an adolescent because they affect their socialization (Addo, 2015). Studies have also identified higher education as influencing utilization of SRH services. Religion and ethnicity influences the beliefs of individuals and therefore affects their decisions about utilizing SRH services (Bwalya, 2018). Age is very key factor that influences adolescents. Older adolescents tend to be matured and therefore are able to decide on whether to utilize available SRH services or not (Khangelani et al., 2019).

Enabling factors include factors such as knowledge, access to health services and socioeconomic status. These factors can sometimes be affected by the predisposing factors. Educational level has impact on knowledge of an individual. According to (Oluyemi & Yinusa, 2015) knowledge of adolescents increases as they climb higher on the educational ladder. Adolescents in school are more likely to utilize SRH services. Adolescents from poor homes are more likely to initiate sex early and therefore exposed to a lot risks such as unplanned pregnancies and contracting STIs (Stephenson, Simon, & Finneran, 2014).

Need factors describe how people perceive the general health and whether they judge it, to be enough to seek professional health. The knowledge level of adolescents enables them to make decision about accessing SRH services when they have reproductive health issues.

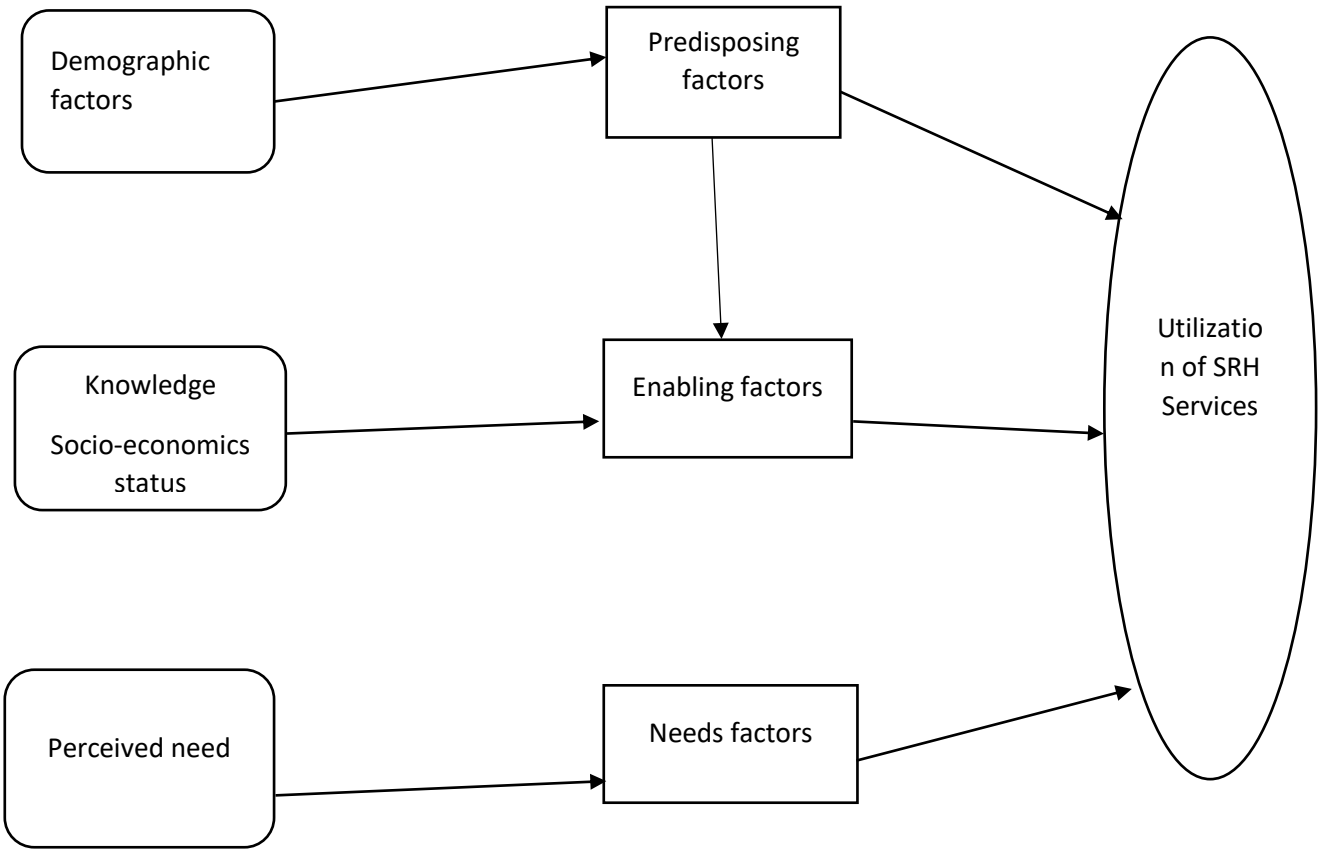

Figure 1.1: The framework was adapted from Andersen and Newman (1973) framework of Health Services Utilization.

1.4 Justification

The developmental changes that occur during adolescence predispose them to some health risks. The adolescent is very vulnerable during this period because of the rapid physical, mental and emotional development that they experience which pushes them to lifestyles which can make them susceptible to dangers like STIs and pregnancy.

Examining the use of SRH services will provide the relevant data for policy change and formulation of new policies.

Secondly, assessment of the relevant literature has shown limited studies covering the whole country that has focused on adolescent utilization of SRH services. This study will therefore generate critical information about utilization of adolescent SRH services that will inform future studies.

Finally, the findings of this study will inform programmes aimed at improving utilization of SRH services by adolescents. It can also form the basis for programmes aimed at enhancing the capacity of health workers in Adolescent SRH services provision.

1.5 Objectives of study

1.5.1 General objective

To examine the sexual and reproductive health services use and associated factors among adolescents in Ghana.

1.5.2 Specific objectives:

1. To determine the level of knowledge of Sexual and Reproductive Health services among adolescents between 2001 and 2017.
2. To examine adolescents' use of Sexual and Reproductive Health services between 2007 and 2017.
3) To determine factors influencing utilization of Sexual and Reproductive Health services between 2007 and 2017.
4) To identify the difference in the level of change.

1.6 Research questions

The following questions guided the study:

1. What factors influence the utilization of Sexual and Reproductive Health services among adolescents aged 15-19 in Ghana between 2007 and 2017?
2. Has the percentage of adolescent, who utilized SRHS changed in the last decade?
3. What is the average utilization of ASRHS between the period 2007 and 2017?
4. Is there any relationship between utilization and the background characteristics?

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Adolescence is characterized by rapid development of the individual physically, emotionally, cognitively and socially. Adolescents are the future of every country because they form the next generation of leaders and human resource for national development. They can however become a liability if not guided in their choices. This is because challenges experienced in adolescence can continue into adulthood which can also affect their children. The enthusiasm of adolescents can be harnessed by using them as peer educators, positive role models for their peers, advocates for policies affecting them and even partners in national campaigns for healthy living.

This chapter looks at the available literature on adolescents and the factors that influence their utilization of SRH services. This review covers six sections. Section one looks at the period of adolescence and risky behaviours associated with it. Section two focuses on the factors that influence sex debut and adolescent sexual activity. Section three reviews Ghana's attempt at meeting the needs of adolescents through the various policies and programmes. Section four looks at the factors that contribute to the knowledge of adolescents about sexual and reproductive health. Section five reviews extensively the factors influencing the utilization of SRH services. The last section summarizes the main ideas in this review.

2.1 Adolescence as a period of risk.

Adolescence is a period that comes with great risks and opportunities. Young people are reaching puberty early so the lag between sex initiation and marriage is longer (Morris &

Rushwan, 2015). According to the authors of this study the long lag between sexual maturity and marriage can also contribute to unhealthy sexual practices by adolescents because they are unlikely to maintain one partner till marriage. This exposes them to the risk of contracting HIV and other STIs. They are also exposed to the risk of unplanned pregnancies which may lead to unsafe abortion. Unsafe abortions are usually triggered by cultural norms that forbid unmarried young people from having sex.

Among the Krobo tribe in the Eastern region of the Republic of Ghana if an adolescent gets pregnant before the dipo rite (puberty rite) is performed , such a girl is ostracized and the family carries a stigma (Nanegbe, 2016) . Under such a circumstance, a pregnant adolescent is likely to adopt unsafe measures to terminate the pregnancy.

2.1.1 Drug abuse

Most adolescents are likely to experiment with alcohol and drugs which has the potential of affecting their judgement and impairing their ability to make the right choices under any circumstances.

There is a strong association between alcohol consumption and risky sexual practices (Olley, Ajuwon & , Akin-Jimoh & Akintola, 2019) . This study also revealed that alcohol consumption contributed to 25% of risky sexual behaviours. The study concluded that loss of judgement and self-control due to alcohol consumption might be the reason of this phenomenon. Therefore, adolescents on drugs or alcohol are more likely to have sex without protection, engage in casual sex, have multiple sexual partners which makes them susceptible to contracting STIs.

In another study involving adolescents in slum and non-slum communities in Kenya, it was found that adolescent delinquency influenced sex debut and reckless sexual activities (Beguy et al., 2013).

This is supported by another study in Galicia, Northwestern Spain, that looked at the association between drug abuse and adolescent delinquency (Zuurmond, Luengo-martin, Carrillo-de-la-peña, & Romero-triñanes, 2019). The study found a significant association between drug abuse and delinquency. Adolescents who are delinquent are more likely to have unplanned pregnancies and risk of STIs because protective measures such as contraception and condom use is usually low among drug peddlers and alcoholics.

2.1.2 Pregnancy

Adolescent mothers also face a greater risk of pregnancy related complications and even death, than older women (Morris & Rushwan, 2015). The authors went on to say that this usually results from poor nutrition and less developed body structure to withstand the stress of pregnancy and child birth.

These findings are supported by another study which looked at complications that were associated with adolescent childbirth in Sub-Saharan Africa. This study revealed that there is an association between the age of a mother and birth complications like pre-eclampsia or eclampsia, perinatal mortality and maternal mortality (Grønvik & Sandøy, 2018). It further stated that a high incidence of preterm birth, low birth weight and malnourished children is also associated with adolescent mothers.

Indeed, inability of pregnant adolescents to access antenatal care due to societal stigma and cost of services contributes to the risks enumerated earlier (Bankole & Malarcher, 2019a). The other challenge according to this study, is distance from the facility because most adolescents are usually unempowered financially, so may not be able to afford the cost of transportation to the facilities.

2.1.3 Slum-dwelling

Children born in broken homes or slums are also exposed to a lot of risk growing up. In broken homes the burden of economic survival pushes single parents to work hard to earn a living and this has the potential of making them shirk their responsibilities of giving proper upbringing to their children. Adolescents need a lot of attention therefore the absence of a parent or both tends to create a challenge for the growing adolescents. According to studies, family supervision is a very important factor in sex debut (Marston, Kabiru, & Marston, 2013; Olukoya, 2019; Stephenson, Simon, & Finneran, 2014). According to these studies adolescents with parental supervision are less likely to initiate sex at a very young age compared to those from broken homes.

Indeed (M. Marston, Beguy, Kabiru, & Cleland, 2013) revealed that adolescents who have dropped out of school or has never been to school are more likely to initiate sex early than their peers in school. This is because those in school are more likely to have life ambitions therefore, they are unlikely to initiate sex early because of the dangers associated with it. Children growing in slums are exposed to a lot of toxic information that negatively affects their worldview because of the absence of effective parental supervision.

Other studies have shown that girls are likely to delay sex if they had a father figure in the house(Ellis, Schlomer, Tilley, & Butler, 2012) . The leadership of a father in the life of a growing child cannot be over-emphasized. A study in Jamaica revealed that majority of pregnant girls lived with single parents, usually their mothers (Noel et al., 2009).

Another study in a Kenyan slum also revealed that girls in slums initiate sex early (Kabiru, Beguy, Undie, Msiyaphazi, & Alex, 2014). According to the study, non-slum dwelling adolescents, initiated sex at age 18years while those in slums were 15years.

Drugs and violence are very rampant in slums. Gender based violence like rape and defilement is very rife in slums because law-enforcement agents hardly pay attention to such areas which emboldens dwellers to perpetrate such crimes knowing very well they can get away without any punishment. During violent conflicts like civil wars, most adolescent girls suffer rape and defilement from the soldiers. This is supported by a study in Liberia which examined transactional sex among the youth. Most adolescents were initiated into sex at young age during the long civil war (Atwood et al., 2019). Some were even abducted as sex slaves for the soldiers.

Age also influences the behaviour of adolescents because older adolescents tend to be more aggressive and adventurous than the younger adolescents due to growth and maturity (Khangelani et al., 2019). Older adolescents are likely to be sexually active than the younger ones(Madise, Zulu, & Ciera, 2019). These changes are likely to drive them into unhealthy activities that put their life and health at risk.

Increasing sexually transmitted infection rates among adolescents poses real danger to the general population because most of the sex partners of adolescents are likely to be adults (especially partners of girls). Noel et al.(2009) indicated in a study that the partners of these adolescents are at least five years older than them. This means that what happens among the adolescent population may directly affect the general population.

The period of adolescence is not all doom and gloom but also a period of great opportunities for young people. This is the time that adolescents develop their self-esteem and a good environment results in the development of adolescents into responsible adults. It is undeniable that , safe and supportive environment reduces risks to adolescents which also includes SRH issues like unsafe abortion(Olukoya, 2019).

Adolescents tend to be mentally sharp especially among older adolescents, this makes them able to handle complex and abstract academic concepts or ideas. This makes them to excel in school which positions them to be useful adults. Those who engage in sports excel. Indeed, when given proper guidance they transit into adulthood with looks of promise of a great future.

2.2 Sex debut and sexual activities

Most adolescents initiate sex when they are not ready for the act which exposes them to numerous dangers. The commonest reasons according to a study in Kenya assigned for sex initiation is natural feelings (June, Yode, & Legrand, 2019; Marston et al., 2013) . That is the natural desire or appetite for sex, drives them into experimenting with sex. This clearly indicate limited information available to the adolescents about their sexuality. Good understanding of their sexuality will let them know that these desires are normal with every

growing person and the consequences associated with engaging in sex at that age. Responsible and safe sexual behavior among adolescents is greatly influenced by sexuality education (Olukoya, 2019). According to a study in South Africa, 40.8% of adolescents who engaged in sex for the first time did not use a condom (Khangelani et al., 2019). This is because most adolescents usually engage in sex at a time that they are not ready. This exposed them to risk of unplanned pregnancy and STIs.

Marston et al., (2013) also indicated that three out of five adolescents who initiated sex did not use any form of protection. It was also revealed in this Kenya study that older siblings who engaged in sex also had a strong influence on sex debut among adolescents. The same study revealed that those who had early sex debut are likely to have multiple partners thereby increasing their risk of contracting STIs.

According to a study in Jamaica, 54% of pregnant adolescents had sex debut at 14 years and had partners who were at least five years older than them (Noel et al., 2009). A study which analyzed of national surveys in 24 African countries, revealed that in West Africa a significant proportion of adolescents initiated sex before age 15 (Doyle, Mavedzenge, Plummer, & Ross, 2012). The study further stated that child birth among adolescents was also more common in West Africa compared to East and Southern Africa. The authors concluded that many adolescents aged 15 to 19 years were sexually active and therefore at risk of contracting HIV, other STIs, unwanted pregnancies due to low condom use and low uptake of contraceptives.

More girls have early sex compared to their male counterparts(Bwalya, 2018). The researcher further indicate that more female adolescents did not use a condom as compared

to their male counterparts because sex is usually initiated by boys. Girls are forced into sex through money and gifts inducements , flattery words, pestering and threats by their male partners to go after other girls (June et al., 2019; Moore et al., 2019). Another study reported that negative peer influence or pressure is one of the causes of early sex debut (Atwood et al., 2019; June et al., 2019; Okonta, 2019). Poverty is one major factor in sex initiation among girls. Studies have shown that girls from poor homes are more likely to initiate sex early(Stephenson et al., 2014).

In Liberia , girls became sexually active at a very young age because it provided a means of income which boosted their social status (Atwood et al., 2019). The authors further indicated that the post-war economy in Liberia put undue economic pressure on the girls hence their decision to engage in transactional sex at that early age. In the same study, it was revealed that mothers encouraged their daughters to engage in these acts in order to get money for the family's upkeep. However, this exposed them to risk of STIs because condoms were not often and the men dictated the terms of the engagements.

2.3 Ghana's attempts at meeting the SRH needs of adolescents

The lack of political will on the part of leaders is one of the major challenges facing Adolescent SRH worldwide. Adolescent sexual and reproductive health is given a low priority, the presence of restrictive laws and policies has also contributed to the low attention (Morris & Rushwan, 2015) . Cultural, social and economic environment also have a huge impact on the availability and accessibility of SRH services to adolescents.

After the 1994 International Conference on Population and Development, governments have developed policies , programmes and strategies to meet the SRH needs of adolescents (Aninanya et al., 2015).

In Ghana the government came out with the first edition of the National Reproductive Health Service Policy in 1996 and was reviewed in 2003. It provided the framework for the implementation of SRH programmes (Odoi-Agyarko, 2003). The policy also sought to make SRH accessible and affordable. This was followed by the Adolescent Reproductive Health Policy in the year 2000. It also aimed at influencing behavior of adolescents by educating them on responsible sexual behavior.

In the year 2001, the National HIV/AIDS and STIs Policy came into being. It aimed at mobilizing adequate resources for the effective implementation of HIV/AIDS & STIs intervention programmes. This policy also aimed at a consistent and effective education about HIV/AIDS & STIs among the populace, especially young people and women. The UNFPA in collaboration with the Ghana Health Service and the European Commission implemented a programme dubbed “Time with Grandma” in the Central Region of the Republic of Ghana. The prime focus of the programme was to increase access to ASRH information and services (UNFPA, 2013). This programme started as a pilot project in Besease in the Ajumako Enyan Essiam district but was later scaled up to cover seven deprived districts following the success chalked in the pilot project.

The Ghana Health Services has also responded to the needs of adolescents through its youth-friendly programmes. It has achieved this through the establishment of Adolescents’ Corners in most Ghana Health Service facilities across the country.

The Ghana Health Service has developed a new Adolescent Health Service Policy and Strategy for the period 2016-2020 *to guide programmes to mitigate the dual challenge that the country faces from the emerging health threats as well as those from the unfinished agenda of preventable death and infectious diseases among its large adolescent population* (Ghana Health Services, 2017). The document therefore aimed at filling in the gaps identified in the earlier policies and strategies.

2.4. Knowledge about SRH among Adolescents

Knowledge about sexual and reproductive health is very low among adolescents and this can be partly blamed for the low utilization of SRH services. According to (Ochako et al., 2015) poor knowledge about contraceptive methods is one of the reasons for the low uptake of family planning. There is also a misconception that family planning among adolescents promotes promiscuity (MacPhail, Pettifor, Pascoe, & Rees, 2007).

2.4.1 Education

The level of education of adolescents influence their level of knowledge since the academic curricula usually have topics on reproductive health. Adolescents in school are 15 times more likely to utilize SRH services (Bam, Haseen, Bc, Newman, & Chaudhary, 2015). As one goes up the academic ladder knowledge also increases (Oluyemi & Yinusa, 2015). This is also corroborated by (Addo, 2015), who identified higher education as influencing utilization of SRH service.

According Stephenson et al. (2014), 59.4% of adolescents in Ghana and 50.2% in Uganda had received education. They contend that education plays a key role in influencing sex debut. This is because an educated adolescent is better informed about safe sexual practices.

This claim is corroborated by Bwalya(2018), who argues that adolescents with higher education (at least Senior High School education) has significant influence on adolescents' utilization of SRH. A significant number of adolescents have quite appreciable knowledge about SRH(Oluyemi & Yinusa, 2015).

The school health programme is an important source of education for adolescents. It is expected that education will influence the knowledge of adolescents.

However this earlier research by Bwalya, has been disputed by another study by (Kyilleh, Tabong, & Konlaan, 2018), that adolescents in school and out of school had little or no understanding of SRH and the services available. According to the authors, the educational status of adolescents has no impact on their knowledge about SRH issues. It also revealed that due to the negative attitudes of some health workers, most adolescents found it difficult to approach them for information about their SRH. The danger of this is that, information that may be available to the adolescent may be "half-baked" because it may not come from well-informed sources therefore will not be fit for purpose.

Bwalya (2018) also indicates that knowledge in SRH is necessary but not sufficient to determine utilization of services. This according to the author, explains the high level of unplanned pregnancies among adolescents.

2.4.2 Media, Internet and societal beliefs

The level of exposure of adolescents to the media, both print and electronic also influence their knowledge level. This is confirmed by (Helamo, Kusheta, Bancha, Habtu, & Yohannes, 2017) , in a study in Ethiopia in which 70.9% of adolescents indicated that they

were influenced by the media to utilize SRH services. There are a lot of programmes on radio and television that promotes adolescents' reproductive health issues.

In the 1990s in Ghana, there was a popular TV series called "*THINGS WE DO FOR LOVE"*, which was focused on adolescent SRH issues. It was first running on Ghana Television before shifting TV3 Network also in Ghana. In 2013, a new series emerged called *YOLO*, which has been running on TV3 (a local television station in Ghana) and on YouTube. It is currently in its fifth season. These two programme have in each episode, tried to address SRH issues like healthy and responsible sexual life, contraception and family planning, abortion care, abstinence for those not ready for a committed relationship and condom use to prevent STIs among those who are sexually active.

The internet and social media like Facebook , Twitter, Instagram, WeChat, Viber , Telegram, Whatsapp and Snapchat has become major source of information sharing and interaction (Michael, 2017) . They have also played complimentary roles in contributing to the knowledge among adolescents about SRH. Of course, published educational materials by NGOs, Ghana Health Service, the Ministry of Health and World Health Organization are still part of sources of information for adolescents. However, these have not translated into change in attitudes among adolescents about their sexuality.

A recent study revealed that most adolescents have heard about fertile period in a woman's menstrual cycle and some of the contraception methods (Bankole & Malarcher, 2019a). The authors further indicated that in-depth knowledge about how to prevent pregnancy is still very low. This can be one of the reasons for the prevalence of unplanned pregnancies among adolescents.

Most adolescents have much knowledge about HIV but have little or no knowledge about other sexually transmitted infections (Kemigisha et al., 2018) .This partly explains why most adolescents are wary of HIV but appear to be less cautious about other potential threats to their sexual and reproductive health.

According to a study in Malaysia, girls had better knowledge about SRH than boys. Knowledge among older adolescents is better compared to younger ones (Ibrahim, Campus, Kerian, Manan, & Ishak, 2014). This can be because of sexual maturity and the desire to be adventurous thereby motivating the older adolescents to explore more information about sexual activity than the younger ones.

2.4.3 Rural-urban dichotomy

Studies have shown that urban adolescents are more exposed to a lot of information that makes them much knowledgeable than their rural counterpart (Muhwezi et al., 2015). In this era of explosion of knowledge via the internet and social media some rural areas are deprived of internet connectivity. This hampers the ability of rural-dwellers to have access SRH information on the internet.

The researchers revealed further that most adolescents in rural areas are more likely to be sexually active and get pregnant younger, attempt unsafe abortion than their counterparts in the urban areas who might have much knowledge about SRH services and where to access them. There are software applications that provide information on reproductive health. An example is the YMK app developed by the Ghana Health Service. Rural adolescents are deprived of internet connectivity, would be unable to benefit from this.

Religious and cultural barriers affect the motivation of adolescents to seek knowledge about SRH. Almost all religions teach about abstinence among unmarried young people without making them understand the changes that take place in their growing bodies and how to respond to them. Culturally sex is a taboo subject that is not discussed openly, and this affects the knowledge of adolescents who reside where this is prevalent (Bwalya, 2018).

2.5 Utilization of SRH

One of the causes of mortality among adolescent girls is unsafe abortion. A key driver of unsafe abortion is the stigma attached to sex and pregnancy by unmarried young people. According to Bankole & Malarcher (2019), due to stigma adolescent sex usually happens in secret, and are unplanned thereby leaving them vulnerable and unprotected. The authors noted that inability or failure to meet the SRH needs of adolescents results in high level of unplanned pregnancies which leads to unsafe abortion and STIs. These have long term consequences.

The pressure from family, partner and the wider society is what drives adolescents to use unsafe means to terminate pregnancies. Families who want to protect their prestige tend to put pressure on girls to terminate the pregnancy in order not to bring shame to the family. Another key driver of unsafe abortion is the inability to afford services from health facilities where there are trained personnel. Indeed, some health doctors deliberately charge the adolescents higher prices as a way of deterring them. Lack of knowledge about the availability of abortion services and the presence of restrictive laws act as a major barrier to access to safe abortion services (Okonta, 2019).

A study in Kenya revealed that 73% of sexually active adolescents aged 15-19 were not using any contraception method which made them exposed to the risk of unplanned pregnancies (Ochako et al., 2015). This same study also discovered that unplanned pregnancy was a leading cause of abortion among adolescents.

According to a study that examined the availability and usage of SRH services among adolescents aged 12-22 years in Nigeria , it was found that the majority of the SRH services were available and geographically accessible, but very few were financially accessible to adolescents . The authors however noted that services were not specifically for the adolescents and therefore, might hinder their access as well as utilization.
In another study in Nepal among Higher Secondaary School students , distance and sexual activity were the key determinants of utilization (Bam et al., 2015).

In a study in 2016, in the Ejisu-Juaben Municipality in the Ashanti Region of Ghana, identified three key issues namely information needs , sources of information and barriers to information seeking (Owusu-Addo, Owusu-Addo, & Morhe, 2016). Among these three, the most important one was barriers to information seeking. The study discovered that societal attitudes towards adolescents getting pregnant made them felt shy to attend the antenatal clinics (Owusu-Addo et al., 2016). Even when they attended clinics, they were not able to ask questions because they had been mixed up with grown up pregnant women. This made them uncomfortable in seeking the needed information. Stigma associated with adolescents' utilization of SRH coupled with the negative attitudes of health workers also constituted a significant barrier for adolescent access to SRH services.

This finding is supported by other studies which identified the feeling of embarrassment and shyness due to societal norms, as a barrier to utilization (Addo, 2015; Bankole, Biddlecom, Guiella, Singh, & Zulu, 2019). They further stated confidentiality and respect from healthcare professionals as factors that influenced utilization of SRH by adolescents.

Findings from a qualitative study by Maya et al.,(2016) which looked at the adolescents response to unintended pregnancy in Ghana , involving 92 adolescent girls in a focused group, identified societal attitudes as the main source of stress for these adolescents. This manifested in the way parents react to the news of pregnancy involving their adolescent girl. The poor attitude of health workers contributed to the stress level of the adolescent, to the extent that some insulted them. They are even maltreated during delivery. These issues contributed significantly to poor utilization of SRH services by adolescents. This is supported by Addo, (2015), who identified poor attitudes of healthcare professionals as one of the barrier preventing utilization of SRH services.

Religious beliefs have also negatively impacted the utilization of ASRH services as adolescents who attempt to access the services are “spoilt” children. In a study in Northern Nigeria (a predominantly Muslim area), schools in Yobe state disallowed questions on sexual activities (Adeokun et al, 2019). The perception is that once an adolescent attempt to visit the health facilities for information of SRH it is presumed that he or she wants to engage in premarital sex which the society frowned upon. According to the authors this can explain why some students in Bauchi state in Northern Nigeria did not answer questions about their sexual activities. In another study in Zambia it was discovered that religious groups like Catholics did not encourage utilization of SRH services. The authors noted that Catholics felt that SRH services among unmarried adolescents encouraged premarital sex.

In another study in Sawua in the Ashanti region of the Republic of Ghana , it was revealed that *religious doctrines frowned on contraception and abortion hence they were not concerned about using the reproductive health services* (Addo, 2015).

In Africa cultural beliefs and practices also influence adolescents' utilization of SRH services. In most African societies issues of sexuality are still considered a taboo and can never be discussed openly between adolescents and parents(Bwalya, 2018). Adolescents are therefore unlikely to seek guidance on sexuality from parents.

According to Bam et al.(2015), even though some respondents perceived the need for SRH, a lower number actually utilizes the services. The authors noted that adolescents preferred integration of ASRH services with other health services for adolescents than stand-alone facilities which is likely to raise eyebrows. This minimizes stigma and builds their confidence thereby influencing their utilization.

In another study, it was found that adolescents living with HIV felt uncomfortable accessing ART services because of the long queues at the facilities and the stigma attached to HIV and sexual activities among adolescents (Mburu et al., 2013).

2.6 Summary

The review covered literature from research relating to adolescent sexual and reproductive health services. The literature reviewed was predominantly from Africa. The results from the review were mixed. It has also unearthed a gap in knowledge about adolescent sexual and reproductive health services in Ghana. The present study therefore examines the

utilization of reproductive health services among adolescents aged 15-19 years in Ghana using the Ghana Maternal Health Surveys, 2007 and 2017.

CHAPTER THREE

METHODS

3.1 Introduction

The study used data from the 2007 and 2017 Ghana Maternal Health Surveys which were nationally representative surveys implemented by the Ghana Statistical Service (GSS). A summary of the study design is provided below. A complete description of the study design is available from the 2007 and 2017 Maternal Survey reports.

3.2 Survey design

The Ghana Maternal Health Survey (GMHS) is a household-based survey, which utilizes a two-stage sample design. In the 2007 Maternal Health Survey, the first stage involved the selection of samples from a master sampling frame constructed from Enumeration Areas (EAs) from the Ghana Population and Housing Census 2000. The 2017 Maternal Health Survey sampling frame was also based on the Enumeration Areas of 2010 Ghana Population and Housing Census. The second stage involved the systematic sampling of the households listed from each cluster to ensure adequate numbers of completed individual interviews obtained.

The Survey collected data through a questionnaire-based interview based on the DHS programme model. The DHS core questionnaire is continuously updated as new information is obtained from new surveys. The questionnaire as such is subject to modification to suit various settings, situations and requirements. Three questionnaires were utilized for the GMHS; the household; Women's and Verbal Autopsy Questionnaires. All women aged 15-49 years were eligible to be interviewed from each household selected. For purpose of this study, the focus will be on knowledge about abortion and contraception and, abortion and

contraceptive use among adolescents aged 15-19years of age. Responses from the women's questionnaire were used.

3.2.1 Women's Questionnaire

The women's questionnaire is designed to collect information on the five years preceding the survey. Respondents were asked questions on the following topics:

1) Background characteristics
2) Pregnancy history: number, outcome (live birth, stillbirth, miscarriage, abortion), and timing of all pregnancies
3) Family planning: knowledge of contraception, current use and current source of contraception
4) Pregnancy and postnatal care for most recent live birth or stillbirth: antenatal, delivery, and postnatal care; complications experienced, and treatment sought during any of these stages
5) Abortion: method used, complications experienced, and care sought for abortion; knowledge of abortion
6) Miscarriage: perceived cause, complications experienced, and care sought for miscarriage
7) Marriage and sexual activity: marital status, age at first marriage, number of unions, and age at first sexual intercourse.
8) Adult and maternal mortality
9) Health care access, insurance and disability.

3.2.2 Population

The population for this study was adolescents aged fifteen to nineteen years.

3.2.3 Sampling description and data extraction

For purposes of this study, analysis was limited to female adolescents aged 15-19 years. All individuals who were within the 15-19 years age bracket with the variables of interest were included in the study. The Ghana Maternal Health Survey data for 2007 had 10,370 respondents aged 15-49 years while that of 2017 had 25, 062 respondents. Based on the variables of interest, 2056 and 4909 respondents were extracted from the data set.

3.3 Variables

The variables used in the study were categorized into dependent and independent variables. The dependent variable was utilization of SRH services. Utilization of SRH was defined as the use of family planning services and abortion services. Independent variables were age, residence, region, religion and knowledge level, education, highest education level, age at first sex, sexual activity and ever given birth.

3.3.1 Dependent variables

Utilization means the usage of SRH services such as, family planning methods and abortion services.

Utilization of family planning was measured on the dichotomous response (yes or no) to the question ; "*Are you currently using any method ?",.* ' Yes' and 'No' were scored '1' and '0' respectively.

Family planning methods were classified as modern and traditional, and recoded. Modern methods included pills, injectables, implants, male condom, female condom, intrauterine device (IUD) and emergency contraception. Traditional methods included withdrawal method, rhythm method and abstinence.

Utilization of abortion services was measured by a respondent indicating whether they used safe or unsafe facility to the question "*what was the last step to end pregnancy* and was recoded as facility type**.** Based on the criteria set by the Ghana Comprehensive Abortion Care Services Protocol (2012), all hospitals, clinics, health centers both public and private were classified as safe while private pharmacy, chemical and drug stores, and respondents' home were classified as unsafe facility.

Provider of last step to end pregnancy was recoded as provider type. Providers like doctors, midwives and nurses classified as trained and all others like community health workers, pharmacists, chemical sellers, traditional practitioner, relative and friend were classified as untrained providers. These classifications were all based on the Ghana Comprehensive Abortion Care Standards and Protocols; which defines *unsafe abortion as a procedure performed either by persons lacking the necessary skills or in an environment lacking the minimum standards or both* (Ghana Health Service, 2012) .

3.3.2 Independent variables

Age in the study refers to young people from fifteen years to nineteen years.

Sex refers to the female gender

Education describes the highest level of formal education of the respondent. It was measured by the following: No education, basic education (schooling up to Junior High School) and higher education being senior high school and above.

Residence describes where the respondent lives whether rural or urban.

Region of residence refers to the ten regions in Ghana prior to their reorganization into sixteen (16).

Knowledge was measured by the knowledge about family planning and abortion .

- Family Planning-Measured knowledge about source of family planning methods and
- Abortion-Measured knowledge about abortion, where to get it and the legal status of abortion

3.4 Data Analysis

Stata 15 version was used for the statistical analysis. The study used data from the 2007 and 2017 Ghana Maternal Health Survey (GMHS).

3.4.1 Descriptive statistics

This was used to describe the characteristics of study variables. This was presented in frequency tables using percentages.

3.4.2 Inferential statistics

Bivariate analysis: The Pearson's chi-squared test was used to assess the relationship between the independent categorical variables and the dependent categorical variable, utilization of SRH.

Multivariate analysis: Logistic regression was fitted to examine the determinants of SRH utilization. Odds ratio and their 95% confidence intervals were used to assess the strength of association. A p-value of 0.05 was used to determine statistical significance.

3.5 Ethical Clearance

Permission to use the Maternal Health Survey data was obtained from the DHS programme, after a letter specifying the study objectives and topic was sent to them. The data set was kept confidentially by ensuring no one had access to it.

CHAPTER FOUR

RESULTS

This chapter presents the study results. It is organized into the following sections:

4.1 Background characteristics

4.2 Knowledge of Adolescents on SRH

4.3 Utilization of SRH by adolescents

4.4 Factors influencing utilization of SRH

4.1 Background characteristics of respondents

The background characteristics of the respondents are captured in Table 4.1. The study involved 2056 and 4909 adolescents aged 15 to 19 years, whose data was extracted from the survey dataset. The mean age of the respondents for both 2007 and 2017 was 16.8 years ±1.4.

The respondents were made up of 47.9% of rural dwellers and 52.1% of urban dwellers in 2007. On regional distributions Ashanti region had the highest proportion of respondents (17.6%) and Upper West region had the lowest proportion of respondents (3.5%). In 2017, there were 54.1% of respondents from rural area and 45.9 % from urban areas. The regional distribution also showed that Northern region had the highest proportion of respondents (16.6%) with Central region having the lowest number of respondents of 5.9%.

In terms of education, 90.0% of the respondents were in-school adolescents in 2007, with about three-quarters (75.7%) being in basic school (Primary or Junior High) and 14.3% either being senior High School or Tertiary leavers and the remaining 10.0% not having formal education. In 2017, out-of-school respondents declined to 5.5%, whilst 72.6 were in

either Primary or Junior High School and respondents who were either in Senior High School or tertiary increased to 21.7%.

The background characteristics are summarized in Table 4.1

Table 4. 1: Background characteristics of adolescents

Variables	**2007**	**2017**
Age	Frequency (%)	Frequency (%)
15	539(26.2)	1219(24.8)
16	404(19.7)	936(19.1)
17	370(18.0)	1047(21.3)
18	411(20.0)	961(19.6)
19	332(16.2)	746(15.2)
Total	2052(100)	4909(100)
Education		
No Education	206(10.0)	271(5.5)
Primary/JHS	1556(75.7)	3,565(72.6)
SHS and Tertiary	294(14.3)	1073(21.7)
Residence		
Rural	984(47.9)	2658(54.1)
Urban	1072(52.1)	2251(45.9)
Region		
Western	183(8.9)	463(9.5)
Central	193(9.4)	291(5.9)
Greater Accra	330(16.1)	408(8.3)
Volta	182(8.9)	289(5.9)
Eastern	335(16.3)	423(8.6)
Ashanti	361(17.6)	609(12.4)
Brong Ahafo	174(8.5)	481(9.8)
Northern	128(6.2)	817(16.6)
Upper East	99(4.8)	560(11.4)
Upper West	71(3.5)	568(11.6)
Religion		
Catholic	349(17.0)	679(13.8)
Protestant	33(1.6)	31(0.6)
Methodist	199(9.7)	221(4.5)
Presbyterian	186(9.0)	222(4.5)
	581(28.3)	1859(37.9)
Pentecostal/Charismatic		
Other Christian	318(15.4)	598(12.2)
Moslem	308(15)	1165(23.7)
Traditional	27(1.3)	77(1.6)
No religion	55(2.7)	57(1.2)
Total	2056	4909

4.1.2 Sexual activity and reproductive background

This is to determine the knowledge level of respondents about SRH and it covers family planning and abortion.

Table 4.2 presents a description of the sexual activity and reproductive background of respondents. Among the respondents in 2007, 802 representing (39.0 %) had ever had sex. The distribution of those who experienced sex debut by age, indicated that respondents aged thirteen years and below were (9.6%), others were aged fourteen years (12.0%), fifteen years (24.7 %), sixteen years (21.4%), seventeen years (17.7%), eighteen years (9.2%) and nineteen years (5.4%).

In 2017, respondents who had first sex experience at thirteen years and below were (10.4 %), others were aged fourteen years (12.5%), fifteen years (26.0%), sixteen years (23.4 %), seventeen years, (18.4%), eighteen years (8.2%) and nineteen years (1.2%). Among those who have ever had sex in 2007, 30.8% have ever given birth whilst in 2017 28.3% have ever given birth.

Table 4. 2: Sexual activity and reproduction background

Variable	2007	2017
Ever had sex	Frequency (%)	Frequency (%)
Yes	802(39.0)	1863(38.0)
No	1254(61.0)	3046(62.0)
Total	2056	4909
Age at first sex		
13 and below	77(9.6)	193(10.4)
14	96(12.0)	232(12.5)
15	198(24.7)	484(26.0)
16	172(21.4)	436(23.4)
17	142(17.7)	342(18.4)
18	74(9.2)	153(8.2)
19	43(5.4)	23(1.2)
Total	802	1863
Ever given birth		
Yes	247(30.8)	527(28.3)
No	555(69.2)	1336(71.7)
Total	802	1863

4.2 Adolescents' knowledge about sexual and reproductive health

This is to determine the knowledge level of respondents about SRH and it covers family planning and abortion. Knowledge about SRH is presented in Table 4.2 On family planning methods, 44.7% of adolescents interviewed had heard about it in 2007 compared to 59.6% in 2017. Among respondents in 2007 , 46.3 % indicated that they knew about the sources of family planning while 60.1% knew about it in 2017. On the other hand, nine in ten adolescents (89.2 % in 2007) and (90.4% in 2017) reported that they have heard about abortion.

With regards to where to get abortion services about one-third (33.3%) of adolescents responded in the affirmative in 2007 but the proportion of adolescents who reported they knew where to obtain abortion service increased to 53.8% in 2017. On the legal status about abortion only 3.6% in 2007 knew about it while 10.8% indicated in 2017 that they knew that abortion was legal in Ghana (Table 4.2)

Table 4. 3: Percentage of adolescents who demonstrated knowledge about SRH

Variable	2007	2017
	Frequency(%)	Frequency(%)
Heard of Family Planning method		
Yes	919(44.7)	2,929(59.7)
No	1,137(55.3)	1,980(40.3)
Total	2056	4909
Know source of family planning		
Yes	844(46.3)	2765(60.1)
No	978(53.6)	1,839(39.9)
Total	1822	4604
Ever heard of abortion		
Yes	1,780(89.2)	4,320(90.4)
No	216(10.8)	458(9.6)
Total	1996	4778
Knows where to get abortion		
Yes	592(33.4)	2,325(53.8)
No	1,183(66.6)	1,995(46.2)
Total	1775	4320
Abortion legal in Ghana		
Yes	166(3.6)	480(10.8)
No	1,519(82.7)	3,971(89.2)
Total	1685	4451

4.3 Utilization of sexual and reproductive health services by adolescents.

In 2007 the proportion of adolescents who were using a family planning method was 28.3% and declined to 22.5% in 2017.

On utilization of abortion services, 43.1% had their pregnancies terminated by a trained provider in 2007 whilst 2017 recorded 35.2%. In 2007, 43.1% of adolescents had their pregnancies terminated in safe facilities compared to 32.8% in 2017 (Table 4.4).

Table 4. 4: Utilization of SRH by adolescents

Variable	2007 Frequency (%)	2017 Frequency (%)
Currently using any method		
Yes	227(28.3)	419(22.5)
No	575(71.7)	1444(77.5)
Total	802(100)	1863(100)
Current family planning method		
Modern Method	102(44.9)	301(71.8)
Traditional method	125(55.1)	118(28.2)
Total	227(100)	419(100)
Abortion		
Provider type for last step to end pregnancy		
Trained provider	25(43.1)	44(35.2)
Untrained provider	33(56.9)	81(64.8)
Total	58	125
Facility type for last step to end pregnancy		
Safe facility	25(43.1)	41(32.8)
Unsafe facility	33(56.9)	84(67.2)
Total	58	125

4.4 Relationship between family planning and background characteristics

In order to determine the relationship between the independent variables and the outcome, a bivariate analysis was undertaken using chi-squared test. In 2007, the variables *ever given birth, ever had sex, age at first intercourse* showed significant relationship with utilization. However, in 2017 study, the variables *age, highest educational level, residence, regional distribution, ever had sex, age at first sex* showed significant relationship with utilization (Tables 4.5 &4.6).

On knowledge the study found *knowledge of the source of family planning, heard about abortion, knows where to get abortion and is abortion legal in Ghana to* have significant relationship with utilization in 2017 however none of the variables describing knowledge was found to have significant relationship with utilization 2007 (Table 4.7).

Table 4. 5: Background characteristics and its relationship with utilization of family planning methods by adolescents

Variables	Utilization of family planning method					
	2007			2017		
Age	**Yes**	**No**	**Chi square test value(P-value)**	**Yes**	**No**	**Chi square test value(P-value)**
15	1(100)	0(0.0)	4.456(0.348)	19(1.57)	1,190(98.4)	242.180(0.0001)
16	1(16.7)	5(83.3)		35(3.8)	887(96.2)	
17	3(27.3)	8(72.7)		101(10.0)	913(90.0)	
18	4(16.7)	2.(83.3)		125(13.9)	777(86.1)	
19	3(18.8)	13(81.3)		139(19.7)	566(80.3)	
Ever attended school						
Yes	215(53.5)	187(46.5)	0.284(0.594)	399(8.8)		0.0534(0.817)
No	12(48.0)	13(52.0)				
Highest educational level						
Primary	45(50.6)	44(49.4)	2.318(0.509)	59(6.5)		18.643(0.0001)
Middle/JHS	109(46.6)	125(53.4)		270(7.8)		
SHS and Tertiary	33(41.8)	46(58.2)		129(12.3)		
Residence						
Rural	114(50.7)		1.189(0.276)	245(9.6)	2302(90.4)	4.389(0.036)
Urban	113(56.0)			174(7.9)	2031(92.1)	
Region						
Western	37(58.7)		14.582(0.068)	43(9.6)	405(90.4)	49.867(0.0001)
Central	12(36.4)			16(5.7)	265(94.3)	
Greater Accra	29(50.0)			24(5.9)	380(94.1)	
Volta	10(33.3)			40(14.3)	239(85.7)	
Eastern	56(55.5)			32(7.8)	381(92.2)	
Ashanti	47(55.5)			79(13.3)	516(86.7)	
Brong Ahafo	24(60.0)			56(12.0)	409(88.0)	
Northern	11(73.3)			61(7.8)	721(92.2)	
Upper East	1(25)			31(5.8)	503(94.2)	
Upper West	0(00)			37(6.7)	514(93.3)	
Religion						
Catholic	37(50.0)		9.535(0.299)	47(7.1)	612(92.9)	11.652(0.167)
	2(66.7)			3(10.3)	26(89.7)	
Protestant/Anglican						
Methodist	32(60.0)			19(8.9)	194(91.1)	
Presbyterian	23(57.5)			20(9.2)	198(90.8)	
	74(55.2)			176(9.8)	1626(90.2)	
Pentecostal/Charismatic						
Other Christian	28(39.4)			53(9.2)	521(90.8)	
Islam	24(63.2)			84(7.4)	1046(92.6)	
Traditional	2(45.5)			8(11.1)	64(88.9)	
No religion	5(45.5)			9(16.4)	46(83.6)	

Table 4. 6: Sexual activity and reproduction background of adolescents influencing utilization of SRH

Variable	Utilization of family planning method					
	2007			2017		
	Yes	No	Chi square test (P-value)	Yes	No	Chi square test (P-value)
Ever had sex						
Yes	196(50.4)	193(49.6)	13.528(0.0001)	409(24.0)	1,297(76.0)	760.492(0.0001)
No	31(81.6)	7(18.4)		10(0.3)	3036(99.7)	
Age at first intercourse						
13 and below	15(46.9)	17(53.1)	18.046(0.012)	49(27.4)	130(72.6)	767.604(0.0000)
14	23(52.3)	21(47.7)		45(20.8)	171(79.2)	
15	33(40.7)	48(59.3)		106(23.8)	339(76.2)	
16	48(53.3)	42(46.7)		95(24.0)	301(76.0)	
17	42(55.3)	34(44.7)		75(24.3)	234(75.7)	
18	24(52.2)	22(47.8)		32(23.0)	107(77.0)	
19	11(55.0)	9(45.0)		7(31.8)	15(68.2)	
Ever given birth						
Yes	41(32.5)	85(67.5)	30.527(0.0001)	130(25.6)	377(74.4)	199.8(0.0001)
No	186(61.8)	115(38.2)		289(6.8)	3956(93.2)	

Table 4. 7: Knowledge of adolescents about SRH and its influence on utilization

Variable	Utilization of family planning method					
	2007			2017		
	Yes	No	Chi square test(P-Value)	Yes	No	Chi square test value(P-value)
Heard of Family Planning method						
Yes	150(54.4)		2.558(0.278)	304(10.76)	2,521(89.2)	32.736(0.0000)
Know source of planning						
Yes				103(3.9)	2541(96.1)	46.328(0.0001)
No				11.(0.6)	1792(99.4)	
Ever heard of abortion						
Yes	193(52.6		2.277(0.320)	351(8.4)	3835(91.6)	17.860(0.0001)
No				12(2.7)	431(97.3)	
Knows where to get abortion						
Yes	90(51.4)		2.277(0.320)	244(10.9)	1997(89.1)	39.908(0.0001)
No				104(5.6)	1751(94.4)	
Abortion legal in Ghana						
Yes	14(66.7)	2.328(0.312)		54(11.5)	417(88.5)	6.228(0.044)
No				319((9.6)	3022(90.5)	

4.5 Independent variables and their relationship with abortion utilization

Abortion is defined by the facility type that the respondent had her pregnancy terminated. The bivariate analysis did not show significant relationship between the independent variables and the abortion utilization in the 2007 study (Table 4.8).

Knowledge about source of family planning, heard of abortion, knows where to get abortion: all did not have significant relationship with utilization. However knowledge about the legal status of abortion in Ghana was significantly related to utilization of abortion services in 2017(Table 4.9).

Table 4. 8: Factors Influencing utilization of abortion by adolescents

Variables	Facility type for last action					
	2007			2017		
Age	**Safe**	**Unsafe**	**Chi square test(P-value)**	**Safe**	**Unsafe**	**Chi square test(P-value)**
15	1(100.0)	0(0.0)	4.456(0.348)	1(20.0)	4(80.0)	2.196(0.700)
16	1(16.7)	5(83.3)		4(26.7)	11(70.3)	
17	3(27.3)	8(72.7)		8(29.6)	19(70.4)	
18	4(16.7)	20(53.3)		14(31.1)	31(68.9)	
19	3(18.8)	13(81.3)		14(42.4)	19(57.6)	
Ever attended school						
Yes	11(20.8)	42(79.3)	0.002(0.968)	40(34.2)	77(65.8)	1.598(0.206)
No	4(80.0)	1(20.0)		1(12.5)	7(87.5)	
Educational level						
Primary	5(31.3)	11(68.8)	2.252(0.324)	10(34.5)	19(65.5)	0.008(0.996)
Middle/JHS	6(18.2)	27(81.8)		22(33.9)	43(66.2)	
SHS and Tertiary	0(0.0)	4(100.0)		8(34.8)	15(65.2)	
Residence						
Rural	7(25.9)	20(74.1)	0.844(0.358)	20(35.7)	36(64.3)	0.3909(0.532)
Urban	5(16.1)	26(83.9)		21(30.4)	48(69.6)	
Region						
Western	2(33.3)	4(66.7)	10.364(0.066)	8(42.1)	11(57.9)	8.736(0.462)
Central	3(75.0)	1(25.0)		1(14.3)	6(85.7)	
Greater Accra	1(16.7)	5(83.3)		5(55.6)	4(44.4)	
Volta	*	*		1(16.7)	5(83.3)	
Eastern	3(20.0)	12(80.0)		3(42.9)	4(57.1)	
Ashanti	3(16.7)	15(83.3)		5(23.8)	16(76.2)	
Brong Ahafo	0(0.00)	9(100.0)		7(29.2)	17(70.8)	
Northern	*	*		7(46.7)	8(53.3)	
Upper East	*	*		2(40.0)	3(60.0)	
Upper West	*	*		2(16.7)	10(83.3)	
Religion						
Catholic	1(20.0)	4(80.0)	12.542(0.084)	7(50.0)	7(50.0)	11.652(0.167)
Anglican	0(0.00)	1(100.0)		0(0.0)	1(100.0)	
Methodist	0(0.00)	9(100.0)		1(12.5)	7(87.5)	
Presbyterian	1(12.5)	7(87.5)		1(20)	4(80.0)	
Pentecostal /Charismatic	5(26.3)	14(73.7)		18(30.5)	41(69.5)	
Other Christians	3(30.0)	7(70.0)		5(31.3)	11(68.7)	
Islam	0(0.0)	4(100.0)		9(50)	9(50)	
Traditional	2(100)	0(0.0)		0(0.0)	2(100)	
No religion	*			0(0.0)	2(100)	
Ever given birth						
Yes	4(26.7)	11(73.)	2.229(0.135)	10(33.3%)	20(66.7)	0.943
No	21(48.8)	22(51.2)		31(32.6)	64(67.4)	

Table 4. 9: Knowledge of respondents about SRH and influence on utilization

Variable	Utilization of SRH (Facility type for last action)					
	2007			2017		
	Yes	No	Chi square test value(P-Value)	Yes	No	Chi square test value(P-value)
Heard of Family Planning method						
Yes	150(54.4)	2.558(0.278)		32(32.7)	66(67.4)	0.0044(0.947)
Know source of family planning				9(33.3)	18(66.7)	
Yes				22(35.5)	40(64.5)	0.3705(0.543)
No				5(27.8)	13(72.2)	
Ever heard of abortion						
Yes	193(52.6	2.277(0.320)		22(35.5%)	40(64.5%)	0.3705(0.543)
No				5(27.8)	13(72.2)	
Knows where to get abortion						
Yes	90(51.4)	2.277(0.320)				
No						
Abortion legal in Ghana						
Yes		2.328(0.312)	7(53.9)	6(46.2)	417(88.5)	6.228(0.044)
No			34(30.8)	78(69.2)	3022(90.5)	

4.6 Association between independent variables and contraception utilization.

In order to determine the association between the independent variables and utilization, logistic regression was undertaken. Respondents in 2007 who has ever given birth have 3.4 odds of utilizing family planning (Table 4.10). Respondents who have ever had sex are 77% less likely to use family planning. Age at first sex was 7% less likely to influence family planning utilization (Table 4.10).

Among the 2017 study participants, age had 1.8 odds of utilization of family planning. Those who have ever given birth are 79% less likely to use family planning. Those who have ever had sex have 95.7odds of utilizing family planning. Respondents with higher education have 1.4 odds of utilizing family planning. Age at first sex has 1.26 odds of utilizing family planning (Table 4.10).

Regarding knowledge, respondents who knew about the source of family planning were 84.9% less likely to use family planning (Table 4.11). Respondents who had heard about abortion 69.6% less likely to use any family planning method. And also adolescents who

knew whether abortion was legal in Ghana or not are 93.3% likely to use a family planning method (Table 4.12).

When all the variables were adjusted, it showed that respondents who knew source of family planning were 79.4% less likely to use family planning method (CI-0.099,0.426).

Table 4. 10: Association between independent variables and utilization of SRH (Currently using contraception)

Characteristics	2007		2017	
	COR (95% CI)	P-value	COR (95%CI)	P-value
Age	**	**	1.84(1.694,1.998)	0.0001
Region	**	**	**	**
Ever attended school	0.8(0.358,1.802)	0.595		
Ever given birth	3.4(2.161,5.203)	0.0001	0.21(0.168,0.267)	0.0001
Ever had sex	0.23(0.099,0.533)	0.0001	95.7(50.954,179.882)	0.0001
Age at first intercourse	0.93(0.891,0.975)	0.003	1.28(1.242,1.311)	0.0000
Highest educational level	**	**	1.43(1.224,1.679)	0.0001

*COR-Crude odds ratio

*CI-Confidence interval

** -Not significant after logistic regression

When all the variables were adjusted in the model, the 2007 study had age at first sexual intercourse [AOR-0.94,CI-(0.896,0.993)p-value -0.0000] , ever given birth[AOR-2.95, CI-(1.881,4.623),p-value-001] and ever had sex [AOR-0.32, CI-(0.135,0.765),p-value-0.0001] being significantly associated with utilization of family planning.

In the 2017 study , age [AOR-1.2, CI-(1.085,1.330), p-value-0.0001], [AOR-.67, CI-(0.507,0.882),p-value-0.004], ever had sex AOR-68.62, CI-(36.104,130.404),p-value-

0.0001, age at first sexual intercourse [AOR-1.26, CI-(1.220,1.293), p-value- 0.0000. These are presented in table 5.1 below.

On knowledge,

Table 4. 11: Association between background characteristics and sexual activity, and utilization of family planning method

Characteristics	2007		2017	
	AOR(95%CI)	P-value	AOR(95%CI)	P-value
Age	**	**	1.20(1.085,1.330)	(0.0001)
Region	**	**		
Ever attended school				
Ever given birth	2.949(1.881,4.623)	0.0001	0.67(0.507,0.882)	0.004
Ever had sex	0.32(0.135,0.765)	0.001	68.62(36.104,130.404)	0.0001
Age at first sex	0.94(0.896,0.993)	0.0000	1.26(1.220,1.293)	0.0000
Highest educational level	*	*	1.45(1.185,1.775)	(0.0001)

*AOR-Adjusted odds ratio

*CI-Confidence interval

** Not significant after logistic regression

Table 4. 12: Association between knowledge and utilization of family planning

Variable	2007		2017	
	COR(95% CI)	P-value	COR (95% CI)	P-value
Heard of FP method	**	**		
Know source of FP	**	**	0.151(0.081, 0.283)	0.0001
Ever heard of abortion		**	0.304(0.170, 0.545)	0.0001
Knows where to get abortion		**		
Abortion legal in Ghana		**	0.933(0.880, 0.990)	0.023

*COR-Crude odds ratio

*CI-Confidence interval

CHAPTER FIVE

DISCUSSION

5.0 Introduction

This study examined utilization of sexual and reproductive health services among adolescents aged 15-19 years in Ghana using the 2007 and 2017 Ghana Maternal Health Surveys. This chapter presents a detailed discussion of the findings and their public health impact.

It is organized under four major sections as follows: knowledge of adolescents about sexual and reproductive health services, utilization of reproductive health and associated factors among adolescents, factors influencing utilization of SRH, strengths and limitations of the study.

5.1 Knowledge of adolescents about sexual and reproductive health services.

Knowledge about family planning services is important in helping the adolescent decide which methods to use in preventing unwanted pregnancies which usually results in unsafe abortion. The knowledge level of adolescents was assessed on different aspects of SRH; knowledge on family planning methods, knowledge about source of family planning methods, knowledge about abortion services, knowledge about where to get abortion and knowledge about the legal regime governing abortion services.

In 2007, knowledge of adolescents about family planning services was low (44.7%) however in 2017 it was moderately high (59.7%). The 2007 findings is contrary to a study by Bankole & Malarcher (2019) that revealed that most adolescents have heard about some family planning methods. However, the 2017 findings are consistent with the above study.

This low knowledge about SRH in 2007 could have been due to apathy on the part of adolescents towards SRH issues as a result of the stigma associated with it. There is also a misconception that family planning among adolescents promotes promiscuity hence the lack of interest shown by adolescents in seeking information about it (MacPhail et al., 2007).

These improvements in 2017 could also be due to technological advancements resulting in access to vast educational materials on the internet and social media. In Ghana a lot of the Non-Governmental organizations and Family Health Directorate of the Ghana Health Service have published several materials on Adolescent Reproductive Health which are available online.

The knowledge of respondents about where they can access family planning was also low (43.1%) in 2007 while in 2017 it increased to 60.1%. This could possibly be attributed to the role of the media in reproductive health information dissemination which has resulted in the increases recorded. This is consistent with a study in Ibadan , Nigeria by (Olumide & Ojengbede, 2016) which looked at the role of the media in reproductive health. It concluded that most adolescents got their information from media outlets.

Knowledge about abortion care helps individuals who have unplanned pregnancies to make the right decisions about accessing the services available and avoid unsafe abortion practices. In 2007, 89.7% of respondents have heard about abortion services. This increased marginally to 90.4% in 2017. This could probably be that interventions put in place to address safe abortion issues has been sustained over the ten-year period.

In 2007, 33.4% of respondents knew where to get abortion services, this increased to 53.8% in 2017. The disparity between the percentage of those who had heard and those who knows where to the get services could be attributed to the stigma attached to adolescent sexuality and other barriers. This agrees with a study in Ejisu in the Republic of Ghana that identified barriers to information seeking resulting from societal attitudes towards adolescent sexuality as the cause of low knowledge of SRH services among adolescents(Owusu-Addo et al., 2016). There is therefore no motivation for the adolescent to seek information on where they can get abortion services when the need arises.

Respondents who knew whether abortion is legal in Ghana were 3.6% in 2007 while in 2017 10.8 knew about the legal status of abortion in Ghana. This increase could be as a result of the increased education on abortion in Ghana by reproductive health groups.

5.2 Utilization of SRH services

Utilization of SRH in this study is assessed by the following; if the respondent is currently using any method, the current family planning method the respondent is using, provider of last action to end pregnancy and source of last action to end pregnancy.

According to the study, 28.3% in 2007 were using family planning methods at the time of the interview however in 2017 the proportion of respondents using family planning methods declined to 22.5%. This is corroborated by a study in which it was concluded that, societal attitudes is the reason most adolescents do not access contraception leading to increase in unplanned pregnancies, that sometimes result in unsafe abortions (Bankole & Malarcher, 2019a). Other studies that also support this findings , have identified the feeling of

embarrassment and shyness due to societal norms, as a barrier to utilization (Addo, 2015; Bankole et al., 2019).

On current family planning methods being used by the respondents, 44.9% used modern methods of family planning, which increased to 71.8% in 2017. Considering the fact that overall family planning usage has reduced over the ten-year period, what then might have accounted for the increase in the utilization of modern method? A study in Accra, Ghana showed that, condom is the most common method used among adolescents(Kareem & Samba, 2017). According to this study, condoms are cheaper and easily accessible at pharmacies and chemical shops unlike other methods that require a visitation to health facilities. This could possibly be one of the reasons why the utilization of family planning between 2007 and 2017 had reduced yet utilization of modern methods of family planning had increased.

Regarding abortion, 43.1% of respondents in 2007 had their pregnancies terminated in safe facilities yet in 2017 it reduced to 32.8%.

In relation to services provided, 43.1% of respondents received services from a trained professional in 2007 while in 2017, 35.2% received care from a trained professional.

Despite the increased awareness creation campaigns on safe abortion, the data above shows increase in unsafe abortion. This could be due to the inability of adolescents to afford the cost of services. This is consistent with a study in Nigeria that identified cost as one of the barriers preventing adolescents from accessing services (Odo et al., 2018). Therefore, pregnant adolescents resorted to unsafe means to terminate pregnancies.

The second reason could be poor attitude of health care professionals. According to (Addo, 2015; Maya et al., 2016), poor health care provider attitude has been one of the reasons behind the low patronage of SRH services by adolescents.

The third reason why adolescents use unsafe means to terminate pregnancies could be stigma attached to adolescent reproductive health issues.

One of the ways of improving utilization of SRH is the integration of services. According to adolescents, they feel uncomfortable accessing services of the various components of SRH services in the facility but preferred a "one stop shop" for the services (Bankole et al., 2019; Mburu et al., 2013). This means that they will not like to spend time asking around for the various services considering the stigma they have to contend with.

5.3 Factors influencing Utilization of SRH

This section discusses the various factors that influences utilization of SRH based on the findings.

5.3.1 Influence of background characteristics

Age is an important factor that influences SRH utilization. According to a study in South Africa by Khangelani et al., (2019) the age at sex debut is very important because early sexual activity is associated with having multiple partners. Sexual activity by adolescents influences their utilization of SRH services. This is also supported by Madise et al., (2019) who concluded in their study that older adolescents are more likely to be sexually active than younger ones .

Regarding education, studies have shown that a higher education level influences utilization level of SRH. A study in urban Nepal revealed that adolescents with higher education are 15 times likely to utilization SRH services (Bam et al., 2015). This is also supported by another study in Sewua in the Ashanti region, Ghana that also concluded that higher education influences SRH services utilization positively (Addo, 2015).

However Kyilleh et al.(2018) disputes this earlier findings by arguing that whether adolescents were in school or out of school did not influence their knowledge and utilization of SRH.

In 2007 47.9% of respondents were rural dwellers but this increased to 54.1% in 2017. This distribution is important because urban dwellers tend to be exposed to the latest information and technology and services compared to rural dwellers. This is consistent with a study involving an analysis of national surveys in 24 Sub-Saharan African countries , which indicated that urban dwelling adolescents are likely to be sexually active compared to their rural counterpart (Doyle et al., 2012). The study further revealed that child birth is significantly higher among adolescents in the rural areas . This could be due to information gap. As the study revealed adolescents in urban areas due to exposure to media and technology may be sexually active but may adopt measures to prevent pregnancy. While the rural dwelling adolescent may not be able to access SRH service due to distance from the facility (Bam et al., 2015).

The multivariate analysis showed significant association between age and educational level, and utilization of family planning services, this is consistent with findings by (Addo, 2015)

that higher education has influence on utilization and (Madise et al., 2019) found that older adolescents are likely to be sexually active therefore more likely to utilize SRH services.

Regarding abortion, in both the 2007 and 2017 study did not show significant relationship and association between background characteristics and utilization of abortion care.

5.3.2 Sexual activity and reproductive health background

The study showed that in both 2007 and 2017, age at first sex, ever had sex and ever given birth were significantly associated with utilization of family planning services.

A multivariate analysis showed that there was a significant association between age at first sex, ever had sex and ever given birth. This is inconsistent with findings by (Doyle et al., 2012) that adolescents who initiate sex early are not likely to use family planning methods and therefore at the risk of getting pregnant. However (Bam et al., 2015) agrees with this findings that sexual activity is a key determinant in utilization of SRH by adolescents.

This study has revealed that sex initiation occurs much earlier than anticipated. This confirms what an earlier study in Jamaica revealed that, 54% of pregnant adolescents had sex debut at age 14 years (Noel et al., 2009). Another study involving an analysis of national surveys in 24 African countries, revealed that in West Africa a significant proportion of adolescents initiated sex before age 15 (Doyle et al., 2012). The study further stated that child birth among adolescents was also more common in West Africa compared to East and Southern Africa because of the low usage of family planning methods.

From the results, the age 15years was predominant among ages for sex debut over the period studied. This is followed by 16 and 17 years. This implies that interventions aimed at arresting early sex initiation must target ages before the modal age of 15 years, so 13-14 years (15-17years).

5.4 Strengths of the study

1.This study is one of the few studies in Ghana that has attempted to undertake a nationwide study on adolescent sexual and reproductive health. This is very important because most studies had focused on small areas in the country and hence their results could not be generalized.

2. This is also one of the few studies in Ghana that has focused on utilization of reproductive health services by adolescents. The findings of the study will therefore be useful in assessing existing interventions.

3. This is one of the few studies carried out in Ghana analyzing data from two different periods that focused on adolescents. This study therefore helps in understanding the impact of various interventions and the need to either review, scale up or even truncate them altogether.

4.The findings and conclusions of the study can be used to inform policy formulation for adolescent reproductive health. As earlier stated, this is a nationwide study which means that the findings could be generalized as representing the state of adolescent utilization of sexual and reproductive health services.

5. This study also provides the foundation for further studies on utilization of adolescent reproductive health in future. This study has not exhausted all the issues concerning adolescent reproductive health in Ghana therefore the findings and conclusions could guide

future researches concerning utilization of sexual and reproductive health services by adolescents in Ghana.

5.5 Limitations of this study

1. This study was a secondary data analysis which relied on the 2007 and 2017 Ghana Maternal Health Surveys. These surveys focused primarily on abortion and family planning services. However Sexual and Reproductive Health services goes beyond these two. This therefore limited the analysis on SRH services utilization of adolescents.

2. Due to the differences in the number of variables used for the two surveys, some very useful variables in the 2017 data which were absent in the 2007 data had to be dropped. This affected the extent of analysis that could have been done.

3.The data is also limited to female adolescents therefore results and conclusions may not represent the true situation of adolescents in Ghana.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter presents the conclusions of the study. In the light of the results of the study, recommendations are made to address the sexual and reproductive needs of adolescents in Ghana.

6.1 Conclusions

The findings of the study indicate that there have been significant changes in the knowledge of adolescents over the ten years of the study. This according to the findings may be due to technological advancements that might have occurred between 2007 and 2017.

Secondly, there have been significant decline in the utilization of family planning services. However modern methods of contraception have seen significant increase in their utilization. There have not been changes in the utilization of abortion services by adolescents.

Finally, sexual activity among adolescents is an important determinant of sexual and reproductive health services utilization by adolescents. This is because adolescents who are not sexually active do not have much motivation to utilize sexual and reproductive services.

6.2 Recommendations

The findings for this study have important implications for public health practice in Ghana. Therefore, the following recommendations are made to appropriate institutions for action:

1. There must be effective collaboration between the Ghana Health Service and the Ghana Education Service in the implementation of the School Health Education Programme (SHEP). There is the need for retraining of SHEP coordinators focusing on boosting adolescent knowledge about sexual and reproductive health.
2. Public health authorities must engage traditional, religious, political leaders and youth groups as part of a broader societal sensitization programme aimed at reducing stigma, barriers and misconceptions about adolescent sexuality. This will help improve utilization of SRH services.
3. Civil Society Organizations (CSO) in reproductive health must focus their activities on parents because they are the first point of contact and socialization. Parents must be encouraged to start sexuality education early, this will improve knowledge about SRH.
4. Repackaging of adolescent sexual and reproductive health services to increase the demand side due to low patronage by adolescents. Currently the supply side is appreciably well taken care of through training for healthcare professionals and the setting up of *Adolescent Corners* in public health facilities. This will boost utilization of SRH services by adolescents.

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APPENDIX: AUTHORIZATION LETTER FROM DHS PROGRAMME