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SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA

UTILISATION OF YOUTH-FRIENDLY HEALTH SERVICES AMONG ADOLESCENTS IN THE TEMA METROPOLIS

BY

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DECLARATION

I, Angela Naa Kailebi Odoi, declare that this thesis is the product of my original independent research conducted in the Tema Metropolitan Area under the supervision of Dr Abubakar Manu. I affirm that this dissertation either in whole or in part has not been presented elsewhere for another degree. All references made to other researchers' work have been duly acknowledged.

....

ANGELA NAA KAILEBI ODOI DATE

....

DR. ABUBAKAR MANU DATE

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DEDICATION

To the Almighty God for His impeccable love and sustenance and to my family, my husband and triplets.

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ACKNOWLEDGEMENT

I am forever grateful to the Almighty God for all He's been doing to bring me this far and to my family for their relentless support, I can't thank you enough.

I will like to express my profound gratitude to my supervisor Dr Abubakar Manu for all the patience and effort he devoted to the realisation of this thesis. Special thanks also go to the faculty and staff of the School of Public Health most especially the Population, Family and Reproductive Health Department.

I would like to thank the Director of the Family Health Division and the Director of the Tema Metropolitan Health Directorate of the Ghana Health Services for their support in various ways I am also grateful to the officials and staff of Tema Metropolitan Health Directorate who rendered their support and to all my research assistants who helped with the field activities.

To my loving parents, Mr and Mrs Odoi Laryea and my siblings. I say a big thank you, for your ceaseless prayers, encouragement and support.

I am also indebted to all the adolescents whose responses led to the realisation of this thesis. I am most grateful to all whose names have not been mentioned here but played various roles in my studies.

Thank you.

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ABSTRACT

Background: Adolescents are generally a healthy cohort but many of the health-related behaviours and conditions that arise during this period have implications for both present and future health development. The provision of Adolescent and Youth-Friendly Health Services most especially, sexual and reproductive health services is a key strategy for improving the health of this cohort, yet there is lack of empirical data on the extent of utilisation of youth-friendly services since its adaptation some two decades ago. It is against this backdrop that this study was designed to explore the utilisation of Youth Friendly Health Services among adolescents (10-19 years).

Method: The study was a community-based cross-sectional design using structured questionnaire and an interview guide. A multistage sampling technique with probability proportional to size was used to sample 806 adolescents aged 10 to 19 years. Data were analysed using frequencies and logistic regression in STATA version 14.

Results: The study found that the utilisation of Youth-friendly health service facilities among adolescents in the Tema Metropolis is estimated at 12.3% and about 43.3% went there for general counselling and health information service. The study also revealed that about 23.5% have comprehensive knowledge about HIV and AIDS and the most preferred contraceptive method among adolescents is condoms (68.7%). Friends and peers were the main sources of information about sexual and reproductive health information as well as youth-friendly health services.

The main barrier to utilisation of youth-friendly health service is the lack of awareness of these facilities among adolescents. In addition, reasons noted for not utilising these services

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among those who knew about its availability where the distance to the service delivery point from their place of abode, do not have the need for the services, financial barrier amongst others. A multivariate analysis showed adolescents with risky sexual behaviour were about 1.47 times (AOR=1.47, 95% CI 1.10, 1.96) most likely to use YFHS than those with non-risky sexual behaviour; and those with comprehensive knowledge about correct condom use were 2.77 times (AOR=2.77, 95% CI 1.36, 5.61) most likely to use YFHS than those with poor comprehensive knowledge about correct condom use.

Conclusion: In general, utilisation of youth-friendly health service facilities among adolescents is low. Factors associated with utilisation of youth-friendly health services were risky sexual behaviour and comprehensive knowledge about correct condom use. The major barrier to utilization was lack of awareness of these facilities and services among adolescents. Re-orientation of the health service delivery system to improve on adolescent-responsive health service delivery and the need for multi-sectorial approach and diverse strategy to create demand and encourage adolescents to utilise youth-friendly health services are needed.

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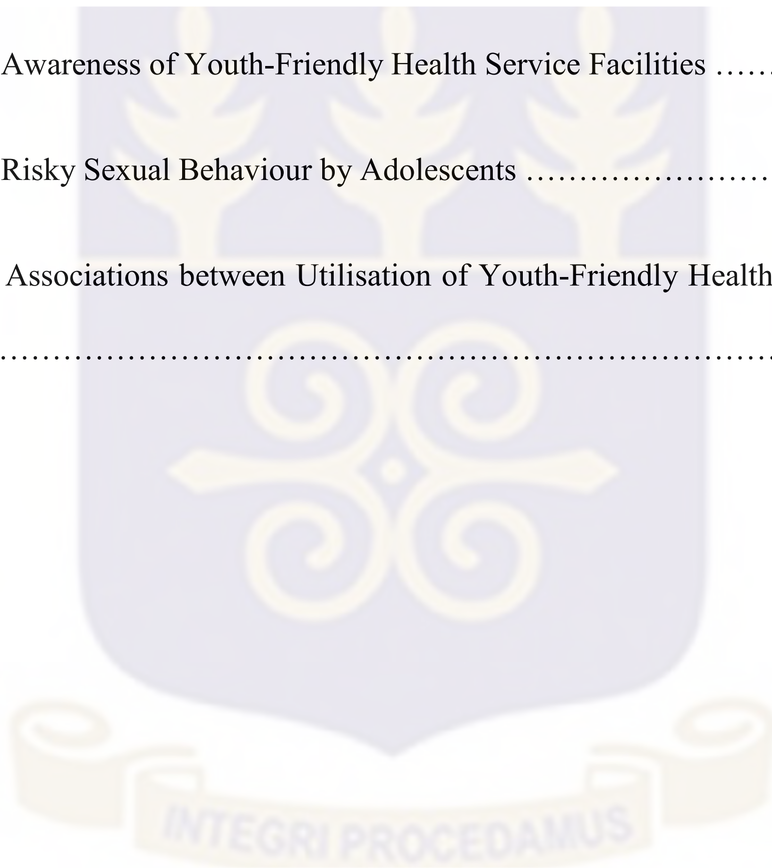

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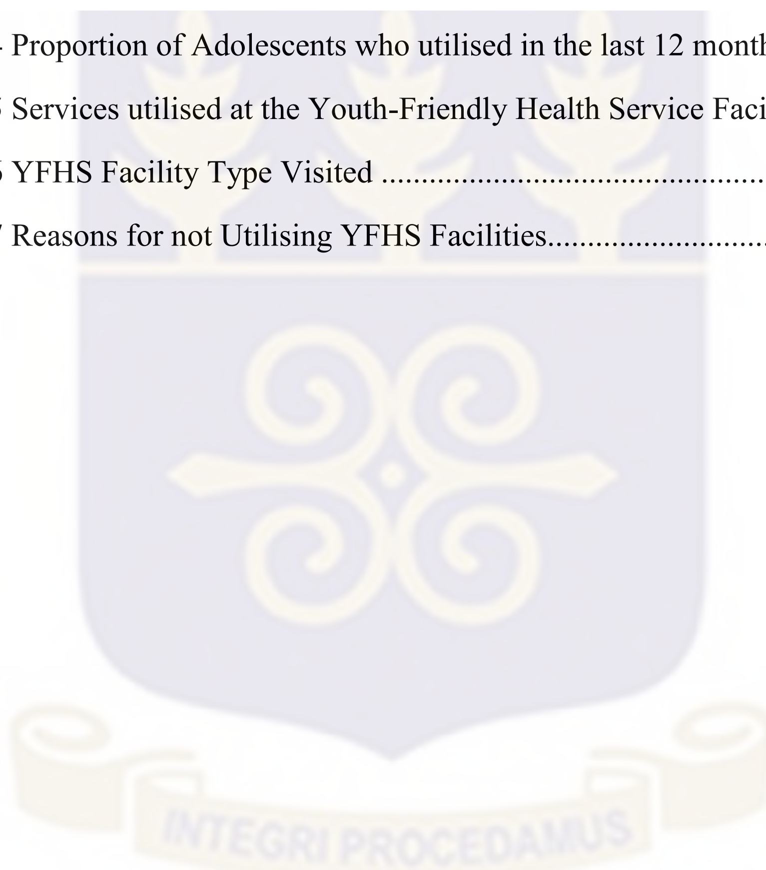

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LIST OF ABBREVIATION

ASRH -	Adolescent Sexual and Reproductive Health
AYFHS -	Adolescent and Youth Friendly Health Services
CERSGIS -	Centre for Remote Sensing and Geographic Information Systems
GDHS -	Ghana Demographic and Health Survey
HIV -	Human Immunodeficiency Virus
IEC -	Information, Education and Communication
RH -	Reproductive Health
SDG -	Sustainable Development Goals
SRH -	Sexual and Reproductive Health
STI -	Sexually Transmitted Infections
TC -	Testing and Counselling
VCT -	Voluntary Counselling and Testing
YFRHS-	Youth-Friendly Reproductive Health Services
WHO -	World Health Organization

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DEFINITION OF TERMS

1. ***Adolescent-*** Refers to people aged 10-19 years
2. ***Adolescent and Youth Friendly Health Services:*** These are services specifically designed to improve the quality of existing health services including sexual and reproductive health for young people. This means the health services provided for young people should be acceptable, appropriate, accessible, equitable, efficient and effective and tailored to meet adolescent health needs and expectations
3. ***Youth-Friendly Health Services Utilisation (YFHS)***: Visiting and using any of the minimum packages of Sexual and Reproductive Health services (listed below) provided at the YFHS delivery point whether in a government or private facility within the last twelve months within the Tema Metropolis before the study:
    - General Counselling and Health Information
    - Information on SRH
    - Family Planning services and counselling services
    - STI/HIV Testing and Counselling
    - STI/HIV Treatment and Management
    - Pregnancy testing
    - ANC services
    - Comprehensive Abortion Care services
4. ***Comprehensive Knowledge about Correct Condom use-*** as a measure of SRH knowledge in the study, means knowing that correct use of condom during sexual intercourse is an effective method of preventing pregnancy; condoms cannot be used more than once; it is wrong to use hand lotion for lubrication when using a condom;

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condoms should not be unrolled before putting it on the penis; the end of the condom should be held when withdrawing after ejaculation; and rejecting the common local misconceptions that condoms can disappear inside the woman's body. The results were summed to create a composite knowledge score ranging from 0 to 6 which was categorised into two groups (≤ 3 and ≥ 4) Thus respondents who answered four or more statements correctly were considered to have a high comprehensive knowledge about correct condom use.

5. **Comprehensive Knowledge about STIs/HIV and AIDS-** Comprehensive knowledge about HIV/AIDS in this study is defined as knowing that consistent use of condom during sexual intercourse can reduce the chance of getting HIV; multiple sexual partners can increase the chance of getting HIV; knowing that a healthy-looking person can have HIV, and reject the two most common local misconceptions about HIV transmission (that HIV can be transmitted by mosquito bites and that HIV can be transmitted by supernatural means). Subjects who answered correctly to all five (5) items were said to have comprehensive knowledge of HIV and AIDS.

6. **Risky Sexual Behaviour:** Engaging in one or more of the following activities

    - Two or more lifetime sexual partners
    - One or more casual sex partners in 12 months
    - Sex with a commercial sex worker in 12 months
    - Sex when drunk or on drugs
    - Intergenerational sex
    - Non-Condom use at last sex

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

The World Health Organisation (WHO) defines adolescent as the cohort aged 10 to 19 years. They account for 18% of the world's population that is, about 1 in 6 persons in the world is an adolescent (World Health Organization, 2016a). In Sub-Sahara Africa and Ghana, adolescents comprise nearly a quarter (23%) of the population. Adolescence is a period of life with specific health and developmental needs and rights characterised by significant physiological, physical, emotional and social changes. Adolescents are generally seen as healthy; however, there is still significant death, illness and diseases among them. According to WHO, adolescents contributed significantly to the global burden of disease; an estimated 1.3 million died from mostly preventable or treatable causes in 2015 (World Health Organization, 2016b).

The WHO has estimated that 70% of premature deaths among adults are largely due to behaviours initiated during adolescences (McIntyre, 2002). Which implies that many of the health-related behaviours and conditions that arise during adolescence have implications for both present and future health development. Some of these behaviours include lack of physical activities, unhealthy diets, drug and substance use, unsafe/risky sexual behaviours, etc. and conditions such as nutrition deficiencies, injuries (intended and unintended) etc. leads to the major causes of morbidity and mortality now and the future

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The concern about adolescent sexual and reproductive health (ASRH) has grown due to unprecedented increasing rates of sexual activity, early pregnancies and sexually transmitted infections (STI) including Human Immune Deficiency Virus (HIV) among them (Malleshappa, Krishna, & Nandini, 2011).

Globally, 11% of all births are to girls between the ages of 15-19 years and 95% of these occur in low and middle-income countries (WHO, 2011). These girls suffer a high rate of complications from pregnancy, delivery and unsafe abortion which sometimes leads to untimely death. According to the WHO, about three million girls between ages 15-19 years undergo unsafe abortion each year, and they are also a key contributor to maternal and child mortality; the second leading cause of death among girls between 15-19 years is maternal mortality (World Health Organization, 2014).

The Rights of the Child, 1990 under the United Nations Convention declared that 0-18 years, which includes adolescents have the right to services and information to grow, survive and develop their full potentials. In addition, the 1994 International Conference on Population and Development (ICPD) Programme of Action called for the Sexual and Reproductive Health of Adolescents (10-19 years) and young people (10-24 years) to be met.

Since then countries including Ghana have developed, adopted and implemented initiatives and programmes to promote and protect the Sexual and Reproductive Health (SRH) needs of adolescents. Most especially through the Adolescent and Youth-Friendly Health Services (AYFHS) or youth-friendly health services (YFHS) programme/initiative. These

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services are explicitly designed to improve health services including reproductive health services for young people including adolescents.

These services are designed to meet the specific needs of adolescents, which are acceptable, appropriate, accessible, equitable, efficient and effective. Although the availability of these services has been promoted globally and locally, there are still high rates of SRH issues recorded among adolescents.

It is against this backdrop that the study aims to explore the utilisation of Youth-Friendly Health Services among Adolescents and its associated factors as well as their knowledge on Sexual and Reproductive Health related topics.

1.2 Problem Statement

As a response to the health needs (including SRH) of adolescents and young people, the Ghana Health Service in 1996 instituted a programme to prioritise the health needs of adolescents and young people (Ghana Health Service, 2005). Amongst its objectives was the integration of youth-friendly health services (including SRH) into existing health services to make it adolescent responsive as well as to increase access and utilisation of health services among the target group. Non-Governmental and Civil Society Organization (NGOs and CSOs) also augments the efforts in reaching adolescents with comprehensive health services including SRH information and services through programmes and the establishments of Adolescents Health Corners in health facilities.

Irrespective of this interventions and programmes, adolescents are still faced with varied SRH issues in the country (Government of Ghana, 2014). Although the Ghana Health

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Services promotes and renders adolescent and youth responsive health services in its health facilities, the country continues to record low utilisation of this services including family planning services and increasing rate of adolescent pregnancy, STIs and HIV.

Furthermore, evidence from the Ghana Demographic and Health Survey (GDHS), institutional data from the Health Ministry together with findings from other studies revealed the degree of the SRH issues adolescents face. For example, the GDHS 2014 found that about 12% of girls 15-19 years had their first sex before age 15 years; however, married adolescents 15-19 years has a contraceptive prevalence and unmet for family planning of 6% and 50.7% respectively. The GDHS further revealed about 14% of females age 15-19 years have begun childbearing. The maternal mortality ratio for births to adolescent girls aged 12 to 19 years stands at 679 out of 100,000 live births which are significantly higher than the national average of 485 (Ghana Statistical Service (GSS), Ghana Health Service (GHS), 2015; Government of Ghana, 2014).

Additionally, the Ghana Health Services recorded a decrease in the proportion of adolescents accessing family planning for the first time in 2015 at 12.9% as compared to 13.8% in 2013 but rather recorded an increase in abortion rates at 17.3% (Ghana Health Service, 2015).

In an interview with The Ghanaian Times, the Tema Metropolitan Director of Health Services disclosed that 54 adolescents including both males and females who visited the various Adolescent Health Corners (youth-friendly health facility) tested positive for HIV from January to June 2015 (The Ghanaian Times, 2015). The Metropolis also recorded a

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drastic decline in the utilisation of youth-friendly health services from 3,356 in 2013 to 907 in 2015 (Tema Metropolitan Health Directorate, 2015).

Even though Adolescent and Youth Friendly Health Services have been in existence for about 20 years in Ghana, there has not been any empirical study to access the level of utilisation of these services. Anecdotal evidence suggests that young people have negative perceptions about youth-friendly services and inadequate knowledge on their availability among the adolescents. Hence this study seeks to explore the accessibility and utilisation of adolescent and youth-friendly health services by adolescents within the Tema Metropolis

.

1.3 Conceptual Framework

Health care utilisation is the point in health systems where patients' needs meet the professional system. It is well known that apart from need-related factors, health care utilisation is also supply-induced and thus strongly dependent on the structures of the health care system. Furthermore, many study findings have shown differences in health care utilisation based on patients' social characteristics. In addition to the multitude of studies describing patterns of utilisation in different healthcare settings, several scholars have developed explanatory frameworks identifying predictors of health care utilisation and one of such is the Behavioural Model of Health Services Use developed by Ronald M. Andersen (Babitsch, Gohl, & von Lengerke, 2012).

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1.3.1 Description of Framework

This study used the Andersen & Newman, (2005) Behavioural Model of Health Service Utilization to explore the variables associated with the utilisation of youth-friendly health services among adolescents in the Tema Metropolis. This framework suggests that utilisation of health services is a function of predisposing, enabling and need factors. Predisposing factors which include demographic characteristics such as age, sex, education level and ethnicity influences an individual's tendency to use health services. Enabling factors (economic status, availability and access to the health services, etc) and Need factors (perceived needs and expected benefits from services) also expedite or hinder the utilisation of health services by individuals.

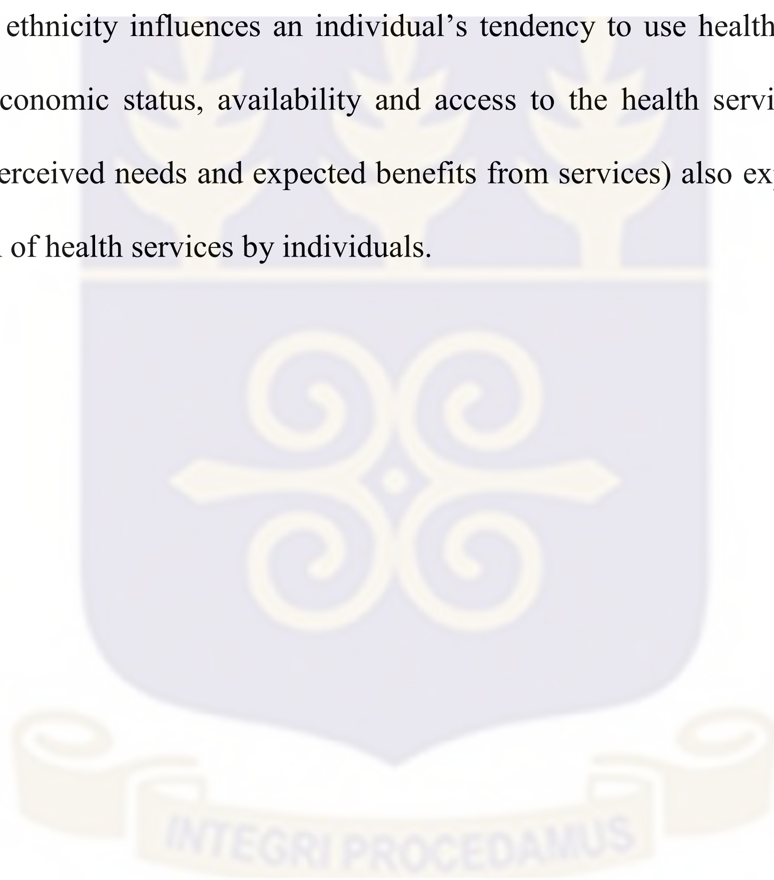

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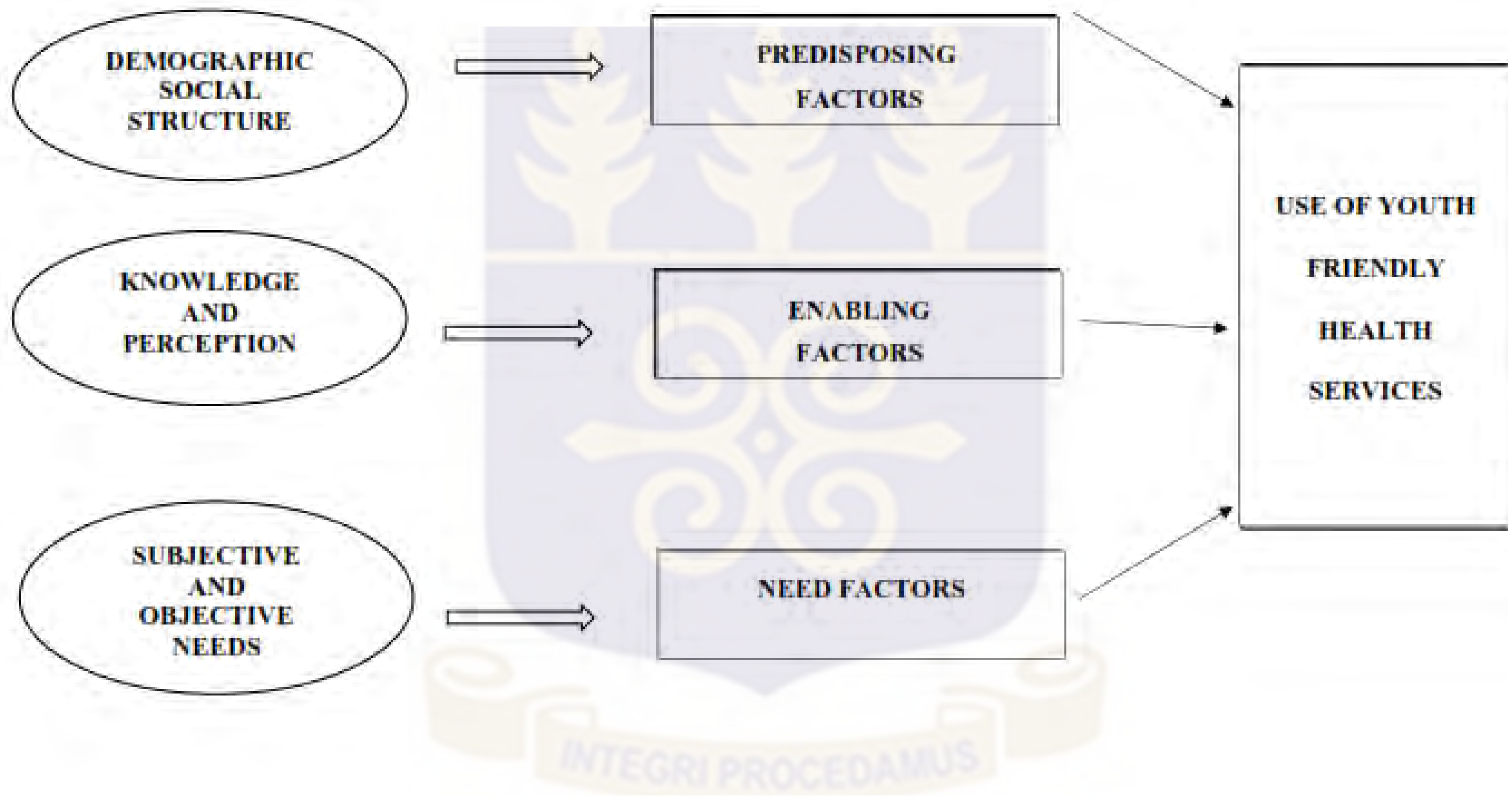
Figure 1.1 Conceptual Framework



Conceptual Framework of the study was adapted from the Behavioural Model of Health Service Utilization by Andersen

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1.4 Justification

Despite governments' numerous interventions implemented in addressing the health issues adolescents face in the country, only a fair amount of evidence has been generated on whether such commitments are reaching the targeted cohort. Results from this study will not only add on to the existing literature on youth-friendly health services but most importantly will provide key information for the public, inform formulation and revision of health policy, programming and intervention for adolescents in the country and reinforce efforts to making health services adolescent responsive. The study on utilisation of adolescent and youth-friendly health services will provide a deeper understanding of demand and uptake of health services by the target group. Their views on the appropriate features of the services will also inform the restructuring of health services to address gaps in the provision of adolescent responsive health services. The health sector and other key stakeholders will be informed to create an enabling environment to improve on adolescent responsive Health Services, particularly Sexual and Reproductive Health Services accessibility, most especially in the Tema Metropolis.

1.5 Research Questions

The following questions guided the study:

1.5.1 Main Question

What proportion of adolescents in the Tema Metropolis knows about Adolescent and Youth Friendly Health Services (AYFHS) and to what extent do they have access to them?

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1.5.2 Sub-questions

- What proportion of adolescents in the Tema Metropolis knows about Adolescent and Youth Friendly Health Services (AYFHS) and to what extent do they have access to them?
- What Knowledge do the adolescents in the Tema Metropolis hold about their sexual and reproductive health?
- Does knowledge factor influence the utilisation of Youth-Friendly Health Services?
- What characteristics of adolescents in the Tema Metropolis have/do not have access to Youth-Friendly Health Services?
- What factors account for the utilisation or non-utilization of Youth Friendly Health Services in the Tema Metropolis?

1.6 Objectives of the Study

1.6.1 General Objectives

To assess the utilisation of Youth-Friendly Health Services among Adolescents in the Tema Metropolis.

1.6.2 Specific Objectives

These specific objectives were to

- To determine the proportion of adolescents who utilises the Youth-Friendly Health Service Facilities

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- To assess the level of Sexual and Reproductive Health Knowledge among adolescents in the Tema Metropolis
- To assess the factors that influence the utilisation of Youth-Friendly Health Services among adolescents in the Tema Metropolis
- Identify the barriers adolescents face in accessing Youth-Friendly Health Services in the Tema Metropolis

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CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

Adolescence is a life stage characterised by growing opportunities, capacities, aspirations, energy and creativity, but also significant vulnerability. Adolescents are agents of change and a key asset and resource with the potential to contribute positively to their families, communities and countries. Globally, adolescents are full of optimism and represent a positive force in society, an asset now and for the future as they grow and develop into adults, they engage positively in many spheres, including health and education campaigns, family support, peer education, community development initiatives, and make contributions towards peace, human rights and environmental sustainability. However, they are exposed to risks and pressures which when not addressed could jeopardise not only their current health, but also their health as adults, and even the health of their future children.

2.2 Investing in the Health Needs of Adolescents

Adolescents are faced with the risk of unprotected sex, early and unintended pregnancy, sexually transmitted infections (STIs) including HIV and AIDS, and vulnerable to the dangers of tobacco use, alcohol and other drugs. Although, the adolescence period is also characterized by relatively low mortality compared to other age groups, the risk of death and disease during the adolescent years is real, from preventable causes such as childbirth, unsafe abortions, sexually transmitted infections, including HIV due to difficulties in

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accessing accurate sexual and reproductive health information, contraception/family planning, comprehensive abortion care (CAC) services etc, (Moghaddam, Shahinfar, Bahreini, & Ajilian, 2016).

Investing in adolescent health brings a triple dividend of health benefits; that is promoting and protecting adolescent health will lead to great public health, economic and demographic benefits (Resnick, Catalano, Sawyer, Viner, & Patton, 2012; WHO, 2017). In addition, improved adolescent health brings economic and larger societal benefits which occur through greater productivity, reduced health costs and enhanced social capital. Investing in adolescent health is also essential to achieve the seventeen (17) Sustainable Development Goals (SDGs) and their 169 targets, each of which relates to adolescent development, health or well-being directly or indirectly.

Finally, the right to sexual and reproductive health is an integral part of the right to health enshrined in article 12 of the International Covenant on Economic, Social and Cultural Rights. The Programme of Action of the 1994 International Conference on Population and Development specifically backed the right of adolescents to reproductive health care; that is, "information and services should be made available to adolescents that can help them understand their sexuality and protect them from unwanted pregnancies, sexually transmitted infections and subsequent risk of infertility"(Shalev, 2000).

The global community increasingly recognises the vital needs of adolescents, and there is an emerging consensus that investing intensively in adolescents' health and development is not the only key to improving their survival and well-being but critical for the success of the post-2015 development agenda. One of the specific targets of the health Sustainable

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Development Goal (SDG 3) is that by 2030, the world should ensure universal access to sexual and reproductive health-care services, including family planning, information and education, and the integration of reproductive health into national strategies and programmes. To support this, a proposed indicator for the "Global Strategy for Women's, Children's and Adolescents' Health" is the adolescent birth rate. Better access to contraceptive information and services can reduce the number of girls becoming pregnant and giving birth at too young an age. Promoting healthy behaviours during adolescence, and taking steps to better protect young people from health risks are critical for the prevention of health problems in adulthood, and for countries' future health and ability to develop and thrive (WHO, 2015).

2.3 National Response to the Sexual and Reproductive Health Needs of Adolescents

Ghana acknowledges the need of taking care of the health and development of its adolescents and as a signatory of ICPD 1994, has undertaken several initiatives culminating in the establishment of the National Adolescent Health and Development Programme (ADHD) in 1996, this was later followed by the development of a seven-year (2009-2015) strategic plan. The strategy sought to provide multi-sectoral support to every young person living in Ghana with information and services that will lead to the adoption of healthy lifestyle physically, psychologically and socially. This was to be achieved through the provision of age and sex appropriate information and counselling, comprehensive health services complemented by self-care, livelihood and leadership skills training and empowerment. Currently, the programme is implementing the new Adolescent Health Service Policy and Strategy (2016-2020) which was informed by the findings from the evaluation of the first strategy (ADHD, 2009, 2016).

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The main objective of the National Adolescent Health and Development Programme (ADHD) is to contribute to the improvement of adolescents and young people's health status through the implementation of realistic interventions that aim to bring appropriate solutions to their major health problems. This is done through the provision of Adolescent and Youth-Friendly Health Services (AYFHS) The following standards guides the delivery of AYFHS in Ghana (ADHD, 2010, 2016);

- Adolescents and young people can obtain health information and counselling relevant to their needs, circumstances and stage of development when seeking health care at various levels of health service delivery
- Health service providers and support staff have the required knowledge, skills and a positive attitude to provide adolescent and youth-friendly health services effectively at all health service delivery points
- Health facilities provide the specified package of health services that are accessible and acceptable to adolescents and young people in an appropriate environment and in a friendly manner
- Promoting partnership among adolescents and young people, health institutions and communities in the provision and utilisation of AYFHS

The minimum package of services delivered at the AYFHS facility includes the following (ADHD, 2010);

- General Counselling and Health information
- Information and counselling on sexual and reproductive health issues

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- Family planning and counselling services (including condom and emergency contraceptives)
- Pregnancy testing pregnancy
- STI / HIV Testing and Counselling
- STI Treatment and Counselling (where applicable)
- Antenatal care (ANC), delivery, Postnatal care (PNC) (where applicable)
- Comprehensive Abortion Care Services
- Appropriate referral linkage between facilities at different levels and other services.

Various political, economic, and sociocultural factors restrict the delivery of information and services, healthcare workers often act as barriers to care by failing to provide young people with supportive, non-judgemental, youth responsive services, (Morris & Rushwan, 2015). According to the WHO in 2012, the following accounted for the low use of sexual and reproductive services by adolescents; feeling that such services are for adults or married people, strict cultural norms against the use of reproductive services by adolescents and lack of privacy (WHO, 2012). Empirical documentation shows that the use of reproductive health services by adolescents is low (Schriver, Meagley, Norris, Geary, & Stein, 2014)

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2.4 Adolescent Knowledge on Sexual and Reproductive Health

Knowledge about sexuality and reproductive health among young men and young women is limited and young people report a need for more information on relationships, pregnancy and STIs (WHO, 2001). Significant numbers of studies have been conducted to investigate adolescents' knowledge and perception towards SRH and its services globally. A descriptive cross-sectional study carried out among 417 secondary school adolescents found out that about 70% of them have good practice of SRH; where good practice of SRH implies participants have equal or more than 80% knowledge and practice of SRH, additionally, participants reported various sources for SRH information with media and friends being the main sources (Paudel & Paudel, 2014)

The World Health Organization estimates that globally more than 2 million adolescents are living with HIV. Over 35% of all reported cases of HIV are among young people of age group 15 to 24 years. According to the estimation made by UNICEF, about four million children are affected by AIDS. Although the overall number of HIV-related death is down by 30% since last decade, HIV death among adolescents is still rising. In sub-Saharan Africa, about 10% of young men and 15 % of young women aged 15 to 24 are living with HIV. Among adolescents, certain sub-groups for instance street adolescents and slum dwellers are most vulnerable to HIV(WHO, 2013). Thus, access to sexual and reproductive health (SRH) services is vital for sexually active youth and adolescents. However, research indicates that that youth lacked knowledge about STIs and services. In addition, youth experienced barriers related to service availability and a lack of integration of services. The most reported barriers were related to acceptability of services. Youth reported avoiding

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services or having confidentiality concerns based on provider demographics and some behaviours, experiences of shame and stigma when seeking care.

In a qualitative systematic review study to assess adolescent and provider views of barriers to seeking appropriate medical care for STI services for adolescents; knowledge and awareness was identified as one of the barriers to seeking care, many youths reported having limited knowledge about SRH and most specifically on STIs, whiles some youth had heard of STIs, but a majority were unable to name symptoms or had misconceptions about them (Newton-levinson et al., 2016). A lack of knowledge was often associated with not seeking care or with delaying treatment. According to the 2014 GDHS, comprehensive knowledge about HIV/AIDS is almost universal among the 15-49 years age group (98% and 99% for women and men respectively), additionally, comprehensive knowledge about AIDS among young men and women aged 15-19 years is 24.5% and 18.1% respectively.

2.5 Factors Influencing Youth-Friendly Health Service Utilisation

Findings from the review of the International Federation of Gynaecology and Obstetrics (FIGO) ASRH activities and research on adolescents' attitudes toward sexual and reproductive health and their perceptions of health professionals suggested that good sexual and reproductive health for adolescents are being barred by a series of multifaceted barriers. These include the low priority placed on ASRH at the government level with unfavourable laws and policies on ASRH; societal, cultural, and religious factors that create an inhibitive environment for discussion of ASRH and judgmental attitudes about sexual activity especially for those out of marriage and sexually active girls and women (Morris & Rushwan, 2015). The findings also outlined service-related barriers which

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include poor health systems for sexual and reproductive health services for adolescents (Morris & Rushwan, 2015). However, fear (of people finding out and other confidentiality issues that may result in violence), embarrassment, lack of knowledge, misinformation and myths, stigma, and shame may influence the care-seeking behaviour of an adolescent (Blanc, Tsui, Croft, & Trevitt, 2009). Additionally, an adolescents' access to information and services is influenced by a diversity of people which includes peers, parents, family members, teachers, and healthcare workers, even though there is a school of thought that the single most important barrier to care is provider attitude (Morris & Rushwan, 2015).

Adolescents and young people have many unmet needs for health care and experience barriers that include their inexperience and lack of knowledge about accessing health care, and heightened sensitivity to confidentiality breaches. Further barriers arise from restrictive legislative frameworks, stigma, and community attitudes (Patton et al., 2014; Salam et al., 2016); high cost of service (Singh, Rai, Alagarajan, & Singh, 2012) and long distance to the health centres (Aninanya, Debpuur, Awine, & Williams, 2015). Data collected by the Family Health Division of the Ghana Health Services in 2015 on family planning services revealed a slight decrease in the proportion of adolescents accessing family planning for the first time as compared to the previous years. Some of the reasons for the decline include perceived unfriendly attitudes of service providers, myths and misconceptions regarding the effect of contraceptive use among adolescents and young people and also the low purchasing power of adolescents and young people for contraceptives especially the Long Acting Reversible Contraceptives (LARC)(Ghana Health Service, 2015).

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Findings from a community-based cross-sectional study to assess access to and the utilization status of Reproductive Health (RH) services by adolescents aged 15-19 years in Jimma City, Ethiopia showed that 95% of adolescents could access Information, Education and Communication (IEC) services with ease as compared to the difficulty attributed to accessing abortion services. Further analysis also indicated that among the socio-demographic predictors and other factors, age and knowledge about RH services were significantly associated with the utilisation of RH services (Tegegn, Yazachew, & Gelaw, 2016). Even though other demographic and socioeconomic variables such as education level and schooling did not show a statistically significant association with the use of RH services, findings from other studies including the Ghana Demographic and Health Survey showed that use of contraceptive methods increases with increasing education. For example, 19% of married women with no education are using a method of contraception, as compared with 34% of married women with a secondary education or higher (GDHS, 2014).

In a 2013 qualitative study carried out by Nair et al to assess the reproductive health needs of adolescents and young people aged 14-24 years revealed that lack of knowledge about the availability of SRH services is a significant obstacle for youth accessing services. Not knowing where to go for services or lack of understanding about the services provided serves as a barrier to seeking SRH care (Nair, Leena, George, Thankachi, & Russell, 2013). In similar studies, the youth reported that they were afraid to seek services because they did not understand what would happen during a clinic visit (Kennedy et al., 2013).

A large part of the literature on adolescents' sexual and reproductive health services has focused on adolescents perceived barriers to obtaining services. Major barriers that

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adolescents say they face are fear that others might get to know of their visit, shame about their needs, negative attitudes of providers, lack of privacy and confidentiality and age restrictions (Biddlecom, Munthali, Singh, & Woog, 2014). Prior studies in Sub-Saharan Africa have also described young people's perceptions and use of health services, but they have a variety of limitations: some address one type of need (for example needs related to contraception but not STIs), others cover a small geographical area and are based on selective samples, for example, people who attend health facilities or who are students and by their nature cannot be representative of the cross-section of adolescents.

For proper planning of responsive health services for adolescents, it is imperative to have a comprehensive knowledge about the utilisation of youth-friendly health services among adolescents. Currently, the country lacks information in this regard as the few studies carried out have concentred on RH knowledge. With the inclusion of adolescents in the Global Strategy for Every Woman and Every Child, the 2016-2030 Sustainable Development Goals (SDG) agenda prioritises the adoption of health promoting strategies and strengthening of adolescent-responsive health systems to facilitate health-seeking behaviours and healthy lifestyles among adolescents (WHO, 2015). Therefore, information on the features of youth-friendly health services as defined by adolescents and their utilisation is critical and will help to informed policies, strategies and interventions to improve the health of adolescents including their sexual and reproductive health needs and to a large extent achieving the SDGs.

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2.6 Risky Sexual Behaviour

Risky sexual behaviour is usually said to be behaviours that place one's risk of contracting unintended pregnancies and STIs high. These behaviours include early initiation of sex, unprotected sex, multiple sexual partners, forced or coerced sexual intercourse, and sexual intercourse for reward and under the influence of alcohol or drugs.

Adolescents routinely engage in behaviours that put their health at risk. Risky sexual behaviours are of a particular concern when dealing with issues of adolescence. Majority of sexually active adolescents are not taking appropriate precautionary measures to prevent pregnancy and STIs infections including HIV. According to the 2014 GDHS, about 12% of girls 15-19 years had their first sex before age 15 years and 14% of girls within the same age group have begun childbearing. HIV prevalence among young people 15-24 years, a proxy for new infections is 1.1% according to the 2016 HIV sentinel survey.

Adolescence is a stage of physical and sexual maturation and many go through this stage without the benefit of any information and health services which are known to promote healthy sexual and reproductive life. Due to exposure to high-risk sexual behaviour at this stage of life which results in STI/HIV infections and unintended pregnancies, it is imperative to provide adolescents with the necessary safety-net; appropriate information and health services. Stone & Ingham (2003) observed that many young people think about, and take steps to obtain adequate protection only after sexual initiation, hence sexual behaviour has a relationship with youth-appropriate sexual and reproductive health services utilisation.

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CHAPTER THREE

3.0 METHODS

3.1 Introduction

This chapter outlines the various methods used for this study. It describes the study area, variables, study design, sampling procedures, sample size determination, data collection techniques and tools, data analysis, ethical considerations and confidentiality. Information about the study area was obtained from the Tema Metropolitan Assembly, Tema Metropolitan Health Directorate and the Greater Accra Regional Health Directorate.

3.2 Study Area

The study was conducted in the Tema Metropolis, located in the southern part of the Greater Accra Region (Fig. 1). It was created from the erstwhile Tema Municipality in 2007 with the promulgation of Legislative Instrument (LI) 1929. The Metropolitan is one of the sixteen (16) administrative districts in the Greater Accra region and has three Sub-Metropolitan Councils namely; Tema West, Tema East and Tema Central. It is a coastal district situated 30 kilometres east of Accra, the capital city of Ghana and shares boundaries in the northeast with Dangme West District, south-west by Ledzokuku Krowor Municipal, north-west by Adentan Municipal and Ga-East Municipal, north by the Akuapim South District and south by the Gulf of Guinea. The metropolis covers an area of about 87.8 square kilometres with Tema as its administrative capital. The Greenwich Meridian (Longitude 00) passes through the Metropolis. (Ghana Statistical Service, 2014).

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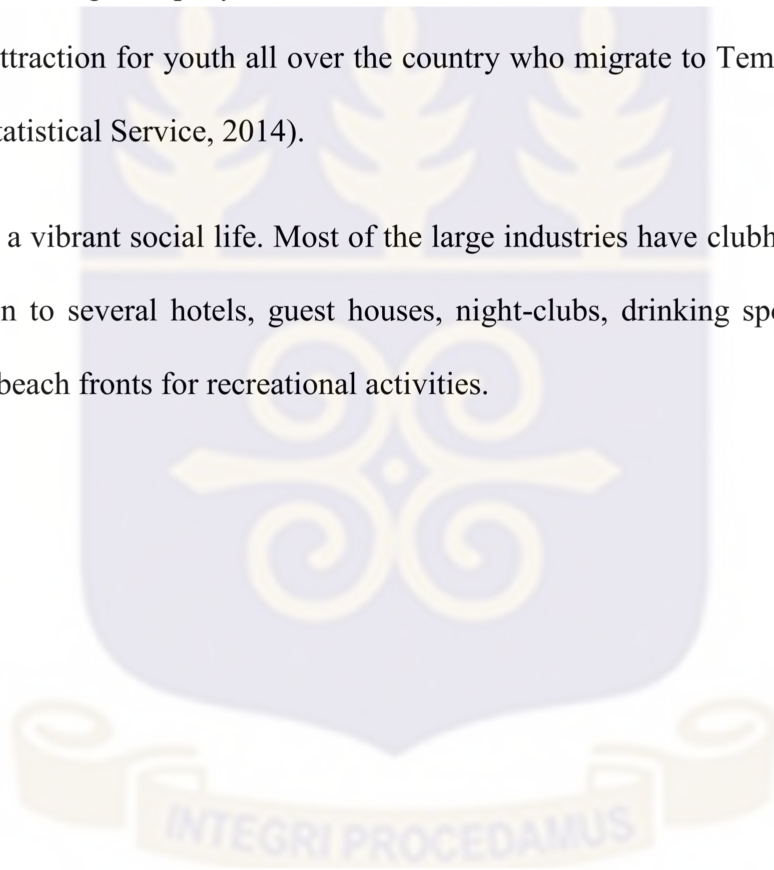
Tema Metropolis is considered the third largest urban settlement in Ghana after Accra and Kumasi and endowed with several educational institutions and good road network. Although it is a well-planned city with a well-laid out infrastructure, slums keep springing up in some of its communities. The Metropolis also houses the biggest port and harbour facilities termed "Eastern Gateway of Ghana" and serves as the industrial hub of the country with over five hundred (500) industries including VALCO, Tema Oil Refinery, Cocoa Processing Company, Unilever, GHACEM, Nestle etc. These industries serve as a point of attraction for youth all over the country who migrate to Tema in search of work (Ghana Statistical Service, 2014).

Tema has a vibrant social life. Most of the large industries have clubhouses and these are in addition to several hotels, guest houses, night-clubs, drinking spots, restaurants and beautiful beach fronts for recreational activities.



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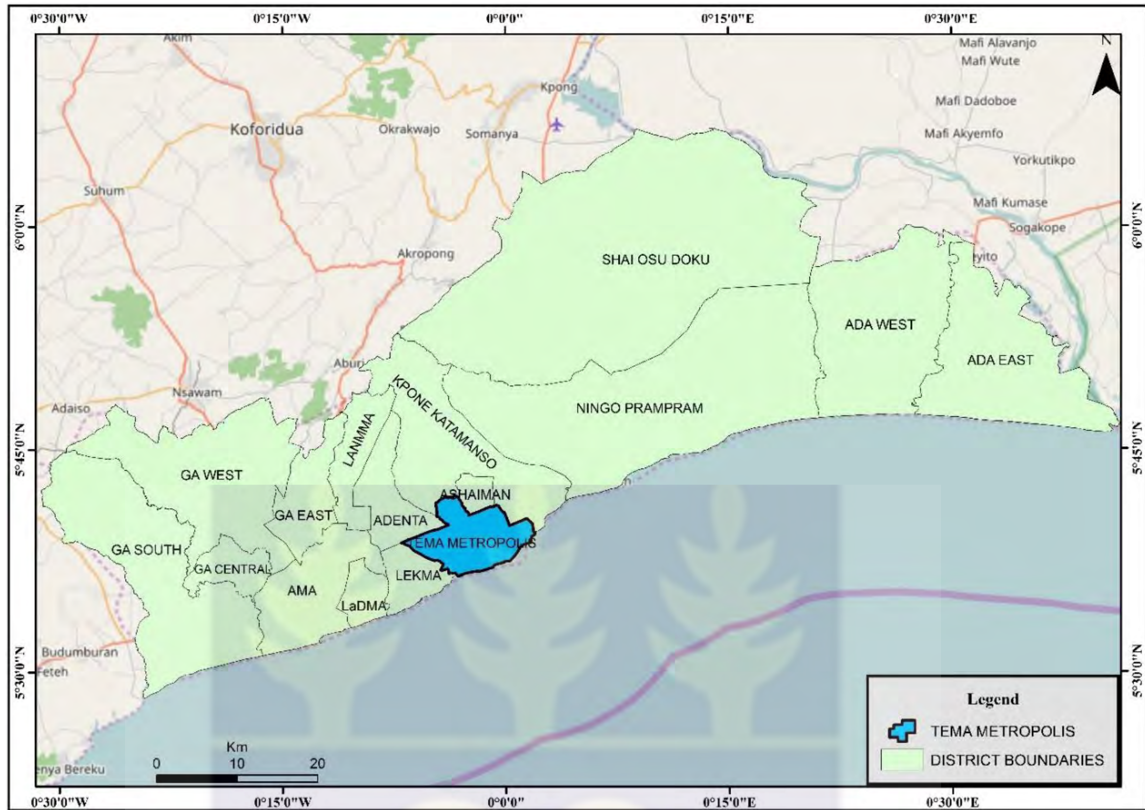

Figure 3.1 District Map of the Greater Accra Region

Source: CERSGIS, University of Ghana, Legon

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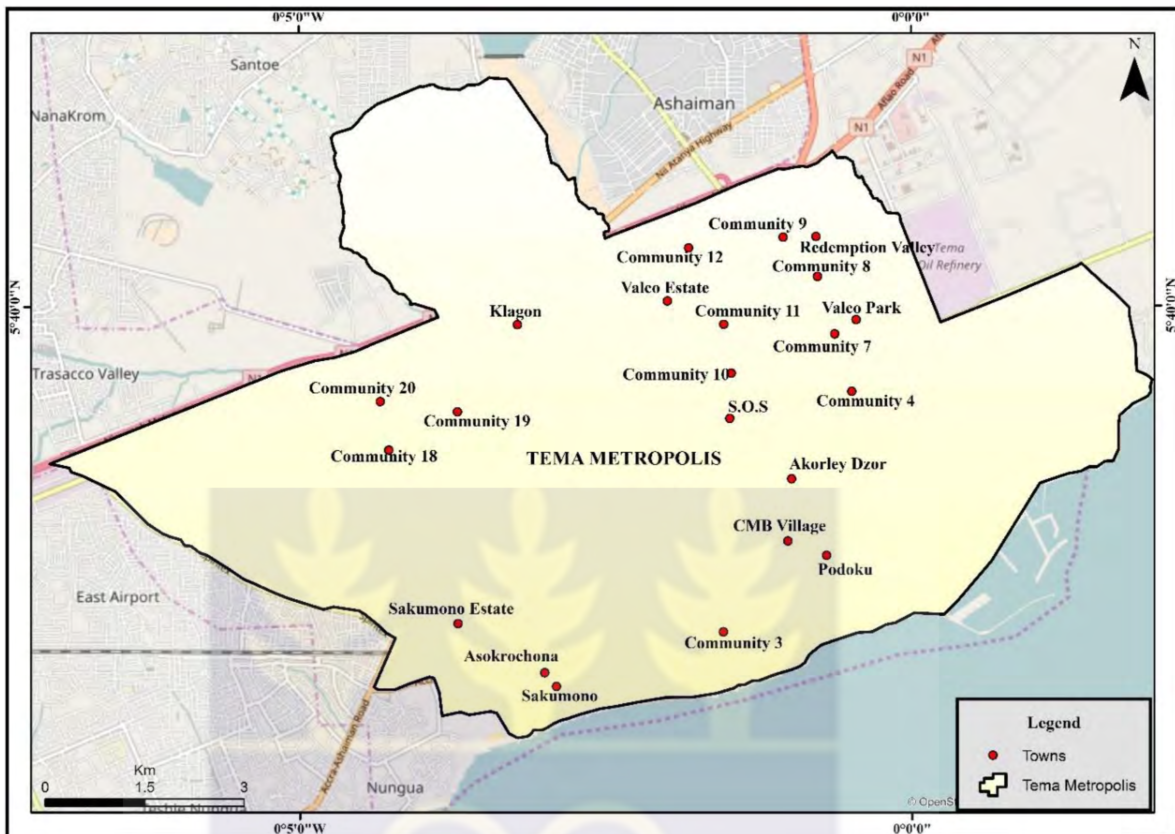

Figure 3.2 Map of Tema Metropolis showing major towns and communities

Source: CERSGIS, University of Ghana, Legon

3.2.1 Socio-demographic Characteristics

Tema has a population of 292,773 representing 7.3% of Greater Accra Region's total population with a male and female population of 139,958 (47.8%) and 152,815 (52.2%) respectively. The adolescent aged 10 to 19 years make up 18.9% (55,334) of the total metropolis population (Ghana Statistical Service, 2014).

Hundred percent of the population lives in urbanised localities since the metropolis in entirely urban. There are 364 enumeration areas, 70,797 households with an average

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household size of 4.1 persons. Commerce, agriculture (fishing), services and industry are the economic activities in the metropolis. About 91% of the population 11 years and older are literate and of this population, about 48% are literate in both English and Ghanaian languages; 30.5% are literate in English only and 3.2 percent are literate in a Ghanaian language only (Ghana Statistical Service, 2014).

3.2.1 Health Infrastructure and Healthcare Service

The Metropolitan is administratively divided into three Sub-Metros for the organisation of primary health care services, these are Tema West, Tema East and Tema Central. Health services are provided via public and private structures. Maternal health services, family planning, and adolescent health services are some of the public health services offered in these health facilities. There are 46 (54.2 %) and 16 (38.9%) public and private health facilities respectively. This means that in terms of accessibility to health facilities in the Metropolis, the public sector has a wider coverage in the provision of healthcare (Ghana Statistical Service, 2014).

The Tema Metropolitan Health Directorate (TMHD) is responsible for health services in the metropolis; and within each sub-metro, there are Sub-Metro Health Management Teams also responsible for their catchment areas. The health system is based on a three-tier hierarchy where the first level is made up of several community clinics / CHPS compounds manned by trained community health nurses/officers. Health services provided at this level include; treatment of minor ailments, dressing of wounds, school-health services with a component of adolescent health services; i.e. health education, counselling and family planning services. Where cases are severe, they are referred to the sub-metro

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level which is basically health centres and polyclinics also providing a more comprehensive form of services which are done at the community level including maternal health services (including adolescent health centred services) amongst others. The top of the hierarchy is the hospital, in this case, the Tema General Hospital which sees to mostly referred cases from the lower levels. A much more comprehensive health care is provided at this level and when cases have been dealt with, patients/clients are referred to the lower levels to seek periodic checks which in most cases are closer to their places of abode.

3.3 Study Design

A community-based cross-sectional study design was conducted to explore the utilisation of youth-friendly health services among adolescents aged 10-19 years in the Tema Metropolis. The study employed a quantitative approach to measure the variables of interest and to answer the set objectives.

3.3.1 Study Population

The study population were adolescents (males and females) between the ages of 10 to 19 years living in the Tema metropolis.

3.3.2 Inclusion Criteria

All adolescents aged 10-19 years who have been staying in the Tema Metropolis within the last Twelves (12) months prior to the study and indicated their willingness by providing consent or assent to participate in the study and received parental consent to participate were necessary. Being able to express oneself in either Ga, Twi or the English language.

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3.3.3 Exclusion criteria

The exclusion criteria used to classify respondents as ineligible for participation in this study included adolescents who met the inclusion criterion but had deformities that interfered with their speech and hearing.

3.4 Study Variables

Variables included in the analyses for this study were categorised into dependent and independent variables. These included the socio-demographic information and the dependent variable utilisation of youth-friendly health services. Other significant variables were computed using a number of related questions. The study variables are described below.

3.4.1 Dependent variable

The dependent variable for this study was the use of youth-friendly health service facilities within the Tema Metropolis in the last twelve (12) months. This was measured on the dichotomous response (yes or no) to the question; "*Have you ever visited/gone to an Adolescent and Youth-Friendly Health Facility within the Tema metropolis in the last twelve (12) months?"* participants were asked to indicate yes/no; where yes and no were scored as '1' and '0" respectively. This was verified by the utilisation of any of the health services rendered there including sexual and reproductive health services (general counselling and health information, information on SRH, family planning and counselling, STI/HIV Testing and Counselling, STI Treatment and Management, Pregnancy Testing, ANC and CAC services).

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3.4.2 Independent Variables

The independent variables included in this study are categorised under the following:

1. **Socio-Demographic Characteristics:** Age of subjects was measured in completed years and they were grouped into 10-14 and 15-19 years age as young and older adolescents respectively. Sex of subjects as biological sex (male or female); educational status (currently in-school or out-of-school); educational level, marital status and religious background.
2. **Sexual and Reproductive Health Knowledge** was limited to and measured on the following three sub-thematic SRH-related topics: knowledge on pubertal development, contraceptive methods/family planning and comprehensive knowledge on STIs/HIV and AIDS. These variables were computed from related questions.
   - **Knowledge about pubertal development** (Questionnaire Section B; B1-B8, [see Appendix IV]) measures respondents' knowledge on some basic physical and sexual/reproductive maturation that occurs during the pubertal stage as well as some misconception during puberty. This was measured by requesting subjects to ascertain the correctness of 7 statements. A score of 1 was assigned to each correct answer and zero (0) for each incorrect or "don't know" answer
   - **Knowledge about family planning/contraceptive methods** (Questionnaire Section B; B9-B21). Subjects were assessed on the knowledge of contraception by asking them to identify the accuracy of four modern and two traditional contraceptive methods read to them, (B9, B10, B11, B12, B13, and B14). They were also allowed to mention other methods they knew, B21 Each correct answer/method known and other correct methods mentioned was

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assigned a score of 1, whilst '0' was scored for incorrect answers or "don't know".

- **Comprehensive Knowledge about the Correct use of Condom** - subjects were assessed on their knowledge on condom due to its unique importance is giving a degree of dual protection against unintended pregnancy and STI including HIV. Subjects were asked to identify the accuracy of items B15 to B20; each correct answer was assigned a score of one (1), whilst incorrect answers or "don't know" was given a score of zero (0). The results were summed to create a composite knowledge score, comprehensive knowledge about the correct use of a condom. The total score ranging from 0 to 6 was categorised into two groups (≤ 3 and ≥ 4) Thus respondents who answered four or more statements correctly were considered to have a high comprehensive knowledge about correct use condom

- **Knowledge of STIs/HIV and AIDS (Questionnaire Section B)**. Subjects were asked several questions on STIs/HIV and AIDS. Comprehensive knowledge about STI/HIV and AIDS according to 2014 GDHS is defined as knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting HIV, knowing that a healthy-looking person can have HIV, and reject the two most common local misconceptions about HIV transmission (that HIV can be transmitted by mosquito bites and that HIV can be transmitted by supernatural means). For this study, "Multiple sexual partners can increase the chance of

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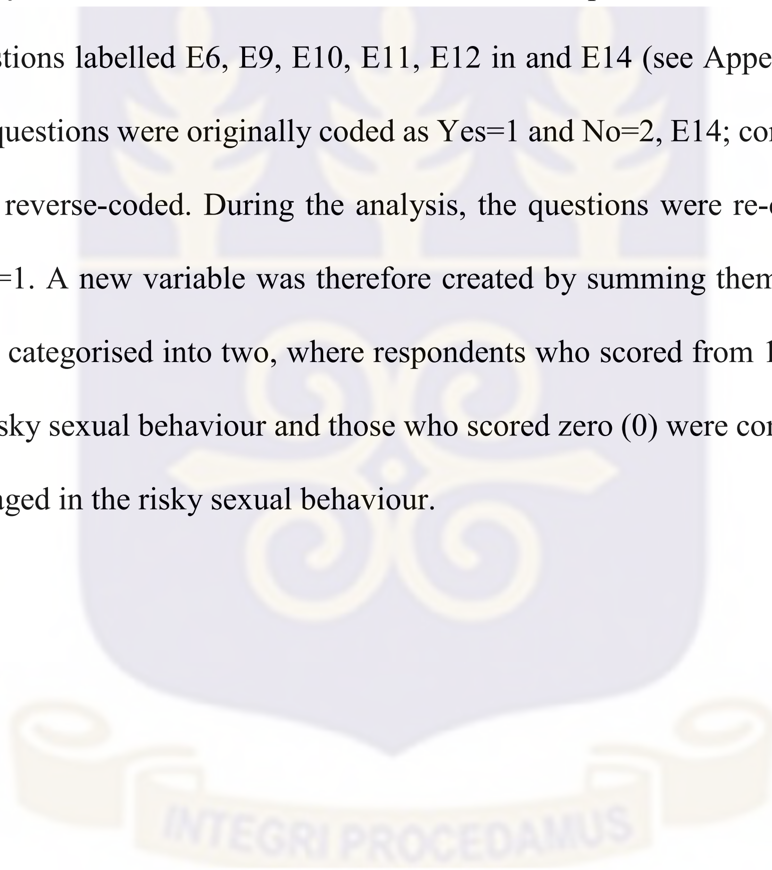
getting HIV" was used as a proxy for the question "having just one uninfected faithful partner can reduce the chance of getting the AIDS virus". Thus, each correct answer was assigned a score of one (1) and zero (0) for each incorrect or "don't know" answer to items 'B26, B27, B28, B29 and B34" (Appendix IV). Subjects who answered correctly to all five (5) items were said to have comprehensive knowledge of STI/HIV and AIDS.

3. **Risky Sexual Behaviour:** This is a created composite variable comprising of the questions labelled E6, E9, E10, E11, E12 in and E14 (see Appendix IV). These six (6) questions were originally coded as Yes=1 and No=2, E14; condom use at last sex was reverse-coded. During the analysis, the questions were re-coded as No=0 and Yes=1. A new variable was therefore created by summing them up. The scale was then categorised into two, where respondents who scored from 1 to 6 were engaged in risky sexual behaviour and those who scored zero (0) were considered not to have engaged in the risky sexual behaviour.



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3.5 Sample Size Estimation

The single population proportion formula by Cochran (1977) was used to calculate the sample size,

$n = z^2p\ (1-p)/d2$. Where;

n= required sample size

z= desired sample size

p= the estimated proportion of adolescents aged 10 to 19 years utilising youth-friendly health services. Since the estimated proportion is unknown, a 50% (0.5) assumption was used

d= 5% margin of error

Using the above formula, the estimated sample size was ≈ 384.

3.5.1 Sample Size Adjustment

Giving that, there is a loss of precision under cluster sampling, the estimated sample size was multiplied by a design effect of 1.5 to improve sampling effectiveness or precision, hence bringing the sample size to 576.

Furthermore, a 10% upwards adjustment was made to ensure that the sample size provides the required level of accuracy in the occurrence of non-consent or withdrawal of participants. Thus, bringing the sample size ≈ 634 and was finally attuned to 806

3.6 Sampling Method

Quantitative methods were used to gather data for the study. The sampling frame was the 2010 Population and Housing Census Enumeration Area (EA) map for Tema sourced from

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the Ghana Statistical Service. The EAs consist of a section(s) of communities, settlements(s), town(s) and cities. Each EA was considered as a cluster in this study.

A multistage sampling technique, with probability proportional to size, was used in the sampling process. During the first stage, Six (6) enumeration areas (EAs) were randomly selected using the lottery and the study sample was proportionally allocated to each EA using the number of households as the measure of size.

Furthermore, a modified random walk method (Manu, Mba, Asare, Odoi-Agyarko, & Asante, 2015) was used to select eligible households from which subjects were drawn from the study. Households were selected from housing units within the EAs. Enumeration Area maps and its description was used to identify the boundaries of every EA. Key landmarks as indicated in the EA map (markets, church building, mosque, police station and community clinics, the residence of popular people in the community etc.) were used as the random starting point as appropriate. In EAs where there were more than one such places, a lottery approach was used to select one.

After determining, the random starting point, the nearest house was picked as the first unit for an interview followed by the third house and it continued as such until the target number of interviews in the EA was obtained. In addition, in houses with multiple households, one was randomly selected. Also where there were more than one adolescents, one (1) eligible adolescent was randomly selected using the ballot approach. An adolescent who picks a ballot with the inscription “Y” was interviewed whilst those who picked “N” were exempted. Also in households who didn’t have an adolescent, an adolescent in the next household was interviewed.

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3.7 Data Collection Techniques

A pre-tested interviewer-administered questionnaire technique was used by trained research assistants with health background to collect the required information from participants to answer the objectives of the study.

3.7.1 Data Collection Tools

A structured questionnaire (Appendix IV) was developed, pretested and administered to the study participants to obtain the required quantitative information to answer the study objectives. The structured questionnaire was adapted from a core WHO questionnaire designed by John Cleland to study and document knowledge, beliefs, behaviour and outcomes in of SRH among adolescent and young people (Cleland, 2001). A modification was done to suit the Ghanaian context whiles addressing the research objectives.

3.8 Pre-data Collection Activities

The following activities were carried out to ensure the reliability of the data before actual data collection on the field begun.

3.8.1 Training of Data Collectors

Adolescent sexual and reproductive health issues are sensitive since adolescent are vulnerable. In respect to this, professionalism and skills must be employed during data collection.

A 3-day training was organised for the four (4) field data collectors and a supervisor. The training involved a comprehensive exposition on key concepts and methods regarding the

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study to adequately equip them for the data collection activity. Trainees were taken through the objectives of the study, rudiments of data collection, ethical interactions with study participants (in this adolescents), importance of respect, voluntary participation, obtaining of assent and informed consents from study participants and parents/guardians, responding to participant questions, selection of study participants, administering of questionnaires and appropriate translations of questionnaire into the two most spoken Ghanaian languages (Twi and Ga) in the metropolis for participants not fluent in the English language.

3.8.2 Pre-testing

Questionnaires used for this study were pretested in two communities (Nungua and La) outside the study area but bears similar characteristics with the study area. A total of twenty (20), ten (10) from each community was randomly selected for the pre-testing. A few of the questions were modified to ensure clarity and the reliability of the responses based on feedback from the pre-testing exercise.

3.8.3 Actual Data Collection

Data was collected from all adolescents from June 1st - 11th 2017. Some parents opted to give verbal consent in place of signing the inform consent form, however, all the participants gave assent or consent by completing the forms. The interviews lasted about 30 minutes with each participant.

3.9 Data Processing and Analysis

Data capture

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Database for entry of questionnaires was created in Microsoft Excel (2016 version). Screen for data entry was customized for easy entry and had checks activated to validate and reduce errors.

Data analysis

Stata version 14 was used for data analysis and an alpha level of 0.05 was used for statistical significance. Preliminary tests were carried out on data to check for normality/ distribution.

Descriptive statistics

Frequency distributions were summarized in tables and charts for nominal and ordinal data. Measures of central tendency (mean, median, and mode) for continuous variables were determined as well as standard deviation to measure their spread. Skewness and kurtoses were used to check the symmetry and peaks of data.

Inferential statistics

The association between the main dependent variable (youth-friendly health service utilisation) and other independent variable were examined by using a logistic regression analysis. That is utilisation of youth-friendly health service versus Socio-demographic characteristics; SRH knowledge (Comprehensive knowledge about condom and comprehensive knowledge about STI/HIV and AIDS); and Sexual behaviour. The socio-demographic characteristics considered for this analysis were age, sex, educational level, marital status and religion.

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Firstly, a binary logistic regression analysis was used to analyse the dependent variable and each of the independent variables. This was followed by a multiple logistic regression analysis to investigate the predictor of utilisation of youth-friendly health services after controlling for confounding variables.

3.10 Ethical considerations

The rights of the participants were ensured through the following ethical measures which were taken into considerations

Before the study

- The Ghana Health Service Ethical Review Committee gave approval for the study with reference number **ID NO: GHS-ERC: 69/02/17** (Appendix VII)
- Verbal approval was obtained from the Tema Metropolitan Assembly and the Metro Health Directorate

Assent and/or Consent from study participants

Participants were made to understand that partaking in the research was voluntary and there were no rewards either in cash or in-kind. However, they are not obliged to answer all the questions in case they find them too sensitive or difficult to answer as well as the liberty to withdraw from the research anytime they deem to do so without any consequences.

Furthermore, they were also informed that taking part in the research was only about answering questions that would be read out to them and did not forestall any form of harm,

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just that they may feel some discomfort with some of the questions or the duration the interview will take.

Additionally, 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, and only the researcher would have access to it for report writing. They were also assured that neither their parents nor unauthorised persons will have access to their responses.

- Informed consent was obtained from older adolescents (18-19 years) after explaining the study objectives and that participation in the study was strictly voluntary and that they could withdraw from it at any point in time if they so desire (Appendix I)
- For participants below the age of consent (below 18 years), an informed consent and assent was attained from their parents and the adolescent separately, (Appendix II and III) after the nature and objectives of the study have been explained to them
- Consent form was given to those who could read and write to complete whilst those who couldn't have it translated into the dialect they understood (Ga, Ewe, and Twi)

During interviews

During the interview, names of participants were exempted from the questionnaire and identification codes (e.g. 001 etc) used in its place and data entry couldn't be linked to them. To ensure privacy during this session, interviews were conducted privately as much as the environment could provide and away from persons who may have interfered with the process.

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Completed questionnaires were kept in a locked cabinet and all data stored on the computer was password protected known to only the principal researcher. Also, data analysis was done in aggregate and hence no names could be linked to it.

3.11 Quality Control

The training of research assistants to understand the objectives of the study, the content of the questionnaire, administering a questionnaire coupled with the pre-testing of data collection instrument and mock interviews prepared research assistants adequately to eliminate inconsistencies in data reporting. Completed questionnaires were inspected by the researcher at the close of each day for consistencies and prepared for data entry. Recordings were also backed-up on an external storage device.

3.12 Summary

This chapter described the study area, research design and the detailed outline of variables that were studied. The sampling technique and the sample size estimation was explained as well as the pre-and post-data collection activities. The succeeding chapter presents the findings of this study.

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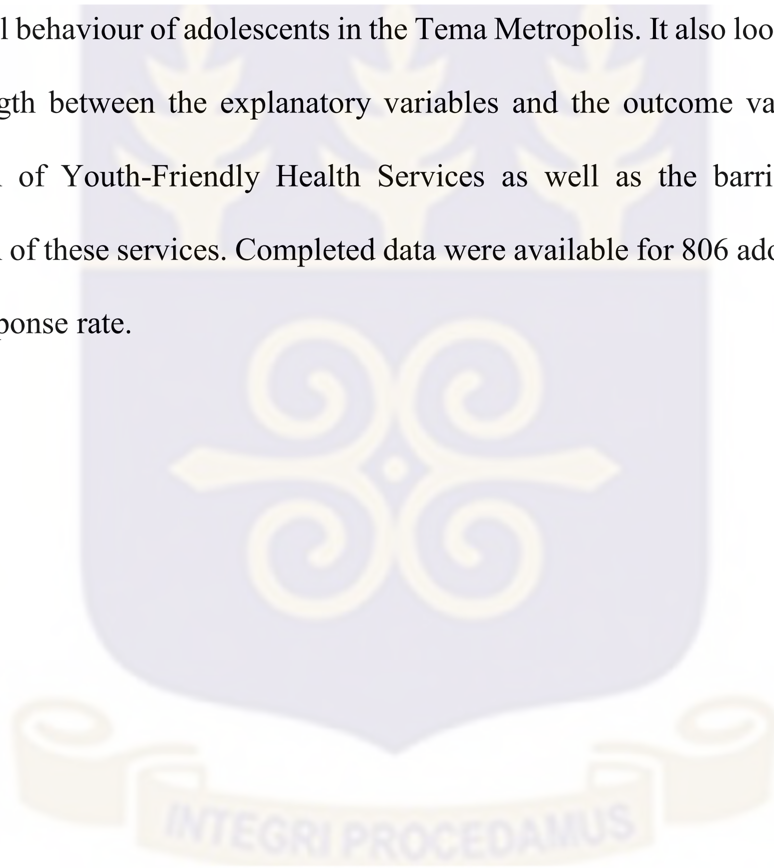
CHAPTER FOUR

4.0 RESULTS

4.1 Introduction

This chapter discusses the results and analysis of the research. It covers factors such as socio-demographic, sexual and reproductive health knowledge, the source of information and sexual behaviour of adolescents in the Tema Metropolis. It also looks at the association and strength between the explanatory variables and the outcome variable which is the utilisation of Youth-Friendly Health Services as well as the barriers influencing the utilisation of these services. Completed data were available for 806 adolescents, yielding a 100% response rate.



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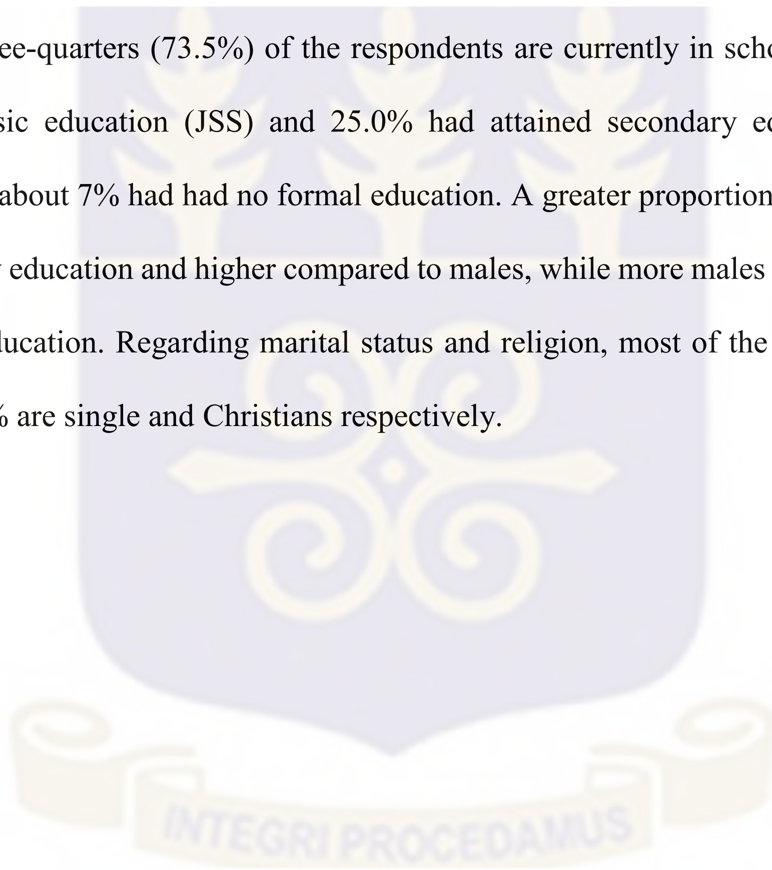
4.2 Socio-Demographic Characteristics of Adolescents

This section describes the background characteristics of the study participants as represented in Table 4.1. Majority of the respondents 54.2% are females and 45.8% are males. The ages ranged from 10 years to 19 years with a mean age of 15.2 years (SD= 2.6) The composition of adolescents included 38.5% young adolescents aged 10-14 years and 61.5% older adolescents aged 15-19 years.



About three-quarters (73.5%) of the respondents are currently in school with 45.3% had had a basic education (JSS) and 25.0% had attained secondary education or higher, however, about 7% had had no formal education. A greater proportion of females had had secondary education and higher compared to males, while more males had attained at least a basic education. Regarding marital status and religion, most of the respondents 96.7% and 89.0% are single and Christians respectively.

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Table 4.1 Socio-Demographic Characteristics of Adolescents

	N (%)		
Characteristics	Male	Female	Total
Age (Years) ***M*** **±** ***SD***	15.2 ± 2.5	15.2 ± 2.6	15.2 ± 2.6
Age groups in years			
10 – 14	138 (37.4)	172 (39.4)	310 (38.5)
15 – 19	231 (62.6)	265 (60.6)	496 (61.5)
Currently Schooling			
No	62 (16.8)	86 (19.2)	146 (18.1)
Yes	274 (74.3)	318 (72.8)	592 (73.5)
Educational Level			
No Formal Education	3 (0.8)	4 (0.9)	7 (0.9)
Primary	87 (23.6)	142 (32.9)	229 (28.4)
JSS/JHS	189 (51.2)	176 (40.3)	365 (45.3)
≥ SSS/SHS	90 (24.1)	115 (26.1)	205 (25.0)
Marital Status			
Single	360 (97.6)	419 (95.9)	779 (96.7)
Married	1 (0.3)	3 (0.7)	5 (0.5)
Co-Habiting	8 (2.2)	15 (3.4)	23 (2.9)
Religion			
None	10 (2.7)	8 (1.8)	18 (2.2)
Christianity	318 (86.2)	399 (91.3)	717 (89.0)

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Muslim	36 (9.8)	22 (5.0)	58 (7.2)
Traditionalist	2 (0.5)	0 (0.0)	2 (0.3)
Total	369 (100.0)	437 (100.0)	806 (100.0)

* Differences in total for each characteristic is due to missing variables

4.3 Knowledge on Sexual and Reproductive Health among Adolescents

This section presents the Sexual and Reproductive Health Knowledge among Adolescents in the Tema Metropolis as presented in Table 4.2 below. Under the pubertal development, about two-thirds of the adolescents, 71% reported that at first sex, a girl can get pregnant and if she has sexual intercourse half-way her menstrual period, she is likely to get pregnant. Also, 58% of them rejected the misconception that a girl stops growing after her first sex.

Generally, respondents reported ample knowledge about contraceptives the most notable exceptions being implants and male sterilisation with which only 15.5% and 8.4% respectively claimed to know as shown in Table 4.2.

About Seventy-three percent agreed that a healthy-looking person can have HIV, whiles 51.4% and 65.8% rejected the two misconceptions about HIV i.e. (HIV can be transmitted by supernatural means and HIV can be transmitted by mosquito bites). However, a high proportion of adolescents (76.6%) do not have comprehensive knowledge about HIV and AIDS.

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Table 4.2 Sexual and Reproductive Health Knowledge among Adolescents

Variable	N (%)		
	Male	Female	Total
Knowledge about Pubertal Development			
Pubic hair grows during puberty	340 (92.1)	404 (92.5)	744 (92.3)
Breasts enlarge during puberty	335 (90.8)	408 (93.4)	743 (92.2)
Boys develop broader shoulders in puberty	338 (91.6)	405 (92.7)	743 (92.2)
A girl can get pregnant at first sex	261 (70.7)	312 (71.4)	573 (71.1)
A girl does not stop growing after her first sex.	201 (54.5)	267 (61.1)	468 (58.1)
Masturbation does not cause serious damage to health.	64 (17.3)	71 (16.3)	135 (16.8)
A girl can get pregnant if she has sex halfway between her periods	257 (69.7)	319 (73)	576 (71.5)
A small amount of sperm can be released prior to ejaculation	260 (70.5)	260 (59.5)	520 (64.5)
Knowledge of Contraceptive Methods			
Pill	203 (55.0)	277 (63.4)	430 (59.6)
Injection	210 (56.9)	273 (62.5)	483 (59.9)
Condom	340 (92.1)	397 (90.9)	737 (91.4)

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Emergency Contraceptive Pill	256 (69.4)	311 (71.1)	567 (70.4)
Withdrawal	229 (62.1)	270 (61.8)	499 (61.9)
Periodic Abstinence	264 (71.5)	319 (73.0)	583 (72.3)
Implant	55 (14.9)	70 (16.0)	125 (15.5)
IUD	32 (8.7)	79 (18.1)	111 (13.8)
Female Sterilisation	56 (15.2)	66 (15.1)	122 (15.1)
Male Sterilisation	44 (11.9)	24 (5.5)	68 (8.4)
Knowledge of STI/HIV			
A healthy-looking person can have HIV	265 (71.8)	322 (73.7)	587 (72.8)
HIV cannot be transmitted by supernatural means	200 (54.2)	214 (48.97)	414 (51.4)
HIV cannot be transmitted by mosquito bites	256 (69.4)	274 (62.7)	530 (65.8)
Multiple sexual partners can increase the chance of getting HIV[1]	327 (88.6)	369 (88.4)	696 (86.4)
Consistent use of condom is an effective way of protecting against STIs and HIV/AIDS	278 (75.3)	313 (71.6)	591 (73.3)
Comprehensive Knowledge about STI/HIV			

[1] This question is used as a proxy for the question "having just one uninfected faithful partner can reduce the chance of getting the AIDS virus".

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Not knowledgeable	271 (73.4)	346 (79.2)	617 (76.6)
Knowledgeable	98 (26.6)	91 (20.8)	189 (23.5)
Total	369 (100.0)	437 (100.0)	806 (100.0)

* Differences in total for each characteristic is due to missing variables

Participants were assessed on their knowledge on condom and its correct use due to its unique importance in offering a degree of dual protection against pregnancy and infections (STIs and HIV). A higher proportion of adolescents (76.2%) responded affirmatively that condoms are an effective method of preventing pregnancy, however, only a one-third rejected the misconception that condoms can disappear inside the woman's body. The correct use of condom and a summary measure is presented in Table 4.2a.

Table 4.2a Proportion of Adolescents who know the correct use of condoms

	N (%)		
Variable	Male	Female	Total
Knowledge on Condom			
Correct condom use is an effective method of preventing pregnancy	283 (76.7)	331 (75.7)	614 (76.2)
Condoms cannot slip and disappear inside the woman's body*	149 (40.4)	125 (28.6)	274 (34.0)

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Condoms cannot be used more than once*	256 (69.4)	293 (67.1)	549 (68.1)
It is wrong to use hand lotion for lubrication when using a condom*	141 (38.2)	155 (35.5)	296 (36.7)
A condom should not be unrolled before putting it on the penis*	91 (24.7)	100 (22.9)	191 (23.7)
The end of the condom should be held when withdrawing after ejaculation*	216 (58.5)	220 (50.3)	436 (54.1)
Comprehensive Knowledge of Condom [2]			
Low knowledge	239 (64.8)	296 (67.7)	535 (66.4)
High knowledge	130 (35.2)	141 (32.3)	271 (33.6)
Total	369 (100.0)	437 (100.0)	806 (100.0)

* Scores reversed

[2] Comprehensive knowledge in this study means knowing that correct use of condoms during sexual intercourse are an effective method of preventing pregnancy, and rejecting the common local misconceptions about condom (condoms can disappear inside the woman's body), knowing the correct use of condom (condoms cannot be used more than once, it is wrong to use hand lotion for lubrication when using a condom, condoms should not be unrolled before putting it on the penis, the end of the condom should be held when withdrawing after ejaculation)

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The most preferred contraceptive method among adolescents is the condom (Fig 4.1) as reported by 68.7% of the respondents and the least is the emergency contraceptive pill (1.1%). Figure 4.2 shows that the main sources of information on SRH among adolescents in Tema are friends/peers (47.3%), Televisions, and school health clubs (44.2%).

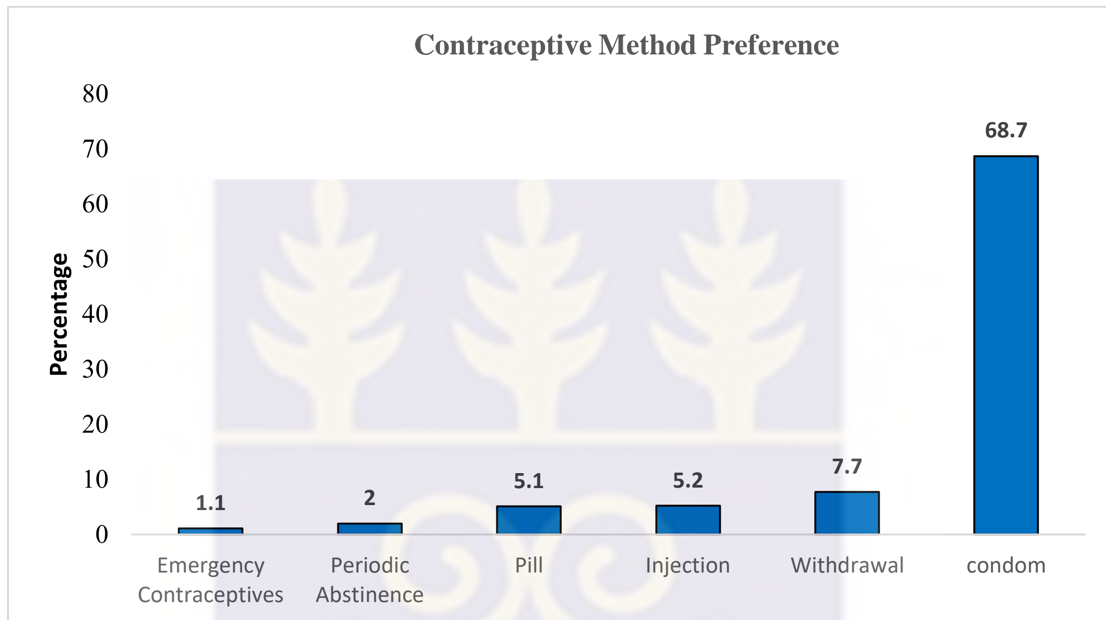

Figure 4.1 Contraceptive Method Preference among Adolescents

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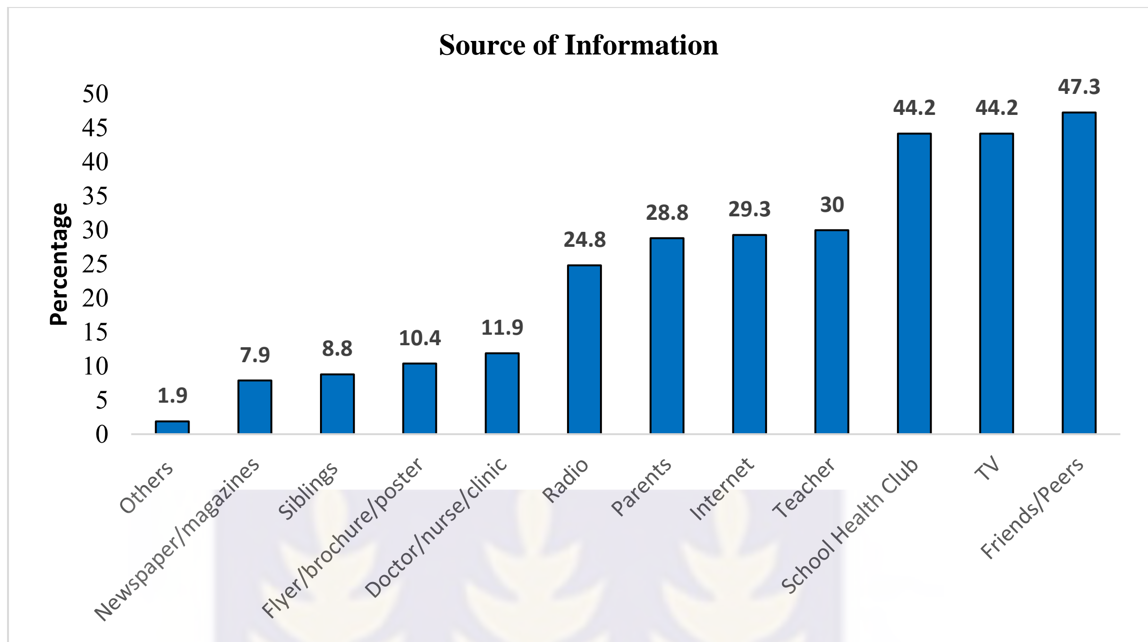

Figure 4.2 Sources of Sexual and Reproductive Health Information among

4.4 Awareness of Youth-Friendly Health Service Facility

Table 4.3 presents whether adolescents know of the availability of a youth-friendly health facility as well as the services rendered there. Knowledge of the existence of a youth-friendly health facility in the study area was minimal, among the 806 respondents, only 17.5% know about the availability of such facilities, and the majority (40.4%) reported that they heard it from their friends and peers. Respondents also reported on the type of services rendered at the facilities and its importance to adolescents as summarised in Table 4.3.

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Table 4.3 Awareness of Youth-Friendly Health Service Facilities

Variables	Freq.	%
Know about YFHS facility (n=806)		
No	665	82.5
Yes	141	17.5
Sources of information on YFHS facility[3] (n=141)		
Friends/Peers	57	40.4
Teacher	24	17.0
School Health Club/school	42	29.8
Doctor/nurse/clinic	49	34.8
TV/Radio	11	7.8
Newspaper/magazines/flyer/brochure/poster	2	1.4
Internet	4	2.3
Types of Services offered at the YFHS facility[4] (n=141)		
Information on SRH	68	48.2
General counselling and Health information	70	49.7
Family planning/counselling services	16	11.4
STI and HIV Testing and counselling	35	24.8
STIs Treatment and Management	16	11.4
Pregnancy Testing	6	4.3
ANC Services for adolescents	4	4.3
YFHS is important for adolescents (n=141)		
Yes	105	74.5
Do not know	36	25.5

[3] Multiple response
[4] Multiple response

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4.5 Utilisation of Youth-Friendly Health Service Facility

The proportion of adolescents who utilized the YFHS facilities is 12.3% as reported by respondents who utilised in the last 12 months as presented in Figure 4.4. Among those who visited the facility, the majority (43.3%) said they visited for general counselling and health information services and these services were from Government Health facilities (57.6%). as summarised in Fig 4.5 and 4.6 respectively.

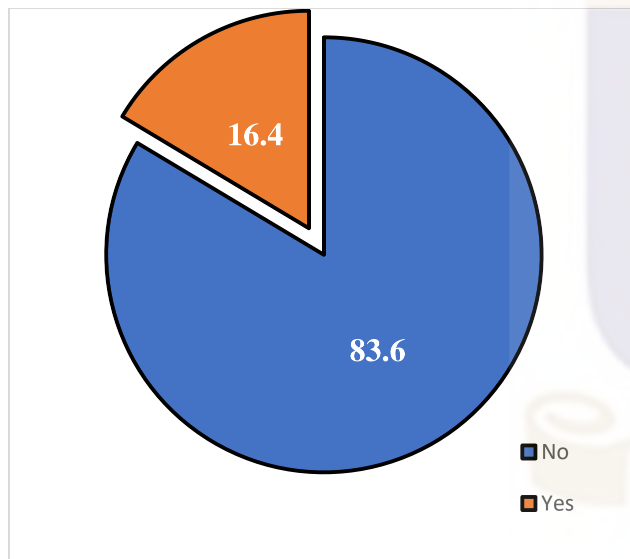

Fig 4.3 Proportion of adolescents who have ever utilised a YFHS facility YFHS

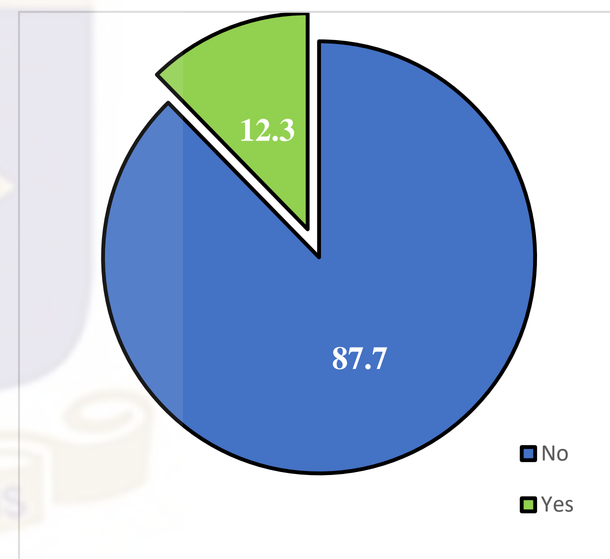

Fig 4.4 Proportion of adolescents who utilized in the last 12 months

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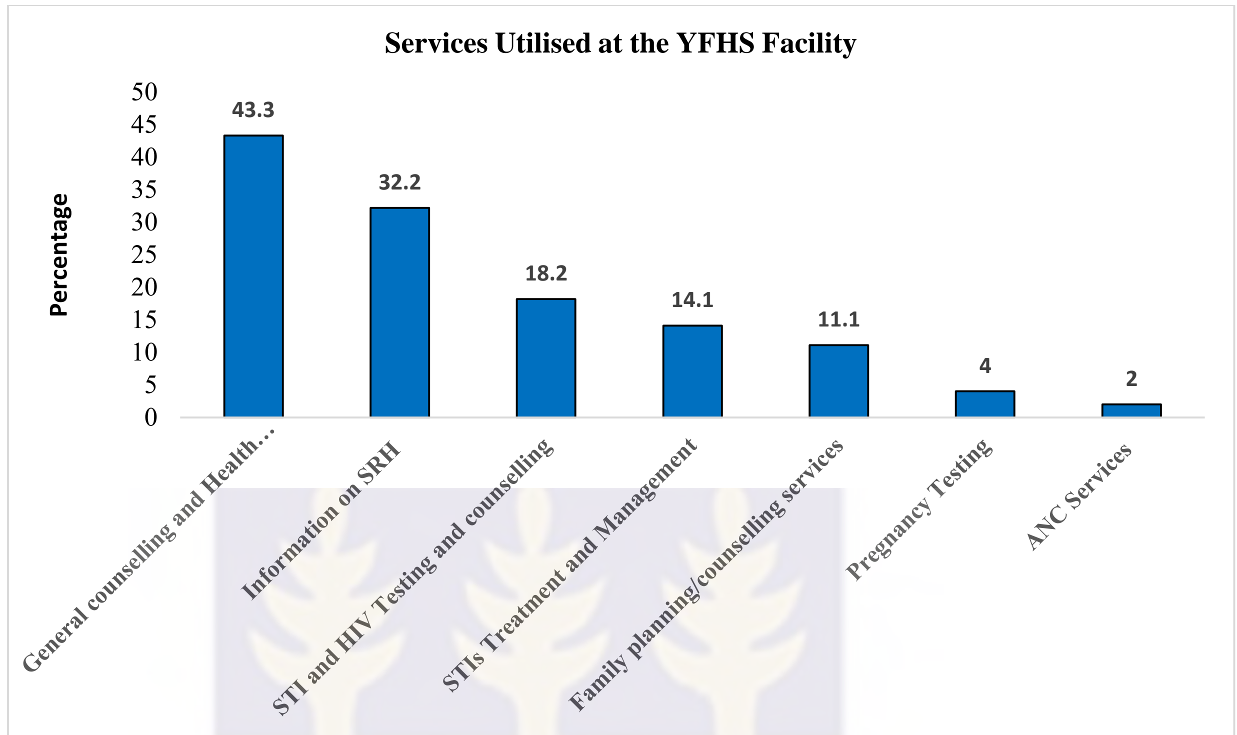

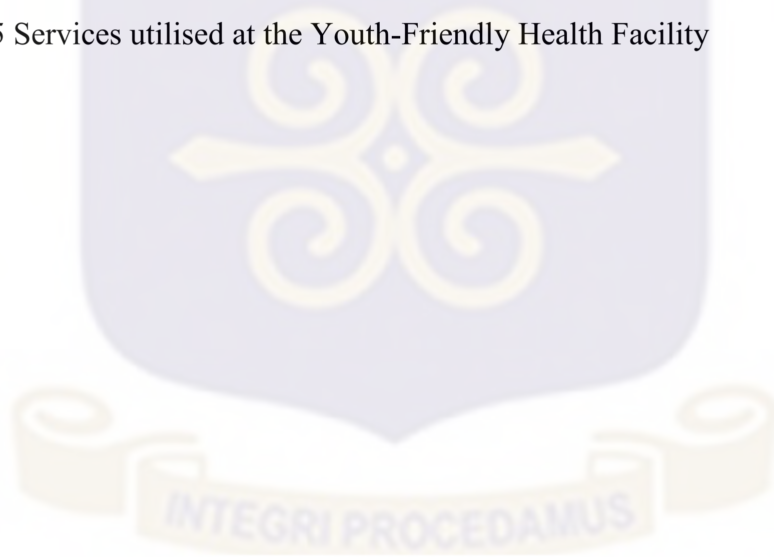

Figure 4.5 Services utilised at the Youth-Friendly Health Facility

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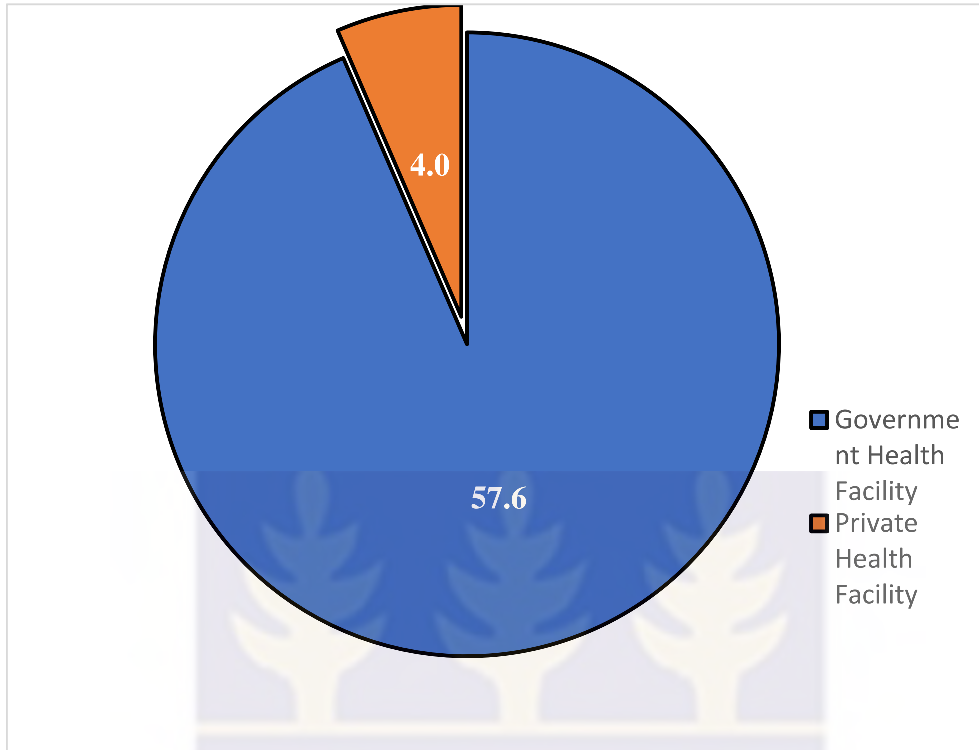

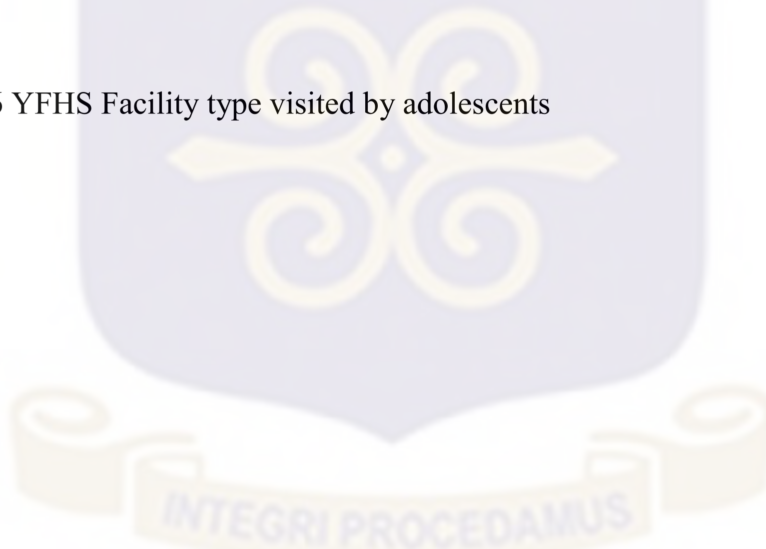

Figure 4.6 YFHS Facility type visited by adolescents

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4.6 Reasons for not Utilising Youth-Friendly Health Services

The majority (82.5%) of the 806 study participants reported their unfamiliarity with the youth-friendly health facility. Furthermore, adolescents who knew about the facilities but did not seek any service from there within the last twelve months were asked the reasons for not utilising it, about 17.1% mentioned that they "do not have the need for it" as summarised in Fig 4.7.

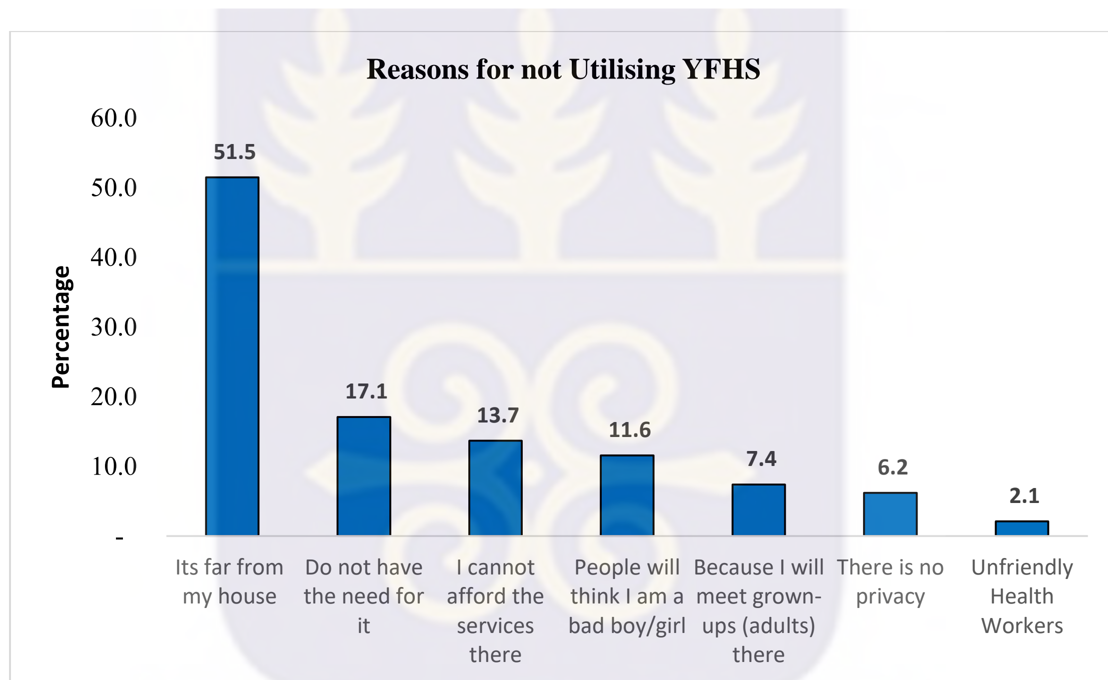

Figure 4.7 Reasons for not Utilising YFHS Facilities

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4.7 Risky Sexual Behaviour

The study sought to explore the relationship between risky sexual behaviour and YFHS utilisation among adolescents in the Tema Metropolis. Table 4.4 presents the various sexual behaviours of the respondents, overall, 88.4% were categorised as indulging in risky sexual behaviour (> 1 lifetime sexual partners, ≥ 1 causal partners in 12 months, sex with commercial sex worker in 12 months, sex when drunk, sex with someone more than 10 years older than you and last sex without condom).

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Table 4.4 Risky Sexual Behaviour by Adolescents

Variables	Freq.	%
Ever had sexual intercourse (n=806)		
No	514	63.8
Yes	292	36.2
Number of lifetime sexual partners		
One	101	34.6
Two and more	172	58.9
Number of casual sex partners in 12 months		
None	166	56.9
One and more	83	28.4
Sex with a commercial sex worker in 12 months		
No	268	91.8
Yes	15	5.2
Sex when drunk or on drugs		
No	215	73.6
Yes	66	22.6

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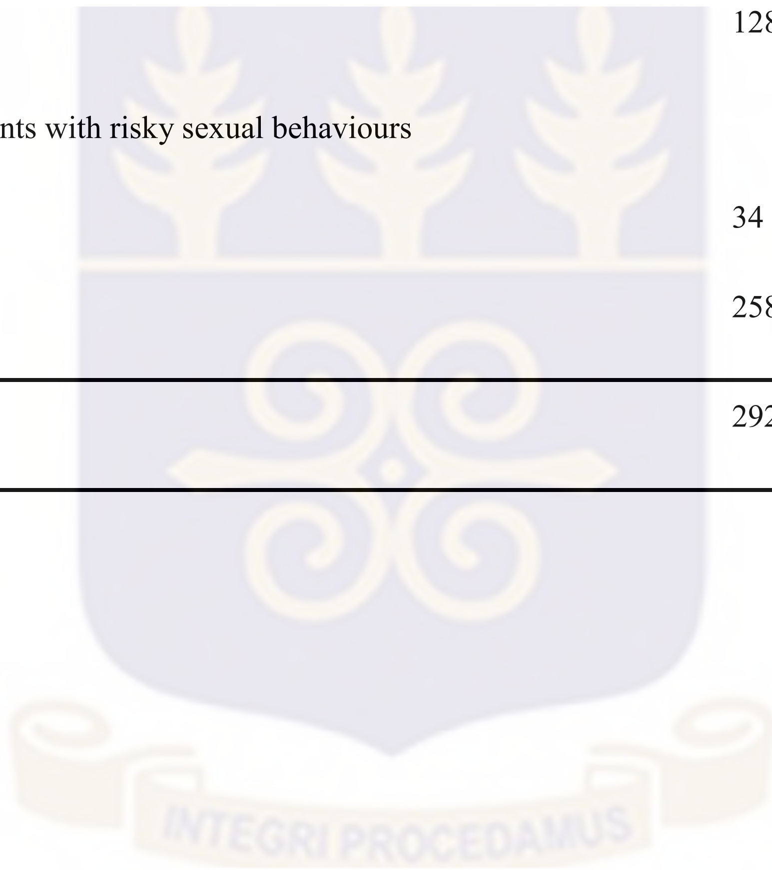
Intergenerational sex		
No	226	77.4
Yes	57	19.5
Condom used on last sex		
No	154	52.7
Yes	128	43.8
Adolescents with risky sexual behaviours		
No	34	11.6
Yes	258	88.4
Total	292	100.0



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4.8 Factors affecting Youth-Friendly Health Service utilisation

To explore the factors that predict the utilisation of youth-friendly health services/facilities among adolescents in the Tema Metropolis, a logistics regression analysis was done on the different variable and results are presented in Table 4.5 below. From the table, age, educational level, knowledge about condom, comprehensive knowledge of STI/HIV and AIDS and risky sexual behaviour were found to be significantly associated with YFHS utilisation. However, when all other variables are adjusted, risky sexual behaviour and knowledge about condom remained significantly associated with utilisation of YFHS facilities. Adolescents with risky sexual behaviour were about 1.47 times (AOR=1.47, 95% CI 1.10, 1.96) most likely to use YFHS than those with non-risky sexual behaviour.

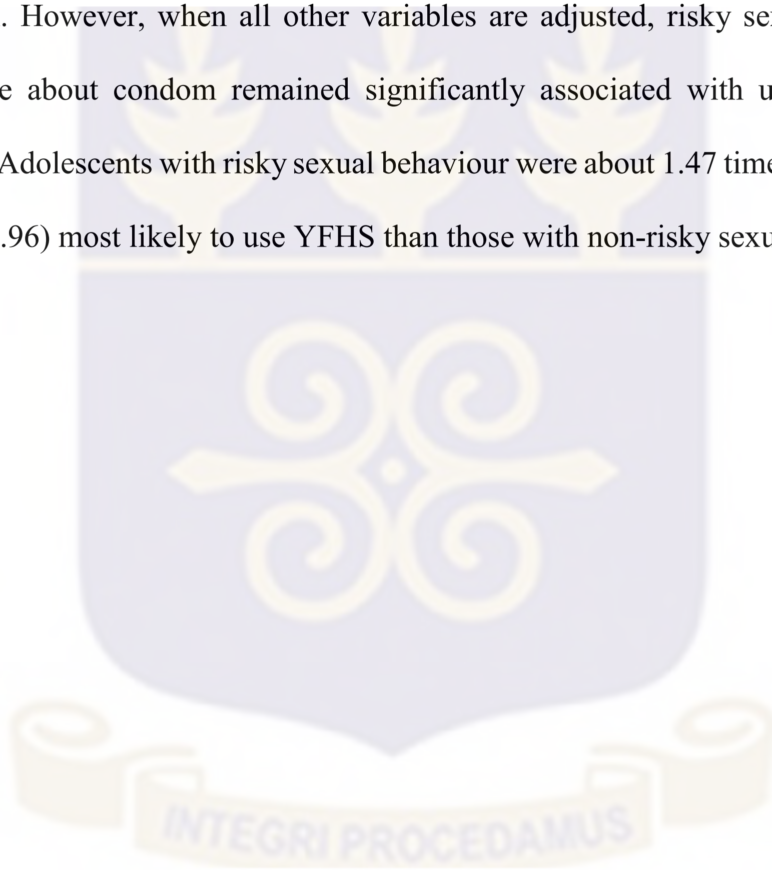

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Table 4.5 Associations between Use of Youth-Friendly Health Services and other variables.

	Utilised YFHS facility N (%)			Crude		Adjusted	
Characteristics	No	Yes	Total	OR (95% CI)	P-value	OR (95% CI)	P-value
Age (years)					**0.0492***		0.696
Mean ± SD	15.1 ± 2.6	15.7 ± 2.0	15.2 ± 2.6	1.09 (0.99, 1.18)		0.96 (0.76, 1.20)	
Sex					0.9444		0.720
Male	324 (87.8)	45 (12.2)	369 (100.0)	Ref		Ref	
Female	383 (87.6)	54 (12.4)	437 (100.0)	1.02 (0.67, 1.55)		0.88 (0.43, 1.80)	
Educational level					**0.0004***		0.260
≤ Primary	221 (93.6)	15 (6.4)	236 (100.0)	Ref		Ref	
JSS/JHS	304 (83.3)	61 (16.7)	365 (100.0)	**3.00 (1.64, 5.34)**		1.06 (0.37, 3.11)	
≥ SSS/SHS	182 (88.8)	23 (11.2)	205 (25.40	**1.87 (0.94, 3.67)**		0.54 (0.16, 1.79)	

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Marital Status					0.8039		0.857
Single	682 (87.8)	95 (12.2)	777 (100.0)	Ref		Ref	
Married/Co-Habiting	25 (86.2)	4 (13.6)	29 (100.0)	0.14 (0.39, 3.37)		1.14 (0.27, 4.78)	
Religion					0.6920		0.711
None	15 (83.3)	3 (16.7)	18 (100.0)	Ref		Ref	
Christianity	680 (87.9)	87 (12.1)	717 (100.0)	0.69 (0.20, 2.43)		1.12 (0.19, 6.50)	
Muslim	50 (84.8)	9 (15.3)	59 (100.0)	0.90 (0.23, 3.75)		0.65 (0.08, 5.18)	
Comprehensive Knowledge about					**0.0000***		**0.005***
Condom	490 (91.6)	45 (8.4)	535 (100.0)	Ref		Ref	
Poor knowledge	217 (80.1)	54 (19.9)	271 (100.0)	**2.71 (1.77, 4.15)**		**2.77 (1.36, 5.61)**	
Good knowledge							
Comprehensive Knowledge about					**0.0096***		0.417
STI/HIV	543 (88.0)	74 (12.0)	617 (100.0)	Ref		Ref	
Not knowledgeable	164 (86.8)	25 (13.2)	189 (100.0)	**1.27 (1.05, 1.53)**		0.43 (0.06, 3.31)	
Knowledgeable							

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Risky sexual behaviour					**0.0224***		**0.009***
No	33 (97.1)	1 (2.9)	34 (100.0)	Ref		Ref	
Yes	219 (84.9)	39 (15.1)	258 (100.0)	**1.36 (1.04, 1.77)**		**1.47 (1.10, 1.96)**	
Total	707 (87.7)	99 (12.3)	806 (100.0)				

P value < 0.05

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CHAPTER FIVE

5.0 DISCUSSIONS

5.1 Introduction

The study explored the utilization of Youth-Friendly Health Service among adolescents aged 10 to 19 years. This section presents detailed discussions of the findings of the study with their practical public health implications. The chapter is organised into five major headings as follows:

- Awareness and Utilisation of Youth-Friendly Health Services
- Barriers to Utilisation of Youth-Friendly Health Services
- Sexual and Reproductive Health Knowledge
- Factors influencing utilisation of Youth-Friendly Health Service
- Study Limitations and Strengths

5.2 Awareness and Utilisation of Youth-Friendly Health Service

The study revealed that the proportion of adolescents in the Tema Metropolis who had utilised youth-friendly health services (YFHS) is low. The mean age of utilisation was 15.7 years ± 2.0, however, it was similar among males and females, 45 (12.2%) and 54 (12.4%) respectively.

Out of the 806 respondents, 132 (16.4%) were found to have ever used YFHS, on the other hand, the current utilisation of YFHS among adolescents which was elicited by asking respondents if they have utilised the services within the last twelve months was only 99

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(12.3%). This proportion was found to be much lower than studies done in other parts of the African continent; a study done in Ethiopia by Ayehu, Kassaw & Hailu (2016) showed that out of the 781 young people interviewed for the study, only 41.2% had utilised youth-friendly sexual and reproductive health services, in another study to assess the utilisation and factors that affect YFHS in Harar, 63.8% of the 845 respondents used the services at the time of the survey (Motuma, 2012). Even though both studies in Harar and Ethiopia recorded proportion of youth-friendly health services above 40%, it concluded that utilisation, on the whole, is still low.

These differences might be due to the educational or socio-economic status, cultural variations or the high proportion of adolescents who do not know the availability of YFHS facilities within the Tema Metropolis. According to Appiah, Badu, Dapaah, Takyi, & Abubakari (2015), lack of awareness of YFHS facilities is a barrier that hinders adolescents from getting available healthcare services, most especially SRH services.

Findings also showed that the main source of information on YFHS facilities was through friends and peers, this finding is consistent with findings of the study where majority (14.4%) of school and college youth received information on YFRHS from their friends (Akinyi, 2009) and a study was done by Tilahun, Mengistie, Egata, & Reda, (2012) This suggests and supports the literature that owing to the delicate nature of RH issues, young people trust their peers more than the grown-ups whom they fear might judge them or raise concerns about their sexual exploration in term of information seeking. However, this contradicts findings in similar studies conducted in Harar and Jimma both in Ethiopia, in which the main source of information is the school (Motuma, 2012; Tegegn & Gelaw, 2009; Tegegn et al., 2016).

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Results from the study revealed that majority of the adolescents who utilised the YFHS facilities sought services from a Government health facility, this could be due to the hopeful perception of accessibility, respect and cost adolescents have for government health facilities (Biddlecom et al., 2014). Notable amongst the various services sought, is general counselling and health information, SRH information, STI/HIV TC and STI/HIV treatment, similar to other studies carried out elsewhere in Africa (Ayehu, Kassaw, & Hailu, 2016; Tegegn & Gelaw, 2009; Tegegn et al., 2016) where, 157 (51.1%) received SRH information, education and counselling, contraceptives including condoms, 78 (25.4%), treated for STI, 53 (17.3%), HIV VCT service 32 (10.4%).

5.3 Barriers to Utilisation of YFHS

The study findings reveal that adolescents had low knowledge on the availability of Youth-Friendly Health services facilities, a fact that led to the low utilisation of these facilities and services. Out of the 806 respondents, 665 (82.5%) did not know about the availability of YFHS facilities and hence did not use, this supports a study done by Godia, (2010) where lack of awareness of YFHS among young people was a major factor to the underutilisation of SRH services offered at YFHS facilities. Godia's study further indicated that understanding the importance of SRH services and where to seek those services influences the utilisation of it among young people including adolescents.

Additional, results from the study also indicated that; distance to the facility (51%) and do not have the need for services provided at YFHS facilities (17%) were the main reasons given by adolescents who knew about the availability of the YFHS facilities but did not

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utilise it, this agrees with a study done in Ethiopia (Tegegn et al., 2016) on adolescent reproductive health service accessibility and utilisation and (McIntyre, 2002).

5.4 Sexual and Reproductive Health Knowledge

The study was to assess the level of SRH knowledge amongst adolescents. This was done in multiple aspects of SRH; knowledge on pubertal development, contraceptive methods, correct use of condoms and comprehensive knowledge on STI/HIV and AIDS.

Awareness and knowledge about contraceptive methods are essential towards accessing family planning services and accepting a right contraceptive method among adolescents. Results from the study show impressively moderate level of knowledge about adolescent pubertal development and contraceptive methods.. This findings agrees with the study by (Awusabo-Asare, Biddlecom, Kumi-Kyereme, & Patterson, 2006) which states that about 90% of adolescents between ages 12 and 19 years have knowledge about at least one modern method of contraceptive and a study by (Bankole, Biddlecom, Singh, Guiella, & Zulu, 2007) which states that at least 8 in 10 young adolescents are aware of at least one contraceptive method.

Furthermore, participants were assessed on their knowledge about the correct use of condom, due to its unique importance in giving a degree of dual protection against pregnancy and infections (STIs and HIV). Even though, condom awareness among respondents was high 737 (91.4%), which is consistent with a study done by Bankole et al., (2007) where condom awareness was 91% and 81% among males and females respectively, the composite measure of comprehensive knowledge about correct use of condom (that includes six questions) shows that adolescents had a lower level of

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comprehensive knowledge about correct use of condom. The proportion of adolescents who had comprehensive knowledge about the accurate use of a condom is 130 (35.2%) males and 141 (32.3%) for females.

According to the 2014 GDHS, comprehensive knowledge about STI/HIV and AIDS is nearly universal among the 15-49 years age group (98% and 99% for women and men respectively) and comprehensive knowledge about AIDS among young males and females aged 15-19 years is 24.5% and 18.1% respectively. Moreover, findings from the study revealed that comprehensive knowledge about STI/HIV and AIDS amongst adolescents is low. Out of the 806 respondents, 98 (20.8) males and 98 (26.6%) females have comprehensive knowledge about STI/HIV and AIDS.

However, 265 (71.8%) males and 322 (73.7%) females reported that a healthy looking person can have HIV; 278 (75.3) males and 322 (73.7%) females also reported that consistent use of condoms is an effective way of protecting against HIV/AIDS; 200 (54.2%) males and 214 (48.9%) females also rejected the local misconception that HIV can be transmitted by supernatural means; and 256 (69.4%) males and 274 (62.7%) females reported that HIV cannot be transmitted by mosquito bites was consistent with the 2014 GDHS findings that 76.6% males and 74.1% females reported that a healthy looking person can have HIV; 71.9% males, 80.3% females also reported that consistent use of condoms is an effective way of protecting against HIV/AIDS; 50.9% males and 43.2% females also rejected the local misconception that HIV can be transmitted by supernatural means; 60.2% male; and 65.2% females reported that HIV cannot be transmitted by mosquito bites.

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5.5 Factors influencing utilisation of Youth-Friendly Health Services

5.5.1 Influence of socio-demographic factors on utilisation of YFHS

The study showed some socio-demographic factors such as age, educational level is significantly associated with utilisation of YFHS, which is consistent with findings from a study done by Tegegn, Yazachew, & Gelaw (2016) which stated that age and higher educational level were positively associated with YFHS utilisation.

5.5.2 Influence of Sexual Behaviour on utilisation of YFHS

Out the 806 respondents, 292 (36.2%) had ever had sex, 83 (28.4%) had more than one casual sex partner within twelve months to the study and about half of those who have ever had sex did not use a condom during their last sex. Also, the composite measure of risky sexual behaviour from the study was significantly associated with utilisation of YFHS [AOR (95% C.I), 1.47 (1.10-1.96)]. A study done by Haller et al. (2014) indicated that young people who had had sexual intercourse are six times more likely to utilised reproductive health service as compared to those who have not. Additionally, in a study be Feleke, Koye, Demssie, & Mengesha, (2013), adolescents who had ever had sexual intercourse were strong predictors for the utilisation of family planning and HIV and AIDS service. This is due to the fact that unprotected sexual intercourse (risky sexual behaviour) exposes oneself to pregnancy and or STI/HIV infections, hence adolescents who have been exposed may utilise these services more.

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5.5.3 Influence of SRH knowledge on utilisation of YFHS

The study revealed that there was a significant relationship between SRH knowledge (comprehensive knowledge about condom) and utilisation of YFHS. This is consistent with findings from a study done in Ethiopia among adolescents, which stated that reproductive health (RH) services utilization was significantly associated with knowledge about RH (AOR = 1.23, 95% CI: 1.23-4.21) (Abajobir & Seme, 2014).

5.6 Study Limitations

This study had limitations that need to be considered when interpreting the findings. As a cross-sectional study, the findings are associations and not causative. Most of the literature search was done online; thus, there was little hand search of hard copies of papers, articles and grey literature. As such, the possibility that some pertinent literature was not included must be considered as one of its limitations; the researcher may have missed some articles published in journals that cannot be accessed online and a more detailed approach to the research might have led to the discovery of further literature.

Moreover, the estimation of the sample size based on an assumption of an estimated population due to the unknown population of adolescents utilising YFHS creates a limitation for the study. The methodology used in this study can be enhanced by improving on the sample size and the measurement scales.

Finally, social desirability may have influenced the study data since it was self-reported and questions that were highly personal or sensitive may have caused adolescents to under-report

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5.7 Study Strengths

In a country where there is limited information on utilisation of youth-friendly health services and its related factors research such as this adds up to the few existing literature.

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CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the concluding comments of this study based on the findings as well as recommendations. This research was conducted to explore the utilisation of Youth-Friendly Health Services among Adolescents in the Tema Metropolis. This was achieved by determining the proportion of adolescents who utilises the Youth-Friendly Health Service Facilities, their knowledge in SRH, factors that influence the utilisation of YFHS Facilities and the barriers to accessing these facilities.

6.2 Conclusions

In conclusion, it was found that utilisation of Youth-friendly health service facilities among adolescents in the Tema Metropolis is low and estimated at 12.3%. Out of the proportion who utilized it, the majority went for general counselling and health information services. The main barrier to utilisation of youth-friendly health service is the lack of awareness of these facilities among adolescents. In addition, reasons noted for not utilising these services among those who knew about its availability were the distance to the service delivery point from their place of abode, do not have the need for the services, financial barrier etc.

This study also revealed that knowledge on SRH among the adolescents is moderate. Approximately, a higher proportion reported that at first sex, a girl can get pregnant and knows about condoms respectively. Even though the majority of the adolescents reported

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that multiple sexual partners can increase the chance of getting HIV, their comprehensive knowledge about STI/HIV and AIDS and correct condom use were low.

Results from the study also indicated that a high proportion of adolescents engage in risky sexual behaviours. Among the adolescents who have had sex, non-condom use at last sex was high. Furthermore, the study also revealed that adolescents with risky sexual behaviour and good comprehensive knowledge about condom are most likely to utilised youth-friendly health services as compared to those with non-risky sexual behaviours and those with poor comprehensive knowledge about the condom.

6.3 Recommendations

The following recommendations were made based on the findings and conclusions from the study:

1. Re-orient the health service delivery system to improve on adolescent-responsive health service delivery
2. Adolescents must be involved in the setting and siting of youth-friendly health facilities within their communities
3. The need for multi-sectoral approach and diverse strategy to create demand and encourage adolescents to utilise youth-friendly health services
4. Increase accessibility to services by extending services to after-school hours, taking services to the door-steps of adolescents via community and school outreaches
5. Providing alternative ways to access information, counselling, or other services via the use of digital technologies (mobile- or web-based platforms and social media etc)

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6. Stakeholders should create linkages between schools, youth clubs, youth corners, and other youth-friendly institutions to strengthen partnership
7. Affordable fees for adolescent at Youth-friendly Health Facilities

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APPENDICES

Appendix I: Informed Consent (Adolescents aged 18-19)

Project Title: Utilisation of Youth-Friendly Health Services among Adolescents in the Tema Metropolis

Principal Investigator: ANGELA NAA KAILEBI ODOI,

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TEL: 0244504984.

EMAIL: naaodoi01@gmail.com

General Information about the Study

This is a research study being undertaken by Angela Naa Kailebi Odoi, a student of the School of Public Health, University of Ghana-Legon; in order to explore the factors associated with the utilisation of Adolescent and Youth-Friendly Health Facilities.

Purpose of the Study

The purpose of this research is to explore the enablers and barriers associated with the utilisation of Adolescent and Youth Friendly Health Services (AYFHS) among adolescents (10-19 years) in the Tema metropolis, their knowledge in sexual and reproductive health and their perception about the features of an Adolescent and Youth Friendly Health Services (AYFHS).

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Findings from this study will provide a better understanding of youth-friendly health service demand and uptake by adolescents which will also inform the restructuring of health services to address gaps in the provision of adolescent and youth-friendly health services.

Procedures

Randomly selected adolescents aged 10-19 years leaving within the Tema Metropolis will be included in the study.

If you are eligible and agree to participate in the study, you will be required to complete an interviewer-administrated questionnaire. We will ask you questions about your background, knowledge about Sexual and Reproductive Health (SRH) related topics, awareness and use of adolescent and youth-friendly health services. The interview is expected to last for an average of 30 minutes.

Possible Risk and Discomforts

There is no possible risk associated with this study but we anticipate some discomfort during the interview process given the sensitivity of some of the questions. You may feel uncomfortable answering those questions or you may not know the answer to a question. You are free to skip any questions you are not comfortable answering.

Possible Benefits

There is no direct benefit to the participants of this study. However, the information you will provide will contribute to the overall knowledge about enablers and barriers associated

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with the utilisation of Adolescent and Youth-Friendly Health Services will be generated from this study.

This information will help us identify the factors associated with the utilisation of youth-friendly health services among adolescents in Ghana and ultimately will inform the restructuring of health services to address gaps in the provision of adolescent and youth-friendly health services.

Voluntary Participation and Right to Refuse

Your participation in this study is absolutely voluntary. During the interview, you can choose not to answer any answer any question that you do not want to answer. Additionally, you are at liberty to withdraw from the study or stop the interview at any time. However, we will encourage you to participate and complete the questions since your options are very important in helping us to understand the factors associated with the utilisation of youth-friendly health services among adolescents in Ghana.

Confidentiality

We would like to assure you that whatever information you provide will be handled with strict confidentiality, it will be used solely for research purpose and will never be used against you. Data analysis will be done at an aggregate level to ensure anonymity. Your name or personally identifying information will not be published in any report. Some members of the research team (principal researcher and research supervisors) may sometimes review the research records, but no unauthorised individual(s) will be able to access the information.

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Compensation

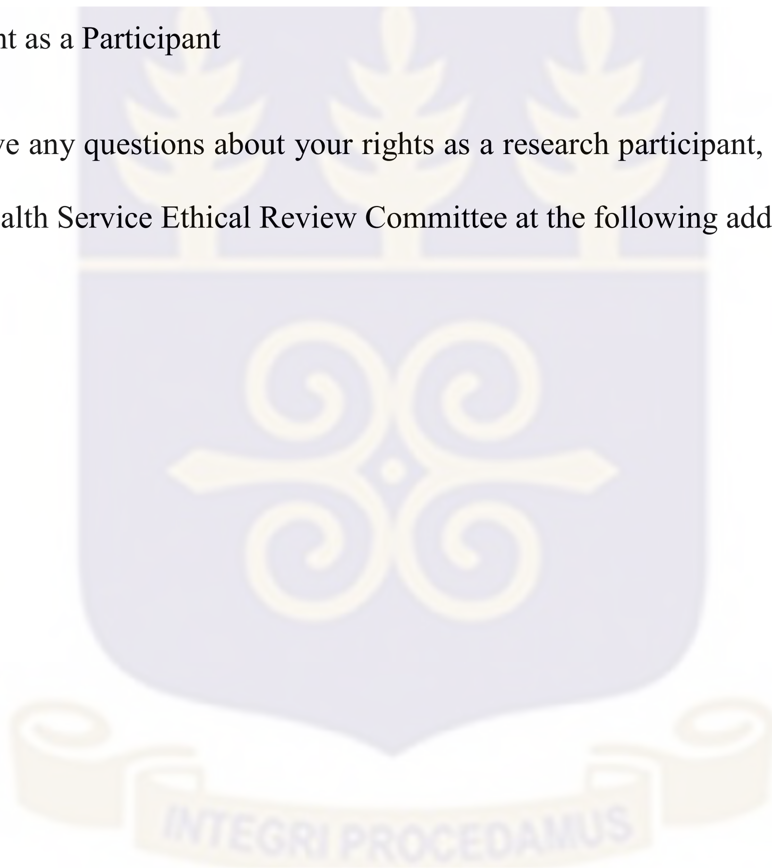
There is no compensation for participants in this study.

Contact for Additional Information

If you have any questions about the study later, you may contact: (Angela Naa Kailebi Odoi, Tel: 0244504984, Email: naaodoi01@gmail.com)

Your Right as a Participant

If you have any questions about your rights as a research participant, you can contact the Ghana Health Service Ethical Review Committee at the following address:



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Hannah Frimpong
GHS-ERC Administrator
GHS-Ethical Review Committee
Research and Development Division
Ghana Health Service
P. O. Box MB 190
Accra-Ghana
Office: 233(0)243235225 / 0507041223
Email: Hannah.Frimpong@ghsmail.org

VOLUNTARY CONSENT

I hereby declare that the above document describing the purpose, the procedure as well as risks and benefits of the research titled "*Utilisation of Youth Friendly Health Services among Adolescents in the Tema Metropolitan District*" has been thoroughly explained to me in English/Ga/Twi language. I have been given the opportunity to ask any question about the research which has been answered to my satisfaction. I hereby voluntarily agree to participate as a subject in this study.

____________________ _____/______/______

(Participant's Signature (Date)

If the participant cannot read the form themselves, a witness must sign here.

I, ____ was present while the purpose, procedures as well as the risks and benefits were read to the participant. All questions were answered and the participant has voluntarily agreed to participate as a subject in this study.

____________________ _____/______/______

(Witness Signature (Date)
Or Thumbprint)

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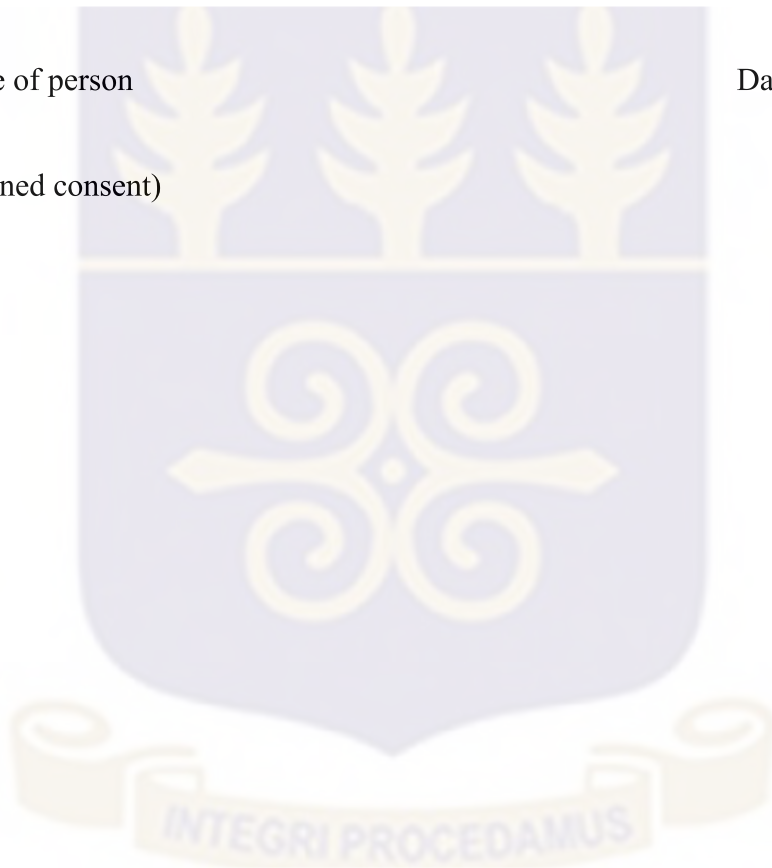
Interviewer's Statement and Signature

I, ____ certify that the purpose, procedures as well as the risks and benefits associated with participating in this study have been explained to the above individual in the English / Ga / Twi language. The individual has freely agreed to participate in the study.

____________________ _____/______/______



(Signature of person who obtained consent) Date

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Appendix II: Consent Form: Parents with Adolescents aged below 18 Years

Research Title: Utilisation of Youth Friendly Health Services among Adolescents in the Tema Metropolis

Principal Investigator: Angela Naa Kailebi Odoi,

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Email: naaodoi01@gmail.com

General Information about the Study

This is a research study being undertaken by Angela Naa Kailebi Odoi, a student of the School of Public Health, University of Ghana, Legon, in order to explore the enablers and barriers associated with the utilisation of Adolescent and Youth Friendly Health Services (AYFHS) among adolescents (10-19 years) in the Tema metropolis**.**

Findings from this research study will help give a better understanding of youth-friendly health service demand and uptake by adolescents. It will also provide information to help make health services more adolescent and youth responsive.

We will be grateful if you will allow your ward to participate in our research. Because this study is about adolescents aged 10-19 years and your ward is below 18 years of age, we need your consent first before we can take a personal assent from him/her to take part in the research.

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Procedures

His/her participation involves answering questions that will be read out to her. The questions that will be asked include his/her background, knowledge in sexual and reproductive health-related topics, awareness and use of adolescent and youth-friendly health services and it is expected to last for an average of 30 minutes. He/she will be interviewed alone and whatever information he/she gives will be kept strictly confidential and will not be disclosed to any other person. Also, his/her name will not be written by any of the answers he/she gives.

Possible Benefits

Participation is purely voluntary and there is no direct benefit to the participants. There is also no penalty if you decide not to allow your ward to take part. We, however, hope that you will allow him/her to take part in this research as his/her views are very important to providing information to help us understand youth-friendly health service demand and uptake by adolescents and also help make health services more adolescent and youth responsive.

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Possible Risks and Discomforts

If you decide to allow your ward to part take in the research, he/she is going to answer only questions and we do not anticipate any form of harm. Nevertheless, he/she might feel some discomfort with some of the questions due to its sensitivity or the duration the interview will take. Your ward is free to skip any question that he/she is not comfortable with, or those he/she may not have answers to.

Voluntary Participation and Right to Leave Research

Your ward's participation in this study is absolutely voluntary. If you decide to allow him/her to participate in this research, he/she is not obliged to answer all the questions if him/her finds some too sensitive to answer. And during the interview, he/she is at liberty to withdraw from the study or stop the interview at any time without any consequences. Also, no one will be angry with you if you do not want your ward to participate.

Confidentiality

Your ward's information will be kept confidential. No one will be able to know how he/she responded to the questions and his/her information will be anonymous.

Contact for Additional Information

You may ask me any questions about the study. If you have any questions later, you can contact: (Angela Naa Kailebi Odoi, Tel: 0244504984, Email: naaodoi01@gmail.com)

Your Right as a Participant

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If you have any questions about your rights as a research participant, you can contact the Ghana Health Service Ethical Review Committee at the following address:

Hannah Frimpong

GHS-ERC Administrator

GHS-Ethical Review Committee

Research and Development Division

Ghana Health Service

P. O. Box MB 190

Accra-Ghana

Office: 233(0)243235225 / 0507041223

Email: Hannah.Frimpong@ghsmail.org

VOLUNTARY CONSENT

I hereby declare that the above document describing the purpose, the procedure as well as risks and benefits of the research titled "*Utilisation of Youth Friendly Health Services among Adolescents in the Tema Metropolis*" has been thoroughly read and explained to me in English/Ga/Ewe/Twi language. I have been given the opportunity to ask any question about the research which has been answered to my satisfaction. I hereby voluntarily agree to allow my ward to participate as a subject in this study.

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____________________ _____/______/______

(Parent/Guardian Signature (Date)

Or Thumbprint)

If the participant cannot read the form themselves, a witness must sign here.

I, ____ was present while the purpose, procedures as well as the risks and benefits were read and thoroughly explained to him/her. All questions were answered and he/she has voluntarily agreed to allow his/her ward to participate as a subject in this study.

____________________ _____/______/______

(Witness Signature (Date)

Or Thumbprint)

Interviewer's Statement and Signature

I, ____ certify that the purpose, procedures as well as the risks and benefits associated with participating in this study have been read and thoroughly explained to the above individual in the English / Ga / Ewe / Twi language. The individual has freely agreed to allow his/her ward to participate in the study.

____________________ _____/______/______

(Signature of interviewer) Date

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Appendix III: Assent Form (Adolescents aged below 18 Years)

Research Title: Utilisation of Youth-Friendly Health Services among Adolescents in the Tema Metropolis

Principal Investigator: Angela Naa Kailebi Odoi,

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General Information about the Study

This is a research study being undertaken by Angela Naa Kailebi Odoi, a student of the School of Public Health, University of Ghana, Legon, in order to explore the enablers and barriers associated with the utilisation of Adolescent and Youth Friendly Health Services (AYFHS) among adolescents (10-19 years) in the Tema metropolis.

Findings from this research study will help give a better understanding of youth-friendly health service demand and uptake by adolescents. It will also provide information to help make health services more adolescent and youth responsive.

This study is about adolescents aged 10-19 years. We are asking you to take part because you are within the age group and your views are very important to providing us with information to help us understand youth-friendly health service demand and uptake by adolescents and also help make health services more adolescent and youth responsive.

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Procedures

If you agree to take part, you will only be answering questions that will be read out to her. The questions that will be asked include your background, knowledge in sexual and reproductive health-related topics, awareness and use of adolescent and youth-friendly health services and it is expected to last for an average of 30 minutes. You will be interviewed alone and whatever information you give will be kept strictly confidential and will not be disclosed to any other person. Also, your name will not be written by any of the answers you give.

Possible Benefits

Participation is purely voluntary and there is no direct benefit to the participants. There is also no penalty if you decide not to participate. We, however, hope that you will take part in this research as your views are very important to providing us with information to help us understand youth-friendly health service demand and uptake by adolescents and also help make health services more adolescent and youth responsive.

Possible Risks and Discomforts

If you decide to part take in this research, you are going to answer only questions and we do not anticipate any form of harm. Nevertheless, you might feel some discomfort with some of the questions due to its sensitivity or the duration the interview will take. You are free to skip any question that you are not comfortable with or those you may not have answers to.

Voluntary Participation and Right to Leave Research

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Your participation in this study is absolutely voluntary. If you decide to participate in this research, you are not obliged to answer all the questions if you find some too sensitive to answer. And during the interview, you are at liberty to withdraw from the study or stop the interview at any time without any consequences. Also, no one will be angry with you if you do not want your ward to participate.

Confidentiality

Your information will be kept confidential. No one will be able to know how you responded to the questions and your information will be anonymous.

Contact for Additional Information

You may ask me any questions about the study. If you have any questions later, you can contact: (Angela Naa Kailebi Odoi, Tel: 0244504984, Email: naaodoi01@gmail.com)

Please talk about this study with your parents/ guardian before you decide whether or not to participate. I will also ask permission from your parents/guardian before you are enrolled into the study. Even if your parents/ guardian say "yes" you can still decide not to participate.

Your Right as a Participant

If you have any questions about your rights as a research participant, you can contact the Ghana Health Service Ethical Review Committee at the following address:

Hannah Frimpong

GHS-ERC Administrator

University of Ghana http://ugspace.ug.edu.gh

GHS-Ethical Review Committee

Research and Development Division

Ghana Health Service

P. O. Box MB 190

Accra-Ghana

Office: 233(0)243235225 / 0507041223

Email: Hannah.Frimpong@ghsmail.org

VOLUNTARY ASSENT

I hereby declare that the assent document describing the purpose, the procedure as well as risks and benefits of the research titled "*Utilisation of Youth Friendly Health Services among Adolescents in the Tema Metropolis*" has been thoroughly read and explained to me in English/Ga/Ewe/Twi language. I have been given the opportunity to ask any question about the research which has been answered to my satisfaction. I hereby voluntarily assent to participate as a subject in this study.

____________________ _____/______/______

(Child's Signature (Date)

Or Thumbprint)

If the participant cannot read the form themselves, a witness must sign here.

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I, ____ was present while the purpose, procedures as well as the risks and benefits were read and thoroughly explained to the participant. All questions were answered and the participant has voluntarily agreed to participate as a subject in this study.

__________________ _____/______/______

(Witness Signature (Date)

Or Thumbprint)

Interviewer's Statement and Signature

I, ____ certify that the purpose, procedures as well as the risks and benefits associated with participating in this study have been read and thoroughly explained to the above individual in the English / Ga / Ewe / Twi language. The individual has freely agreed to participate as a subject in the study.

__________________ _____/______/______

(Signature of interviewer) Date

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Appendix IV: QUESTIONNAIRE

QUESTIONNAIRE ON UTILISATION OF YOUTH-FRIENDLY HEALTH SERVICES AMONG ADOLESCENTS IN THE TEMA METROPOLIS

QN. NO.	QUESTIONS	Response
Respondent ID: |___|___|___|		
SECTION A	SOCIO-DEMOGRAPHIC INFORMATION	CIRCLE OR WRITE WHERE APPROPRIATE
A1	What is your Sex?	1. Male 2. Female
A2	How old were you at your last birthday?	|___|___| years
A3	Are you currently in school? (educational status)	1. No 2. Yes
A4	What is your educational level?	1. No formal education 2. Primary 3. JSS /JHS 4. SSS /SHS 5. Tertiary
A5	What is your current marital status?	1. Single (Not Married) 2. Married 3. Co-habiting

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<table>
<tr><td>A6</td><td>Religion</td><td colspan="3">1. None
2. Christianity
3. Muslim
4. Traditionalist
5. Others (Specify)……………</td></tr>
<tr><td>SECTION B</td><td>KNOWLEDGE ON SEXUAL AND REPRODUCTIVE HEALTH RELATED ISSUES *
(B1- B8) are some statements about Puberty? Please tell me whether you think the statement is True, False or whether you don’t know)</td><td>True</td><td>False</td><td>Don’t Know</td></tr>
<tr><td>B1</td><td>Pubic hair grows during puberty</td><td>1</td><td>2</td><td>3</td></tr>
<tr><td>B2</td><td>Breasts enlarge during puberty</td><td>1</td><td>2</td><td>3</td></tr>
<tr><td>B3</td><td>Boys develop broader shoulders in puberty</td><td>1</td><td>2</td><td>3</td></tr>
<tr><td>B4</td><td>A girl can get pregnant the very first time she has sexual intercourse/sex.</td><td>1</td><td>2</td><td>3</td></tr>
<tr><td>B5</td><td>A girl stops growing after she has had sexual intercourse for the first time.</td><td>1</td><td>2</td><td>3</td></tr>
<tr><td>B6</td><td>Masturbation causes serious damage to health.</td><td>1</td><td>2</td><td>3</td></tr>
<tr><td>B7</td><td>A girl is most likely to get pregnant if she has sexual intercourse halfway between her periods</td><td>1</td><td>2</td><td>3</td></tr>
<tr><td>B8</td><td>A small amount of sperm can be released prior to ejaculation</td><td>1</td><td>2</td><td>3</td></tr>
</table>

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	B9 – B23 is about contraception - I mean ways in which men and women can avoid getting pregnant. Which methods have you heard of? What others?	True	False	Don't Know
B9	Pill (females can take a pill every day)	1	2	3
B10	Injection (females can have an injection every 2 or every 3 months)	1	2	3
B11	Condom (A boy can put a rubber device on his penis before intercourse)	1	2	3
B12	Emergency Contraceptive Pills (A woman can take pills soon after intercourse)	1	2	3
B13	Withdrawal (A man can pull out of a woman before climax)	1	2	3
B14	Periodic Abstinence (A couple can avoid sex on days when pregnancy is most likely to occur)	1	2	3
B15	Condoms are an effective method of preventing pregnancy.	1	2	3
B16	Condoms can be used more than once	1	2	3
B17	Condoms can slip off the male and disappear inside the female's body	1	2	3
B18	It is a good idea to use hand lotion for lubrication when using a condom	1	2	3
B19	A condom should be unrolled before putting it on a male's penis	1	2	3

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B20	The male should hold onto the end of the condom when withdrawing after ejaculation	1	2	3
B21	There are other methods of contraception that I have not mentioned. What other methods have you heard of / know of?	CIRCLE EACH METHOD MENTIONED 1. Implant 2. IUD 3. Female Sterilization 4. Male Sterilization 5. Other (specify) ……………		
B22	Preferred contraceptive method among adolescents?	CIRCLE ONE ANSWER 1. Pill 2. Injection 3. Condom 4. Emergency Contraceptive Pills 5. Withdrawal 6. Periodic Abstinence 7. Other…………………….		
	B24 – B34 are some statements about HIV infection and AIDS. Please tell me whether you think the statement is True, False or whether you don't know	True	False	Don't Know
B23	Withdrawing ("pulling out") the penis before ejaculating works just as well as a condom for preventing sexually transmitted infections	1	2	3

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B24	Some kinds of sexually transmitted infections don't give you symptoms until six weeks or more after you catch the infection.	1	2	3
B25	Only people who have lots of sexual partners get sexually transmitted infections	1	2	3
B26	A healthy-looking person can have HIV	1	2	3
B27	HIV can be transmitted by supernatural means	1	2	3
B28	HIV can be transmitted by mosquito bites	1	2	3
B29	Sex with multiple partners can increase the chance of getting HIV	1	2	3
B30	Males who have STIs sometimes have pains during urination	1	2	3
B31	People can take a simple test to find out whether they have HIV	1	2	3
B32	HIV infection and AIDS cannot be cured	1	2	3
B33	One cannot get HIV/AIDS by donating blood	1	2	3
B34	Consistent use of condoms is an effective way of protecting against STIs and HIV/AIDS.	1	2	3
SOURCE OF INFORMATION ON SEXUAL AND REPRODUCTIVE HEALTH RELATED ISSUES				
B35	Where do you normally get information on sexual and reproductive health? Multiple responses allowed (Circle as participant mentions)			

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<table>
<tr><td></td><td colspan="2">1. Parents
2. Siblings (brothers /sisters)
3. Friends/Peers
4. Teacher
5. School Health Club/school
6. Doctor/nurse/clinic</td><td colspan="2">7. TV
8. Radio
9. Newspaper/magazines
10. Flyer/brochure/poster
11. Internet
12. Others (specify)……..</td></tr>
<tr><td>SECTION C</td><td colspan="4">KNOWLEDGE ON THE AVAILABILITY OF YOUTH-FRIENDLY HEALTH SERVICES</td></tr>
<tr><td>C1</td><td colspan="2">Do you know of any AYFHS facility?</td><td>YES
1</td><td>NO.
2
(If NO skip to section D1)</td></tr>
<tr><td>C2</td><td colspan="2">Is it far to go there?
Probe to find the travelling time and tick appropriately.</td><td>YES
1
(Travel time > 1hour)</td><td>NO
2
(Travel time ≤ 1hour)</td></tr>
<tr><td colspan="5">SOURCE OF INFORMATION FOR YOUTH-FRIENDLY HEALTH SERVICES (AYFHS)</td></tr>
<tr><td rowspan="2">C3</td><td colspan="4">How did you know about the Adolescent and Youth-Friendly Health Service Facility?
Multiple responses allowed (Circle as participant mentions)</td></tr>
<tr><td colspan="2">1. Friends/Peers
2. Teacher
3. School Health Club/school
4. Doctor/nurse/clinic
5. TV</td><td colspan="2">6. Radio
7. Newspaper/magazines
8. Flyer/brochure/poster
9. Internet
10. Others (specify)...</td></tr>
<tr><td>C4</td><td colspan="4">Which type of services is being offered at the youth-friendly health corner/facility?</td></tr>
</table>

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	1. Information on SRH 2. General counselling and Health information 3. Family planning/counselling services 4. STI and HIV Testing and counselling	5. STIs Treatment and Management 6. Pregnancy Testing 7. ANC Services for adolescents 8. CAC Services for adolescents	
C5	In your opinion, are these services important to adolescents?	1. Yes 2. No 3. Don't Know	
SECTION D	UTILISATION OF YOUTH-FRIENDLY HEALTH SERVICES	YES	NO
D1	Have you ever visited /gone to a youth-friendly health corner/facility in Tema in your life?	1	2
D2	Have you ever visited/gone to an Adolescent and Youth Friendly Health Facility within the Tema metropolis in the last twelve (12) months?	1	2 (If NO skip to section D4)
D3	If yes, how was your experience? 1. …………… 2. …………… 3. ……………	skip to section D5	
D4	If no, why? Multiple responses allowed (Circle as participant mentions and skip to Section E)		
	1. Do not have the need for it 2. Because I will meet grown-ups (adults) there 3. There is no privacy	4. The health workers do smile (unfriendly) 5. I cannot afford the services there 6. People will think I am a bad boy/girl 7. It's far from my house	
D5	Thinking about your last visit, did you go to a government clinic, health centre or hospital or a	1. Government 2. Private	

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<table>
<tr><td></td><td>private doctor or clinic? (Multiple responses allowed)</td><td colspan="2">3. Other ………</td></tr>
<tr><td rowspan="2">D6</td><td colspan="3">Which SRH services did you go for at the youth-friendly health corner /facility?
Circle all services received as participant mentions</td></tr>
<tr><td>1. General counselling and Health information
2. Information on SRH
3. Family planning and counselling services (including condoms)
4. STI / HIV Testing and Counselling
5. STIs Treatment and Management</td><td colspan="2">6. Pregnancy Testing
7. ANC Services
8. CAC Services
9. Others (specify)</td></tr>
<tr><td rowspan="2">D7</td><td colspan="3">In your opinion which of this will encourage more adolescents to utilise YFHS facilities?
Circle all correct answers as participant mentions</td></tr>
<tr><td>1. Female Health Worker
2. Male Health Worker</td><td colspan="2">3. Younger Health Worker
4. Older Health Worker</td></tr>
<tr><td>SECTION E</td><td>SEXUAL BEHAVIOURS QUESTION</td><td>YES</td><td>NO</td></tr>
<tr><td>E1</td><td>Have you ever been in a relationship with a male or female (boyfriend/girlfriend)</td><td>1</td><td>2</td></tr>
<tr><td>E2</td><td>Do you currently have a sexual partner</td><td>1</td><td>2</td></tr>
<tr><td>E3</td><td>Have you ever had sex?</td><td>1</td><td>2</td></tr>
<tr><td>E4</td><td>Have you had sex within the last 12 months?</td><td>1</td><td>2 (If NO skip to E12 and end there.)</td></tr>
</table>

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E5	The first time you had sexual intercourse, did you or your partner use a condom?	1	2
E6	During your life, with how many people have you had sexual intercourse?	|___|___|	
E7	During the past 12 months, with how many people have you had sexual intercourse?	|___|___|	
E8	Within the last 12 months how many sexual partners (boyfriend/ girlfriend) have you had?	|___|___|	
E9	Within the last 12 months how many casual sex partners have you had?	|___|___|	
E10	In the past 12 months have you had sex with a commercial sex worker?	1	2
E11	Within the last 12 months did you ever drink alcohol or use drugs before you had sexual intercourse	1	2
E12	Have you dated someone who is 10 or more years older than you?	1	2
E13	Do you have sexual intercourse when depressed, stressed or anxious	1	2
E14	The last time you had sexual intercourse, did you or your partner use a condom?	1	2

Thank you.

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Appendix V: Ethical Approval

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

My Ref. GHS/RDD/ERC/Admin/App 1478
Your Ref. No.

Odoi Angela Naa Kailebi
University of Ghana
School of Public Health
Legon, Accra

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

GHS-ERC Number	**GHS-ERC: 69/02/17**
Project Title	Utilization of Youth-Friendly Health Services among Adolescents in the Tema Metropolis
Approval Date	15th May, 2017
Expiry Date	14th May, 2018
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

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

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

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

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

SIGNED...
DR. CYNTHIA BANNERMAN
(GHS-ERC CHAIRPERSON)

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

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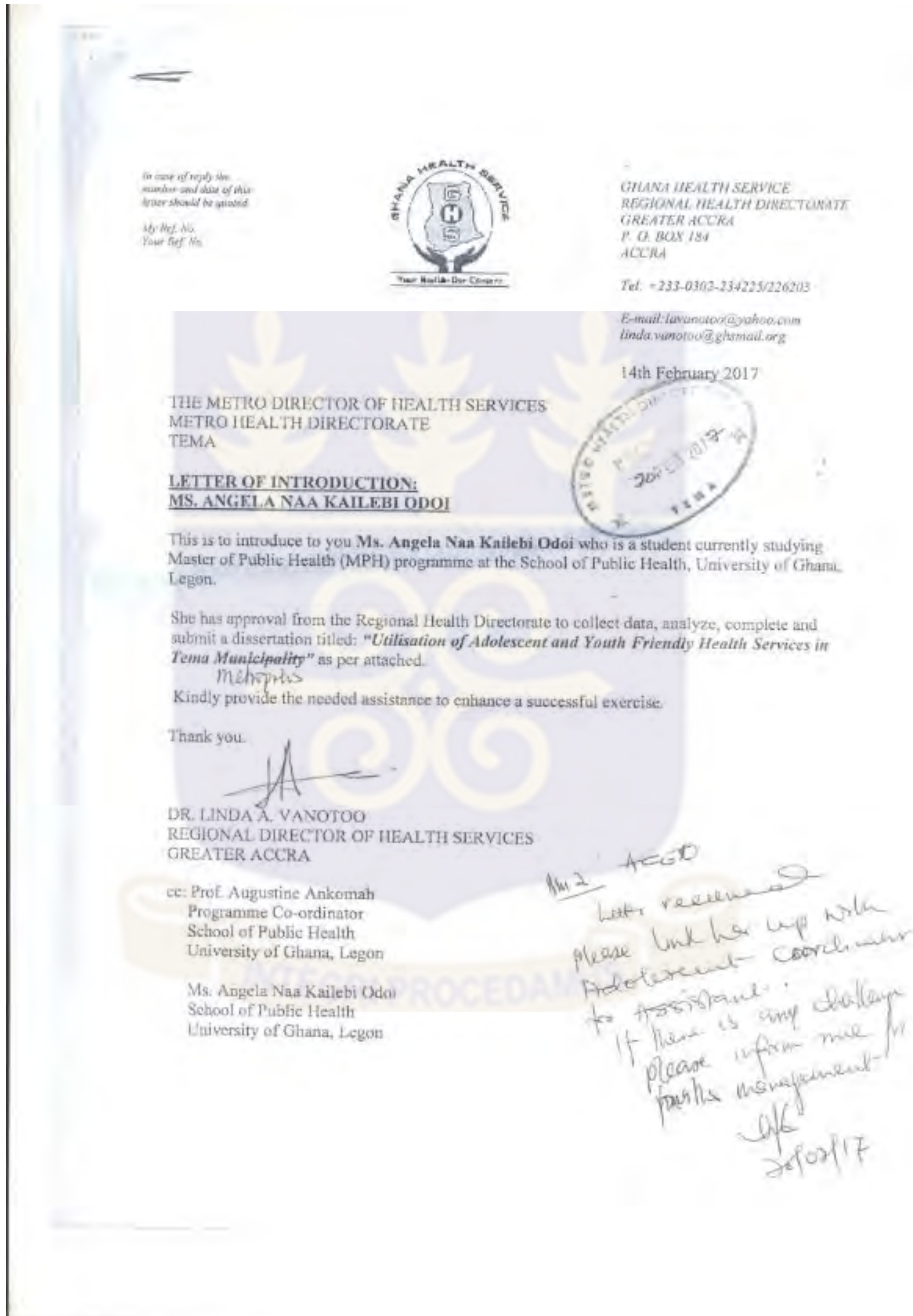
Appendix VI: Approval Letter from Study Region



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

My Ref. No.
Your Ref. No.

GHANA HEALTH SERVICE
Your Health-Our Concern

GHANA HEALTH SERVICE
REGIONAL HEALTH DIRECTORATE
GREATER ACCRA
P. O. BOX 184
ACCRA

Tel: +233-0302-234225/226203

E-mail: lavanotoo@yahoo.com
linda.vanotoo@ghsmail.org

14th February 2017

THE METRO DIRECTOR OF HEALTH SERVICES
METRO HEALTH DIRECTORATE
TEMA

LETTER OF INTRODUCTION:
MS. ANGELA NAA KAILEBI ODOI

This is to introduce to you **Ms. Angela Naa Kailebi Odoi** who is a student currently studying Master of Public Health (MPH) programme at the School of Public Health, University of Ghana, Legon.

She has approval from the Regional Health Directorate to collect data, analyze, complete and submit a dissertation titled: ***"Utilisation of Adolescent and Youth Friendly Health Services in Tema Municipality"*** as per attached.

Kindly provide the needed assistance to enhance a successful exercise.

Thank you.

DR. LINDA A. VANOTOO
REGIONAL DIRECTOR OF HEALTH SERVICES
GREATER ACCRA

cc: Prof. Augustine Ankomah
Programme Co-ordinator
School of Public Health
University of Ghana, Legon

Ms. Angela Naa Kailebi Odoi
School of Public Health
University of Ghana, Legon

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