GHANA COLLEGE OF PHYSICIANS AND SURGEONS

FACULTY OF PUBLIC HEALTH

FACTORS INFLUENCING ADOLESCENTS' USE OF SERVICES AT ADOLESCENT HEALTH CORNERS IN THE BRONG AHAFO REGION

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(OSEI KUFFOUR AFREH)

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DECLARATION

I hereby do declare that except for references to other people's work which have been duly acknowledged, this piece of work is my own composition and neither in whole nor in part has this work been presented for the award of a degree in this university or elsewhere.

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DEDICATION

This document is dedicated to the Afreh family for their continuous support.

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ABBREVIATION

AHC	Adolescent Health Corner
ANC	Antenatal Care
AYA	African Youth Alliance
AYFHS	Adolescent and Youth Friendly Health Service
BAR	Brong Ahafo Region
BCC	Behaviour Change Communication
BECE	Basic Education Certificate Examination
CAC	Comprehensive Abortion Care
CHNTS	Community Health Nursing Training School
CHPS	Community-based Health Planning and Services
DALYs	Disability Adjusted Life Years
DFID	Department of International Development
DHIMS	District Health Information Management System
DHS	Demographic and Health Survey
FGD	Focus Group Discussion
GCPS	Ghana College of Physicians and Surgeons
GDHS	Ghana Demographic and Health Survey
GFR	General Fertility Rate
GHARH	Ghana Adolescent Reproductive Health
GHS	Ghana Health Service
GES	Ghana Education Service

GSS	Ghana Statistical Service
HATS	Health Assistants Training School
HCW	Healthcare Worker
HIV	Human Immunodeficiency Virus
HSV	Herpes Simplex Virus
IEC	Information, Education and Communication
IPV	Intimate Partner Violence
JHS	Junior High School
KII	Key Informant Interview
MDG	Millennium Development Goals
MoH	Ministry of Health
NGO	Non- Governmental Organisation
NTC	Nurses Training College
NMTC	Nursing and Midwifery Training College
PATH	Project for Appropriate Technology in Health
PPAG	Planned Parenthood Association of Ghana
RTIs	Respiratory Tract Infections
SDG	Sustainable Development Goals
SHC	School Health Club
SHEP	School Health Education Programme
SHS	Senior High School
SRH	Sexual Reproductive Health
STI	Sexually Transmitted Infection

STD	Sexually Transmitted Diseases
TFR	Total Fertility Rate
UKAID	United Kingdom Aid
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNMDG	United Nations Millennium Development Goals
WASH	Water Sanitation and Hygiene
WHO	World Health Organisation
YLD	Years Lived with Disability

ABSTRACT

Introduction:

Adolescents are generally a healthy population. Nonetheless, they face significant health challenges. Low contraceptive use, unplanned pregnancies and Sexually Transmitted Infections (STIs) including HIV/AIDS among adolescents in sub-Saharan Africa are unacceptably high and of public health concern. Complications from pregnancy and childbirth have been identified as the leading cause of death in girls aged 15-19 yrs in low and middle income countries, where almost all the estimated 3 million unsafe abortions occur.

Adolescent Health Corners (AHCs) were established at selected public health facilities in the early 2000s to create conducive environments for service delivery and utilisation by adolescents. Consequently, scale up of the AHCs was embarked upon by Ghana Health Service and her partners where UKAID through the Palladium Group's Ghana Adolescent Reproductive Health (GHARH) Project, refurbished and equipped 54 Adolescent Health Corners in the Brong Ahafo Region. This study sought to examine factors that influence adolescents in using the services provided at the AHCs.

Methods

A cross-sectional study was used by adopting a mixed method of data collection. Quantitative data was collected randomly from 509 study participants selected from 11 districts sampled randomly from the 27 administrative districts across the Brong Ahafo Region. Two focus group discussions were also conducted for adolescents within two of the selected districts. Eleven in-depth interviews were conducted for health care providers at the AHCs in the selected Districts.

Results

Majority (73.1%) of the adolescents were aware of the presence of AHCs in their catchment area. Majority (82.5%) of the respondents who were aware of AHCs had used services at the AHCs. Females had a significantly higher odds of awareness of the existence of AHCs compared to males (AOR=2.34, CI=1051-3.62, p=0.003). Adolescents whose mothers and fathers attained a primary education had higher odds [4.25 (1.93, 9.35), 3.94 (1.21, 12.79) respectively] of being aware of AHCs in their area of residence ($p<0.05$). Only 48.5% of schools had School Health Clubs (SHC). Adolescents who were members of SHC were 5.86 times more likely to use the services at the AHC ($p<0.002$).

35.2% of respondent said that providing recreational activities in the corners would attract more adolescents and 33.8% stated that services should be provided in a friendly manner. They also called for intensification of awareness creation campaign about the existence of AHCs and services provided (18.6%), provision of regular health screening (10.1%) and abortion services at the corner (2.3%).

Conclusion:

AHCs are crucial in reaching out to adolescents through the provision of adequate information and services during the period of adolescence. Majority of adolescents interviewed were aware of AHCs and had used the services provided. However, efforts should be made to create more demand for the services. Establishment of SHC in schools with school children being members of the clubs was found to create additional opportunity to reach out to adolescents and improve use of services at AHCs. Services provided at AHCs should be appealing to adolescents with

assured privacy and confidentiality. Trained staff should create a friendly environment to address the concerns of adolescents.

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CHAPTER ONE

1.1 Background

The term adolescence can be referred to as a transitional phase between childhood and adulthood which is characterised by physical growth and psychological development. Adolescence is defined as the age between 10 to 19 years. [1,2,3] There are over 1.2 billion adolescents in the world today and their numbers are steadily increasing. [4, 5] Current world population estimates indicate that adolescents aged 10-19 years and young people aged 10-24 years constitute 18 percent and 26 percent of the world population respectively. In more developed countries, young people constitute 18 percent of the population while in sub-Saharan Africa, they constitute 32 percent of the total population. Young adults aged 15-24 years constitute 18 percent and 20 percent of the world and sub-Saharan Africa populations respectively [6]. It is estimated that 16 million adolescents aged 15–19 years give birth each year [7].

Due to the under – development of the biological make of the adolescent, adolescent girls when they get pregnant, go through many complications during pregnancy, labour and delivery.

With their immature health system, the ability to physiologically and psychologically go through the pregnancy period becomes very challenging to ensure safe pregnancy outcomes.

In many instances when the adolescent child is pregnant, they may not report to the hospital early enough within the first trimester which denies them the opportunity to have a longer period of care during pregnancy. Majority may start antenatal care later in the pregnancy period as they may not have had adequate knowledge about pregnancy and what to do when they realise that they are pregnant. Comparatively, adults as a result of their knowledge about pregnancy start antenatal quite early and prepare for pregnancy when compared with adolescents. Since the

adolescent is likely to start antenatal services quite late, they may miss the comprehensive services for focussed antenatal care which ensures that the mother and the unborn child are safe and healthy. [8]Adolescents' who get pregnant may sneak to the health facility for antenatal care services usually during the period that they assume their adult counterparts may not be around or sometimes, they would not go to the health facility at all which poses a risk to both the adolescent and the unborn child.

Adolescents who get pregnant are often stigmatised by their peers, teachers, care givers and the social environment. Such unconducive environment puts additional stress on them during their pregnancy and as a result of their immaturity, require additional support during the pregnancy period such as family support psychologically, support with their education from their teachers as well as the feeling of acceptance in the society. They would also require specialised health care services from health workers who would be willing to provide the myriad of comprehensive health services where the adolescent would feel accepted and share their problems. It is worth noting that, the routine antenatal care services usually does not provide the necessary health care services required for adolescents and may require the provision of systems that address the needs of adolescents. Restructuring may include services such as visiting adolescents at home during pregnancy, providing the required nutritional advice for the adolescent to ensure that they go through the pregnancy period safely as well as providing a separate place for service delivery.

During labour and delivery, the adolescent may go through many complications that may arise as a result of their relatively immature reproductive health system. Such untoward complications may include intrapartum and postpartum bleeding, vaginal and cervical tears which may not be detected. Some adolescents may even lose their lives as result of the above mentioned complications if not monitored and treated accordingly. Other complications such as mal-

presentation and intrauterine growth restriction are likely to occur during adolescent pregnancy. Some adolescents require surgery (Caesarean Section) to ensure good pregnancy outcomes during delivery.

Coupled with the ever complex physical, psychological, social and emotional changes that the adolescent goes through transiting to adulthood [3], caring for such babies becomes a burden on the society as a whole.

New-borns to adolescent mothers may not acquire adequate breastfeeding which provides immunoglobulins to help build the immunity of the new-born against diseases. Compliance to exclusive breastfeeding for six months, as recommended by the World Health Organisation, is difficult as they may not be willing due to of lack of education or may want to go back to school early [9]. Such new-borns may be introduced to childhood formula feeding which is usually expensive and the adolescent would not be in a position to procure. Aside being expensive, the adolescent would not have the necessary skills to hygienically prepare such meals to ensure the proper growth of the child [10]. Since adolescents are likely not to be working, the sustainability of providing formula feed to their new-borns is compromised and the new-born can end up with diarrhoea, vomiting and diseases of the gastrointestinal tract.

Poor dietary habits arising from the above mentioned, places the new-born child at risk of being malnourished resulting in complications leading to low weight – for – age and or poor height – for – age. Such children may fail to thrive and may die or end up with lifetime disability. Such unexpected outcomes of adolescent pregnancy can be avoided if the adolescent is provided with adequate information on pregnancy prevention during the period of adolescence.

Although adolescents are generally healthy, they face other significant health challenges. Some of the health challenges which are not only limited to diseases are listed below:

Injuries

Adolescents, mostly adolescent boys during the period of adolescence, are very energetic which drives them to explore many avenues while taking extreme risks. Some of these extreme risk taking behaviour may result in causing harm to themselves or their colleagues and sometimes others. Activities undertaken include drink-driving, over speeding on the roads, not obeying road traffic regulations which can result in vehicular accidents and cause death. [11] Some also use motorcycles and bicycles without taking the necessary precautions for safety. In the quest to discover their talents and display the skills they have, all kinds of stunts are performed to show off their abilities and in the process may result in permanent injuries or disabilities. [12] The consequences of such risky behaviour are usually ignored or not known by adolescents.

Mental Health Issues

Mental health issues such as depression is gradually gaining a lot of attention among many adolescents.[13] Depression cases are mostly detected among female adolescents. Some of the contributory factors are being stigmatised, lack of self-worth with feeling of not being accepted by society, challenges with formation of identity as some prefer to be like their role models or persons (celebrities) as well as feeling devalued or over criticised by their parents, caretakers, teachers or their peers especially for adolescents with some form of disability and may require special support systems.

While feeling depressed, they become withdrawn, self-isolated and refuse to share their problems. This may progress to the stage of attempting or actually committing suicide.[14]

According to the World Health Organisation, suicide is gradually becoming the second leading cause of death among children aged 10 -19 years of age and would require providing strong health systems to address the mental health needs of adolescents.[15]

Violence

Violent situation encountered by some adolescents include emotional violence, sexual violence (rape) or harassment. Others are physical violence which often arise from poor interpersonal relationships between them and their friends, their parents or caretakers and sometimes their teachers. Inability to exercise restraint and self-control among some adolescents with lack of access to adolescent health services invariably contributes to such violence.[16]

Alcohol and Substance abuse

Excessive alcohol intake coupled with the use of hard drugs have been on the increase worldwide.[17] Alcoholic beverages as well as smoking are made available to the general public with minimal enforcement on restrictions for adolescents. Social, video and print media display various advertisement of alcoholic beverages and other substances which become very appealing to adolescents without knowing the consequences of consuming such harmful substances. Others may also engage in such behaviour as a result of peer pressure from their colleagues. Use of alcohol and other substances eventually results in addiction and other serious health conditions affecting the brain, liver and their general well-being.[17]

Nutrition and micronutrient deficiencies

Poor dietary habits during adolescence remains common. It should be noted that, during the period of adolescence, there is a rapid growth in size and development of the adolescent. There is therefore the need to make available all the necessary building blocks to ensure the proper development of the adolescent. These building blocks include fats, proteins, carbohydrates with micronutrients in their right proportions to ensure proper growth and development. As adolescents may lack such information on the right type of food to eat to get the necessary energy demands and nutrients, some of them become malnourished which affect their cognitive function as well as being prone to infections.[18]

Low contraceptive use, unplanned pregnancies and sexually transmitted infections (STIs) including HIV/AIDS among adolescents in sub-Saharan Africa are unacceptably high and of public health concern.

High prevalence of teenage pregnancy, one of the indicators of lack of access to adolescent health care targeted at adolescents, occurs mostly in adolescents who are in the basic and junior high schools.[19]

In Ghana, one of the reliable indicators which is used to estimate adolescent pregnancy is got from antenatal care facilities which registers all pregnant women going for services as well as the frequency of seeking for antenatal care services. Antenatal care services are designed for all pregnant women who access the services collectively without the provision of such services at the Adolescent Health Corners which was designed for adolescents and young people only. Many adolescents as a result of fear, stigma or discrimination by some health workers as well as the unfriendly design of antenatal care services, may not go to the health facility especially

during the first trimester of their pregnancy but may eventually visit the facility either in the second or third trimester where the pregnancy would have progressed. At this stage, the parents or caregivers become aware of the risks and would want the adolescent to have a safe pregnancy and delivery thus avoiding uneventful pregnancy outcomes in most instances. Statistics from the Ghana Health Service indicates that one out of eight pregnancies in Ghana happens to be an adolescent.[20] Some of the contributory factors to high adolescent pregnancy and poor care provided for adolescents identified include the non – availability of youth friendly health services tailored towards the needs of adolescents.

Recognising the huge health risks confronting adolescents in Ghana and the lack of healthcare services targeted at them in addition to providers' negative attitudes toward adolescents who access reproductive health services, it became very necessary to provide services that promote the health and well-being of adolescents living in Ghana. Adolescent health services were not prioritised, as very little or few programmes took into cognisance the health needs of adolescents. Many health programmes targeted children under five years of age where much resources were channelled to ensure such children were able to survive and thrive. Few programmes were developed for children aged 10 -19 years who usually competed with adults in the routine provision of health care services in the health facilities in the main stream of health care.

In the early 2000's, the Planned Parenthood Association of Ghana (PPAG) introduced the Young and Wise programme which aimed at providing quality SRH services to young adults. Young and Wise centres were established in the country to increase knowledge of young adults on SRH issues, increase access of young people to quality SRH Services, increase participation

of young adults in the planning, implementation and evaluation of SRH programs as well as increase demand for, and use of SRH services. [21]

The African Youth Alliance (AYA) which was a partnership of the United Nations Population Fund (UNFPA), Program for Appropriate Technology in Health (PATH), and Pathfinder International organised a five-year programme with funding from Bill and Melinda Gates Foundation. The 5 – year programme (2002 – 2007) sought to improve HIV/AIDs prevention as well as sexual and reproductive health among young people aged 10 – 24 years with emphasis on 10 – 19 year olds. This intervention was carried out in Botswana, Ghana, Tanzania and Uganda. The programme focused on six thematic areas such as policy and advocacy, behaviour change communication, youth friendly services, livelihood programmes and institutional capacity programmes. Through is programme, many young people and communities were reached with information with the establishment of sixty five facilities as youth friendly in Ghana. About nine hundred health workers also received training in ASRH and youth friendly service provision. AYA also achieved a significant positive effect on condom used at first sex, consistent condom use with current partner, and modern contraceptive use at first and most recent sex. [22]

Consequently, scale up of the adolescent health corners was embarked upon by the GHS and her partners. For example, the Palladium Group's Ghana Adolescent Reproductive Health (GHARH) Project, refurbished and equipped 54 Adolescent Health Corners in the Brong Ahafo Region. The Brong Ahafo region was selected for this intervention largely because it had one of the highest teenage pregnancy rate and also, it didn't have any development partner in the region. This project which lasted for 3 years from 2014 to 2016 sought to ensure that the adolescent health needs in the Brong Ahafo Region were met through the establishment of adolescent health

corners and other youth friendly health interventions for adolescents. Young people could go to such established health facilities and seek for health services.

Educational materials such as Info pack and other materials were developed and made available at the Adolescent Health Corners where adolescents could freely go and access such information. Some of the topics discussed included personal hygiene, menstruation, puberty, oral health, mental health, depression, substance abuse etc. In addition, health workers were selected and trained on how to handle common health issues of adolescents as well as providing an enabling and conducive environment for adolescents who visit the health facility for health care services. [23]

These Adolescent Health Corners were linked to the bigger health facilities which provided a more advanced care which could not be provided at the Adolescent Health Corners when adolescents visited for health care services.

The Adolescent Health Corners were also equipped with some recreational equipment and other games that was intended to attract adolescents to the health corners.

Despite the introduction of Adolescent Health Corners and adolescent health services in Ghana since 2000, poor health indicators for adolescent health especially reproductive health indicators persist. Sexual debut before 15 years of age has increased from 8.7% in female adolescents to 21.2% and from 2.5% to 7% among males comparing GDHS reports for 2003 and 2014. [24] Also, the 2014 Ghana Demographic and Health Survey (GDHS) Report showed that Brong Ahafo Region and Central Region were the regions with high adolescent pregnancy rates in Ghana. [24] According to the Brong Ahafo Region annual report for 2016, percentage of adolescents among ANC attendants has remained high at 14.2% in 2015 and 14.3% in 2016. Also, abortion rate

among adolescents 10 - 19 years increased from 20.5% to 21.5%. [25] The high percentage of teenage pregnancies, abortion and other poor health indicators in the region suggested that services provided at the Adolescent Health Corners were probably not being used by adolescents. It was therefore important that this research was conducted to examine factors influencing the use or non-use of services provided at the Adolescent Health Corners in the Brong Ahafo Region.

1.2 Statement of Problem

In spite of continuous investments in adolescent health programs, poor health indicators have persisted in sub-Saharan African countries. In Ghana, adolescent health services were established through mass media campaigns, incorporating sex education in the Ghana Education Service's syllabus for Junior High Schools and Senior High Schools among other programmes by the Ghana Health Service and other partners. However unwanted pregnancy, early sex, early childbearing and Sexually Transmitted Infections (STIs) including HIV among adolescents remain high. [19]

Such increases in the incidence in the above mentioned can be partly attributed to the fact that the strategies put in place may not be generating the expected results. Even though sex education has been incorporated into the curriculum for the Junior High Schools and the Senior High Schools, there are challenges that still exist. Some of the challenges include the lack of formal training for the teachers in the schools to properly engage the school pupils on sex education within a conducive environment that would encourage the adolescents to express themselves.

Also the Girl Child Coordinators in the various schools are underutilized in some cases and may not be involved in the delivery of sex education to the pupils.

In Ghana, the 2014 Demographic Health Survey (GDHS) Report shows that 1%, 6.3%, 8%, 14% and 31.4% have had a child at the age of 15, 16, 17, 18 and 19 years respectively. [26]

These adolescent mothers have challenges in coping and dealing with themselves and the management of their babies. External support from family and the community is usually required to ensure that the babies born to such mothers are able to thrive.

Also, maternal mortality ratio was higher among adolescents 12 -19 years (679 per 100,000 live births) compared to adults aged 25-29 (359 per 100,000 live births). [27]

This usually occurs as a result of the under- development of the reproductive health system of the adolescent to withstand the stress of pregnancy, labour and delivery. Usually, adolescents may have sex not with the intention of getting pregnant as many of them would be single and unmarried and not prepared for motherhood. With the increasingly low access to contraceptives by adolescents who may need it, coupled with the stigma of being pregnant among their peers, some would resort to unsafe abortion practices which can affect their health and can lead eventually to death. Safe abortion services are also not readily available in all health facilities which poses a challenge to adolescents who may not want to keep their pregnancies.

The lack of progress in improving SRH of adolescents could be attributed to limited knowledge and lack of access to adolescent health services. In many parts of sub-Saharan Africa, reproductive health services were not oriented towards meeting the needs of adolescents. [28] This is partly because, the services for the adolescents may not have involved the adolescents in the planning of the services to ensure that the services were attractive and takes into cognisance the ever changing social environment that adolescents find themselves in.

The 2010 population census emphasized the contribution of adolescents toward the Total Fertility Rate (TFR) of Ghana. In the year 2013 alone for example, 14,000 adolescents got pregnant in the Central region. [29] Gomoa West district of the Central region recorded a total of 762 teenage pregnancies in the year 2013. Seventeen out of the 762 teenage mothers were between the ages of 10 and 14 years. [29] In the Brong Ahafo Region, despite all the efforts put into awareness and use of modern contraceptives by Ghana's Ministry of Health, the Ghana Health Service, the District / Municipal Health Directorates and NGOs in the region, teenage pregnancy is still a serious development and a public health issue. [25]

In the year 2013, 589 out of the total 6766 pregnancies recorded in the Sunyani Municipality were adolescents. [30] There were also 28 pregnancies at the primary school level and 15 pregnancies at the junior high school level during the 2012/2013 academic year in the Techiman Municipality. In addition, out of the 65,815 deliveries recorded in the Brong Ahafo Region in 2013, teenage pregnancy constituted 25,391 (i.e. 38.6%). [30]

With the establishment of fifty four AHC's in the Brong Ahafo Region, little is known about whether adolescents use the services and factors that influence their use as well as their expectation. This study therefore fills this knowledge gap by determining use of services at the AHCs and investigating factors that influence use of services as well as adolescents' expectation of such facilities in the Brong Ahafo Region. The result of this study will contribute to literature, inform policy and intervention to meet young people's expectations and improve use of services at AHC in Ghana and other low and middle income countries (LMICs).

1.3 Research Objectives

1.3.1 General objective

The general objective of this study is to examine factors influencing adolescents' use and non-use of services at adolescent health corners in the Brong Ahafo Region.

1.3.2 Specific objectives

The specific objectives are to:

- Assess the awareness of adolescent health corners among adolescents in the Brong Ahafo Region.
- Assess the factors and level of usage of adolescent health services at the adolescent health corners among adolescents in the Brong Ahafo Region.
- Explore Service Provider's experiences and challenges in the provision of services at the adolescents' corner.

1.4 Research Questions

- What do adolescent know about adolescent health corners in the Brong Ahafo Region?
- What is the proportion of adolescents who use services at the adolescent health corners in the Brong Ahafo Region?
- What factors influence adolescents' use of service at adolescent health corners in the Brong Ahafo Region?

- What challenges are faced by service providers when delivering services to adolescents at the corner?

1.5 Justification

Poor adolescent health indicators persist in Ghana and the Brong Ahafo is no exception [27] even though several interventions including the Young and Wise by PPAG, AYA Pathfinder adolescent health programme as well as the GHARH project by the Palladium group with sponsorship from UKAID to improve reproductive health services for adolescents.

While this may be indicative of low use of services at adolescent health corners, empirical evidence on the subject is lacking. Few studies have been conducted to determine the use of services at adolescent health corners in the region. That notwithstanding, information on factors that influence use as well as adolescent' expectations of an adolescent health corner is limited. This study examined factors influencing adolescents' use of services at adolescent health corners in the Brong Ahafo Region. This information will inform policy and intervention programmes aimed at improving service delivery for adolescents.

The results could also guide the MoH, GHS and partner organizations in the nation-wide scale up of adolescent health corners and improve patronage of services as well as the design of dual protection programmes for HIV and pregnancy prevention among adolescents.

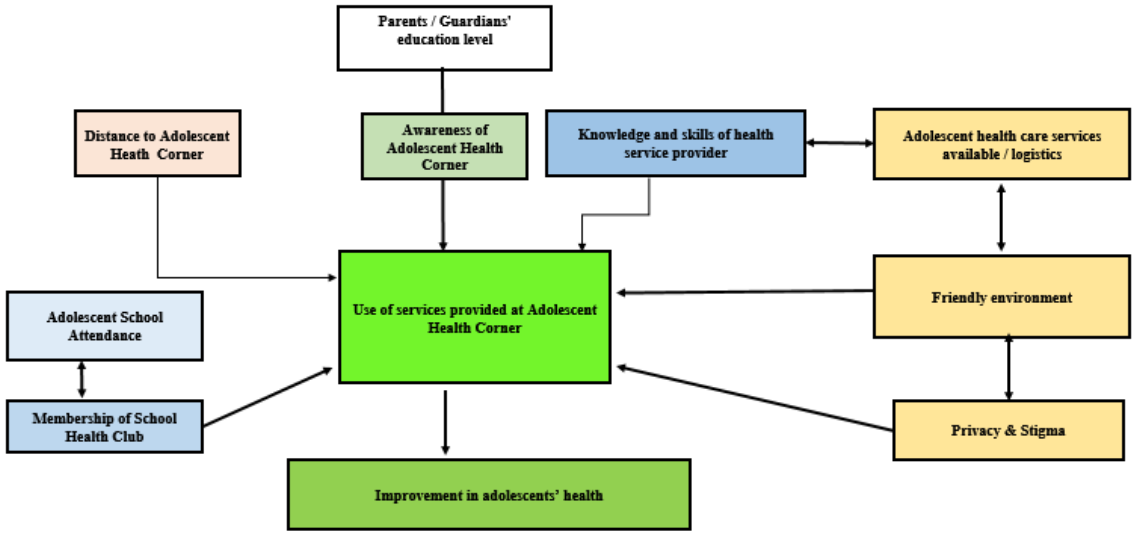
Conceptual Framework

Parents and guardians play an important role in socialising adolescents into becoming responsible adults in future. Parents who are educated would have a bit more information on adolescent health issues and may influence how information is shared with their children while supporting them to use services provided by health personnel at adolescent health corners. It's

envisaged that factors such as health care facility practices, location of adolescent health corners, distance covered to reach health facilities by adolescents as well as service providers' attitudes and approach towards handling adolescents affect usage of services at an Adolescent Health Corner.

Other factors such as awareness of the presence of AHCs, school attendance and membership of a School Health Club provides opportunities to use services provided at AHCs. The School Health Clubs have some activities undertaken which provides the opportunity to engage health workers who intend introduce them to the services provided at AHCs.

This framework was adapted from John Latham ©2005



Conceptual framework: Factors influencing use of services at Adolescent Health Corners

Figure 1: Conceptual Framework

CHAPTER TWO

Literature Review

2.0 Introduction:

This literature review is broadly organized into sections. The primary section discusses health problems of adolescents aged 10-19 years globally with emphasis on Sub-Saharan Africa. Other sections review approaches to enhance adolescent health and their effectiveness, awareness of Adolescent Health Corners, adolescent friendly services, Adolescent contraception and knowledge of access to adolescent health care.

2.1Health problems of adolescents

Over the years, many countries have put in place several health interventions which aimed at improving the quality of life of people while increasing their life expectancy gradually. Some of the health interventions involved lifestyle changes through preventive, promotive and curative health programmes that are delivered worldwide.

Other health interventions also aimed at improving access to health care services such that people would not have to travel several distances to reach a health care facility. This created a proliferation of construction of many health facilities within regions, provinces, districts and even within communities to reach out to the populace. These health facilities included hospitals, clinics, health centres, public health facilities aimed at attaining a universal primary health care for all people. Quality of health care services within these established health facilities received a lot of attention in many countries since it wasn't only important to reach out to people with health care but to provide them with improved services that aimed at reducing mortality and morbidity.

Early childhood diseases such as Poliomyelitis, Tuberculosis, Diarrhoeal diseases (especially viral diseases including those caused by Rotavirus), infections caused by Streptococcus and Staphylococcus, Measles and Yellow fever have claimed many lives of children and tend to be the leading causes of death among children according to the World Health Organisation. [31]

Once parents could not be very sure of their children surviving through childhood to adulthood, many families intended having more children with the hope that some will eventually survive and take care of them in their old age thus increasing fertility rate of women for many countries while exposing the women to pregnancy related associated morbidity and mortality.

Focus was placed on reducing the risks of women having many children and making sure that the children born were provided with the necessary health care services that improved their ability to survive and thrive while mitigating the effect of the above mentioned childhood diseases. Public health interventions both promotive and preventive have been emphasized gradually to include proper dietary habits and micronutrients within focussed antenatal care to help reduce pregnancy wastage while aiming at mothers delivering healthy babies.

Once the babies were delivered, several immunisation programmes were instituted in many countries with special focus on childhood diseases which were vaccine preventable and caused high morbidity and mortality in children.

Different immunisation schedules were also developed with strict adherence while countries put in place systems for the availability of vaccines all year round. Stronger health systems were also been put in place gradually to help manage severely ill children who hitherto would have died.

These interventions resulted in many children surviving through their infancy and childhood to the adolescence period and beyond. [32]

Currently, there are over 1.2 billion adolescents in the world today and their numbers are steadily increasing. [5] Current estimates indicate that adolescents aged 10-19 years constitute 18% of the world population. In more developed countries, young people constitute 18% of the world's population while 23% are in Sub-Saharan Africa. [6] Consistent with the 2010 Ghana Population and Housing Census data, Ghana is characterised by a young population with 14% and 13% within the 5 – 9 years and 10 – 14 years age groups respectively. Adolescents aged 10 – 19 years constitute 21.9% of Ghana's population. [27] Although young people are usually considered as healthy, recent estimates show that a large number of deaths are occurring within this population segment. In 2012 for instance, an estimated 1.3 million adolescents died globally. The leading causes of deaths among young people generally were road injury, HIV, suicide, lower respiratory tract infection and interpersonal violence. [33] In Sub-Saharan Africa, WHO estimates show that SRH problems among women aged 15-29 account for 63% of Disability Adjusted Life Years where out of this, 37% is due to AIDS.

In Ghana, adolescents face challenges associated with sexual and reproductive health, HIV and STIs, nutrition, mental health, substance abuse, non-communicable diseases, intentional and unintentional injuries, and various sorts of violence, inequities, risks and vulnerabilities which are linked with child marriage, child labour, trafficking and disabilities. [26]

Also, the 2010 Population and Housing Census show that Maternal Mortality Ratio (MMR) was higher among adolescents (679 per 100,000 live births among 12-19 year olds compared to 380 per 100,000 live births among 20-24 years and 359 per 100,000 live births among adults aged 25 – 29. [16]

Adolescents are defined as children aged 10-19 years. The adolescence stage of development is further divided into early, middle and late stages by the age groups 10-14 years, 15-17 years and 18-19 years respectively. This categorization is based on their physical, social and psychosocial development.

The age categorisation also helps in developing and implementing programmes for adolescents while considering how information and services are packaged to meet their needs. This is most effective since lumping all the adolescents together under one programme does not meet the increasing needs for the adolescents.

Usually, adolescents aged 10 - 14 years are mostly found in the upper primary or the junior high school level in terms of their education. [27] They are mostly day pupils with few of them attending boarding schools as many of the schools do not provide such facilities. There are usually specific time periods within the day commencing from the morning to the afternoon where the pupils engage with the school setting and when school closes, they go back home. They tend to have very little interaction with the school setting while spending most of their time at home with their parents or in the community. Interventions to reach such adolescents remain a challenge as a lot of effort has to be put in place to involve the parents, caregivers and the community as a whole to ensure the success of such programmes.

Hence, adolescents in this category become the most vulnerable as they tend to have little information with little control of threats to their reproductive health and their general well-being.

Adolescents aged 15 – 17 years tend to be in second cycle institutions which mostly provide them boarding facilities and they spend much time with their teachers while in school. Since the second cycle schools have more controlled environment with some restrictions including specific visiting hours etc., the adolescents are mostly protected by the school authorities who try to instil

discipline in them via several activities including specific sleeping and waking up times, requests for exeats to go out of the schools premises with some form of punishment for pupils who break the rules. Once they are a well organised group of people in school, advantage can be taken to implement adolescent health activities in collaboration with the school's authorities. School - based programmes are efficient in providing the adolescents with the requisite information that they would need to be responsible adults in the future.

Adolescents aged 18 – 19 years are normally more matured biologically and mentally than the aforementioned age categories. This places them at a lower risk as they are able to negotiate for sex, are aware the dangers of unprotected sexual intercourse and are likely to use contraceptives to prevent acquiring Sexually transmitted Infections while making informed choices in life and become aware of the implications of their life choices. However, they are prone to depression and some social vices such as alcoholism and drug abuse.

In most countries, the lawfully acceptable age for marriage is 18 years and people aged 18 years and above are considered as adults, partake in leadership positions and can even exercise their constitutional franchise such as taking part in general elections. Once society accepts these, some of the adolescents get married and start bearing children legally. [34]

Some tribes in certain countries have laid down traditions that initiate these older adolescents into adulthood and they are then accepted culturally as adults. They receive support from the older members in the community after the initiation process on how to live as adults while upholding societally accepted values in high esteem.

During adolescence, young girls and boys experience a period of rapid growth and development in their bodies, minds and social relationships. [35]

For most people, the sequence of pubertal changes is relatively predictable. The timing of the onset of puberty is extremely variable. Usually, the normal range of onset is ages 8 to 14 years in girls and ages 9 to 15 years in boys. It's generally known that girls experience physiological growth characteristic of the onset of puberty two years before boys.

The whole process of puberty is controlled largely by a very complex interactions which occurs between the brain, the pituitary gland, and the gonads, which also interact with the environment (the social, cultural, and the physical environment).

A fairly new area of research related to puberty is that of brain development. There is enough evidence to suggest that brain growth continues into adolescence. This includes the proliferation of the support cells, which nourish the neurons and myelination. [36]

The above proliferation process permits faster neural processing. These changes in the brain are most likely to stimulate cognitive growth and development as well as the capacity for abstract reasoning.

The individual's capacity for abstract and critical thinking develops along with a heightened sense of self-awareness and emotional independence.

As a result of the hormonal changes that occur during the period of puberty, sexual and physical maturation often occur faster compared with the periods of development.

Puberty in Girls

Girls during the period of puberty go through a sequence of complex events. It should be noted that the sequence of the complex events are not fixed for all girls. Each girl goes through it in several ways but it is expected that at the end of the puberty period the milestones would have been achieved. The sequence of the complex event for girls is outlined below. [37]

- In girls the first sign of puberty which is mostly common to all is the development of the breast buds. They are normally small “swellings” on the chest that develop at the base of the nipple which makes the nipple and the breast become a bit raised. During this period, the darker area around the nipple also appears wider. The breast will then continue to grow throughout the period of adolescence where it eventually becomes rounded with the only elevated part being the nipples.
- Pubic hairs begin to grow around the genital area. The initial hair that is seen is normally long being soft and concentrated in a small area on the vulva. It then becomes harder and darker while spreading to cover a small area of the vulva. As time progresses, it looks like an adult hair and it continues to spread across the vulva spreading to the thighs in some may spread to the lower abdomen. Hair under the armpit will also develop while some hair may also develop on the legs.
- As girls grow with an increase in the pubertal hormones, the skin also becomes increasingly oily and they also sweat a lot. It results in some skin odour. Some may also develop Pimples and Acne on their faces. To improve the personal hygiene of the adolescent girl, it is expected that the adolescent baths at least once a day to maintain a good smell and improved personal hygiene.
- The body shape of the adolescent girl also begins to change. This also affects the weight and height of the adolescent as they show increases. The hip usually becomes wider while trying to achieve the shape of a gynaecoid pelvis. Adipose tissues are laid more in the buttocks, the stomach and the legs. The thighs become more rounded as well. Generally there is an increase in the size of the body as well as the height but the hands,

feet and legs grow ahead of the general body parts which sometimes makes the girl child appear a bit awkward.

- With time, the body parts produce fertility hormones which prepares the girl child for reproduction. This is characterised by the onset of menstruation which is usually irregular in the first few months but becomes regular monthly throughout the girls' reproductive life. This means the adolescent girl can get pregnant if she has unprotected sex. If the released egg is not fertilised, the lining of the endometrium is shed as menses.

Puberty in Boys

Boys during the period of puberty also go through a sequence of complex events just like girls except theirs is a bit delayed compared with the girls. Also just like the girl, these events are not same for all boys but majority would have achieved all the milestones by the end of the puberty period. Below are the major events that unfold for the adolescent boy. [37]

- The first change that is observed is the enlargement of the scrotum and the testes. This usually occurs without an increase in the size of the penis. The penis grows and continues to grow as the scrotum and the testes continues to increase in size. This occurs around age 10 years to 17 years.
- Pubic hairs begin to grow around the genital area. The initial hair that is seen is normally long being soft and concentrated in a small area on the pubis. It then becomes harder and darker while spreading to cover a small area of the pubis. As time progresses, it looks like an adult hair and it continues to spread across the pubis spreading to the thighs and in some, may spread to the lower abdomen. Hair under the armpit will also develop while some hair may also develop on the legs. As the boys grow with an increase in the pubertal hormones, the skin also becomes increasingly oily and they also sweat a lot. This

results in some skin odour. Some may also develop Pimples and Acne on their faces. To improve the personal hygiene of the adolescent boy, it is expected that the adolescent baths at least once a day to maintain a good smell and improved personal hygiene.

- There is an increase in the body size of the adolescent boy. They rapidly become tall as they increase in height while their shoulders become wider making their chests broader. The head, hands, feet and the legs also grow faster than the torso which makes the adolescent boy look a bit awkward for a while.
- Some boys may develop breast enlargement on one side or both of the breasts called gynecomastia. This is slight tender and usually resolves over time.
- Development of facial hair and hair on the chest and other parts of the body occurs. This hair usually is long and light but later becomes darker and coarser while spreading to most parts of the body.
- Testosterone production commences in the adolescent boy. This enables the boy to produce sperm. This is characterised by the adolescent boy having erections and ejaculating especially at night termed as ‘wet dreams”. The erections normally happens without any external stimulus.
- The larynx increases in size and becomes prominent in some of the boys. The voice deepens as he speaks.
- There is also rapid increase in size of the muscles and the boy becomes stronger.

As attitudes, values and behaviours begin to crystallize and take shape, society expects the adolescent to assume greater personal responsibility. This process is marked by increased

experimentation and vulnerability to health challenges such as SRH risks, mental and psychosocial disorders.

During this period of growth, adolescents need accurate information, encouragement and support so as to understand the physical and psychological maturation process. They also need good nutrition, information about body changes, the management of menstruation (for girls), consequences of unprotected sex and drug abuse. They also need information protection against sexual abuse and harmful cultural practices such as female genital mutilation and early marriage. Research has shown that adolescent in LMICs face challenges during menstruation. Lack of water, proper sanitation facilities at the schools and sanitary supplies are major contributors to school absenteeism among girls. [38] In a feasibility study conducted among school girls in Nairobi, feelings of anxiety, embarrassment and discomfort during menstruation in addition to lack of proper sanitary wear were reported as having a negative effect on the girl's concentration in school. [39]

Though detected later in adult life, the manifestation of most mental disorders occur during adolescence. Adolescents who have poor mental health are more likely to achieve lower education status, be engaged in drug and substance abuse and have poor health status. [40] This has become an area of focus for many national governments in both higher income and LMICs. This is because their negative health is likely to result in both economic and social consequences and in turn affect national development.

2.2 Approach to interventions towards the health of adolescents

A review of literature shows that sexual reproductive health intervention targeting young people have taken one or a combination of the following approaches: i) facility-based and ii) community-based interventions.

i) Health facility-based sexual reproductive health programmes.

In essence, most facility-based Sexual Reproductive Health programmes take a multi-faceted approach. Facility-based SRH interventions strive to increase access to SRH services through training clinical and non-clinical staff to be sensitive to the sexual health issues young people experience, making facility improvements such as constructing or renovating specific service delivery areas and linking health activities with other sectors such as schools, communities and mass media networks. The main challenge with multi-component interventions is that it is difficult to disentangle the effects of individual interventions on outcome measures. [41]

Studies reporting on multi-component programmes in sub-Saharan Africa including randomised control trials, quasi-experimental or non-controlled studies used biological markers to assess the effectiveness of SRH interventions. In these studies, blood samples were taken from respondents for HIV and HSV-2 testing both at baseline and follow-up. Other tests conducted included those for gonorrhoea, chlamydia, syphilis and pregnancy. There were three main findings from the studies: a) a significant improvement in reported knowledge and attitude among both young men and women, b) no effect on the incidence of HIV in both intervention and comparison sites, and c) except in one project, no significant difference between trial arms on incidence of HSV-2. With regard to prevalence of pregnancy and other STIs (gonorrhoea, chlamydia, syphilis), the programmes were unable to demonstrate an effect. [42, 43] In one of the studies, more young women in the intervention site became pregnant and had a higher prevalence of *N. gonorrhoea* during the three-year follow-up. [44] Eight years after, an evaluation of the interventions produced similar results. However, the intervention was associated with a reduction in some high-risk reported sexual behaviour such as a reduction in the proportion of males reporting more than four sexual partners in their lifetime; and an increase in reported condom use at last sex with non-regular partners. There was an appreciable and continuous

impact on knowledge but no significant impact on reported attitudes to sexual risk, reported pregnancies and other sexual behaviours. In addition, training of health service providers in youth friendly services linked to other service components such as schools and the community, significantly increased service use especially among younger males (15-19 yrs) seeking treatment for STI symptoms. [45] In another study, a 33 percent reduction in the incidence of HSV-2 was detected among the intervention group. In addition, there were significant improvements in the number of reported risk behaviours in males where fewer males reported perpetration of intimate partner violence (IPV) and there was evidence of less transactional sex and drinking problems at 12 months, although these effects were not sustained after 24 months. These changes were only noted in males and were not observed in females. [46]

In low and middle income countries, demand side financing such as use of competitive subsidised vouchers has been shown to increase utilisation of reproductive health and child health services by priority population groups as well as improve the quality of services provided. [47] For example, voucher subsidies have shown success in increasing access to SRH by poor and underserved adolescent girls in Managua, Nicaragua. Girls receiving vouchers were more likely to access health facilities when in need of family planning services, treatment of reproductive tract infections, ANC, counselling and pregnancy testing. Girls receiving vouchers also had higher knowledge with regards to STI prevention and condom use. [48] There is emerging evidence that mobile phones can be used as a communication tool to improve service delivery and uptake especially in managing health information and communicating to clients from vulnerable and hard to reach areas. Studies have shown that providing health information using mobile text messages can improve communication with clients from underserved areas as well as increase satisfaction with services among pregnant women. [49]

ii) Community-based health interventions

Community-based programmes may be implemented through community initiatives such as youth development programmes such as stand-alone youth centres, peer promotion programmes and educational programmes. They are able to reach young people both in-school and out-of-school. Community-based programmes often involve the use of mass media and other community education activities such as use of peer educators and volunteers. [50] Mass-media interventions have the potential of having a high coverage and positive influence on adolescent knowledge and attitudes, especially when the radio is used as a health education medium. However, the effect on sexual behaviour and contraceptive use has not been ascertained. In Zimbabwe, mass media campaign reached over 90 percent of the target audience through posters (92%), launch days (87%), leaflets (70%) and drama (46%) with young people in the campaign sites reporting a higher intention to visit a health centre (2.5 times more) and a youth centre (14.0 times more). [51] Exposure to substantial levels of mass media and interpersonal communication where preventive and promotive services are available (such as in social marketing) may lead to protective sexual behaviour, increased risk perception especially among males and a reduction in misconceptions about HIV and the associated stigma. [52] Use of peer education in community-based programmes has been shown to result in increased reproductive health knowledge and contraceptive use. [53]

2.3 Awareness of health services

Individuals living in a community as part of their needs, would usually want to be healthy to carry out their day to day activities. This makes health care of much importance to the existence of the community members.

In some instances, communities are driven by this quest of survival to put in measures to improve their own health such as community initiatives in building health structures in an attempt to meet their health needs. The political systems in most countries have established decentralized systems that are supposed to ensure the health needs of the populace are met. These systems, mostly referred to as the local governance system, work with the communities to solve their health problems by constructing and making functional hospitals, clinics and health centres. In some instances, partners, philanthropists and other benevolent organisations provide some support in these areas.

The utilization of these interventions meeting the health needs of the communities are immensely affected by their awareness and perception. A study conducted in Nigeria to assess the effects of awareness and perception on the utilization of health services showed that 52% of the respondents showed knowledge of the presence of a health facility in their catchment area which affected their patronage of the services provided at the health facility. [54] Another study that looked at awareness and perception of referrals in the health system regarding lower levels, also showed that only 6 percent of the respondents were aware of primary health care services being the first point of call when health services were needed by them. The study concluded that, low awareness and poor perception of health services affected the utilization of health services. [55]

2.4 Adolescent friendly health services

Adolescent health services often target young people aged 10-24 years with special focus on 10-19 years old. Youth friendly sexual and reproductive health services have been described by WHO as *"services that are accessible, acceptable, equitable and appropriate to meet the SRH needs of young people [56]"*. Adolescents receive services within an environment that is friendly

and welcoming, are able to come back again and also refer their friends for the same services. Some enhancing factors such as friendly policies; friendly health service providers and support staff; friendly service delivery mechanisms such as convenient hours, privacy and comprehensiveness of services have been cited as essential for youth-friendly service provision. [57] Youth friendly health services and adolescent sexual and reproductive health (ASRH) services are terms which are used interchangeably by different authors in the international literature to mean SRH services which are designed to suit either young people (10-24), adolescents (10-19) or even older adolescents (15-19).

2.5 Adolescent health interventions

Evidence has shown that adolescent health programmes have been successful in improving sexual and reproductive health knowledge and attitudes of adolescents. However, this has not resulted in the reduction in adolescent pregnancy rates and the incidence of HIV/AIDs. A few reasons have been attributed for these outcomes. Firstly, improvements in sexual and reproductive health knowledge and attitudes may not necessarily lead to change in sexual behaviour. Secondly, sexual behaviour changes observed may be below the threshold level required to result in the desired significant change on the biological measures. Thirdly, interventions may require a longer implementation period so as to achieve a positive effect. Fourthly, social, cultural and religious factors around adolescent sexuality play a major role in the sexual behaviour of young people and these have not been well articulated in the design of these interventions. [40, 58] Some researchers have noted that the current implementation of sexual reproductive health interventions (skills-based, in-school education, linked to adolescent friendly corners and limited supportive community activities) may be insufficient to result in significant improvements in outcome measures. [59, 60] Sexual and reproductive health interventions have

mostly planned their programmes based on insufficient HIV/AIDS risk reduction assumptions. Most programmes use HIV/AIDS prevention as a precursor to changes in sexual behaviour without taking into consideration other interrelating social, cultural and economic factors that influence sexual behaviour. [61] It might therefore not be realistic to expect significant behaviour change and positive outcomes from sexual reproductive health educational interventions. At best, these programmes should strive to increase service utilization; for example, picking up more cases of unrecognised STIs and treating them, rather than expecting to reduce the prevalence. However, most sexual reproductive health interventions have not evaluated the effect on utilization of sexual reproductive health services.

Another line of argument has been that, long-term concurrency or overlapping sexual relationships may be contributing significantly to the negative outcomes of sex and HIV interventions and that lack of programme focus on concurrency may invariably play a role in ineffectiveness of SRH interventions. However, it has been reported that focusing on long-term concurrency alone may not produce the expected positive changes in biological outcomes of SRH interventions. Furthermore, indicators measuring concurrency are not standardized, making comparison across interventions difficult. [47] Sexual behaviour is a complex issue, which is prone to be influenced by young people's social and economic environment. Focusing sexual behaviour change interventions to individual young person's behaviour change may not result in significant positive outcomes if community norms and values young people conform to remain the same. Furthermore, the proportion of HIV transmitted through long-term concurrency is uncertain. [46] Suggestions have been made for a paradigm shift to the design of interventions that try to change social norms and values, for the whole community, rather than change individual behaviour of the young people. [61] Some of the societal factors that are known to negatively affect

the sexual behaviour of young people and may need to be considered during the design of structural interventions include peer pressure, negative attitudes towards condoms, financial and material gain for sex and intergeneration sex between young girls and older men. [62]

It has also been reported that ineffectiveness of some programmes could have occurred because of implementation challenges experienced by both school-based and facility-based programmes. Implementation challenges faced by ASRH programmes in schools, which may have a negative effect on the expected outcomes, include lack of teachers, lack of teaching resource materials, the values and beliefs teachers possess as they may omit discussions on condom use during sex education sessions and the low priority accorded to sex education by the education system. [47, 63] Implementation challenges, faced by facility-based interventions, include aspects of staffing such as inadequate staffing levels and a high turnover of trained staff at the health facilities. An example of this would be in the MkV project, where the effect of trained prescribing staff disappeared one year after the initial training due to the high turnover of staff. In addition, facilities did not have adequate privacy during consultation as there was constant interruption by other staff, consultation rooms were open and other patients could over-hear the consultations. [63]

The WHO, the United Nations Children's Fund (UNICEF) and the United Nations Population Fund (UNFPA) in 1995, set out an agenda for action in adolescent health and development. Their similar agenda had two goals of promoting healthy development in adolescents as well as the prevention and response to health problems if and when they arise.[64] The programme called for the formation of a package of interventions channelled to meet the special needs and problems of adolescents which includes the provision of information and skills, the creation of a safe and supportive environment, and the provision of health and counselling services. [64]

These services have not been holistically implemented within our health care delivery system in Ghana even though the developmental characteristics and health behaviours of adolescents make the availability for them. Particularly, reproductive health services, diagnosis and treatment of sexually transmitted disease, mental health and substance abuse, counselling and treatment are of critical importance to these adolescents knowing they have little knowledge of finding solution to challenges that befall them in these areas.[65]

2.6 Adolescence and Contraception

Adolescent sexual activities are usually not planned and may arise spontaneously. In such situations, the adolescent may not be prepared for a pregnancy out of such spontaneity leading to unwanted pregnancy. Some adolescents may resort to unsafe abortion services which can affect their reproductive health or end in death arising from complications such as infection or bleeding. Access to contraceptives remain a challenge among adolescents as a result of their inability to procure them [66] and also lack of availability of the commodity in places where adolescents can freely acquire them. In some countries, contraceptive vending machines are placed at vantage points where individuals can easily have access to them when the need arises. Even in such circumstances, a token fee is paid to acquire the commodity which will still not be useful to solve the lack of access to contraceptives since many adolescents may not be working to be able to purchase the commodity. Though some adolescents are sexually active, their knowledge and awareness about contraceptives are often limited resulting from lack of sex education. [67] Others may also resort to using emergency contraceptives as a form of regular method of contraception anytime they have unprotected sex in order to prevent unwanted pregnancies.

In LMICS, contraceptives are usually acquired at the health facility level through a caregiver providing it to the client. Such health facilities may include hospitals, health centres and public health facilities. Usually, adolescents feel shy to request for contraceptives from health care workers as they feel stigmatised or they become afraid to approach the health workers for contraceptives.

Other sources of procuring contraceptives include the pharmacy shops or the chemical shops. These remain the preferred choice most often as the adolescents spend very little time there. However the attendants at these facilities do not provide health education to the adolescents and this can result in incorrect use of the contraceptive. As the acquisition of contraceptives is challenging for most adolescents, they may engage in unprotected sex thus exposing them to many sexually transmitted diseases which may stay with them for life or affect their reproductive health if untreated early.

One of the serious challenges facing family planning programmes particularly in sub-Saharan Africa is how to address the reproductive health needs of adolescents as they initiate sexual activity early and are exposed to the risk of pregnancy.

According to the Ghana National Reproductive Health Service policy and standards, family planning services should be provided to people of all ages including adolescents without any restrictions. It further emphasized that sexually active adolescents who seek the services of using contraceptives shall be counselled, given adequate information and served accordingly. [68] However, challenges exist in ensuring adolescents have unrestricted access to contraceptives.

For instance, among nurses and midwives providing sexual and reproductive healthcare in Kenya and Zambia, it was determined that majority of these service providers approved of

contraceptive use by sexually active girls and were willing to offer counselling services for boys on condom use. However, most of the nurse-midwives in both countries reported that their first option would be to recommend that unmarried adolescent boys and girls abstain from sex rather than offer them contraceptives. However, those who had received continuous education on adolescent sexuality and reproduction showed a tendency towards more friendly attitudes towards adolescent contraceptive use. [69] Similarly, another research in Ghana reported that health care providers sometimes enforced a variety of restrictions such as age and parity to impede access to health services. A main reason reported to be responsible for the resistance of service providers to provide sexuality education and contraceptive services to adolescents is the belief that it promotes sexual promiscuity. [70] They reasoned that, by restricting access to services, they were instilling moral values at an early age to protect both adolescents and the society. Thus, showing good examples in the family and promoting spiritual growth to enhance the development and practice of healthy sexual behaviours such as abstinence among unmarried adolescents, delay initiation of sex until a time in the future when they are ready for the physical, emotional, financial responsibilities of sexual activity and parenthood. [70]

Nevertheless, there are still some adolescents who will engage in sexual activities and must have access to adolescent sexual reproductive health services to prevent medical, social and psychological problems such as STIs, unplanned pregnancies, unsafe abortions, school drop-out, and loss of life among others.

The Ghana Adolescent Health Service Policy and Strategy document which was supposed to guide adolescent health services from 2016 to 2020 states that " knowledge of contraceptives among females and adolescents has been relatively high" [71]. For instance, among married adolescents, knowledge of any form of contraceptives had improved from 85.6% in 1993 to

96.5% in 2014. Although knowledge of contraceptives has been high among married females adolescents, usage remains low with only 16.7% using modern family planning methods in 2014.[24]

In this regard, all stakeholders including health care providers have a role to play in ensuring that adolescents have access to contraceptives, essential health information and services they require. Information available according to the Ghana Health Service report in 2017 suggest that indicators monitoring adolescents can be improved if more efforts are placed in addressing the needs of this age group.

2.7 Health provider attitude and family influences

Cultural and religious influences in the communities as well as the social settings, tend to let families impose their personal values in their children as they socialize them from childhood into adulthood. Such socialization is normally devoid of sexual education for adolescents for cultural and religious reasons as it becomes very uncomfortable for parents to extend such knowledge to their wards.

Many parents tend to assume that their children are innocent and too young to be taught about sex or even indulge in any act of sexual activities. A strict and unconducive environment is created at homes where children can't freely ask questions about their sexuality as some may be sexually active and would have liked to discuss their sexuality with their parents.

Since many parents assume their children are not sexually active as a result of the value systems placed on behaviour at homes, the children may also pretend to behave in ways to put confidence in their parents about upholding such values and as such may seek information about their sexuality from their friends and other sources such as social and print media which may

give them false information. There is also a perceived knowledge that, introducing adolescents to sexual education and use of contraceptives would rather make the adolescents become spoilt children and would want to experiment with sex. This tend to affect the health seeking behaviour of adolescents on the use of contraceptives as it becomes unavailable for them when they need to acquire it. Some adolescents who acquire contraceptives usually sneak to get it from their friends and may hide it from their parents as well as not knowing how to use such commodities.

Research in sub-Saharan Africa over the years has shown high incidence of unwanted pregnancies, unsafe abortion, HIV and other STI's among adolescents, indicating low contraceptives use among adolescents in the region. [72, 73] Factors reported to be generally associated with these poor health indicators among adolescents include fear of stigma, shame and embarrassment, inadequate information about contraceptives, unplanned sexual activities, inability to negotiate with partners, the attitude of providers and lack of education and services targeted at adolescent.[74, 75, 76] Some adolescents for example, claim that they refused to go to public clinics because of the attitude of the healthcare providers. [76] Studies have shown that, in many African settings, the attitude of healthcare providers towards providing sexuality education and contraceptives for unmarried adolescents has been one of the contributing factors preventing adolescents to have access to them. The reason mostly cited closely related to the social setting our communities are structured making this perception affect the healthcare system. [76, 77]

As many caregivers are also socialized in the same cultural, religious and social settings that frown on sex education and use of contraceptives by adolescents, some lack the capacity and the skills to discuss sexuality and contraceptives with the adolescents. They may feel very uncomfortable and some may also be very judgemental in their approach and may turn the

adolescents away from the health service even when the adolescent develops courage to have such discussions with them.

Unfortunately, such adolescents tend to spread the unfriendly behaviour of the caregivers to their friends who may in turn refuse to approach caregivers for the appropriate information when they need to, as they think they may also be stigmatised or treated in an unfriendly manner as their peers have told them. This culminates into them seeking for information from unapproved sources which would not help address their challenges. However, with the requisite training of health workers who manage Adolescent Health Corners, such challenges are surmounted and adolescents can seek information from such health facilities.

A study conducted in Uganda which looked at attitudes of healthcare providers towards providing adolescents with health care including contraceptives revealed that most of the providers had negative attitudes towards the provision of sexuality education and contraceptives for young people and were hesitant to give young people contraceptives as such, they imposed non-evidence based age restrictions and consent requirements.[78]

The above situation in most sub-Saharan countries in Africa is similar to what pertains in Ghana.

2.8 Access to Adolescent Health Care

Internationally, a standard guideline has been provided for the care of adolescents and the areas to cover in dealing with issues that confront them. [33] but that situation is not adequately addressed in Ghana considering the inequitable and unequal distribution of resources particularly the human resource for health care delivery. [48] Health workers least accept posting to rural areas

and are concentrated at the urban communities where there are comparatively, some resources for use by the adolescent. [48]

It will be good to recognize also that most adolescents have no knowledge of the existence of a corner designed for addressing their needs and the services they provide [33] and regrettably, the situation is same in both settings in Ghana (rural and urban). Compounding this is the unavailability of personnel to go to for advice.

Since adolescents are a special group of people transitioning into adulthood, their different ages are coterminous with their physical and cognitive development. This makes it difficult to share the same information or provide services across the varied age groups. Presentation of age appropriate services and information is very critical to the understanding of the adolescent. This thus requires special skills in dealing with the health issues of adolescents as one may tend to assume that any health care provider can handle the issues of adolescents when placed in an AHC. In instances where the service provider lacks the capacity to handle such issues, they tend to impose their cultural, religious and moral values on the adolescents which may not objectively resolve the problems presented by the adolescents. The end result is the creation of an unfriendly environment for the adolescent with its associated stigma and judgemental approach to problem solving.

This causes the adolescent to turn to informal service providers for advice on health related issues rather. [79] The consistency with which this is done create the danger for adolescent to have access to information that are not friendly. [79]

In cases that they are willing to assess the right information from a credible source, they are not exposed to the right place for the information. [79] The social setting has not also contributed to

giving the opportunity to freely have access to certain information by the adolescent considering that the information somewhat is perceived as a social deviant information. [80, 81]

The guidelines take into account the global accelerated action for the health of the adolescent and seeks to advance their health by addressing issues in SRH, HIV and STI. Adolescents are noted for their lifestyle related unhealthy behaviour which widely contributes to the majority of morbidities and mortalities recorded for this age category. [82] There are quality standards that have come to be accepted and designed to meet the needs of the adolescent if all are met. [83] Some notable quality standards that need to be achieved include:

2.8.1 Adolescent health literacy:

This seeks to have adolescents placed in systems that ensure them to have adequate knowledge about their own health and information on where and when to obtain these services. [84] As systems are put in place to make sure adolescent health services are available for adolescents, it is surprising to know that some adolescents still do not have access to the services provided at the various health corners. Trained health workers are normally available to provide the desired services at the Adolescent Health Corners but some facilities experience very low turnout for the services.

This can largely be attributed to the low levels of demand creation activities which creates unawareness of the services provided at the health corners as well as the presence of the facility. Some of the facilities are built and commissioned with the expectation that individuals who need the services would attend the facility for health care but this is not the case in most instances as the facility sits in the community without people having knowledge about the purpose it is supposed to serve. Some of the facilities also lack directional signs which spells out the package

of services that are provided while some may even lack a boldly labelled inscription such as "Adolescent Health Corner" written on the facility. In such instances, though the facility is made available, access to the services remains a challenge.

Demand creation activities that are employed to improve adolescent health literacy include the following:

- **Durbars / Games**: The act of bringing community members together to discuss their health issues in small groups have been identified to play a critical role in improving community participation in health care delivery. [85] During such gatherings as durbars, the health care provider presents the technical information in simple terms to the community where the issues are discussed. Community members come out with possible solutions to the problems identified while the leaders put in place measures to ensure compliance. Sometimes, fines are even instituted by community leaders for individuals who go contrary to what has been discussed. Games, quizzes etc. can also be organised between schools and between communities where health issues can be discussed to improve health literacy.
- **Outreach services**: This strategy is mostly dependant on the health care providers who move out of their facilities to provide healthcare. Surrounding communities may not have access to health care services due to longer distances to cover to reach the services or may be hard – to – reach areas which are cut off by natural structures such as rivers etc. It is expected that health workers organise outreach services to these deprived areas periodically to make health services available. This is achieved with the support of community mobilisation structures involving community leaders and community volunteers who mobilise the individuals in the community for the health workers to

interact and provide services. This usually serves as a stop gap and over time the community systems are able to lobby through the community development to acquire a permanent infrastructure to serve as the health delivery point.

- **Social media** over time has become one of the most avenues for seeking information for most people in this current technological age.[86] This has caught up with many adolescents who visit these sites regular for information. Making available information on adolescent health services on such platforms increase the chance of creating awareness for literate adolescents. Websites are created with interactive sections which helps to improve health literacy for adolescents. Parents and caregivers can also acquire some knowledge on adolescent health services and encourage their children to patronise the services.
- **Information centres and Radio**: These traditional vehicles for disseminating information is used to also provide key messages that are transmitted to the general populace. It normally has some added advantage as it becomes interactive and community members can phone in to express themselves and obtain clarity on areas that they find difficult to comprehend. [85]
- **The use of champions and peer educators** has been demonstrated to improve adolescent health literacy. With this strategy these champions or peer educators are usually trained on basics issues of adolescents. As they interact with their peers, they are able to transmit messages to their peers in ways that are acceptable to them. [87] The peers also feel comfortable discussing their challenges with the peer educators who link their colleagues to health care.

A systematic review by Fleary, Joseph and Pappagianopoulos in 2018 recognize the great importance health literacy have on adolescent behaviour. The study was able to associate health literacy to higher health promoting behaviour especially in the area of reducing alcohol intake, limiting drastically the use of tobacco and improving health seeking behaviour of adolescents which in effect brings the goal of improving adolescent morbidity and mortality closer to the minimum. [88]

Another factor that improves adolescent health literacy is the role that parents play in the homes. The possibility that an educated parent will be more equipped to educate his/her adolescent child is higher than the one who does not have any formal education. [89]

Nutbean in his publication in 2008 on the evolving concept of health literacy suggested that interaction and communication plays a functional role in improving health literacy. In discussing this, he asserted that the gradual process and research work put into health literacy has brought to the awareness of policy makers and health care professionals, the importance that should be attached to health education. Review on a range of issues especially drug prescriptions from hospital to patient care giver interaction has revealed that the health of patients can improve if more is done in the area of health literacy. [90]

2.8.2 Community support:

This generally explains what systems the health facility should implement to enable parent / guardian and other community members and the structures put in place. It recognizes the importance of providing health services to the adolescent and the community's support for these services provided and their use by the adolescent. [84]

Community support has been noted to be one of the driving forces of improving health indicators. That said, factors within the community cannot be ignored when implementing strategies geared towards young individuals especially knowing that these individual's behaviour are controlled to some extent by the adults who basically are the parent figure and others within the community [91] In effect, fully involving the community in strategic effort to improve young peoples' behaviour is something that should be considered since communities have substantial influence on young individuals and no intervention can fully meet its goals without including such driving force in promoting health. [91]

The community can also play a vital role in situations that their expectations may not be seen to have been met. In all the effort to reduce adolescent pregnancy with all the intervention in place, the numbers still can be seen within the routine data collection. That said, no support by the community is even visible in situations where adolescent mothers are gladly ignored due to circumstances the community considers such mothers as social deviants. [92] Particularly, these adolescent mothers may never end up again in school or even get a meaningful job more so be socially recognized in the society. [92, 93] In the end the one with less education is left to her faith to fend for herself.

2.8.3 Distance to access health services

Health care utilisation is the use of a variety of health care services by the people the services intend to serve. Determinants of health care utilisation by a population is related to the availability, quality, distance covered to reach services and cost of services. Others such as social economic structure, and personal characteristics of the users also play a very important role. [94] The under-utilisation of health services in the public sector by people has been almost a universal

phenomenon in developing countries. [95] Based on this fact, various governments have made numerous efforts towards the provision of health care facilities to its population. As a result of economic challenges in developing countries, fewer health facilities are built in the rural areas compared with the health infrastructure in the urbanised areas. In this attempt, the distance between the rural dwellers and the health care facility contribute immensely to access to health care services given the transportation problem experience in these areas, and its attendant cost. Longer travel times and longer distances covered to reach health facilities in rural areas constituted barriers to repeated visits. [96] A study in Ghana found that distance was the most important factor that influences the utilization of health services in the Ahafo-Ano south district of Ghana. [97] Hence effect of travel time covered for utilization reflects that of distance and utilization.

2.9 Appropriate package of services

Another standard the World Health Organization elaborated in the 2016 guideline for adolescent which it considers vital in meeting adolescent needs is the provision of information, counselling, diagnostic, treatment and core service that fulfils the needs of all adolescents taking into account the linkages to service provision through referrals and outreach activities. [84]

Research has shown typically that adolescents are more prone to physical, psychological and emotional stress than any of the growing stages of life [84] making them the greatest group in need of support through counselling. Such counselling is often frequently sought from peers due to the little or absence of avenues to assess the services.[2, 98] Actually, some school of thought have it that, the peer group is one effective way to reaching the adolescent and should be invested in since they share a common believe and there is already trust built up between them making the

process of putting in an intervention to them easy. [99] A randomized controlled study on two groups in Finland to assess the effectiveness of interpersonal counselling and brief psychosocial support among adolescent in school health further emphasized the importance of counselling to the adolescent. The study showed that both treatments were effective in reducing depression and psychological depression in adolescents. It further indicated that 50% of the adolescents upon treatment were considered to have recovered based on self-report and another 70% based on observer report. In all, it was recorded that both counsellors and adolescents were satisfied with the outcome of treatment. [100]

AHCs are integrated mostly into existing government health facilities, instead of being constructed as separate standalone facilities. This integrated approach makes the AHCs as a critical new initiative for expanding AFHS and reducing stigma and other barriers that adolescents (especially unmarried girls) face when seeking SRH information and services.

The AHC is intended to incorporate SRH services for both married and unmarried adolescents. An AHC is defined as either a separate room or a dedicated space partitioned by a screen so that others not involved with their interaction when they visit, would not see nor hear about their problems thus maintaining privacy for the adolescent client. AHCs are designed to maintain privacy and confidentiality so that adolescent clients can share their problems openly with the service providers and can receive counselling and other services. AHCs are intended to serve as a convenient place for SRH information and services for both unmarried adolescent boys and girls. They are conducive and preferred places where adolescents can access information, counselling, and services on a wide range of ASRH issues

Services provided at the health corners include information on physical and psychological changes during adolescence, counselling services, food and nutrition information, Tetanus and

other vaccines , STIs management, menstrual cycle and hygiene, early marriage, reproductive health-related information, safe sex , contraceptives and family planning, gender-based violence as well as substance abuse. Other direct services include treatment for RTIs, menstrual problems and management, treatment of anaemia and treatment for general health issues.

2.10 Care provider's competencies

This explains health care worker's demonstration of technical competence required to provide quality and effective care to the adolescent. It also considers the care giver and other staff rendering care to protect and freely give information to the adolescent due to the right of the adolescent to have that information considering also that, the information given is offered in privacy and the confidentiality of the information also assured. In all this, the information should be devoid of any discrimination and judgmental attitude.[84] Provider competence encompasses having and demonstrating "knowledge, skills, abilities, and traits" that successfully and efficiently deliver high-quality services. Competencies are often built during pre-service training and also as in-service training and isn't limited only to technical knowledge. Some qualities of a competent provider must even include having strong empathy and communication skills, and these are considered important components of "experiential quality," from the patient perspective.

The key to providing this quality of care to the adolescent is having a care giver with the requisite skill to address their needs. That notwithstanding, the adolescent is noted to have such complex needs for health. [101] According to a document by the WHO published in 2015 on "core competencies in adolescent health and development", health care workers should exhibit three qualities if they are to care for adolescents very well; possess fundamental concept in adolescent

health care and development knowing how to effectively communicate with them, know the laws, policies and quality standards that aims at caring for the adolescent and possess clinical care skills needed to care for specific conditions pertinent to adolescent. [3] Ghana's standard of accomplishing this was however not met according to a report from the Family Health Division in 2015. They stated that there was the need for a more innovative strategy to make activities structured for adolescents to work. This they elaborated was because a number of strategies they had implemented had not worked effectively such as access to appropriate information by the adolescent, utilization of health service etc. [19] Even with so much investments by donor partners especially in the area of equipping providers to acquire the requisite knowledge and skills to rendering counselling to clients in a non-judgmental manner with the assurance of confidentiality of information given, the impact has not be realized.

2.11 School Health Education Programme and School Health Clubs

The School Health Education Programme (SHEP) has been in existence since 1992. It has been a major programme of the Ghana Education Service (GES). The programme seeks to make available a comprehensive health and nutrition education and related support services in schools to equip children with basic life skills for healthy living. This can lead to improvements in child survival and academic outcomes, including school enrolment, retention and academic performance. [102] In order to achieve this, the SHEP has inherent structures that cascade from the national level to the secondary level to ensure that the programme's goal is translated into actions and activities which are implemented to the advantage of the students. At the secondary level, there are Health Committees which provides direction to the schools on what to focus on and priority areas a school will absorb implementing the SHEP. This is often done with consideration to local conditions and challenges. School pupils normally are at the receiving end

and are treated with less value within the implementation of issues associated with their health. The School Health Club (SHC) serve as a vehicle that empowers pupils to play a lively role, choose and implement issues associated with their health once they are in school. The club also affords the pupils the chance to become 'Agents of Change' who carry home and translate into action healthy habits and knowledge they learn at school and by this way influence their siblings, parents and friends who could be out of school.

The School Health Club usually operates as a voluntary group which exists within the school. During its operations, the school children engage, with supervision from their teachers to find out, discuss and take action on issues associated with their health and wellbeing whilst they're in school. The main target of the club is totally on the health of the pupils with emphasis on Water, Sanitation and Hygiene (WASH) as well as sexuality education. The WASH Club may be a recognized school level grouping within the school level and every school across the country is encouraged to establish one in their school. [103]

Children mostly spend quite sometime in the school, making the school a crucial place through which their health are often influenced positively. The health of adolescents while they're in school is vital because they're in their formidable age and poor health will impact negatively on growth and development including the child's ability to find out about their health and the changes to expect during their formidable years. Poor health affects school attendance and completion rate. Healthiness of adolescents enhances academic performance in class. The SHEP provides a framework for children's health issues to be addressed whilst they're in school. The concept of forming the school health clubs is to supply children an avenue to organise themselves to find out about issues that affect their health which enables them make informed decisions and choices. The overall goal of the School health club is to market effective learning

through supporting the adolescents to extend their knowledge and understanding of health issues that affect them directly and guide them to adopt positive behaviours to stop poor health. [84] The precise objectives of the School Health Club is to promote hygienic lifestyles among pupils, increase pupils knowledge and understanding of WASH, promote a healthy school environment, to encourage outreach to the house and community and to challenge children to accept leadership roles and responsibilities. Currently, additional activities such as knowledge and understanding of the period of adolescence, sexuality education and improvement in computer skills have been added to improve the club functions as a result of collaboration with the Ghana Health Service.

The School Health Club is primarily formed at upper primary and senior high school levels. Any primary or senior high school within the country can form and run a School Health Club following simple steps to make school health club functional in their schools. The Head teacher and therefore the School Health Team – (the School Health Coordinator and two other teachers) brief other teachers about the formation of the Club and obtain their zeal to support the Club and planned activities to be carried out. Even though not all staff members could be directly involved within the school, it is important that each teacher on roll understands, supports and encourages the activities of the club. [104] The intention to form the School Health Club within the school should also be announced to the pupils. After the awareness creation has been done, the School Health Coordinator informs the adolescents about the establishment of the Club within the school during a morning assembly and invites interested pupils to register as members. Class prefects in each class pen down the names and ages of all who wish to be members of the Club. At the close of every school day, the School Health Coordinator and other members of the health team collate the names of pupils who have indicated membership from all class prefects. Membership of the Health Club is open throughout the academic year. Subsequent to the initial

registration, a pupil can always register to be a member at any time during the academic term. Once their names appears on the register, the pupil becomes be a member of the Club.

There are absolutely no specific restrictions on the number of members of the School Health Club. The club is open to all pupils as possible who intend to join once they are pupils of the school. The School health club has a variety of members made up of the normal registered members of the Club from which executives of the club are elected from amongst them. Ordinary members have the responsibility of taking part in all Club activities and ensure that the club is sustained at all times. Associate Members of the club tend to be adults who support the School Health Club in many ways. Some of the support that they can provide include financial support, material support, technical or professional support. Parents, doctors, NGOs, businesses and company bodies who support these school health clubs in whatever way are termed as associate members of the Club. An individual is often a member of the School Health Club for as long as he or she remains in the school. If a pupil moves to another school, they will join the School Health Club in their new school however, they would not automatically be members of the School Health Club Executives in the new school. The Club has five Executive members namely the Club President, Club vice chairman, Club Secretary, Club Organizing Secretary and Club Porter. President or the Club vice chairman and the other two members present form a quorum to start out a meeting and also take a choice. Decisions of the club during its executive meeting are determined by an easy majority vote.

CHAPTER THREE

Methods and Materials

3.0 Introduction

This chapter discusses the study design employed for the study. It also describes the study area, the variables, the study population, sample size, sampling method, data collection methods, and quality control, data processing and analysis and ethical considerations.

3.1 Study Design

The study employed a descriptive cross-sectional design. Cross-sectional studies provide a 'snapshot' of the outcome at a specific point in time. The choice of this design was due to its advantage in facilitating collection of original data necessary to address the research objectives. It used both quantitative and qualitative methods to collect data. Using only quantitative methods would have missed some contextual issues that influence the outcome variable (i.e. use of services at adolescent health corners). To account for these factors, both quantitative and qualitative methods were used to assess factors that influence use of services at adolescent health corners to make the generalization of results under similar conditions acceptable. Both methods thus provide in-depth explanations of issues such as the interest and practices of participants that interact to influence use of services at adolescent health corners.

3.2 Study Area

The Brong Ahafo Region was carved out of the former Ashanti Province in March 1959 when the Brong Ahafo Bill was passed by Parliament under a certificate of urgency. The Brong Ahafo Act was enacted after receiving the Governor General's assent. Sunyani is the

administrative capital of the Region. The region has 27 administrative districts and municipalities as shown in Appendix 10.

Projections from the 2010 Population and Housing Census gave a total population of the region as 2,660,648 and an annual population growth rate of 2.3. [83] It lies within longitude 0° 15'E to 3° W and latitude 8° 45"N to 7° 30'S. The Region shares common boundaries with five others - Northern Region to the North, Ashanti and Western Regions to the South, the Volta Region to the East and the Eastern Region to the South East. It has an international boundary to the West which it shares with La Côte d'Ivoire.

Regarding health infrastructure, The GHS serves 2,800 (85%) out of the 3,292 communities in the BAR. The region has a total of 459 health facilities comprising 29 hospitals, 84 health Centres, 113 clinics, 42 private maternity homes, 190 functional CHPS and 1,393 outreach points. Four newly created districts out of the 22 do not have district hospitals. They are Asunafo South, Dormaa East, Nkoranza North and Sunyani West. The region has seven health training institutions namely; College of Health Sciences in Kintampo, Community Health Nurses Training College, Tanoso; Sunyani Nurses Training College; Nurses and Midwifery Training College, Berekum; Midwifery Training College, Goaso; Midwifery Training College and Health Assistant Training School in Seikwa.

The remaining 295 (9%) of the 3,292 communities are served by other partners such as Marie stopes International Ghana, MIHOSO, UNFPA, Basic Needs, Hope For Future Generation and IPA. They provide diverse services such as Adolescent Health, Family Planning, Mental Health, Health Systems Improvement and Maternal Health Services. Each district has two constructed / refurbished Adolescent Health Corners as shown in the map at Appendix 10.

District	Facility/corner
Asunafo North	Dominase Health Centre, Akrodie Health Centre
Asunafo South	Sankore Health Centre, Kwapong Rural Clinic
Asutifi North	Gyedu Health Centre, Kenyasi Health Centre
Asutifi South	Dadiesoaba Health Centre, Acherensua Health Centre
Atebubu-amantin	Atebubu Hospital, Amantin Health Centre
Banda	Banda Health Centre, Bongase Health Centre
Berekum	Municipal Health Directorate (Berekum), Koraso Health Centre
Dormaa East	Wamfie Polyclinic, Akwamu Health Centre
Dormaa Municipal	Dormaa RCH, Asenso No. 1 Health Centre
Dormaa West	Nkrankwanta Polyclinic, Kwabenadwomokrom Health Centre
Jaman North	Duadaso Health Centre, Goka Health Centre
Jaman South	Gonasua Health Centre, Adamsu Health Centre
Kintampo North	Kintampo Hospital, Dawadawa Health Centre
Kintampo South	Jema Hospital, Amoma Health Centre
Nkoranza North	Busunya Health Centre, Kranka Health Centre
Nkoranza South	Bonsu Health Centre, Nkwaabeng Health Centre
Pru	Harbour Health Centre-Yeji, Prang Health Centre
Sene West	District Health Directorate (Kwame Danso), Lassie Health Centre
Sene East	Kajaji Health Centre, Bassa Health Centre
Sunyani Municipal	Sunyani Municipal Hospital, Atronie Health Centre
Sunyani West	Fiapre Health Centre, Nsoatre Health Centre
Tain	Seikwa Health Centre, Namasa CHPS Compound
Tano North	Bomaa Polyclinic, Dua Yaw Nkwanta Town
Tano South	Brosankro Health Centre, Ankaase Community
Techiman Municipal	Techiman Town, Fiaso Health Centre
Techiman North	Tuobodom Health Centre, Buoyem Health Centre
Wenchi Municipal	Wenchi Government Maternity Home, Subinso No. 2 Health Centre

Table 1: List of Adolescent Health Corners refurbished and constructed in all districts in the Brong Ahafo Region

3.2 Quantitative data collection methods

A structured, closed-ended questionnaire was used to collect quantitative data. The questionnaire focused on socio-demographic and background characteristics of respondents, knowledge of adolescent health corners and use of services. Questions were also asked on what could improve patronage of services at adolescent health corners as well as services received at the adolescent health corners when they last visited.

3.3 Variables

Two main variables were considered in this study: dependent (outcome) variable and independent variable.

Dependent Variable

The dependent (outcome) variable for this study was use of service at adolescent health corners.

Independent Variables

Independent variables considered in this study included age, sex, educational status, socio-economic status, awareness of adolescent health corners, distance travelled to the adolescent health corner, school attendance by adolescents, attitude of service providers at the adolescent health corner, ethnicity, religious affiliation, who the adolescent stays with, parents or guardians educational status and occupation. Distance to an AHC was described as follows:

Far: Clients travel more than 1 kilometre to reach the adolescent health corner

Not far: Clients travel about 1 kilometre to reach the adolescent health corner

Near: Clients travel less than a kilometre to assess services at the adolescent health corner.

3.4 Study Population

Adolescents aged 10 – 19 years and health workers formed the study population. The former answered structured questionnaire and were also engaged in Focused Group Discussions (FGDs). Health workers manning the adolescent health corners were engaged in the in-depth interviews using the interview guide.

Inclusion Criteria

Married and single adolescents aged 10 – 19 years and were currently residing or schooling in the region.

Exclusion Criteria

The study excluded adolescents who met the inclusion criteria but were not willing to participate in the study or were ill.

3.5 Sample Size Determination

The region's adolescent population size was calculated from the overall population and a sample was drawn for the study to make an inference about the adolescent population as well as help draw relevant conclusions. In determining the sample size, a 95% confidence interval and a 5% margin of error was applied. A study proportion of 0.25 (P) represented use of services at adolescent health corners among adolescents in Brong Ahafo Region. In order to determine an appropriate sample size for the study, Cochran, W. G formula was used. The formula is denoted as follows:

$$n = \frac{z^2 pq}{d^2}$$

Where;

z = the value for the given confidence interval

d = margin of error;

p = population proportion,

q = (1-p)

n = Base sample size required

The sample size was thus calculated as follows:

$$n = \frac{1.96^2 (0.25) (0.75)}{(0.05)^2}$$

Computing the above equation gave a sample size n = 289

To carry out a multi-stage sampling which was done in this case, the sample size was adjusted for design effect (DEFF), a correction factor that is used to adjust the sample sizes when the original sample size estimation was done based on simple random selection like in this case. After calculating the sample size based on simple random selection, it was multiplied by a design effect of 1.6 to give an adjusted sample size of 463. 10% mark-up was then added for potential non-response and missing data, to achieve 509 participants as the minimum sample size required.

3.6 Selection of respondents for the household survey

A multi-stage sampling design was used to select respondents for the quantitative component of the study. In the first stage, 11 administrative districts were selected from the 27 in the region through a systematic random sampling. The 27 districts were arranged in alphabetical order and the first district selected at random. Using that as a reference district, the remaining 10 districts were selected by selecting every second district systematically. From these districts, a CHPS zone (a well-defined geographical area of up to 5000 persons or 750 households in densely

populated areas and may be coterminous with electoral areas where feasible in the district) was also selected at random from each. All CHPS zones within each district were written on pieces of paper and folded. One was picked randomly.

The selection of houses within a CHPS zone went through the modified random walk method. Maps of selected CHPS zones and their descriptions were used to identify the boundaries of each CHPS zone. The various key landmarks describing the CHPS zone was noted and numbered. These numbers were written on pieces of paper and one chosen randomly. The selected landmark was used as the random starting point in selecting the houses. The first house was selected at random and every third house was selected until a total of 46 houses were reached per selected CHPS zone. A total of 46 houses per CHPS Zone was selected because very little variations existed between the districts and the selected CHPS zones regarding their population, social and economic settings. Only one adolescent in a house was selected to participate in the quantitative study. If a house selected did not have an eligible participant, the next available house containing an eligible participant was selected. This process continued until the target sample size for the district was obtained. This sampling technique was used because it gave all the individuals in the population equal chances of being selected.

3.8 Quantitative Data Collection Methods and Tools

Techniques of data collection were guided by the type of data required, following the nature of the research as well as the characteristics of the population.

Structured questionnaires were used to collect data from the selected 509 adolescents for the quantitative study. The questionnaires and interview guides were designed in English, but the questions were asked in the local dialects (i.e. *Bonu* and *Twi*) for better understanding by the participants who had challenges with the English language.

Discussion guides were also designed for the focus group discussions with the adolescents and in-depth interviews with the health staff manning the selected adolescent health corners. Eleven research assistants were trained on the data collection and each assigned to a district to collect data. Emphasis was placed on techniques of data collection, rapport creation, assurance of privacy and confidentiality, the meaning of the items and correct ticking of responses provided. Attention was also given to skip patterns used in the questionnaire.

3.9 Quantitative Data Analysis

Statistics (percentages, proportions, chi squares and regressions) was used to determine use of services at the adolescent health corner and factors that influence the use of services at adolescent health corners among adolescents. Figures were presented in tables, graphs and charts. Chi-square test was used to measure association between the outcome and explanatory variables. Regression analysis was used to assess factors that influence the use of services at AHC among adolescents. Confidence level at 95% and $p<0.05$ were considered as significant as well as Adjusted Odds Ratios to show the strength of association between the explanatory variables such as age, sex, proximity to corner, education etc. and outcome variable (use of services at adolescent health corners). Data were analysed using Stata version 17.

3.10 Selection of participants for qualitative data collection

Participants for the qualitative study were selected from the districts selected for the study. These included the health care providers manning the AHCs and adolescents.

3.11 Qualitative data collection

Qualitative data was collected using FGDs and KIIs to enrich the results of the quantitative study. Two FGDs were conducted with adolescent participants purposely selected from two out of the 11 communities to explore the adolescents' views regarding use of adolescent health

corners and their expectation. Each group consisted of seven adolescents of both sexes who did not participate in the survey. Age, education, marital and employment status, religion, health insurance status, and use of services at the corner were considered in selecting the FGD participants. The FGDs were conducted in Bonu and Twi (the dominant languages spoken in the region) using a discussion guide. This was to ensure that the participants expressed their views freely during discussions since many of them were more fluent in the local languages than English. The FGDs lasted 40 to 45 minutes and conducted separately in the two selected communities.

Also, 11 health care providers manning the AHCs were engaged in key informant interviews (KII) to explore their perspectives on use and non-use of services provided at the AHCs. The selected health care providers comprised seven community health nurses and four registered general nurses. They were all directly in-charge of service provision at the AHCs and had in-depth knowledge about services provided at the corners and their use. The KIIs were on average 30 to 35 minutes long.

3.12 Qualitative data analysis

Both the FGDs and KIIs were audio recorded and detailed notes taken during discussions to capture participants' views and non-verbal cues. The recordings were transcribed verbatim and translated using the back translation method. The transcription was subjected to content analysis, a method for identifying, analysing, and reporting patterns (themes) within data. It minimally organises and describes your data set in (rich) detail. However, it also often goes further than this, and interprets various aspects of the research topic [105] to generate themes coming forth from the data in line with the six phases proposed by Braune & Clarke to establish meaningful patterns. [106] These phases included familiarization with data, generating initial codes, searching

for themes among codes, reviewing themes, defining and naming themes and writing final themes.

Firstly, the transcriptions were read several times and particular attention paid to meanings and patterns emerging from the data. The thorough reading allowed the identification of data that addressed the research questions. Secondly, generating initial codes came after familiarization with the data, then codes were generated. This was done by the usage of key words that stood out in the data. This was categorized and arranged according to the data obtained.

Thirdly, searching for themes, the different codes were organized into themes based on the similarity of the data content and the research objectives. Some of the codes were used as themes and some as sub themes. However, some did not fit into any category. These were later scrutinised and placed under appropriate themes. For example, the factors that influenced method continuation was placed under the attitude of health care staff since method continuation was not explored in this study. Fourthly, reviewing themes; themes were reviewed to ensure that they were meaningful and any overlapping rectified and supported by data**.** Fifthly, defining and naming themes, stating their purpose and ensuring each theme corresponded with the data gathered. Lastly, the final themes were developed and used to write the study results.

3.13 Quality Control

The following measures were instituted to ensure the authenticity of the data. Firstly, the questionnaires and interview guides were designed in English and translated into the local dialects (i.e. *Bonu* and *Twi*) using back translation method for better understanding by the participants who could not understand English. Secondly, data collectors and supervisors were trained and equipped with interviewing skills, to ensure they understood the objectives of the study and asked questions in the appropriate order to ensure data obtained was of high quality.

Thirdly, simulation interviews were conducted by interviewers to ensure they understood the questions as intended and followed all ethical procedures regarding data collection. Fourthly, the research assistants were regularly monitored during the data collection stages. Fifthly, errors detected during the data collection were discussed with them and necessary corrections carried out with the respondent. Questionnaires were numbered during data entry, checked for completeness and consistency before they were accepted. Also, two data entry clerks were trained and monitored closely to enter the data into a computer software programme (Stata 17). Double entry of the data was done by two data entry persons to make sure data was correctly entered.

3.14 Ethical consideration

Ethical clearance to conduct the study was obtained from the Ghana Health Service Ethical Review Committee (Appendix 8). Written consent was also obtained from the Regional Director of Health Services in the Brong Ahafo Region and the District Directors of Health Service in the selected districts (Appendix 9).

Informed written consent was sought from all respondents. In the case of adolescents below 18 years, assent was obtained from their parents and consent from them.

Respondents were assured of confidentiality and anonymity. The participants were made aware that their identity would be concealed hence their names or personal identifiers were not written on the questionnaires and data analysis would be done on an aggregate level to ensure confidentiality and anonymity. The privacy of the respondents was also ensured as each individual was interviewed separately during the interview and the discussion processes as well as data collected were kept confidential.

Respondents were told that participation was voluntary and they were free to decide whether to participate in the study or not. They could also withdraw from the study any time or refuse to answer any question without suffering any adverse consequences. They were also briefed on the research objectives and how their participation would generate results that can influence health services provided at AHCs. Respondents were made aware that there were no incentives. The procedures that were used did not cause any known physical or mental harm

3.15 Study Limitations

1. Lack of financial support posed a challenge in covering all the districts which would have given a better picture of the factors influencing use of services at the AHC.
2. Some of the participants did not understand English so the questionnaire needed to be translated into their local language which could alter the actual meaning of the questions asked.
3. Some parents did not allow their children to be interviewed hence much effort was put into reaching the sample size determined.
4. Content of health education and counselling services provided to adolescents could not be obtained as data was not available to address mental health issues as well as prevention of injuries and other risk taking behaviours.

CHAPTER FOUR

4.0 RESULTS

The results have been organized into tables and graphs showing all relevant summary based on the data collected followed by relationships between the variables listed under the objectives.

4.1 Socio-demographic characteristics of respondents

The total number of respondents for the study was 509. The majority 366 (79.1%) of the respondents were between the ages of 15-19 years. Also, more females 340 (66.8%) than males 169 (33.2%) participated in the study.

The majority (84.3%) of the respondents were in school. A greater proportion (63.8%) of the respondents had JHS as their educational level and the least (0.6%) had tertiary as their educational level. Christians formed the majority 433 (85.1%), followed by Muslims 70 (13.8%) and the African Traditional Religion being the least 6 (1.2%). Almost all respondents (98.2%) were not married and stayed with their parents or with their guardians (92.9%). Interestingly, 17 (3.3%) and 10 (2%) live on their own or with a partner respectively (Table 2).

Respondents were also asked of the educational status of their parents. The results show that the majority of mothers 203 (39.9%) and fathers 175 (33.4%) attained JHS education, followed by no formal education for mothers 125 (24.8%) and tertiary education for fathers 113(22.2%). The least number of mothers 35 (6.9%) and fathers 38 (7.5%) attained tertiary and primary education respectively.

Regarding the occupation of the parents and guardians of the respondents, it was revealed that, father's main occupation was farming (43.6%) and self-employed for mothers (51.1%). Also the results showed 29.1% of the fathers were also self-employed and 32.4% of mothers were farmers (Table 2).

Table 2: Demographic Characteristics of Respondents

Variable	Frequency N=509	Percentage (%)
Age of Respondents		
10 - 14	143	39.1
15 - 19	366	79.1
Sex of respondents		
Female	340	66.8
Male	169	33.2
Currently attending school		
Yes	429	84.3
No	80	15.7
Class of Respondent		
Upper Primary	41	8.0
JHS 1-3	325	63.9
SHS 1-3	60	11.8
tertiary	3	0.6
Not in school	80	15.7
Educational Level		
None	6	1.2
Primary	63	12.4
JHS	335	65.8
Secondary	96	18.9
Tertiary	9	1.8
Religious Affiliation		
Christianity	433	85.1
Islamic	70	13.8
Traditional	6	1.2
Marital Status		
Married	4	0.8
Not married	500	98.2
Co-habitating	5	1.0
Person Staying with		
parent	393	77.2
Guardian	80	15.7
partner	17	3.3
Myself	10	2.0
Friend	5	1.0
Others	4	0.8

Variable	Frequency N=509	Percentage (%)
Mother's highest level of education		
None	125	24.6
Primary	79	15.5
JHS	203	39.9
Secondary	66	13.0
Tertiary	35	6.9
Others	1	0.2
Father's highest Educational Level		
None	91	17.9
Primary	38	7.5
JHS	175	34.4
Secondary	91	17.9
Tertiary	113	22.2
Others	1	0.2
Father's Occupation		
Unemployed	4	0.8
Self Employed	148	29.1
Farmer	222	43.6
Civil servant	87	17.1
Public servant	16	3.1
Corporate	8	1.6
Don't Know	24	4.7
Mother's Occupation		
Unemployed	12	2.4
Self Employed	260	51.1
Farmer	165	32.4
Civil servant	43	8.4
Public servant	5	1.0
Corporate	1	0.2
Don't Know	23	4.5

4.2 Awareness of Adolescent Health Corners, existence of clubs, services provided and use

Respondents were asked whether they were aware of the AHCs, distance to the facility, services provided and utilised at the corners, opening hours, environment of the AHCs, staff attitude towards adolescents seeking care at the corners, among others. Overall, 372 (73.1%) of the 509 respondents were aware of the presence of AHCs in their community. Almost half (46.3%) of them said they lived not far from the corner (i.e. they travelled about 1 km to reach the AHC), 29.3% indicated they lived near the AHC (i.e. they travelled less than 1 km to reach an AHC) with 24.2% indicating they lived very far from the corner (i.e. travelling more than 1 km to the AHC). Also, 95.8% of users said their parents and guardians were aware of the existence of AHCs.

When asked whether they had adolescent health clubs in their schools, less than half (48.5%) of the respondents responded in the affirmative and 51.8% indicated that they did not have. Out of those who had school health clubs in their schools, 68.3% were members of the adolescent health clubs in their schools and 31.7% were not members (Table 3).

The majority (82.5%) of respondents were aware of the existence of AHCs and had ever used services provided at the corner. The services used included health education (84.7%), followed by counselling services (58.6%) with STIs being the least (17.9%). Regarding services used, the majority (84.7%) received health education and the least (17.9%) had STI treatment at AHCs (Table 3).

Respondents' reported the following experiences at the AHCs: separate room for interaction (74.6%), comfortable with AHCs' opening hours (93.5%), services providers were judgemental (17.9%), recreational services provided (76.9%).

Table 3: Awareness of adolescent health corner, existence of clubs and services used

Variable	N	%
Awareness of AHC	**n=509**	
Not aware	137	26.9
Aware	372	73.1
Parents / guardian aware of AHC attendance	**n=312**	
Yes	281	90.1
No	31	9.9
Distance to AHC	**n=372**	
Very far	90	24.2
No so far	173	46.5
Near	109	29.3
Adolescent health club in school	**n=429**	
No	221	51.5
Yes	208	48.5
Membership of adolescent health club	**n=208**	
No	66	31.7
Yes	142	68.3
Ever used services by at AHCs	**n=372**	
No	65	17.5
Yes	307	82.5
Services used at the AHC*	**n=307**	
Health education	260	84.7
Counselling services	180	58.6
Treatment of ailment	67	21.8
STI treatment	55	17.9

Candidiasis treatment	70	22.8
Family planning services	110	35.8
Recreation	121	39.4

Variable	N	%
Experiences at AHC*	**n=307**	
Separate room provided for interactions at AHC	229	74.6
Games provided at AHC	236	76.9
Comfortable with AHCs' opening hours	287	93.5
Service provider judgemental after interactions	55	17.9
Service provider able to solve problems	288	93.8
Money collected when visiting AHC	42	13.7
Used NHIS card for services at the corner	97	34.0
Have NHIA card	249	77.3

***Multiple responses allowed, total may exceed 307.**

4.3 Relationship between socio-demographic factors and awareness of adolescent health corners

From the Chi Square tests, there were significant differences between age ($p = 0.035$), sex ($p<0.001$), fathers' and mothers' education level ($p<0.001$) as well as father's occupation ($p=0.002$) to the awareness of the existence of AHCs while respondents' level of education, religion, marital status, the person they stayed with and mothers' education were not statistically significant to the awareness of adolescents to the existence of Adolescent Health Corners. A greater number of younger adolescents (79.7%) aged 10-14 years were aware of AHCs compared to 70.5% of those aged 15-19 years. Also, out of the 340 females, 267 (78.5%) were aware

compared to 105 (62.1%) of the 169 males. Adolescents' with mothers' and fathers' with no formal education were least aware of the presence of AHCs with females having a higher level of awareness (Table 4).

Table 4: Socio-demographic characteristics and association with awareness of adolescent health corners

	Not aware	Aware	Total	P-value
Age (years)				0.035[a]
10-14	29 (20.3)	114 (79.7)	143 (100.0)	
15-19	108 (29.5)	258 (70.5)	366 (100.0)	
Sex				<0.001[a]
Female	73 (21.5)	267 (78.5)	340 (100.0)	
Male	64 (37.9)	105 (62.1)	169 (100.0)	
level of education				0.198[b]
None	0 (0.0)	6 (100.0)	6 (100.0)	
Primary	12 (19.1)	51 (81.0)	63 (100.0)	
JHS	91 (27.2)	244 (72.8)	335 (100.0)	
SHS	32 (33.3)	64 (66.7)	96 (100.0)	
Tertiary	2 (22.2)	7 (77.8)	9 (100.0)	
Religion				0.109[b]
Christian	110 (25.4)	323 (74.6)	433 (100.0)	
Muslim	26 (37.1)	44 (62.9)	70 (100.0)	
Traditional	1 (16.7)	5 (83.3)	6 (100.0)	
Marital status				1.000[b]
Not married	135 (27.0)	365 (73.0)	500 (100.0)	
Married/Cohabiting	2 (22.2)	7 (77.8)	9 (100.0)	
Mother's education				<0.001[a]
None	52 (41.3)	74 (58.7)	126 (100.0)	
Primary	11 (13.9)	68 (86.1)	79 (100.0)	

JHS/Middle school	49 (24.1)	154 (75.9)	203 (100.0)
SHS/O&A level	15 (22.7)	51 (77.3)	66 (100.0)
Tertiary	10 (28.6)	25 (71.4)	35 (100.0)

a. Chi-square test, b. Fisher's exact test

	Not aware	Aware	Total	P-value
Person staying with				0.112[b]
Parent	117 (29.8)	276 (70.2)	393 (100.0)	
Guardian	13 (16.3)	67 (83.8)	80 (100.0)	
Partner	3 (17.7)	14 (82.4)	17 (100.0)	
Self	2 (20.0)	8 (80.0)	10 (100.0)	
Other/Friend	2 (22.2)	7 (77.8)	9 (100.0)	
Father's occupation				0.002[a]
Unemployed	7 (25.0)	21 (75.0)	28 (100.0)	
Self employed	27 (18.2)	121 (81.8)	148 (100.0)	
Farmer	78 (35.1)	144 (64.9)	222 (100.0)	
Corporate/Civil/Public servant	25 (22.5)	86 (77.5)	111 (100.0)	
Mother's occupation				0.184[a]
Unemployed	11 (31.4)	24 (68.6)	35 (100.0)	
Self employed	59 (22.7)	201 (77.3)	260 (100.0)	
Farmer	52 (31.5)	113 (68.5)	165 (100.0)	
Corporate/Civil/Public servant	15 (30.6)	34 (69.4)	49 (100.0)	

a. Chi-square test, b. Fisher's exact test

Logistic regression analysis which controlled for confounders and other variables showed no difference between adolescents' age and father's occupation with awareness of the existence of AHCs. Sex, mother's and father's education (JHS/Middle School and Primary) had significant

association with awareness of AHCs. Females had a significantly higher odds of awareness of the existence of AHCs compared to males (AOR=2.34, CI=1051-3.62, p=0.003). Also, adolescents whose mothers and fathers attained primary education had the highest odds of 4.54 and 3.95 respectively of being aware of the existence of AHC in their area of residence (p<0.05). (Table 5).

Table 5: Logistic regression of factors associated with awareness of adolescent health corners

	Unadjusted		Adjusted	
	OR (95% CI)	P-value	OR (95% CI)	P-value
Age (years)		0.036		0.178
10-14	Ref		Ref	
15-19	0.61 (0.38, 0.97)		0.94 (0.85, 1.03)	
Sex		<0.001		0.001
Male	Ref		Ref	
Female	2.23 (1.49, 3.34)		2.34 (1.51, 3.62)	
Mother's education		<0.001		0.003
None	Ref		Ref	
Primary	4.34 (2.10, 9.01)		4.25 (1.93, 9.35)	
JHS/Middle school	2.21 (1.37, 3.56)		2.07 (1.19, 3.60)	
SHS/O&A level	2.39 (1.22, 4.70)		2.06 (0.96, 4.43)	
Tertiary	1.76 (0.78, 3.97)		1.04 (0.39, 2.75)	
Father's education		<0.001		0.048
None	Ref		Ref	

Primary	5.72 (1.87, 17.47)	3.94 (1.21, 12.79)
JHS/Middle school	1.64 (0.96, 2.78)	1.00 (0.55, 1.84)
SHS/O&A level	1.87 (1.00, 3.51)	1.25 (0.61, 2.56)
Tertiary	2.95 (1.57, 5.54)	2.63 (0.93, 7.44)

	Unadjusted		Adjusted	
	OR (95% CI)	P-value	OR (95% CI)	P-value
Father's occupation		0.002		0.018
Unemployed/Don't know	Ref		Ref	
Self employed	1.49 (0.58, 3.87)		1.03 (0.37, 2.85)	
Farmer	0.62 (0.25, 1.51)		0.46 (0.17, 1.22)	
Corporate/Civil/Public servant	1.15 (0.44, 3.01)		0.52 (0.17, 1.63)	

The study results from chi square and Fischer exact tests showed a significant positive relationship between the person the adolescent is staying with, mother's occupation, membership of adolescent club and use of services at AHCs ($p<0.05$). (Table 6). Though differences exist among age categories, sex, educational attainment, religion, marital status, mother's and father's education and father's occupation and use of adolescent health services, the differences were not statistically significant ($p>0.05$) (Table 6).

Table 6: Factors associated with use of services at adolescent health corners

N=372	Ever used the services of AHC			P-value
	No	Yes	Total	
Age (years)				0.78
10-14	19 (16.7)	95 (83.3)	114 (100.0)	
15-19	46 (17.8)	212 (82.2)	258 (100.0)	
Sex				0.421[a]
Female	44 (16.5)	223 (83.5)	267 (100.0)	
Male	21 (20.0)	84 (80.0)	105 (100.0)	
level of education				0.540[b]
None	2 (33.3)	4 (66.7)	6 (100.0)	
Primary	7 (13.7)	44 (86.3)	51 (100.0)	
JHS	41 (16.8)	203 (83.2)	244 (100.0)	
SHS	14 (21.9)	50 (78.1)	64 (100.0)	
Tertiary	1 (14.3)	6 (85.7)	7 (100.0)	
Religion				0.290[b]
Christian	54 (16.7)	269 (83.3)	323 (100.0)	
Muslim	11 (25.0)	33 (75.0)	44 (100.0)	
Traditional	0 (0.0)	5 (100.0)	5 (100.0)	
Marital status				0.353[b]
Not married	63 (17.3)	302 (82.7)	365 (100.0)	
Married/Cohabiting	2 (28.6)	5 (71.4)	7 (100.0)	

N=372	Ever used the services of AHC			P-value
	No	Yes	Total	
Mother's education				0.352[b]
None	15 (20.3)	59 (79.7)	74 (100.0)	
Primary	8 (11.8)	60 (88.2)	68 (100.0)	
JHS/Middle school	28 (18.2)	126 (81.8)	154 (100.0)	
Secondary	7 (13.7)	44 (86.3)	51 (100.0)	
Tertiary	7 (28.0)	18 (72.0)	25 (100.0)	
Father's education				0.108[a]
None	15 (27.3)	40 (72.7)	55 (100.0)	
Primary	6 (17.7)	28 (82.4)	34 (100.0)	
JHS/Middle school	15 (12.1)	109 (87.9)	124 (100.0)	
SHS/O&A level	15 (22.4)	52 (77.6)	67 (100.0)	
Tertiary	14 (15.2)	78 (84.8)	92 (100.0)	
Person staying with				0.015[b]
Parent	42 (15.2)	234 (84.8)	276 (100.0)	
Guardian	19 (28.4)	48 (71.6)	67 (100.0)	
Partner	0 (0.0)	14 (100.0)	14 (100.0)	
Self	3 (37.5)	5 (62.5)	8 (100.0)	
Other/Friend	1 (14.3)	6 (85.7)	7 (100.0)	
Father's occupation				0.925[b]
Unemployed/Don't know	4 (19.1)	17 (81.0)	21 (100.0)	
Self employed	22 (18.2)	99 (81.8)	121 (100.0)	
Farmer	26 (18.1)	118 (81.9)	144 (100.0)	
Corporate/Civil/Public servant	13 (15.1)	73 (84.9)	86 (100.0)	

N=372	Ever used the services of AHC			P-value
	No	Yes	Total	
Mother's occupation				0.028[b]
Unemployed/Don't know	10 (41.7)	14 (58.3)	24 (100.0)	
Self employed	31 (15.4)	170 (84.6)	201 (100.0)	
Farmer	18 (15.9)	95 (84.1)	113 (100.0)	
Corporate/Civil/Public servant	6 (17.7)	28 (82.4)	34 (100.0)	
Distance to health facilities	n=372			0.392 [a]
Very far	20(22.2)	70(77.8)	90(100)	
Not far	28(16.2)	145(83.8)	173(100)	
Near	17(15.6)	92(84.4)	109(100)	
Membership of adolescent health club	n=208			0.002 [a]
Member	14(9.8)	129(90.2)	143(100.0)	
Not a member	20(30.8)	45(69.2)	65(100.0)	
Total	**65 (17.5)**	**307 (82.5)**	**372 (100.0)**	

a. Chi-square test, b. Fisher's exact test

From table 7 in the multivariate analysis, it was found that there was a strong significant association between membership of a school health club and utilization of services at an AHC. Members of a School Health Club were 5.86 times more likely to visit an AHC compared with non – members. Mother's occupation and person the adolescent was staying with, showed no significant association with use of services at the AHC.

Table 7. Multivariate analysis of factors associated with utilizing services at AHC

	Unadjusted		Adjusted	
	OR (95% CI)	P-value	OR (95% CI)	P-value
Person adolescent stays with		0.056		0.624
Parent	Ref		Ref	
Guardian	0.45 (0.24, 0.85)		1.13 (0.28, 4.57)	
Partner	a.		a.	
Self	0.30 (0.07, 1.30)		a.	
Other/Friend	1.08 (0.13, 9.17)		0.17 (0.00, 6.82)	
Mother's occupation		0.037		0.824
Unemployed/Don't know	Ref		Ref	
Self employed	3.92 (1.60, 9.61)		3.36 (0.23, 48.27)	
Farmer	3.77 (1.45, 9.80)		3.60 (0.17, 74.65)	
Corporate/Civil/Public servant	3.33 (1.01, 11.05)		2.53 (0.12, 52.55)	
Membership of adolescent health club		0.003		0.002
Not a member	Ref		Ref	
Member	4.09 (1.59, 10.49)		5.86 (1.96, 17.53)	

a. All respondents in these categories were aware of the AHC

Table 8: Distribution of service attractiveness

Variable	Frequency	Percentage
***Additional services suggested for AHC**		
Safe Abortion	1	1.3
Recreational activity	70	87.5
Health Screening e.g. Cervical cancer, hepatitis	9	11.3
***Reasons for using services at the AHC**		
Awareness Creation	56	37.8
Service provided in a friendly manner	87	59.4
Privacy at the AHC	4	2.7
Good Staff Attitude	7	4.7
***Knowledge of Parent or guardian about AHC visit**		
Yes	152	83.5
No	30	16.5
***Reasons for not telling parent about visit to AHC**		
Don't stay with them	2	11.1
Religious reasons	2	11.1
They will not support it	14	77.8
***Introduction of friends to the AHC**		
Yes	178	96.2
No	7	3.8
***Other places available for Adolescence friendly health services**		
Yes	10	5.4
No	175	94.6

***n not equal to sample size**

Regarding service attractiveness to the respondents as shown in Table 8, the study found that majority of the respondents forming 87.5% preferred some recreational activities to be present at the corners. 11.3% of the respondents also suggested health screening services such as cervical

cancer screening and hepatitis screening should be offered at the AHC. Only one percent requested for abortion services to be provided at the health corner.

When respondents were asked about why they use the services at the AHC, many (59.4%) attributed that to the friendly manner in which the service provider provides service. Also, 38.7% use the services as they were aware of the services being provided.

Others forming 2.7% and 4.7% of the respondents used the services because of the privacy provided and the good staff attitude of the health workers respectively.

83.5% of the respondents reported that their parents / guardians had knowledge about their attendance to the AHCs for health services while 16.5% said their parents did not know of their attendance to the health corners.

Among those whose parents did not know about their attendance to the health corners for services, majority (77.8%) stated that their parents would not be in support of them if they knew. Others also stated religious reasons and did not stay with their parents.

Majority (96.2%) of the respondents were willing to introduce their friends to the services at the AHC following their experience at the AHC.

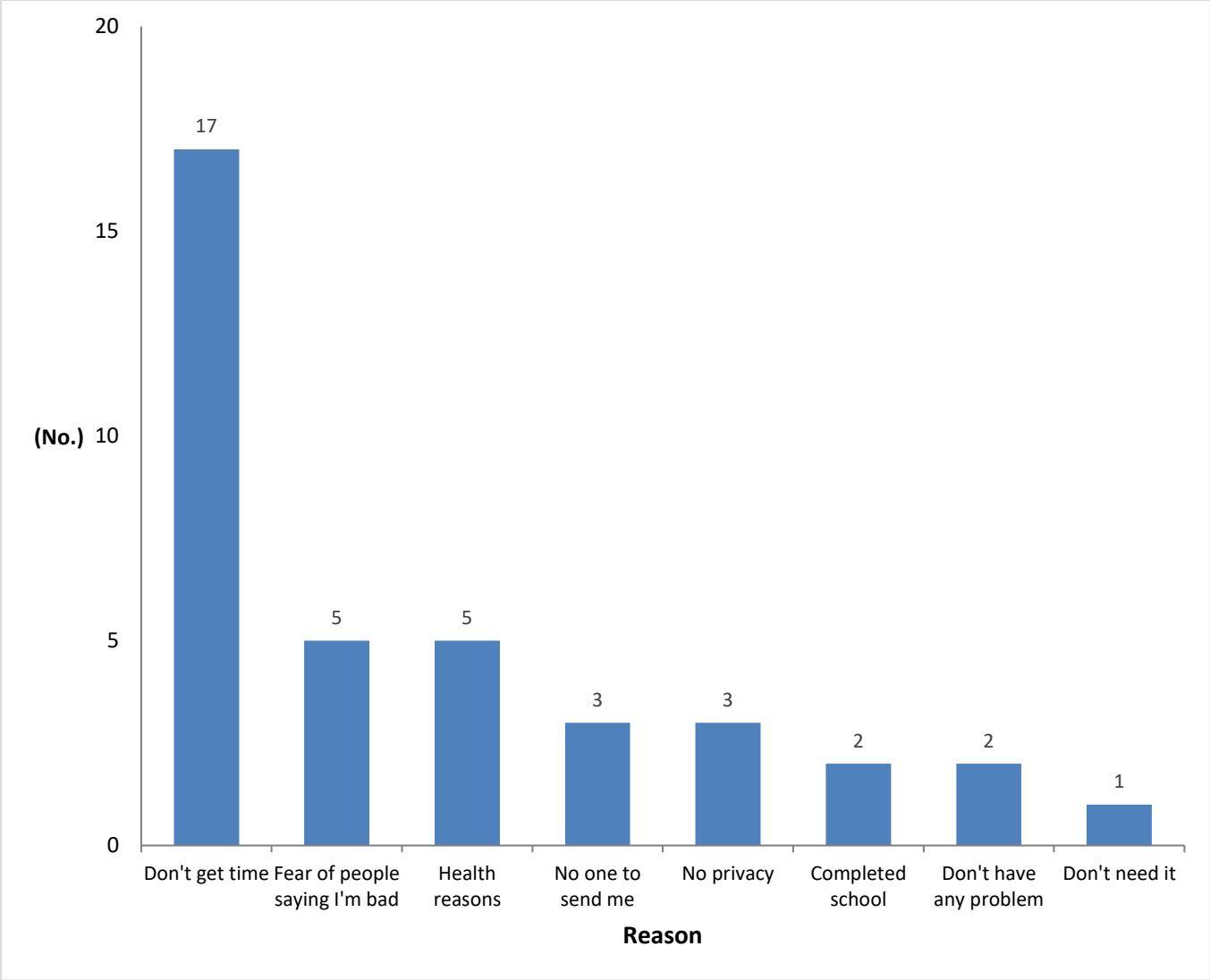


Figure 2: Reasons for using services at adolescent health corner and later stopped, n=38

4.4: Reasons for using services at Adolescent Health Corner and later stopped

Users generally expressed satisfaction with AHCs' service providers. However, from figure 2, analysis of the reasons why some respondents who used to attend AHC and later stopped showed varied views. Majority stated they didn't have time to attend while some reasons were linked directly to the health services as (3 out of 35, 8.5%) of respondents attributed it to no privacy at

the unit. 5 out of 35 (14.3%) respondents stopped due to the fear of people seeing them as bad girls and boys.

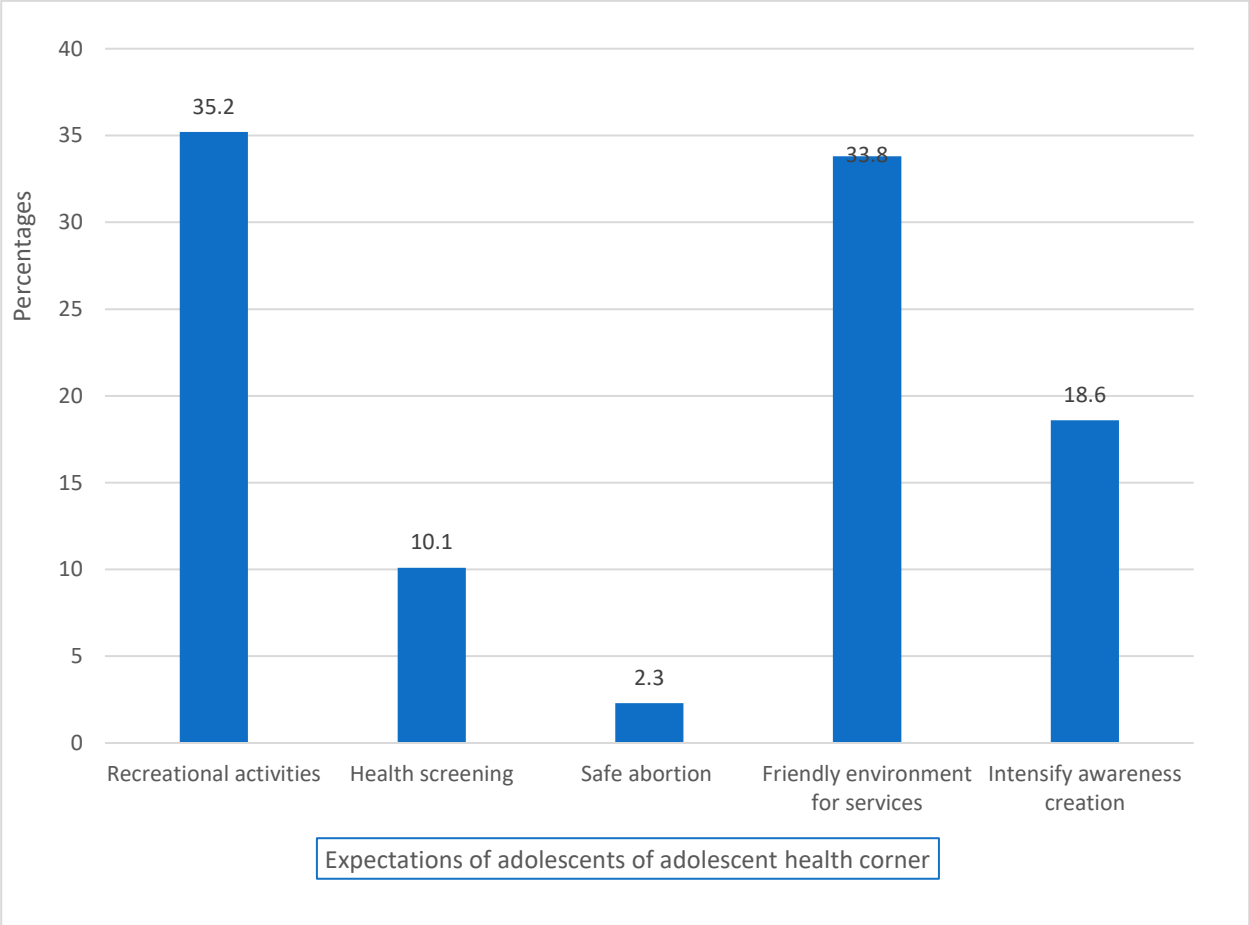


Figure 3: Expectations of an adolescent health corner attractive (n=509)

4.5 Adolescent's expectations of adolescent health corners

Figure 3 shows what adolescents thought would make AHC attractive and influence adolescents to patronise services. More than a third (35.2%) mentioned that providing recreational activities in the corners would attract more adolescents and 33.8% asked that services should be provided in a friendly manner. They also called for intensification of

awareness creation campaign about the existence of the corner and services (18.6%), provision of regular health screening (10.1%) and abortion services at the corner (2.3%).

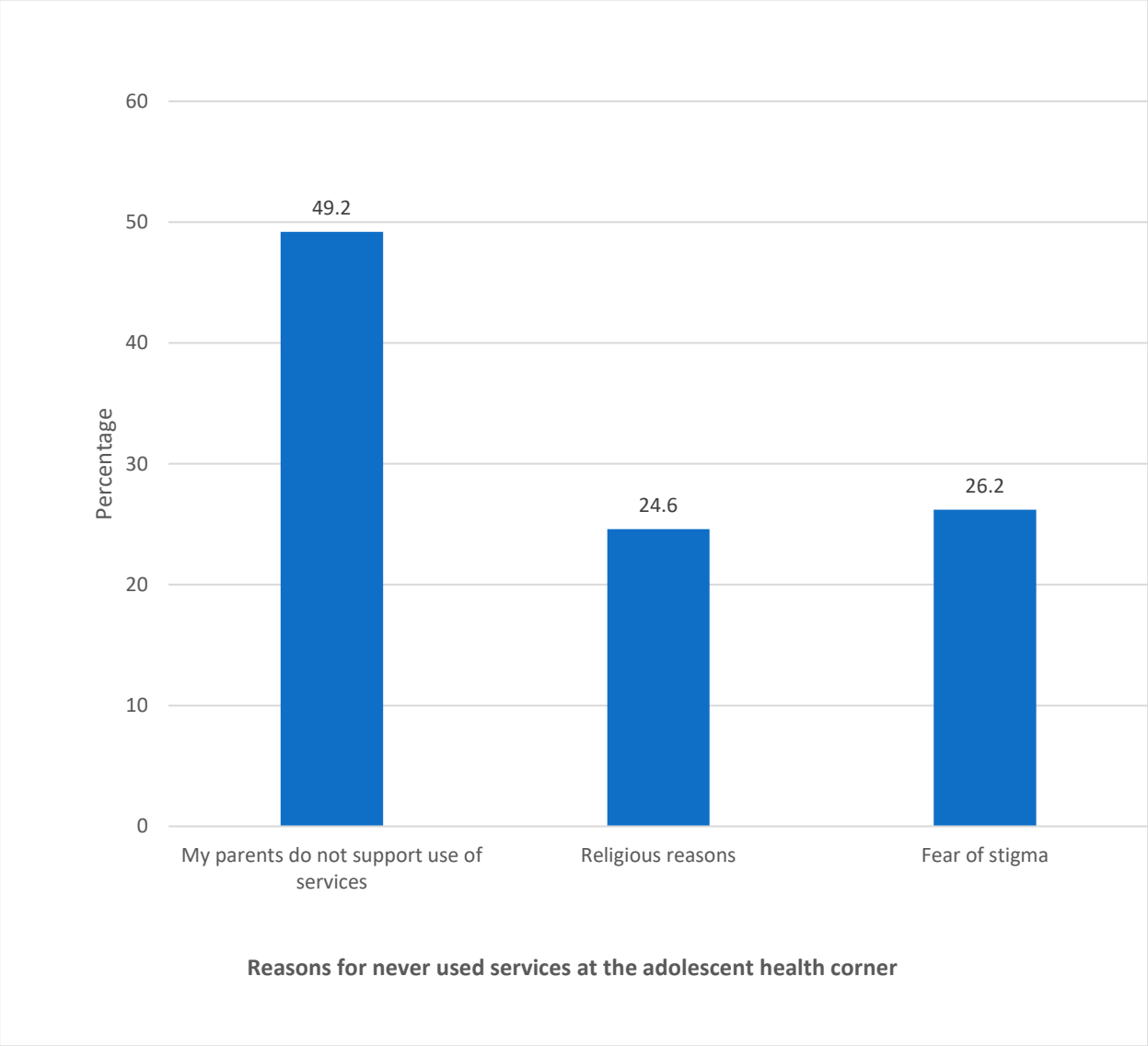


Figure 4: Reasons for never used services at the adolescent health corner

Among respondents who had never used the services, 49.2% stated their parents were not in support of them using the services provided at the AHC. 24.6% of them said they did not use it for religious reasons while 26.2% of them said they feared being stigmatised. (Figure 4)

4.6 Qualitative results

Qualitative data was collected from two FGDs conducted with adolescents selected from two communities in Asutifi North and Asutifi South Districts. Also, interviews were conducted with 11 health staff manning the selected AHCs in the eleven selected districts on their perspectives and experiences providing services to adolescents.

Health personnel comprised of seven Community Health Nurses and four Registered General Nurses. All the 11 service providers were identified as persons directly in-charge of service provision at the AHCs.

The following themes emerged from the FGDs and KIIs: reasons for using services, reasons for not using services at the AHCs, expectation of the AHC.

4.6.0 Reasons for using services

Reasons for using services were categorized into three main themes: outreach by service providers, recreational activities at the AHCs, proximity to the facility and positive service providers' attitudes.

4.6.1 Service delivery factors

The service delivery factors participants mentioned as contributing to use of services were categorised into three sub-themes: friendly attitudes of service providers, privacy, confidentiality and opening hours.

4.6.2 Friendly attitudes of service providers

Users of services expressed satisfaction with the staff at the AHCs. They described them as friendly and stressed that service providers treated them well. They shared their experiences at the corner in the following comments:

"Ooh, the health workers were good, they did everything in a great manner, they were not shouting at me." (R1)

"The staff there [AHC] are very patient and responsive especially there is one nurse there called Akua; she is very good. I admire her and like the way she interacts with me." (R4)

"Ooh, that place [AHC] is good, the nurses are very kind to people, they love people, it makes us feel free to go there, it makes us happy to be there. Because it's a good place." (R10)

"*I felt being listened to for the first time in my life and ready to be accepted for who I am."R2*

Another FGD participant said:

"I believe health workers considered our needs. They listen to us with keen attention and ready to find solution to their issues."R7

4.6.3 Privacy and confidentiality

Users of services at the AHCs mentioned that there was privacy and no interference when accessing services. They described what happens at the AHC in the following statements.

"There is privacy. The discussions are usually between us and the madam alone at the corner. Nobody hears what we discuss. In my case, she wanted to take care of us individually but the two of us opted to be handled together in a session and she addressed our issues for us." (R11)

"Our interactions are limited to us and the health worker only, it doesn't go out". (R12)

"Ooh, there [AHC], *they always keep any information you share with secret. I went there and told them that I have some infection. They told me they have a medicine to cure me of that infection. …. Since that day, I did not hear from any of the madam or the woman [nurses] that I went to meet there about what I told her. …. So it's good, they keep information secret." (R10)*

4.6.4 Outreach by service providers

Participants mentioned that service providers' outreach activities contributed to their use of services at the AHCs. They described the situation as follows:

"Some nurses came around our school to give us a health talk and mentioned to us about the adolescent health corner, it was on Friday, immediately they left we also followed up to the corner." (R11)

"Some of us got to know about the corner when nurses came to our school to talk to us. They encouraged us to abstain from sex otherwise we protect ourselves. They also told us to come to them for counselling. Since then I visit the corner for family planning services." (R4)

These finding were supported by the following statement confirming the assertion that their outreach activities influenced some.

"I visit the AHC corner for family planning services because it is close to me. I walk there anytime I need services. I am happy it is close to me and I don't have to look for money for transport."(R5)

4.7.0 Reasons for never using services at the adolescent health corners

Some adolescents had never used the services provided at the AHC and through the qualitative study, some reasons were ascertained as presented below.

4.7.1 Unfavourable opening hours

Participants attributed non-use of services at the AHCs to unfavourable opening hours. They complained that the limited opening hours do not favour them. The following views were expressed:

"The opening hours of the corner…..hmmm… that is a little bit challenging" (R12)

"The AHC corner should be opened also the Saturdays and Sundays when we don't have classes so that I can go there." (R8).

"The opening time has not been unfavourable to us; we go there when we are given 30 minutes break time, sometimes we only get to the corner to find out that it is closed, which we have no option than to return to school. Sometimes we also wait for some time whilst they go to bring the key to open the adolescent health corner." (R12)

4.7.2 Perceived lack of confidentiality

Some of the participants from the FGDs had the perception that there was no guarantee of confidentiality all the time. One of them said:

"I believe discussions with health workers at the corner will surely end up in the public domain since they know their parents. So I didn't feel the need to talk to a health staff on the health issues."(R9)

Another person was of the opinion that:

"The staff even though they are interested in your health issues may also circulate the information they receive to others." (R10)

4.7.3 Payment for services

Some of the participants attributed the non-attendance to payment for the services as stated below:

"As for me it's ok to pay. … However, it is not everyone that can afford the amount. The last time I was discussing with one girl and she said the time for her to take her next injection was due, but she did not have money to pay so she didn't go. Hence it will be fine if they can do something about payment for family planning services." (R4)

"The woman [service provider] requested for our NHIS card, mine was expiring 25th October, 2019, she further asked if I have been to the clinic before, which I responded No. She went ahead to tell me that; next time when I'm coming, I may have to join a cue at the OPD, she further said I may need an amount GHC 5.00 for folder." (R11)

"As for that place [AHC], *they seldom take money. Before they collect your money, it means your condition is very severe*." (R13)

4.7.4 Expectations of adolescent health corners

The following comments revealed what adolescents expected from AHCs:

"They should be a writing board for health staff to write, so that we can take notes for further revision outside of the adolescent health corner. With the oral delivery is ok with me, however, some other people forget even before the reach home." (R12)

All participants from FGDs were of the opinion that a dedicated staff assigned to a corner with privacy assured and good customer care was what they expect to have at the AHC. Those who did not have a recreational centre added that:

"A recreational activity in such a corner will be an added advantage."

4. 8. 0 Service providers' experiences and challenges in the provision of services at the adolescents' corner.

Interview of the health staff showed two out of the 11 staff do not provide services to adolescents in their districts even though the corner exist. The following were the responses:

"Initially, we used to provide services for the adolescents but the parents of the adolescents felt we were spoiling their children and it was against their religion to talk about sex with children so they sometimes beat the adolescents whenever they came here." K10

"I *used to provide services frequently when the corner was established but now I do not have enough logistics for recreational activities for the young people so they don't come here anymore*."K11

When the health workers were asked about the periods the AHC is opened to provide services to adolescents the following results were obtained below

K1, K2, K3 and K4: 8 am to 5 pm

K5: 7:30 am – 5:30 pm

K6, K7, K8, K9, K10: 8:30 am – 5pm

When care providers were asked if they wished to provide other services to adolescents but were not providing, the health workers providing services were willing to provide other services. Some of the responses stated were:

"*One reason that can make the adolescents attracted to the unit will be the friendly atmosphere that it provides and such can be so if there exist a television and at least one computer for browsing at the centre." K3, K4, K9*

Other health workers also stated the following opinions:

"Services such as safe abortion can be added to service provision." K8

"Even though interventions have been tailored to prevent unwanted pregnancies some are not utilizing such services and therefore avenues should also be created to terminate these pregnancies to reduce adolescents accessing unsafe means of terminating these pregnancies"K2

Explaining why abortion services are not provided, some of the providers gave the following responses:

"I have not been trained to do that. I am even scared and wish I had the capacity to do it since they come here and ask for the services" K7

"I used to do it as a midwife when I was at the hospital. We had some logistics to use over there but when they brought me her as the in-charge of the facility, I could have done it for them but I don't have the logistics" K5

All the AHCs had registers that health care workers documented services provided and activities conducted at the centre.

One health care provider provided the following comment concerning his capacity to provide service

"I have not been trained in adolescent youth friendly health services since my predecessors who were trained some time ago had left for further studies and I was posted here to continue the service provision" K11.

Service provision by some of the care givers was based purely on general knowledge but not on any formal training given to them in adolescent health services.

When the care givers were asked about the payment for services, they indicated the following

"Apart from the family planning commodities that are paid for in instances where it is demanded, all other services were free and no monies were charged." K1, K2, K3, K8

"We charge them for the normal services when their health insurance cards are expired" K4, K5, K7

In addition to the services provided at the facility, health workers interviewed also indicated they embark on outreach services to provide some education to adolescents in their districts to help attract them to the AHC. They explained that these activities were included in the routine home visit they do as part of their core mandate in the communities they serve.

CHAPTER FIVE

5.0 Discussion

This study set out to examine factors influencing adolescents' use and non-use of services at adolescent health corners in the Brong Ahafo Region. The study findings are discussed in this section using relevant literature.

5.1 Awareness of adolescent health corner among adolescents and School Health Clubs

The AHC affords the opportunity to target adolescents with adequate information guided by adolescent health care providers trained to understand adolescents and the challenges facing them.

The AHC is intended to incorporate SRH services for both married and unmarried adolescents at government and private health facilities. An AHC provides a separate room or a dedicated space partitioned by a screen so that others not involved with their interaction when they visit, would not see nor hear about their problems thus maintaining privacy for the adolescent client. AHCs are designed to maintain privacy and confidentiality so that adolescent clients can share their problems openly with the service providers and can receive counselling and other services. AHC is intended to serve as a convenient place for SRH information and services for both unmarried adolescent boys and girls. They are conducive and preferred places where adolescents can access information, counselling, and services on a wide range of ASRH issues.

The study results showed that 73.1% of adolescents were aware of the existence of an AHC in their districts leaving 26.9% of the respondents not aware of the presence of AHCs in their districts. According to the WHO Report in 2012, most adolescents had no knowledge of the existence of adolescent health corners and designated staff supposed to provide adolescent health

services. [33] However, the findings of this study shows an improvement as many (73.1%) of the adolescents interviewed had knowledge about the presence of an AHC in their districts. Similarly, it also showed an improvement over the study conducted in Nigeria to assess the effects of awareness and perception on the utilization of health services which showed that 52% of the respondents showed knowledge of the presence of a health facility in their catchment area. [54] Awareness of the presence of health services in a catchment area, invariably, has the tendency to affect the health of the population as they there is the likelihood of them seeking the services provided for improved health status. That notwithstanding, lower levels of awareness of the presence of a facility that has the capacity to provide services for the adolescents when they need it has the tendency to affect the usage of the services. Adolescents' may in such situation, resort to seeking information from their peers who may not provide them with the requisite information they may require. Lack of knowledge about the presence of an Adolescent Health Corner in their vicinity may compromise the general well-being of adolescents as this intervention would not have met reasons for its establishment. The GHARH project in the Brong Ahafo Region with the support of the UK government provided all districts in the region with two Adolescent Health Corners each to help improve adolescent health services and thus improve adolescents' knowledge about a wide range of issues that affect them. Additionally, the demand creation activities carried out as part of the activities undertaken with GHARH project, could possibly account for the high awareness from the study

The study showed a statistically significant association between adolescents awareness of AHC and mother's or father's education with p-values of 0.003 and 0.048 respectively. Mothers and Fathers who had a primary education had 4.25 times and 3.94 times respectively, increased odds of their children being aware of the presence of AHC compared with those whose parents didn't

have any education. Parental education thus play an important role in making sure adolescents become aware of the presence of AHC and services available to them and such parents may even encourage their wards to seek services from such health facilities. Also, the study showed females were 2.34 times more likely to be aware of the presence an AHC compared with males. This finding provides the chance to reduce adolescent pregnancy and other reproductive health risks among females as they are prone to the morbidity and mortality associated with it.

The study also found that less than half (48.5%) of the schools had adolescent health clubs. This indicates more than half of the respondents did not have School Health Clubs in their schools. According to the Ghana Statistical Service, most adolescents are in School. The school environment forms a perfect controlled system with well organised structures where adolescents can be reached easily in consultation with the Ghana Education Service. In this environment, there are a set of relationships that occur among students and teachers that are determined by structural, personal, and functional factors of the tutorial institution. This gives distinctiveness to the school and the classes in the school. Such environment is very crucial in providing an opportunity to reach out to a large number of adolescents. Having Adolescent Health Clubs in the schools are part of the strategies employed to create opportunity for engaging in-school adolescents on health issues and creates opportunities for health workers to interact with adolescents outside their routine academic courses in their curriculum such as sexuality education. [103]

Additionally, adolescents are privileged to access authentic health information instead of sources that may not to be credible. According to the Ghana Education Service, the School Health Education Programme (SHEP) has been in existence since 1992. It has been as a major programme of the Ghana Education Service (GES). The programme seeks to make available a

comprehensive health and nutrition education and related support services in schools to equip children with basic life skills for healthy living, which can lead to improvements in child survival and academic outcomes, including school enrolment, retention and academic performance. [83] In order to achieve this, the SHEP has inherent structures to ensure that the programme's goal is translated into actions and activities, which are implemented to the advantage of the students. At the secondary level in Ghana for instance, there are Health Committees which provides direction to the individual schools on what focus and priority areas the school will absorb implementing the SHEP. It is quite worrisome that such expectation by schools as a requirement does not exist in more than half of the schools as presented by the respondents. Such pupils in these schools are continuously denied the opportunity of getting adequate knowledge about themselves as adolescents and their reproductive health among other activities such as WASH, nutrition, mental health, substance abuse etc. The benefits of ensuring all schools have School Health Clubs cannot be overemphasized and such important intervention by the Ghana Education Service should be upheld to ensure no adolescent is left out with such opportunity to help them understand the period of adolescence. Poor supervision of the schools and non – adherence to policies possibly accounted for more than half of the schools not having school health clubs.

Also, 68.3% of adolescents who had School Health Clubs established in their schools, were members of the school health club. Even though this may be encouraging, membership of adolescent health clubs among school pupils is not forced but it is opened to all pupils in the school to be members of the clubs. Students if encouraged to be members of the School Health Clubs are provided with additional opportunity for reaching out to them with credible information other than their peers. Also they benefit from getting involved in other protective activities organised by the club. It is encouraged that, all students would be members of school

health clubs and though 68.3% of the adolescents were members, it is quite worrying when such an opportunity is missed in about 32.7% of the adolescents.

Once these pupils become members of the clubs, they tend to also benefit from interacting with themselves and others (SHEP coordinator, Health Care Workers etc.), providing a conducive environment for discussing issues affecting them such as what to expect during adolescence, sexual education, drug abuse, WASH, personal hygiene and STIs.

According to the Ghana Education Service [103], all schools both primary and secondary are encouraged to form the school health clubs which has the intention of benefitting the adolescents.

Considering the fact that majority of adolescents are expected to be in school, lack of adolescent health clubs in more than half of schools in the region and third not being members of the clubs shows that although attempts are made to get adolescent health information through schools, more effort is needed to achieve this goal. This implies the standards set by the WHO to address adolescent health needs and health literacy cannot be achieved even for those in school. According to the WHO, in order for adolescents to attain the required standard of care, they need to be placed in a system that ensures they have adequate knowledge about their health and where and when to obtain services. [84] As studies show information gathered by adolescents can be translated into proper handling of issues especially risky behaviours and reduce the burden of morbidities [82], establishing School Health Clubs in all schools and getting all adolescents to be members can't be over emphasized. The presence of the school health clubs paves the way for health workers in the catchment area to continuously interact with the school pupils to provide some health education as well as demand creation activities for them to access the AHCs. Some schools also have infirmaries and school clinics which are manned by some health professionals

which can also help management some of the clinical complains that the adolescents in the school may present with. It is therefore very important for the Ghana Education Service to revisit the School Health Club concept and ensure that all primary and secondary schools have formed the School Health Clubs per their directives.

Ignorance of AHCs, low number of school health clubs and non-membership makes it difficult to tackle the ever present situation of risky behaviour including adolescent pregnancy among primary junior high schools and the senior high schools. This situation may have contributed to the high adolescent pregnancy rate reported in the Brong Ahafo Region and in Ghana.

The study results showed that, though many projects over the years have injected a lot of resources into the AHCs with the high expectation of improving the performance of the region regarding adolescent health indicators such as increase in awareness of adolescent health services and health information as well as use of services, reduction in teenage and unwanted pregnancies, set targets could not be achieved and hence much is expected to be done to improve the performance in the above mentioned indicators.

Qualitative results showed that some adolescents who did not have Health Clubs in their schools heard of the existence of the AHCs through health workers who engaged them in health talks in their communities and provided other services. Such initiatives by the Ghana Health Service in collaboration with the Ghana Education Service helped reach adolescents with information and health services. This supports the observation that community–based intervention is an effective strategy to reach adolescents. [50] Also, the results of this study support findings of other studies that adolescents may respond to demand creation activities and are encouraged to patronise services. [91] Linkage with health facility-based interventions are critical in providing a conducive and friendly environment for adolescents. [41]

The study revealed also that 1.2% of adolescents in the districts had no formal education. Even though it is encouraging that majority of adolescents were educated, those without formal education would not have access to the school health clubs. This places these adolescents at a disadvantage compared with their peers in school. This school-based intervention will thus not be available to reach them and they stand the chance of missing out on the various education programmes that have been outlined for the adolescents through the formation of the school health clubs.

The presence and accessibility of AHCs in their catchment area would be the ideal point of education and services for them as well as their colleagues in school. Others, such as those who have completed the primary and the Junior high school level, could also be captured by the AHCs.

Among those who were aware of the presence of an AHC, only 24.2% argued that the AHC was more than 1km from their residence. In bringing services closer to clients, it is important to situate such services at least to be equidistant in the districts so that clients may not have to travel longer distances to seek health care. The above findings reiterate the fact that distance wasn't a significant factor for many of the adolescents in the study compared with a study in Ghana that found that distance was the most important factor that influences the utilization of health services in the Ahafo-Ano south district of Ghana. [97]

5.2 Level of usage of services at the Adolescent Health Corners

Adolescent health services often target young people aged 10-24 years with special focus on 10 -19 years old. Youth friendly sexual and reproductive health services have been described by WHO as *"services that are accessible, acceptable, equitable and appropriate to meet the SRH*

needs of young people[40]*".* Adolescents receive services within an environment that is friendly and welcoming, are able to come back again and also refer their friends for the same services.

According to the Adolescent Health strategy for Ghana, every adolescent is expected to have access to comprehensive services through the creation of service delivery points which are easily accessible to them. [71] This arrangement is expected to provide adolescents with access to varied services including SRH services to prevent medical, social and psychological problems such as STIs, unplanned pregnancies, unsafe abortion and death among others. [71] Services provided at the health corners include Information and Counselling , physical and psychological changes during adolescence, food and nutrition, Tetanus and other vaccines , RTIs/STIs, menstrual cycle and hygiene, early marriage, reproductive health-related information, safe sex , contraceptives and family planning, Gender-based violence and Substance abuse. Other direct services include treatment for minor ailments, menstrual problems and management, treatment of anaemia and treatment for general health issues.

From the study, it was observed that 82.5% of the adolescents who were aware of the presence of AHCs had ever used services that were rendered at AHCs. This figure is very encouraging as many adolescents who were aware of the presence of the corners used it in one way or the other to address some of the challenges that they were faced with.

Majority of the services that the adolescents accessed at the adolescent health corners were mainly health education which constituted 84.7%. Other services sought for included counselling services (58.6%), treatment of an ailment (21.8%), STI treatment (17.9%), Candidiasis treatment (22.8%) as well as family planning services (35.8%).

The behavioural patterns that occur during an adolescent's developmental period may help to determine young people's current health status and the risk for developing chronic diseases when they become adults. Although adolescents are generally considered healthy during the period of adolescence, some important health and social problems may start or peak during the period of adolescence. Some of these may include academic problems and dropping out of school, mental disorders, substance use and smoking/nicotine use not forgetting nutrition and weight conditions, sexually transmitted infections, HIV, teen and unintended pregnancies, homelessness, homicide and suicide.

Because the period of adolescence is a developmental transition, adolescents become particularly sensitive to influences from their social surroundings. The nuclear and external families, peer groups, schools, and where they stay can either support or threaten their health and well-being. What society considers as norms and cues, including media messages, can do same. This implies that adolescents should be taught early about what to expect during this period including HIV and STI prevention with accurate information that they can understand and use. Such education must include education about health risks and the required skills to help delay sex and prevent HIV and STIs. From the study, it was very encouraging that health education and counselling services constituted majority of the services that adolescents required to live a well-informed life and stay healthy.

It is important to comprehend that, the information given to adolescents could concentrate on the role of prevention and health promotion, given with prudence so as not to stimulate curiosity or being adventurous. Such information must be delivered correctly and completely, informing the negative effects of substance abuse and unprotected sex. It should also be explained that unhealthy behaviours can result in future anguish and suffering. It is believed that adolescents

may act more consciously when facing external pressures once they get the right health education.

Health education is a factor for promoting and protecting the health of people which uses the construction and incorporation of activities aimed at altering unhealthy behaviours through empowering individuals. [90] The changes mostly occur through participatory intervention models, which tend to consider the knowledge of all people, including the education activities.

From the study, adolescents who knew about the AHCs sought for varied services aside health education and counselling services which was in support of the Ghana Adolescent Health Service Policy [71] which ensures that an AHC should provide a wide range of services for adolescents. 35.8% of the adolescents from the study were provided with contraceptive services when they visited the AHC. This finding affirms the Ghana National Reproductive Health Policy and Standards which stipulates that adolescents who are sexually active should not be denied access to contraceptives when they needed them. [68] From the study, though services at the Adolescent Health Corners were patronised, some additional strategies were suggested by the adolescents to help improve their patronage of the services. This is in agreement with studies conducted which showed that involving the community and adolescents in the design of appropriate interventions help improve patronage of services stated in the intervention. [91]

From the qualitative study, adolescent outreach services was found to attract them to access services at the AHCs. This implied that health workers manning the AHCs needed to include such outreach activities to deprived areas in their weekly schedules to create additional demand for the services provided at the AHCs.

Some participants of both quantitative and qualitative interviews mentioned some packages of services that will attract them to the AHCs. Among them, is the introduction of recreational activities such as television and a computer for browsing, health screening, safe abortion, friendly environment for service provision and intensifying education to create awareness of services at AHC's. As adolescents are a dynamic group it is always necessary to seek their views on what would attract them to access services at the AHCs. This is necessary as some studies conducted in Tanzania showed that health facilities that had some of these services had high attendance by adolescents. [48] This situation however, is not adequately addressed in Ghana considering the inequitable and unequal distribution of resources for health care delivery.

It was also noted that an adolescent's visit to the AHC had other factors that made it difficult for them to attend. Only 20.1% of adolescents who ever visited AHC stopped patronizing the services. Some of the reasons given for this setback included fear of being seen coming from the corner. Other adolescents also did not have their parents knowing they sought for services at the AHC as they claimed their parents would stop them or for religious reasons. This defeats one of the aims of the Ghana Adolescent Health Programme of stopping stigmatisation or discrimination against adolescents seeking health services. Other adolescents stopped accessing services because they did not have time to attend the AHC. These adolescents may be engaged in other activities, which could not be ascertained in this study that may not provide them with the requisite information to guide their development. This situation creates the opportunity for them seeking information from their peers and other sources rather than from the trained health workers. [2, 98] and other relevant sources. Continuous education about the services and utilization is very critical in sustaining attendance to the health corners.

Parents and guardians also played important roles in getting their adolescents to attend the AHCs. The study revealed that 95.8% of adolescents' parents and guardians were aware of their wards going to the corner. In effect, decisions taken by adolescents will be supported by their parents and guardian. Improving adolescent health literacy of the parent has been demonstrated in many studies to improve access to adolescent health services. The possibility that an educated parent will be more equipped to educate his or her adolescent child on adolescent health issues is higher than the one who does not have any formal education. [88]

From the study among adolescents who were aware of the presence of an adolescent health corner, being a member of a School Health Club was statistically significant in the determination of use of services provided at an AHC with a p-value of 0.002. Adolescents who were members of School Health Clubs were 5.86 times more likely to visit an AHC compared with those who were not members. This beneficial effect of School Health Clubs and its membership by the adolescents greatly influence the period of adolescence as it provides additional linkages with teachers and health workers who are trained to support and provide information and other services to help adolescents manage the challenges they face during this period.

From the study, 59.4% of adolescents used the services at the AHC because the services were provided in a friendly manner. 2.4% used services at the AHCs because privacy was provided 4.7% because provider attitude was encouraging. Some of the respondents in the qualitative study also gave a similar response as part of the reasons they go to the AHC for health services. This implies service provider's knowledge and competence in adolescent health plays an important role in the use of services at AHCs. This supports WHO statements that a demonstration of technical competence in providing care makes the adolescent comfortable to access service. [84] Issues such as privacy, confidentiality of the information given by the client

and service devoid of any discrimination and judgmental attitude provides a very good environment for accessing services at AHC. The study revealed that, 74.6% of adolescents who were aware of the presence of AHC while sharing their experiences admitted they were provided a separate room for health services. This was also confirmed in the FGD. Adolescent characteristics are complex to handle and demand carefully arranged settings that will appeal to their interest especially within the circumstances where they are not willing to attend the few corners available. Discussions recorded in the FGD revealed that adolescents were generally happy with the environment created for addressing their needs as most of them who attended AHCs stated there was privacy while assessing services. This finding provides some satisfaction as this forms one of the outcomes of providing adolescent health services when adolescents access health care at the AHCs.

However, 17.9% of the respondents in the quantitative study stated that health care providers were judgmental in their approach to render care to adolescents. This figure is much lower compared with a study conducted in Uganda which looked at attitudes of healthcare providers towards providing adolescents with health care including contraceptives. The study revealed that most of the providers had negative attitudes towards the provision of sexuality education and contraceptives for young people and were hesitant to give young people contraceptives as such, they imposed non-evidence based age restrictions and consent requirements. [78] It is however expected that as more health care workers are trained in stigma reduction and value clarification, this figure would be reduced further to ensure health workers become less judgemental in their approach to adolescent health.

The study also indicated that 93.8% of service providers were able to solve the problems of adolescents who sought for services at the AHC. This is confirmed in WHO core competences in

adolescent health which states that quality of services to the adolescent is underlined by the care giver possessing the requisite skills to render service that meets the needs of the adolescent. [3, 101]

5.3 Service providers' experiences and challenges in the provision of services at the adolescents' corner.

Perspectives of health staff rendering services to adolescents were varied. Even though majority of health care providers were competent to meet the health needs of the adolescents, an inadequacy of logistics for effective service provision for the adolescents remained a challenge. Qualitative interview used to access views of health care providers on adolescent health care revealed that there were some challenges with inadequate logistics needed for provision of care for the adolescent. This situation was compounded with high turnover of trained service providers as well as health workers refusing posting to rural areas creating inequalities and inequities in accessing health care. [48]

Health workers also revealed that the perception of parents limited them from discussing issues on sexuality as it was against their values, culture or religious beliefs. Our finding is in line with findings from recent study in central Ghana which revealed that, sexually active adolescents seeking contraceptives are stigmatized and perceived as bad or spoilt kids. Interestingly, this attitude does not pertain to only parents. On the contrary some healthcare providers are also sometimes judgmental and may deny adolescents contraceptive services if they feel adolescents "are not old enough" or are unmarried. Adolescents are thus shy to access contraceptives. [28]

These make interventions targeted to reduce unwanted pregnancies misinterpreted as parental / guardian roles have been shown in several studies to affect access to health services by adolescents. [91]

Concerning safe abortion services, there was the belief among staff interviewed that, opportunities should be made available for such services to prevent access to it in areas that may endanger their lives. As stated by WHO in 2008 on unsafe abortion estimates, complications from pregnancy and childbirth are leading causes of death in girls aged 15-19 years in low and middle income countries, where majority of unsafe abortions occur. Abortion rate among adolescents 10-19 years increased from 20.5% in 2015 to 21.5% in the Brong Ahafo Region [25] which is higher than the national average. Provision of such services would further improve health care for adolescents. Unsafe abortion among adolescents may have serious health implications which can result in morbidity or death in the future. According to the Family Health Division of Ghana Health Service, some service areas for safe abortion have been provided in some health facilities [19] under the active engagement with Marie Stopes International and IPAS which are available to all women in fertility age. These facilities perform Comprehensive Abortion Care services which incorporates counselling and post abortion family planning services. However, such facilities are few and not equitably distributed to improve access hence creating an unmet need for abortion services among adolescents. The Adolescent Health Corners established in the Brong Ahafo Region does not provide Comprehensive Abortion Care services.

CHAPTER SIX

6.0 Conclusion and recommendations

6.1 Conclusion

The creation and construction of Adolescent Health Corners in all districts with awareness creation is crucial to meeting the health needs of adolescents.

73.1% of the adolescents were aware of the presence of AHCs in the region which was encouraging and reflected the numerous efforts put in place by GHS and partners as well as UKAID channelling services for adolescents through the establishment of AHCs. This creates the opportunity for use of the services provided at such facilities and may improve the poor reproductive health indicators for adolescents seen in the region.

Majority (82.5%) of the adolescents who were aware of the presence of an AHC in their vicinity had ever used the services to address their health needs.

It is important that the package of services provided are ideal and available at the time that adolescents need it most to handle complex situations confronting them. Majority of the services that were sought after by adolescents who visit the Adolescent Health Corner were mostly health education and counselling services. Some adolescents who were sexually active were able to acquire contraceptives from the AHC when they visited and this was encouraging even though they were few.

More than half of the schools didn't have school health clubs, an intervention by GES to help reach adolescents in school with sexuality education and other services. This posed as a missed opportunity to reach most adolescents with health education and counselling services. Membership of a School Health Club showed a significant association with use of services at an

AHC as those whose were members were 5.86 times more likely to visit an AHC for services compared with adolescents who were not members of a School Health Club.

The school setting provides a great opportunity to reach out to many adolescents as a lot of the adolescents were in school. The GES through effective collaboration with the GHS could reach out to several of the adolescents with the needed information.

The presence of school health clubs in the schools greatly influences adolescents behaviour in seeking for the services provided at the Adolescent Corners as many adolescent health issues are discussed and the pupils are linked with services at the health corners.

Health care providers' attitude towards providing care for adolescents were encouraging while majority of them were competent in providing care in a satisfactory manner even though there were some challenges with availability of logistics which could have enabled them to provide comprehensive services in addressing the needs of adolescents who visited the facility.

Additional services such as outreach services, recreational activities, health screening and abortion services were some suggestions from both health care providers and the adolescents which can increase access to the use of services provided at the AHCs

Finally, parents / guardians' with a primary education played critical role in influencing interventions targeting adolescents such as awareness of AHCs and the use of services provided at the corners.

6.2 Recommendation

1. Service providers in the Brong Ahafo Region should intensify their demand creation activities in all communities to create awareness about the myriad of services provided at adolescent health corners.
2. Effective preventive and promotive strategies, through engaging other stakeholders, should be intensified to protect adolescents from health risk and encourage use of services at the AHCs to help resolve health issues early and reduce their negative effect on adolescents.

3. The Regional Health Directorate of Brong Ahafo Region should ensure that all AHCs are functional with the provision of the needed logistics to improve access to adolescent health services. This will contribute to providing quality services to adolescents promptly.

4. The GHS should provide additional resources to enable AHCs provide other services such as outreach services, recreational activities, health screening and consider the inclusion of Comprehensive Abortion Care (CAC) services at AHCs as a preference for adolescents receiving comprehensive health care at their dedicated corners.

5. The GHS (Headquarters and Regional Health Directorate, BAR) should provide periodic training and refresher training (workshops, online courses etc.) for health workers tasked with handling adolescents while ensuring that the adolescent health policy is widely

disseminated and thoroughly taught in nursing, midwifery, medical and other training institutions to give many service providers the added advantage of dealing with issues of adolescents.

6. The Ghana Education Service should ensure adherence to the establishment of School Health Clubs in all schools per the SHEP policy and also encourage adolescents to be members of it while providing an opportunity for health care providers to educate them on adolescence and other health related matters.

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APPENDICES

APPENDIX 1a: CONSENT FORM FOR STUDY PARTICIPANTS 18 YEARS AND ABOVE (LITERATES)

PARTICIPANTS INFORMATION SHEET

Title of Study: **FACTORS INFLUENCING ADOLESCENTS' USE OF SERVICES AT ADOLESCENT HEALTH CORNERS IN THE BRONG AHAFO REGION**

Introduction: My name is **Osei Kuffour Afreh** and the Deputy Director of Public Health for the Brong Ahafo Region. I am also doing my fellowship at the Ghana College of Physicians and Surgeons at Accra. My address is Regional Health Directorate; Ghana Health Service; P. O. Box 145 Sunyani in the Brong Ahafo Region. My telephone number is 0243264153.

Research Background: I am here this morning with my assistant to lead in a discussion. This research is part of my training in Public Health at the Ghana College of Physicians and surgeons. My investigations have indicated that Majority of adolescent do not frequently assess the adolescent health corners provided in the districts. My study therefore seeks to understand why this is happening and to suggest ways to make these services available.

Procedure

As part of the study, I will be holding a discussion with adolescents. This discussion will involve me asking some questions to which you are all free to answer. You may choose not to answer some questions if you feel uncomfortable about it or have any other reason why you would not want to answer. Your refusal to answer any question will not in any way affect you negatively. We will not report you to your teachers if you cannot answer some questions.

Risks, Discomforts and Inconveniences

This study poses no risk to you or your family as you shall remain anonymous with your responses. This discussion will take about an hour and a half of your time which may be a discomfort to you but please comply with us. We will not be paying you any money for participating. There will however be a snack after the discussion.

Benefits

There may not be any immediate direct benefits to you as adolescents. However, the issues you raise here will potentially help us better understand the perspective of adolescents on health services for adolescents and can contribute to help us make plans to improve service approach to make adolescent health services more friendly to meet the need of adolescents.

Privacy and Confidentiality

The discussion will be recorded and I together with my supervisor will be the only ones who can listen in to what has been discussed. To make sure that we cannot identify anybody by name during the discussion, I am going to assign each of you a number so that once you raise your hand, I will mention your number and then you can respond to the question or make your point.

Now I will kindly ask you to indicate if you are willing to participate in this discussion. If you are, please say yes. If you are not willing to participate, then you are excused.

Further Information

If you do require any further clarification on this study, do not hesitate to contact the Administrator, Ghana Health Service Ethical Review Committee, P. O Box MB 190, Accra or

telephone on 0507041223. Alternatively, my course coordinator (Dr K.O Antwi-Agyei) can be contacted on 0243 545556 and supervisor Dr Gloria Quansah Asare (Deputy Director General, Ghana Health Service Headquarters) on Telephone number 0244281732 or myself on 0243264153. Thank you

CONSENT FORM

I ……. do consent to participate in this study having been fully informed on the objectives of the study. I understand that the answers I give are for the purposes of this study. I give this consent to participate on my own volition and understand that I can withdraw at any point during the study without any adverse effect to me.

[ ] I agree that the conversation between me and the interviewer can be recorded

[ ] I disagree that the conversation between me and the interviewer can be recorded

Signature/Right thumb print: …….

Date: ……

Investigator Statement and Signature

I certify that the participant has received relevant information on the objectives of the study and his/her role as a participant. All questions and issues raised have been clarified to the participant's satisfaction.

Signature: ……

Date: ……..

APPENDIX 1b: CONSENT FORM FOR STUDY PARTICIPANTS 18 YEARS AND ABOVE (ILLITERATES)

PARTICIPANTS INFORMATION SHEET

Title of Study: **FACTORS INFLUENCING ADOLESCENTS' USE OF SERVICES AT ADOLESCENT HEALTH CORNERS IN THE BRONG AHAFO REGION**

Introduction: My name is **Osei Kuffour Afreh** and the Deputy Director of Public Health for the Brong Ahafo Region. I am also doing my fellowship at the Ghana College of Physicians and Surgeons at Accra. My address is Regional Health Directorate; Ghana Health Service; P. O. Box 145 Sunyani in the Brong Ahafo Region. My telephone number is 0243264153.

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Procedure

As part of the study, I will be holding a discussion with adolescents. This discussion will involve me asking some questions to which you are all free to answer. You may choose not to answer some questions if you feel uncomfortable about it or have any other reason why you would not want to answer. Your refusal to answer any question will not in any way affect you negatively. We will not report you to your teachers if you cannot answer some questions.

Risks, Discomforts and Inconveniences

This study poses no risk to you or your family as you shall remain anonymous with your responses. This discussion will take about an hour and a half of your time which may be a discomfort to you but please comply with us. We will not be paying you any money for participating. There will however be a snack after the discussion.

Benefits

There may not be any immediate direct benefits to you as adolescents. However, the issues you raise here will potentially help us better understand the perspective of adolescents on health services for adolescents and can contribute to help us make plans to improve service approach to make adolescent health services more friendly to meet the need of adolescents.

Privacy and Confidentiality

The discussion will be recorded and I together with my supervisor will be the only ones who can listen in to what has been discussed. To make sure that we cannot identify anybody by name during the discussion, I am going to assign each of you a number so that once you raise your hand, I will mention your number and then you can respond to the question or make your point.

Now I will kindly ask you to indicate if you are willing to participate in this discussion. If you are, please say yes. If you are not willing to participate, then you are excused.

Further Information

If you do require any further clarification on this study, do not hesitate to contact the Administrator, Ghana Health Service Ethical Review Committee, P O Box MB 190, Accra or

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CONSENT FORM

I ……. do consent to participate in this study having been fully informed on the objectives of the study which were explained to me in my local dialect. I understand that the answers I give are for the purposes of this study. I give this consent to participate on my own volition and understand that I can withdraw at any point during the study without any adverse effect to me.

[ ] I agree that the conversation between me and the interviewer can be recorded

[ ] I disagree that the conversation between me and the interviewer can be recorded

Signature/Right thumb print: …….

Date: ……

Witness Statement

I certify that, the parent / guardian of the child has received full information on the study which has been translated into his/her local dialect and the parent/guardian has given written consent for the child to participate in the study

Signature/Right thumb print: …….

Date: ……

Investigator Statement and Signature

I certify that the parent of Guardian has received relevant information on the objectives of the study and his/her role as a participant. These were fully translated into his/her local dialect to ensure proper understanding in the presence of her witness. All questions and issues raised have been clarified to the parent or guardian's satisfaction.

Signature: ……

Date:

APPENDIX 2a: CONSENT FORM FOR PARENT OR GUARDIAN OF PARTICIPANTS BELOW 18 YEARS (LITERATES)

PARENT OR GUARDIAN INFORMATION SHEET

Title of Study FACTORS INFLUENCING ADOLESCENTS' USE OF SERVICES AT ADOLESCENT HEALTH CORNERS IN THE BRONG AHAFO REGION

Introduction: My name is **Osei Kuffour Afreh** and the Deputy Director of Public Health for the Brong Ahafo Region. I am also doing my fellowship at the Ghana College of Physicians and Surgeons at Accra. My address is Regional Health Directorate; Ghana Health Service; P. O. Box 145 Sunyani in the Brong Ahafo Region. My telephone number is 0243264153.

Research Background: I am here this morning with my assistant to lead in a discussion. This research is part of my training in Public Health at the Ghana College of Physicians and surgeons. My investigations have indicated that Majority of adolescent do not frequently assess the adolescent health corners provided in the districts. My study therefore seeks to understand why this is happening and to suggest ways to make these services available.

Procedure

As part of the study, I will be holding a discussion with adolescents. This discussion will involve me asking some questions to which he/she is free to answer. He/she may choose not to answer some questions if he/she feels uncomfortable about it or has any other reason why he/she would not want to answer. His/her refusal to answer any question will not in any way affect

him/her negatively. We will not report him/her to their teachers if he/she cannot answer some questions.

Risks, Discomforts and Inconveniences

This study poses no risk to you or your family as you shall remain anonymous with your responses. This discussion will take about an hour and a half of your time which may be a discomfort to you but please comply with us. We will not be paying you any money for participating. There will however be a snack after the discussion.

Benefits

There may not be any immediate direct benefits to your child as an adolescent. However, the issues he/she may raise will potentially help us better understand the perspective of adolescents on health services for adolescents and can contribute to help us make plans to improve service approach to make adolescent health services more friendly to meet the need of adolescents.

Privacy and Confidentiality

The discussion will be recorded and I together with my supervisor will be the only ones who can listen in to what has been discussed. To make sure that we cannot identify anybody by name during the discussion, I would assign each of them a unique number so that once he/she raises the hand, I will mention his/her number and then he/she can respond to the question or make a point.

Further Information

If you do require any further clarification on this study, do not hesitate to contact the Administrator, Ghana Health Service Ethical Review Committee, P O Box MB 190, Accra or telephone on 0507041223. Alternatively, my course coordinator (Dr K.O Antwi-Agyei) can be contacted on 0243 545556 and supervisor Dr Gloria Quansah Asare (Deputy Director General, Ghana Health Service Headquarters) on Telephone number 0244281732 or myself on 0243264153. Thank you

Parent /Guardian statement and Signature

I ……. do consent to my child participating in this study having been fully informed on the objectives of the study. I understand that the answers he/she gives are for the purposes of this study. I give this consent to my child participating on my own volition and understand that I can my child withdraw at any point during the study without any adverse effect to me.

[ ] I agree that the conversation between my child and the interviewer can be recorded

[ ] I disagree that the conversation between my child and the interviewer can be recorded

Signature/Right thumb print: …….

Date: ……

Investigator Statement and Signature

I certify that the parent of Guardian has received relevant information on the objectives of the study and his/her role as a participant. All questions and issues raised have been clarified to the parent or guardian's satisfaction.

Signature: ……

Date:

APPENDIX 2b: CONSENT FORM FOR PARENT OR GUARDIAN OF PARTICIPANTS BELOW 18 YEARS (ILLITERATES)

PARENT OR GUARDIAN INFORMATION SHEET

Title of Study: **FACTORS INFLUENCING ADOLESCENTS' USE OF SERVICES AT ADOLESCENT HEALTH CORNERS IN THE BRONG AHAFO REGION**

Introduction: My name is **Osei Kuffour Afreh** and the Deputy Director of Public Health for the Brong Ahafo Region. I am also doing my fellowship at the Ghana College of Physicians and Surgeons at Accra. My address is Regional Health Directorate; Ghana Health Service; P. O. Box 145 Sunyani in the Brong Ahafo Region. My telephone number is 0243264153.

Research Background: I am here this morning with my assistant to lead in a discussion. This research is part of my training in Public Health at the Ghana College of Physicians and surgeons. My investigations have indicated that Majority of adolescent do not frequently assess the adolescent health corners provided in the districts. My study therefore seeks to understand why this is happening and to suggest ways to make these services available.

Procedure

As part of the study, I will be holding a discussion with adolescents. This discussion will involve me asking some questions to which he/she is free to answer. He/she may choose not to answer some questions if he/she feels uncomfortable about it or has any other reason why he/she would not want to answer. His/her refusal to answer any question will not in any way affect him/her negatively. We will not report him/her to their teachers if he/she cannot answer some questions.

Risks, Discomforts and Inconveniences

This study poses no risk to you or your family as you shall remain anonymous with your responses. This discussion will take about an hour and a half of your time which may be a discomfort to you but please comply with us. We will not be paying you any money for participating. There will however be a snack after the discussion.

Benefits

There may not be any immediate direct benefits to your child as an adolescent. However, the issues he/she may raise will potentially help us better understand the perspective of adolescents on health services for adolescents and can contribute to help us make plans to improve service approach to make adolescent health services more friendly to meet the need of adolescents.

Privacy and Confidentiality

The discussion will be recorded and I together with my supervisor will be the only ones who can listen in to what has been discussed. To make sure that we cannot identify anybody by name during the discussion, I would assign each of them a unique number so that once he/she raises the hand, I will mention his/her number and then he/she can respond to the question or make a point.

Further Information

If you do require any further clarification on this study, do not hesitate to contact the Administrator, Ghana Health Service Ethical Review Committee, P O Box MB 190, Accra or

telephone on 0507041223. Alternatively, my course coordinator (Dr K.O Antwi-Agyei) can be contacted on 0243 545556 and supervisor Dr Gloria Quansah Asare (Deputy Director General, Ghana Health Service Headquarters) on Telephone number 0244281732 or myself on 0243264153. Thank you

Parent/guardian statement and Signature

I ……..having been informed through my witness and an interpreter of the objective and information on this research into my local dialect which I have now understood, do consent to my child participating in this study. I understand that the answers he/she gives are for the purposes of this study. I give this consent to my child participating on my own volition and understand that I can withdraw my child at any point during the study without any adverse effect to me.

[ ] I agree that the conversation between my child and the interviewer can be recorded

[ ] I disagree that the conversation between my child and the interviewer can be recorded

Signature/Right thumb print: …….

Date: ……

Witness Statement

I certify that, the parent / guardian of the child has received full information on the study which has been translated into his/her local dialect and the parent/guardian has given written consent for the child to participate in the study

Signature/Right thumb print: …….

Date: ……

Investigator Statement and Signature

I certify that the parent of Guardian has received relevant information on the objectives of the study and his/her role as a participant. These were fully translated into his/her local dialect to ensure proper understanding in the presence of her witness. All questions and issues raised have been clarified to the parent or guardian's satisfaction.

Signature: ……

Date:

APPENDIX 3: ASSENT FORM FOR ADOLESCENTS LESS THAN 18 YEARS OF AGE

PARTICIPANTS INFORMATION SHEET

Title of Study: **FACTORS INFLUENCING ADOLESCENTS' USE OF SERVICES AT ADOLESCENT HEALTH CORNERS IN THE BRONG AHAFO REGION**

Introduction: My name is **Osei Kuffour Afreh** and the Deputy Director of Public Health for the Brong Ahafo Region. I am also doing my fellowship at the Ghana College of Physicians and Surgeons at Accra. My address is Regional Health Directorate; Ghana Health Service; P. O. Box 145 Sunyani in the Brong Ahafo Region. My telephone number is 0243264153.

Research Background: I am here this morning with my assistant to lead in a discussion. This research is part of my training in Public Health at the Ghana College of Physicians and surgeons. My investigations have indicated that Majority of adolescent do not frequently assess the adolescent health corners provided in the districts. My study therefore seeks to understand why this is happening and to suggest ways to make these services available.

Procedure

As part of the study, I will be holding a discussion with adolescents. This discussion will involve me asking some questions to which you are all free to answer. You may choose not to answer some questions if you feel uncomfortable about it or have any other reason why you would not want to answer. Your refusal to answer any question will not in any way affect you negatively. We will not report you to your teachers if you cannot answer some questions.

Risks, Discomforts and Inconveniences

This study poses no risk to you or your family as you shall remain anonymous with your responses. This discussion will take about an hour and a half of your time which may be a discomfort to you but please comply with us. We will not be paying you any money for participating. There will however be a snack after the discussion.

Benefits

There may not be any immediate direct benefits to you as adolescents. However, the issues you raise here will potentially help us better understand the perspective of adolescents on health services for adolescents and can contribute to help us make plans for adolescent healthcare in Ghana better.

Privacy and Confidentiality

The discussion will be recorded and I together with my supervisor will be the only ones who can listen to what has been discussed. To make sure that we cannot identify anybody by name during the discussion, I am going to assign each of you a number so that once you raise your hand, I will mention your number and then you can respond to the question or make your point.

Now I will kindly ask you to indicate if you are willing to participate in this discussion. If you are, please say yes. If you are not willing to participate, then you are excused.

Further Information

If you do require any further clarification on this study, do not hesitate to contact the Administrator, Ghana Health Service Ethical Review Committee, P O Box MB 190, Accra or telephone on 0507041223. Alternatively, my course coordinator (Dr K.O Antwi-Agyei) can be contacted on 0243 545556 and supervisor Dr Gloria Quansah Asare (Deputy Director General,

Ghana Health Service Headquarters) on Telephone number 0244281732 or myself on 0243264153. Thank you

Thank you

Signature/Thumbprint……

Date

Investigator Statement and Signature

I certify that the participant has received relevant information on the objectives of the study and his/her role as a participant. All questions and issues raised have been clarified to the participant's satisfaction.

Signature: ……

Date:

APPENDIX 4: CONSENT FORM FOR KEY INFORMANT INTERVIEWS

Title of Study: FACTORS INFLUENCING ADOLESCENTS' USE OF SERVICES AT ADOLESCENT HEALTH CORNERS IN THE BRONG AHAFO REGION

Hello, I am Dr Osei Kuffour Afreh, a resident in Public Health at the Ghana College of Physicians and Surgeons and currently preparing to undertake a study on adolescent health. My mobile phone number is 0243264153 and my email address afrehok@yahoo.co.uk.

My study on adolescent health is to explore reasons for the presumed low patronage of adolescent friendly health services In Brong Ahafo Region. I want to find out whether adolescent patronage your youth corner which was provided about 2 years ago. In line with this, I will be interviewing some people and review some documents on adolescent health and talk to adolescents on their expectation of health services for them.

You are being requested to participate as a health worker whose clients include adolescents and to seek your opinion on the provision of adolescent friendly services. My interview with you will take at least 15 minutes with a maximum anticipated time of 30 minutes and I will be using an audio recorder to aid my interview. I will be asking specific questions already written and may follow up with others depending on the answers you give.

There are no risks to you by virtue of participation in this study.

The information you provide during this interview may potentially help in understanding the issues around providing adolescent friendly services.

Apart from your time, you will not be incurring any costs through your participation in this study. We will not be offering any monetary or material compensation for your participation in this study.

The information you provide including the audio recording will be used only for the purposes of this study and shall be accessible only to myself and my supervisor. The information will be kept for two (2) years after which it will be destroyed

Your participation is completely voluntary and you can withdraw at any point during the study. Your decision to withdraw shall not result in any negative consequences to you.

The findings of this study will be available after my final presentation to the Ghana College of Physicians and Surgeons and you will be provided a soft copy of the report if you so desire.

Further Information

If you do require any further clarification on this study, do not hesitate to contact the Administrator, Ghana Health Service Ethical Review Committee, P. O Box MB 190, Accra or telephone on 0507041223. Alternatively, my course coordinator (Dr K.O Antwi-Agyei) can be contacted on 0243 545556 and supervisor Dr Gloria Quansah Asare (Deputy Director General, Ghana Health Service Headquarters) on Telephone number 0244281732 or myself on 0243264153. Thank you

Participant statement and Signature

I ……. do consent to participate in this study having been fully informed on the objectives of the study. I understand that the answers I give are for the purposes of this study.

I give this consent to participate on my own volition and understand that I can withdraw at any point during the study without any adverse effect to me.

[ ] I agree that the conversation between me and the interviewer can be recorded

[ ] I disagree that the conversation between me and the interviewer can be recorded

Signature/Right thumb print: …….

Date: ……

Investigator Statement and Signature

I certify that the participant has received relevant information on the objectives of the study and his/her role as a participant. All questions and issues raised have been clarified to the participant's satisfaction.

Signature: ……

Date:

APPENDIX 5: INTERVIEW GUIDE (KEY INFORMANT INTERVIEWS)

KEY INFORMANT INFORMATION SHEET

Title of Study: **FACTORS INFLUENCING ADOLESCENTS' USE OF SERVICES AT ADOLESCENT HEALTH CORNERS IN THE BRONG AHAFO REGION**

Introduction: My name is **Osei Kuffour Afreh** and the Deputy Director of Public Health for the Brong Ahafo Region. I am also doing my fellowship at the Ghana College of Physicians and Surgeons at Accra. My address is Regional Health Directorate; Ghana Health Service; P. O. Box 145 Sunyani in the Brong Ahafo Region. My telephone number is 0243264153.

Research Background: I am here this morning with my assistant to lead in a discussion. This research is part of my training in Public Health at the Ghana College of Physicians and surgeons. My investigations have indicated that Majority of adolescent do not frequently assess the adolescent health corners provided in the districts. My study therefore seeks to understand why this is happening and to suggest ways to make these services available.

Basic Information

1. Designation of Respondent
2. Occupation
3. Age
4. Sex

Adolescent Health Service Information

1. Does your health facility currently provide any services specifically tailored for adolescents?
2. If yes what services are currently available?

3. Are there any services tailored for adolescents you wish to provide but you are currently not doing?
4. If yes, can you state some of the reasons why you are not providing such services?

5. What time period and days is the Adolescent health corner opened for adolescents to assess services?
6. Do you have a register that you record adolescent health services in your facility?
7. Have you received any training in adolescent health services within the past 3 years?
8. Do adolescents pay for the services you provide for them?
9. a If yes to Question 9, What services do they pay for?

   b. kindly specify the mode of payment …….

11. Do you provide adolescent outreach services? [ ] Yes [ ] No

12. If Yes, can you state the services you provide during outreach services?

APPENDIX 6: INTERVIEW GUIDE FOR FOCUS GROUP DISCUSSION

1. Introduction of subject for discussion- Adolescents and Health Service Delivery
2. Do you have an adolescent health club in your school?
3. Are you aware of the presence of an adolescent health corner in your district?
4. Have you ever visited the adolescent health corner in your district?
5. When was the last time any of you went to the adolescent health corner?
6. Can you give some reasons why any of you have not visited the adolescent health corner?
7. Can you recall some of the pleasant and unpleasant things you experienced when you visited the corner?
8. Do your parents accompanying you to the adolescent health corner when you want to visit the place?
9. Have you felt the need to talk to a health worker (doctor, nurse etc.) about a health issue?
10. How easy was it to get to talk to a health worker?
11. At your last encounter with a health worker, did you feel that your opinion or needs as an adolescent were considered when you met the health worker?
12. Have you had any encounter with a health worker as an adolescent that made you not want to go to health facility?
13. Can you share such experiences?
14. Do you think you should have specialised services in hospitals for adolescents?
15. What are your expectations as adolescents when you go to a hospital?

APPENDIX 7: STUDY QUESTIONNAIRE

QUESTIONNAIRE

Date……

Study Site……..Code…… Code of interviewer…….

PARTICIPANTS' INSTRUCTIONS

Do not write your name; tick only one correct response and multiple responses where applicable. Only adolescent aged between 12-19 years are eligible for this study.

A. SOCIO-DEMOGRAPHIC CHARACTERISTICS

1. How old are you? Age in years [ ]
2. Sex: Female [ ] Male [ ]
3. Highest level of educational: a. none [ ] b. Primary [ ] c. JHS d. Secondary [ ]
   e. Tertiary [ ] f. Other, please specify…….
4. Religious affiliation: a. Christianity [ ] b. Islamic [ ] c. Traditional [ ]
   d. Other, please specify……
5. Marital Status

a. Married [ ] b. Not married [ ] c. Divorced [ ] d. Separated [ ]

e. co-habiting [ ] f. Other, please specify ……

6. Place of residence ……
7. What is the highest level of education of your mother?

a. None [ ] b. Primary [ ] c. JHS [ ] d. Secondary [ ] e. Tertiary [ ] f. Other, please specify …….

8. What is the highest level of education of your father?

a. None [ ] b. Primary [ ] c. JHS [ ] d. Secondary [ ] e. Tertiary [ ] f. Other, please specify …….

9. Who do you stay with?

a. Parents [ ] b. Guardian [ ] c. Partner [ ] d. By myself [ ] e. friend [ ] f. other specify …….

10. Occupation of father ……

11. Occupation of mother ……

12. Occupation of other Guardian ……

13. Are you currently attending school? [ ] Yes [ ] No

If yes, What class are you now? ……..

14. Do you have an adolescent health club in your school? [ ] Yes [ ] No

15. Are you a member of the adolescent health club in your school? [ ] Yes [ ] No

If you are not attending school, kindly tick one of the following

a. Never attended school [ ] b. Dropped out of school [ ]

16. Have you heard about an Adolescent Health Corner in your district or place of residence?

[ ] Yes [ ] No

17 If yes, how far is it from where you stay? [ ] very far [ ] Not so far [ ] Near

18. Have you ever visited the Adolescent Health Corner? [ ] Yes [ ] No

If NO, why don't you visit the corner? …….

Did you use to visit the corner and now have stopped? [ ] Yes [ ] No

Can you state some of the reasons why you stopped visiting the corner? ……

19. Are the service providers welcoming when you visit the corner? [ ] Yes [ ] No

20. What services did you receive at the corner?

Tick all that apply

[ ] Health Education [ ] Counselling Services [ ] Treatment of an ailment other than STI

[ ] STI treatment [ ] Candidiasis Treatment [ ] Family Planning Services

[ ] Recreation

21. Was there a separate room provided for you during your interaction with the health care worker at the corner? [ ] Yes [ ] No

22. Are there games provided at the corner for you to play with? [ ] Yes [ ] No

23. Are you comfortable with the time services are provided at the corner? [ ] Yes [ ] No

24. Do you find the service provider being judgemental after discussing your issues? [ ] Yes

[ ] No

25. Was the service provider able to solve your problem for you? [ ] Yes [ ] No

26. Was money collected from you when you visited the Adolescent health corner? [ ] Yes

[ ] No

27. Do you have NHIA card? [ ] Yes [ ] No

28. If yes, is your NHIA card used for adolescent friendly health services? [ ] Yes [ ] No

29. What additional services would you like to have offered at the AHC? ……

30. What do you think would make an adolescent patronize the services at the Adolescent Health Corner? ……

31. Does your parent(s) or guardian know you attend the Adolescent Health Corner?

[ ] Yes [ ] No

32. If No, why haven't you told them you go to the Adolescent Health Corner?

……

…….

33. Would you introduce your friends to the AHC? [ ] Yes [ ] No

34. Do you have other places you go for adolescent friendly health services other than the Adolescent Health Corner? [ ] Yes [ ] No

If Yes, Kindly name them……...

APPENDIX 8: ETHICAL CLEARANCE

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

In case of reply the number and date of this Letter should be quoted.

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Tel: +233-302-681109
Fax + 233-302-685424
Email: ghserc@gmail.com
19th October, 2018

MyRef. GHS/RDD/ERC/Admin/App 18/423
Your Ref. No.

Osei Kuffour Afreh
Ghana College of Physicians and Surgeons
Faculty of Public Health
Accra

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

GHS-ERC Number	**GHS-ERC002/08/18**
Project Title	Factors Influencing the Use of Adolescent Health Corners among Adolescents in the Brong Ahafo Region
Approval Date	19th October,2018
Expiry Date	18th October, 2019
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.....
PROFESSOR MOSES AIKINS
(GHS-ERC VICE CHAIRPERSON)

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

APPENDIX 9: REGIONAL DIRECTORS' PERMISSION FOR STUDY

In case of reply
The number and the
date of this letter
should be quoted

GHANA HEALTH SERVICE
Your Health - Our Concern

Regional Health Directorate
Ghana Health Service
P. O. Box 145
Sunyani

My Ref :RHD/ADM : 09/44034

20th July 2018

Your Ref:

Email : ghsbar@yahoo.com

DR OSEI KUFFOUR AFREH
DEPUTY DIRECTOR PUBLIC HEALTH
BRONG AHAFO REGION

Dear Sir,

RE: PERMISSION TO CONDUCT STUDY

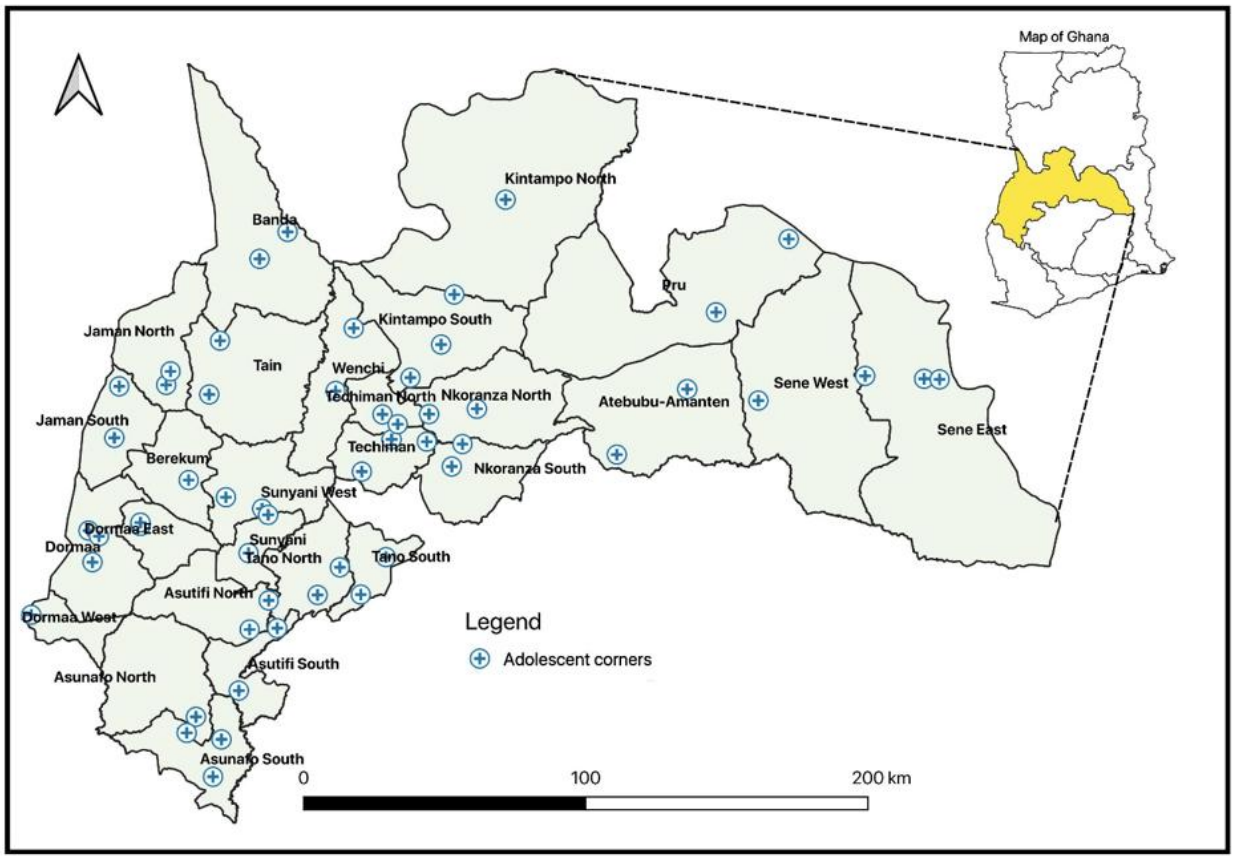
The Regional Health Directorate wishes to grant you permission to conduct a study titled "FACTORS INFLUENCING THE USE OF ADOLESCENT HEALTH CORNERS AMONG ADOLESCENTS IN THE BRONG AHAFO REGION" which is to be carried out in all the 27 districts of the region.

An introductory letter would be sent to all the District Directors of Health Services as well as Medical Superintendents of district Hospitals to make available the selected facilities for this study to be conducted.

Thank You.

DR KOFFISSAH
REGIONAL DIRECTOR OF HEALTH SERVICES
BRIONG AHAFO REGION

APPENDIX 10: MAP OF BRONG AHAFO REGION SHOWING DISTRICTS AND ADOLESCENT HEALTH CORNERS



APPENDIX 11: MAP OF BRONG AHAFO REGION SHOWING LOCATION OF ADOLESCENT HEALTH CORNERS SELECTED FOR THE STUDY