UNIVERSITY OF GHANA

ASSESSING ADOLESCENT HEALTH CARE QUALITY IN GHANA'S HEALTH CARE FACILITIES: A STUDY OF ADOLESCENT HEALTH CORNERS IN TEMA METROPOLIS

BY

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DECLARATION

I hereby declare that this thesis entitled "Assessing Adolescent Health Care Quality in Ghana's Health Care Facilities: a study of Adolescent Health Corners in Tema Metropolis," submitted to the University of Ghana is a record of an original work done by me under the supervision of Aaron Asibi Abuosi (PhD). This thesis is submitted in partial fulfilment of the requirement for the award of a degree in MPhil Health Services Management. The results embodied in this thesis have not been submitted to any other University or Institute for the award of any degree.

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CERTIFICATION

I hereby certify that this thesis was supervised in accordance with the procedures laid down by the University.

…… Date: 20th July, 2017

AARON ASIBI ABUOSI (PhD)

(Supervisor)

DEDICATION

First of all, this thesis is dedicated to the Almighty God for making this journey successful. Secondly, to my caring parents; Alfred and Cecilia. Thirdly, I dedicate this work to my loyal siblings: Joel, Victor and Lilian.

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"*Enter His gates with thanksgiving and His court with praises; give thanks to Him and praise His name. For the LORD is good; and His love endures forever; His faithfulness continues through all generations*" **Psalms 100:4-5 (NIV).** Amen.

My deepest gratitude goes to Dr. Aaron Asibi Abuosi, who expertly guided me through my graduate education, and shares the excitement of the findings in this thesis. His unwavering enthusiasm for research kept me constantly engaged with my thesis, and his selfless dedication helped made my time at UGBS memorable.

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LIST OF ACRONYMS

AHCs	Adolescent Health Corners
ADHD	Adolescent Health Development
FA	Factor Analysis
GHS	Ghana Health Service
GSS	Ghana Statistical Services
HIV	Human Immunodeficiency Virus
IOM	Institute of Medicine
MDGs	Millennium Development Goals
MOH	Ministry of Health
MSI-G	Marie Stopes International-Ghana
NPC	National Population Council
PCA	Principal Component Analysis
SDGs	Sustainable Development Goals
STDs	Sexually Transmitted Diseases
SPSS	Statistical Package for Social Scientist
TMA	Tema Metropolitan Assembly
WHO	World Health Organisation
YOLO	You Only Live Once

ABSTRACT

Promoting the health and well-being of adolescents is a way of fulfilling their fundamental human rights. It is also a right step towards achieving sustainable development. Ensuring that adolescents have access to quality health care is important in their health promotion. However, many adolescents across the globe do not have access to quality health care. In Ghana, negative provider attitudes, inadequate infrastructure and weak community support for adolescent healthcare have been reported. The researcher aimed at assessing adolescents' perceptions of health care quality in Ghana's healthcare facilities. The mixed methods research approach and the cross-sectional survey design were employed. Respondents were selected from four Adolescent Health Corners (AHCs) in Tema metropolis, using the simple random sampling technique. In all, three-hundred and sixty-five (n=365) adolescents were interviewed using a structured questionnaire. Data were analysed with the aid of Statistical Package for Social Scientist (SPSS), version 20. Quantitative results were presented using factor analysis, frequency distribution, chi-square and multiple linear regression. Qualitative data were analysed according to emerging themes. Adolescents' perceptions of health care quality were found to be satisfactory. Thus, a majority of the respondents perceived health providers as friendly, respectful, non-judgmental and non-discriminatory. Also, respondents had access to health information in the AHCs. Adolescents' perceptions were influenced significantly by the following factors; health literacy, facility characteristics, equity and non-discrimination, provider attitude and appropriateness of care. That notwithstanding, some adolescents encounter challenges (i.e. lack of privacy) when accessing health care in the AHCs. It is therefore suggested that managers of the AHCs should implement strategies to help address such challenges. Addressing the challenges can lead to an improvement in adolescents' perceptions of health care quality and utilization behavior. Hence, this study provides valuable information for adolescent health care quality improvement in Ghana.

CHAPTER ONE

1.0: INTRODUCTION

1.1: Background to the study

This chapter discusses the background to the study, underlying research problem, research objectives, questions and hypotheses. The significance and organisation of the study are also discussed in this chapter.

According to the World Health Organization (WHO), adolescents are persons between the ages of 10 and 19 (WHO, 2015). More than 1.2 billion adolescents live in the world, representing one-fifth of the global population. Majority of the world's adolescents live in low and middle-income countries (Nair *et al*., 2015; WHO, 2015). Adolescence is the period between childhood and adulthood, and is a crucial stage in human development. During this stage, the individual undergoes rapid physiological, psychological and social changes (WHO, 2014). For instance, the production of sex hormones mostly begins during adolescence. However, the adolescent is less knowledgeable about these developmental changes, and therefore needs to be educated.

Adolescents are mostly perceived as healthy people. However, many adolescents die ahead of time from causes that are largely preventable (WHO, 2015). For example, in 2015 alone, about 1.3 million adolescents died globally (WHO, 2015). The major causes of adolescent deaths are: road injuries, violence, suicide, Acquired Immune Deficiency Syndrome (AIDS) and pregnancy related complications. Pregnancy and childbirth complications are the second leading cause of death among adolescent girls worldwide (WHO, 2015). The rate at which adolescents give birth remains high; 49 births per 1000 girls worldwide (WHO, 2014). In addition, about two million adolescents in the world are living with the Human Immune

Virus (HIV), and over 41% of new HIV infections occur among adolescents every year. Acquired Immune Deficiency Syndrome (AIDS) remains the leading cause of adolescent deaths in Sub-Saharan Africa (WHO, 2015).

Mental illness and suicide are now recognised as global health problems of adolescents. Out of the 1.2 billion adolescents in the world, about 20% are mentally ill. Suicide is among the top causes of adolescent deaths in developed countries (Ghana New Agency, August 2014; Basic needs-GH, 2016; WHO, 2015). There is evidence to show that about 20% of adolescents in Sub-Saharan Africa suffer from depression and stress related problems every year (Biddle and Asare, 2011). Many complex diseases in adulthood can be traced back to adolescence. For instance, unhealthy behaviours like smoking, unprotected sex, poor eating and exercise habits; which result in illness and premature death have their root in adolescence (WHO, 2015).

Adolescents are usually referred to as the future leaders. Therefore, it is very important to consider their health and well-being in development agendas (WHO, 2015; Kleinert and Horton, 2016). The third Sustainable Development Goal (SDG) emphases on "ensuring healthy lives and promoting the well-being of all ages", including adolescents (WHO, 2015). Adolescents are the age group that can make the accomplishment of the Sustainable Development Goals a reality. Focusing on adolescents will help achieve the unfinished agenda of the health-related Millennium Development Goals (MDGs) (WHO, 2015).

The reason why it is necessary to promote adolescent health and well-being was reiterated by the UN Secretary General, Ban Ki-Moon, in one of his speeches;

> "*Young people are the world's greatest untapped resource. Adolescents can be a key driving force in building a future of dignity for all. If we can make a positive difference in the lives of 10-year-old girls and boys today, and expand their opportunities and capabilities over the next 15 years, we can ensure the success of the SDGs. For me, the acronym "SDG" also stands for "Sustainable Development Generation", and sustainability means engaging future generations today. The UN is strongly committed to working with all partners so that we can realise the full promise of the 2030 Agenda—and so that all adolescents can realise their full potential".*

Since, adolescents are 'assets' to every nation, their health and well-being must be of importance to world leaders. However, evidence shows that adolescents' health care needs are not adequately met (WHO, 2015). A report by the World Health Organization indicates that health care for adolescents remains "*highly fragmented, poorly coordinated and uneven in quality*" (WHO, 2014). For example, majority of adolescents on the globe do not have access to health information coupled with poor provider attitudes, lack of privacy and weak parental support to access available health care services (Morreale *et al.,* 2004; Sogarwal *et al*., 2013; WHO, 2014; WHO, 2015).

Moreover, the significant causes of adolescent deaths, diseases and risk factors are not properly considered in primary care (WHO, 2015). Adolescent health programmes are limited to only sexual and reproductive health services, while neglecting other equally important adolescent health needs (i.e. mental health and nutrition), and overlooks preventive services (WHO, 2015). Research on adolescent health lags behind child and adult health research (WHO, 2015). Thus, there is paucity of research on adolescent health care globally.

Furthermore, most adolescents confront challenges when accessing health care services (WHO, 2015). Adolescents experience financial barriers, long waiting time, inconvenient working hours and lack of parental support when accessing health care services (Erulkar *et al*., 2005; Biddlecom *et al*., 2007; Johnston *et al*., 2015). Other barriers include lack of adolescent-friendly resources in health facilities (Story *et al*., 2002; Samargia *et al*., 2006), unfriendly and perceived negative attitudes of providers (Kennedy *et al*., 2013; Geary *et al*., 2014), poor quality of care, perceived inequity and fear on the part of adolescents (Judith *et al*., 2003; Biddlecom *et al*., 2007).

Improving the quality of adolescent health care has numerous benefits. For example, it is a way of strengthening the health rights of adolescents. It can also help reduce the high rates of mortality, morbidity and disability among adolescents (WHO, 2015). Improving the quality of adolescent health care can influence adolescents' access and utilisation of contraceptives, which will help decrease adolescent pregnancies, abortions and HIV incidence (WHO, 2014). Making counselling services available to adolescents can help reduce their mental health problems (WHO, 2014). There is also evidence to show that improving adolescent health care quality is a right step towards achieving most of the unfinished health-related MDGs and SDGs (Waddington and Sambo, 2015; WHO, 2015). Finally, improving adolescent health care quality is a necessity, since adolescence is the period for 'laying' the foundation of good health in adulthood (WHO, 2014).

World Health Organization recommends that countries adopt and implement adolescent health care quality standards (WHO, 2015). Some developed countries like the United States

of America, United Kingdom, Italy, Canada, France and Mexico have adopted and implemented adolescent health care quality standards (Nair *et al*., 2015).

In Africa, the idea of improving adolescent health care quality is emerging. It has not received much attention from policy makers, healthcare providers and researchers. That notwithstanding, there is evidence to show that some attempts have been made to improve adolescent health care in the region. For instance, more than twenty-five countries in Africa (i.e. South Africa, Kenya, and Malawi) have implemented adolescent health care standards, such as the integration of adolescent health care into primary care (WHO, 2015).

1.2 Statement of Problem

In Ghana, young people constitute a larger proportion of the population. Between 1960 and 2010, the population of young people in Ghana increased more than fourfold. The population of young people increases from 2,461,856 in 1960 to 7,849,520 in 2010 and projected at 8,955,000 by 2030 (NPC, 2010). Despite the larger proportion of young people in Ghana, the quality of their health care is below expectation (GHS, 2015). Evidence shows that health facilities and providers are not adolescent-friendly. For instance, providers are judgmental, discriminatory and untrustworthy (GHS, 2015). In addition, adolescents encounter financial challenges, stigmatisation and poor parental support when accessing adolescent-friendly health care services (Biddlecom *et al*, 2007; GHS, 2015). These concerns worsen adolescent health indicators in the country. The study area alone (Tema Metropolis) reported 641 and 609 adolescent pregnancies in 2015 and 2016 respectively. In 2016, twenty-one pregnant adolescents were tested HIV positive, while sixty-three unsafe abortions were reported (Graphic.com.gh; January 23, 2017).

That notwithstanding, the health sector of Ghana has recognised adolescent health and well-being as a necessity, and the concept of making health care adolescent-friendly is being pursued (MOH, 2000). In 1996, Ghana established the Adolescent Health Development (ADHD) programme. The programme aims at promoting adolescents' health and well-being, preventing and responding to peculiar adolescent health problems resulting from limited knowledge on sexuality, poor nutrition, risky lifestyles and behavioral problems (GHS, 2014). Later, a seven-year National Adolescent Health and Development Strategic Plan (2009-2015) was developed by the Ghana Health Service in 2009, which sought to provide a multi-sector support to every young person living in Ghana with health education and information. That will lead to the adoption of a healthy lifestyle physically, psychologically and socially (GHS, 2015).

In line with the ADHD programme's objective of providing comprehensive health services to adolescents, UKAID through the Palladium Group and Ghana Adolescent Reproductive Health (GHARH) Project refurbished and equipped adolescent-friendly clinics also known as Adolescent Health Corners (AHCs) with resources (GHS, 2015). In addition, the Marie Stopes International-Ghana (MSI-G) as part of the "No Yawa" Project also supported the rehabilitation of seventeen AHCs. Old Adolescent Health Corners were renovated, new ones were created through the construction of new structures, and spaces re-demarcation for new ones.

Logistics were also procured and distributed to one hundred and fifty- eight public health facilities to aid in adolescent health service provision under the same project. Thirty-thousand health information, education and communication materials in the form of booklets and posters were printed and distributed to improve adolescents' knowledge about health issues.

The popular and award-winning television based drama series, YOLO (You Only Live Once), which emphases personal hygiene, sexual and reproductive health education for the contemporary adolescent, and how to live a good life was also incorporated (GHS, 2015).

However, a report by the Family Health Division of Ghana Health Service indicated that adolescents' access to appropriate health information has not improved significantly over time. Even though there was an overall improvement in utilisation of health services, utilisation by adolescents remains poor (GHS, 2015). Community participation in the ADHD programme has been weak, and less improvement in the various adolescent health indicators was reported (GHS, 2015). It was therefore impossible to achieve the envisaged targets set for the ADHD programme (GHS, 2015), hence, innovating strategies for the future became necessary.

A critical observation of the ADHD report suggests that there might have been a missing gap. There was an over-emphasis on adolescent sexual and reproductive health, with little or no attention to other aspects of adolescent health and care concerns, especially the quality of adolescent health care services. This observation finds expression in a concluding statement of the evaluation report with respect to the various investments made at the adolescent health corners: "*the establishment of these two hundred and twelve (212) adolescent health corners is expected to increase access to sexual and reproductive health services for adolescents in Ghana*" (GHS, 2015). Therefore, addressing issues related to adolescent health care quality is necessary.

In addition, many studies on adolescents have been conducted in Ghana (Kenu *et al*., 2014; Boamah, 2012; Marrone *et al*., 2014; Enuameh *et al*., 2015; Biddlecom *et al*., 2007), but none

has looked at assessing adolescent health care quality, especially in Tema. Studies that assessed health care quality in Ghana (Atinga, 2012; Abuosi and Atinga, 2013; Abuosi *et al*., 2016) focused on all patients, irrespective of their age-group. However, adolescents (10-19 years) expectations and perceptions of health care quality may differ from other age-groups. Also, there is little evidence on state of health care quality in the AHCs. Therefore, assessing adolescents' perceptions alone is necessary for their health care quality improvement. Even though there is evidence to show that adolescents in other parts of the world confront some challenges when accessing adolescent-friendly health care services (Lim *et al*., 2012; Geary *et al*., 2014), little is known about the concerns of adolescents in Ghana. Hence, the study sought to fill these gaps.

1.3 Objectives of the Study

The main objective of the study was to assess adolescents' perceptions of health care quality in AHCs. Specific objectives include:

i. To examine factors influencing adolescents' perceptions of health care quality;
ii. To identify challenges adolescents confront when accessing health care in the AHCs;
iii. To explore measures of improving adolescent health care quality in the AHCs.

1.4 Research Questions

The following research questions were asked:

i. What factors influence adolescents' overall perceptions of health care quality?
ii. What are the challenges adolescents confront when accessing health care in the AHCs.
iii. What do adolescents think can be done to improve the quality of care in the AHCs.

1.5 Research Hypotheses

Based on the research questions the following hypotheses were stated.

***H1**: Structural factors will significantly predict adolescents' overall perceptions of health care quality.*

H0:β1=β2=0

H1: At least one β is not zero.

The hypothesis is based on the evidence that adolescents' perceptions of health care quality are influenced by the availability of adolescent-friendly structures in the Adolescent Health Corners.

***H2**: Process factors will significantly predict adolescents' overall perceptions of health care quality.*

H0:β1=β2=β3=0

H2: At least one β is not zero

This hypothesis is based on existing empirical and anecdotal evidence that adolescents' perceptions of health care quality are influenced by the availability of adolescent-friendly processes in the Adolescent Health Corners.

***H3**: Structural factors will significantly predict adolescents' perceptions of Process quality of care.*

H0:β1=β2=0

H3: At least one β is not zero.

This hypothesis is based on the anecdotal evidence that adolescents' perceptions of Process quality of care are influenced by the availability of adolescent-friendly structures in the Adolescent Health Corners.

1.6 Significance of the Study

The study provides valuable information for evidence-based adolescent health care delivery and policy. Thus, the findings can inform adolescent health care policy directions. The study also provides vital information for adolescent health intervention programmes. Empirical evidence is made available for the designing of evidence-based adolescent health interventions to combat adolescents' health problems. Additionally, findings of the study can help improve adolescent health care quality in Ghana. In other words, assessing quality of care in the AHCs will inform health service providers about the preferences of adolescents in Ghana. This information will help health care providers to tailor their services in order to meet the preferences of adolescents, hence can help increase adolescent health care utilization and satisfaction. This can go a long way to increase adolescent health literacy and an improvement in adolescent health indicators, such as mortality, morbidity, pregnancy, abortion, substance use, suicide and violence.

The study give insight to policy makers and health service providers on the significant challenges adolescents in Ghana confront when accessing adolescent-friendly health care services. This can help bridge the gap between policy and practice. The study adds to the few existing empirical literature on adolescent health care in Ghana, and contributes to academia in general. The study serves as a source of reference for future research works on adolescent health care. Finally, the study can educate the public on the state of adolescent health care quality and challenges in Ghana.

1.7 Scope of the study

The study covered all Adolescent Health Corners located in public health facilities within the Tema Metropolis. The study was limited to only the Tema Metropolis and did not cover other

metropolis and regions in Ghana. The study targeted all adolescents (10- 19 years) who were available in the study area, and excluded people who were not within this age range or unavailable during the study. Therefore, generalisation must be done with caution. To ascertain first-hand information, the study focused on adolescents who were currently accessing care in the AHCs and those who had visited the AHC not more six month before the study. Because the purpose was to assess respondents' experience at the AHCs, the study exempted adolescents who had never visited the AHCs before and those who had not visited the AHCs for more six months to the study.

1.8 Operational Definitions

Adolescent: A person between the ages of 10 and 19.

Adolescent health corner: a special health clinic that provides tailored health care services to adolescents and the youth.

Adolescent Health Development (ADHD) program: a special health program geared towards improving the health and well-being of adolescents.

SDGs: Sustainable Development Goals- the United Nations set targets till 2030.

ASRH: Adolescent Sexual and Reproductive Health- health care related to adolescent sexuality and reproductive issues.

1.9 Organization of the Study

This thesis is organized into five main chapters. Chapter one covers the background to the study, problem statement, objectives, research questions, hypothesis, scope of the study, operational definitions and organization of the study. Chapter two consists of the literature review; both theoretical and empirical and a conceptual framework. Chapter three comprises of the research design, population of the study, sampling, instruments and data collection.

The chapter also includes the instrument for data collection and ethical considerations. Chapter four involves data analysis and presentation of results. Chapter five constitutes the summary of key findings, discussion, conclusions and recommendations.

1.10 Chapter Summary

Adolescent health problems are gaining public attention in Ghana. Adolescent health care quality is below expectation coupled with poor attitude towards health care utilization. Access to quality adolescent health information is below expectation, leading poor health-seeking behaviors among adolescents. Also, adolescents encounter many challenges when accessing health care services. However, there is paucity of research on adolescent health care quality improvement in Ghana. The study aimed at assessing adolescents' perceptions of health care quality in Adolescent Health Corners, identifying challenges to accessibility and exploring measures of improving adolescent health care quality in Ghana.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter discusses the review of theoretical literature, review of related studies and the development of a conceptual framework. The theoretical review looks at the concept of quality of health care from theoretical perspective, assumptions and critiques of the adopted model. Empirical literature review was done based on the World Health Organization's adolescent health care quality dimensions. Literature on adolescent health care accessibility challenges was also reviewed. Finally, literature on measures of improving adolescent health care quality was reviewed. This chapter ends with the development of the conceptual framework.

2.2 Review of Theoretical Literature

Quality improvement is necessary in every sector given the high demand for quality goods and services, and the strong competition that characterizes the corporate world. Quality assurance in health care is a necessity and should not be compromised, because human lives are at risk (Buttell, Hendler and Daley, 2008). Also, the health sector like any other sector is subject to competition, especially with the fast-growing private health sector. Hence, patients expect nothing but quality health care.

Giving a precise definition for quality is very difficult due to its subjective and intangible nature. Defining and measuring quality in health care is more difficult than other disciplines, because new definitions for health care quality are emerging (Boaden *et al.*, 2008). The Institute of Medicine defined health care quality as "*the degree to which health care services for individuals and populations increase the likelihood of desired health outcomes and are*

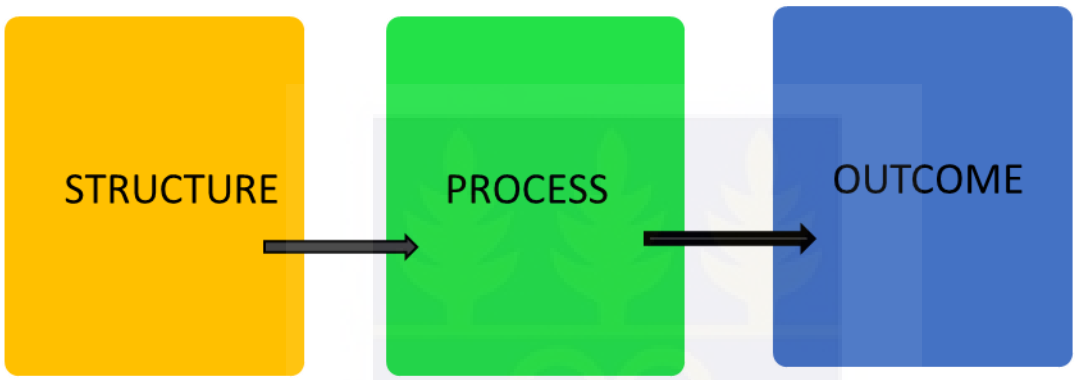
consistent with current professional knowledge" (IOM, 1990) cited in Buttell, Hendler and Daley (2008). This means that health care delivering must be in line with professional standards and principles, and must meet the expectations of patients. The Institute of Medicine domains of health care quality are: effectiveness, efficiency, equity, patient-centeredness, safety and timeliness.

According to WHO (2006), the demand for quality health care has gained public attention, putting pressure on health care providers to 'live up to expectation'. Ensuring that adolescents have access to quality health care is a fundamental human right and therefore should not be compromised. Donabedian (1980) argued that providing quality health care would minimise risks and maximise benefits of medical services. A number of models and theories have been developed to define or explain health care quality. Popular among them are Donabedian's system model, the Gap's (SERVQUAL) model, Maxwell's model and the Institute of Medicine's model. Other quality improvement models include Deming's PDSA Cycle, the Six Sigma and the Lean Approach (Buttell, Hendler and Daley, 2008).

However, this study adopted Donabeian's Model of health care quality assessment. Avedis Donabedian; a physician and a health services researcher at the University of Michigan developed a health care quality model in 1966. Donebedian (1980) defined health care quality as "*the application of medical services and technology in a manner that maximizes its benefits to health without correspondingly increasing the risk*". Donabedian argued that health care quality is multidimensional and comprises of clinical (technical quality), physician- patient relationship (interpersonal quality) and physical amenities (structural quality). Technical quality describes how effective care is producing achievable health outcomes. Interpersonal quality is the extent to which the needs and preferences of clients are

met. Amenities refer to the components, such as conduciveness of physical environment and the characteristics of the service providers. Donabedian is well known for his Structure-Process-Outcome quality model, which he believes is based on systems approach to thinking about health care quality (Buttell, Hendler and Daley, 2008). Figure 2.1 is Donebedian's model for assessing health care quality.

Figure 2.1: Donabedian Model for health care quality assessment.



Source: Donabedian (1980).

Donabedian argued that health care quality can be assessed based on three main domains namely: Structure, Process and Outcome. According to Donabedian, Structure refers to "*the characteristics of the health facility in which care is delivered and accessed*". Examples are: amenities, equipment, human resource and organisational structures (Donabedian, 1988). Structure may also include health providers' skills, operating hours of the facility and convenience in scheduling appointments.

Donabedian defined Process as "*what is actually done in the giving and receiving of health care*". He classified Process into clinical and interpersonal processes. Clinical process refers to the clinical guidelines and standards that must be observed by health providers. The Interpersonal process refers to the interaction between the patient and the provider

(Campbell, Roland and Buetow, 2000). Process extends to diagnosis, treatment, prevention, patient education, patient and family activities, access to care and health care utilisation. It is also the ability to build a relationship of trust, empathy and understanding with patients, and showing humanism and sensitivity to patient needs as well (Blumenthal, 1996; Carmes and Glick, 1996) cited in Campbell, Roland and Buetow *(*2000). Process extends to discussing or explaining patients' conditions to them, and involving them in decisions regarding their care (Woloshynowych, Valori and Salmon, 1998). Thus, Process comprises of all the activities between structure and outcome (Donabedian, 1988). Outcome or the product of care refers to the "*effect(s) of the care on the health status of the patient and the population*" (Donabedian, 1988). It includes improvements in patients' knowledge, change in behaviour and patient satisfaction. That is, reduction in mortality, morbidity, disability and improvement in patients' perceptions.

Donabedian argued that there is a relationship between Structure, Process and Outcome. He emphasized that quality assessment is possible only because good Structure increases the likelihood of good Process, and good Process increase the likelihood of good Outcome (Donabedian, 1988). Structure and Process can influence Outcome, either directly or indirectly.

Despite the dominance and wide adaptation of Donabedian's model to assess health care quality over the years, it is has been exempted from criticisms. The model has received a number of criticisms from researchers and scholars. Key among them is its linear nature. The sequential move from Structure to Process to Outcome has been labelled as too direct as a framework (Mitchell, Ferketich and Jennings, 1998). However, it has been argued that the

relationship may sometimes vary, and therefore not necessarily linear. Berwick and Knapp (1997) argued that it is appropriate to assess Structure and Process if they can demonstrate that they are related to valued outcomes. The model has also been criticised for failing to take into consideration antecedent characteristics. These characteristics include: environmental features such as the patient's culture, social, physical and political features. The patient features consist of the patients' genetics, socio-demographic, health habits, beliefs and attitudes. These factors are very important determinants of health care quality (Coyle & Battles, 1999). Another criticism that has been leveled against the Donabedian's model is the fact that it says little about how the various components interact or relate with each other (Carayon *et al*., 2006). Despite these criticisms, the model remains the most widely adopted model to assess health care quality.

2.3 Dimensions of Adolescent health care quality

To ascertain health care quality dimensions for adolescents and young people, Ambresin *et al*. (2013), systematically reviewed twenty-two empirical studies on adolescent-friendly health care. Among the studies, fifteen used quantitative methods, six adopted qualitative methods and one employed the mixed methods. Eight domains were found to be central to youth and adolescent-friendly health care. They include: accessibility, staff attitude, communication, medical competencies, guideline- driven care, age appropriate environment, youth involvement and health outcomes.

Studying low and middle-income countries, Chandra-Mouli, Chatterjee and Bose (2016), found that governments in these countries were putting in measures to improve accessibility, acceptability, equity and appropriateness of health care for adolescents. The study further revealed that the measures had led to an improvement in the quality of health care and

utilisation. However, there was still the need for an improvement in quality, because some adolescents indicated that their health care needs were not adequately met. Making a generalisation with their findings can be risky due to the small size involved.

Ensuring that adolescents have access to quality, friendly health care services is a way of promoting their fundamental human rights to health care (Nair *et al*., 2015). Recognising this, the World Health Organization developed benchmarks for assessing, measuring and improving adolescent health care quality worldwide (WHO, 2015). The standards are: health literacy, community support, appropriate package of services, provider attitude, facility characteristics, equity and non-discrimination, data and quality improvement, and adolescent participation (Nair *et al*., 2015; WHO, 2015). These standards have been recommended as benchmarks for assessing and improving adolescent health care quality. The eight standards have been categorized into structural and process factors, and are discussed below.

2.3.1 Structural Factors

- ***Health Literacy***

According to WHO (2015), adolescent health literacy means that the adolescent is knowledgeable of his/her health, available adolescent-friendly health facilities and how to stay healthy. For adolescents to be knowledgeable, adolescent-friendly health facilities would have to make available directional sign posts, indicating location, available services and working hours. Health information and education materials would have to be made available at adolescent-friendly clinics, where adolescents can go and read or borrow (WHO, 2015). These measures can help equip the adolescents with adequate health information, and also create their awareness of available adolescent-friendly health centers.

Adolescents can access health information from multiple sources. This put them at risk of getting misinformed when the right source is not contacted. Teachers, parents and peers have usually been the first point of contact for health information among adolescents in Ghana (GHS, 2015). Studies show that both parents and adolescents prefer school as the main source of adolescent health information (Esantsi *et al*., 2015). Ackard and Neumark-Sztainer (2001) also found a majority of adolescents identifying their mothers, doctors and nurses as their primary sources for health information. Community leaders perceived books, magazine, peers and electronic media as sources of health information for adolescents (Esantsi *et al*., 2015). Esantsi *et al* .(2015) also found that parents wished they could discuss sexual issues with their children. But a majority of the adolescents found it difficult to discuss sexual and reproductive issues with their parents (Esantsi *et al*., 2015). Due to social–cultural and religious factors, most adolescents in Ghana find it difficult to discuss their health issues with parents, especially topics on sexuality and reproduction. They mostly rely on peers and the media which sometimes can be misleading (GHS, 2015).

According to Lim *et al*. (2012), most adolescents lack adequate knowledge of their health rights, especially regarding consent and confidentiality issues. This evidence emerged through a qualitative study in the United States of America. The authors found that many adolescents were not aware of their rights to health care. A majority of the participants thought that without the consent of their guardians, they could not access health services related to pregnancy, Sexually Transmitted Diseases treatment and use of drugs on their own. Their lack of knowledge significantly influenced their perceptions. For instance, some feared that providers would disclose their 'secrets' to their parents. Therefore, they were not comfortable discussing sensitive issues with their physicians. However, these findings cannot be generalised due to the small sample size.

Employing the qualitative approach, Schriver *et al*. (2014) conducted a study to assess the perceptions of young people on youth-oriented health services in rural Soweto-South Africa. After conducting twenty-five in-depth interviews, it was found that majority of the respondents were not knowledgeable about the kind of health services rendered in designated adolescent clinic. Among the few who knew, a majority were dissatisfied with their health services. In the same year, the World Health Organization reported that adolescents did not have adequate health literacy to enable them gain access to, understand and effectively use information in ways that promote and maintain good health (WHO, 2014).

In a comparative study of four African countries (Botswana, Ghana, Tanzania and Uganda), inadequate promotion of adolescent-friendly health care services and location were found. Even though promotion of services and location were recommended, Non-Governmental Organization (NGOs) clinics in Tanzania were not permitted by law to advertise their youth programs on the mass media. Erecting of sign posts in communities that indicate directions, operating hours and list of services provided in the youth-friendly clinics were found to be effective in increasing public awareness. Also, outreaches services by peer-educators and community health workers have proven to be effective in promoting adolescent health (Judith *et al*., 2003).

On the contrary, in a cross-sectional survey in India, Sogarwal *et al*. (2013) found that a majority of adolescents were knowledgeable about the services and operating times of adolescent-friendly clinics. Many of them indicated that educational materials were available during their visit to the clinic. Adolescents visited the clinic with the following health problems: menstrual problems, general illness, swelling or itches at the private part, for

counselling, nutrition and among others. Esantsi *et al*. (2015) found that adolescents in Ghana had enough knowledge about contraceptives, but its use was low. For instance, among the few who had used contraceptives before, the intention was to prevent pregnancy. Adolescents identified the following family planning methods: condoms, emergency pills, injections, periodic abstinence and withdrawal method. A majority of the respondents knew more than one family planning method and where to get it (GHS, 2015). The pharmacy and shops were the common places identified (Esantsi *et al*., 2015).

- ***Facility Characteristics***

Adolescents prefer health facilities that have convenient operating hours, so that they can easily access health care. They also want health facilities that are adequately clean, acceptable and enhance privacy. Apart from these important features, adolescents prefer facilities that are well equipped with medicines, supplies and entertainment (WHO, 2014). Evidence show that adolescent can get frustrated when accessing health care, and therefore need health facilities that are adolescent-friendly (Ambresin *et al*., 2012). Judith *et al*. (2003) found that adolescents prefer facilities that have a separate waiting area, convenient location and operating hours. A facility that has comfortable surroundings with adequate privacy. The facility's physical environment (i.e. cleanliness, design features that enable privacy and confidentiality) is a characteristic highly valued by adolescents. For that matter, adolescents may not use a health facility that are poorly equipped or lack adolescent-friendly structures (Ambresin *et al*., 2012).

Similar findings were found in urban Soweto-South Africa by Geary *et al*. (2014). The researchers evaluated young peoples' perspectives on youth-friendly health services through simulated client study. It was found that adolescents' visits to adolescent-friendly clinics

were influenced by the characteristics of the clinics, such as their cleanliness and availability of basic facilities like urinal and toilet. Schriver *et al*. (2014) found that most adolescents were dissatisfied with services provided in adolescent-friendly clinics in rural Soweto- South Africa. Their reasons were the following: the facilities lacked resources, long waiting time and poor quality of care. In a comparative study of four Africa Youth Alliance countries (Uganda, Ghana, Botswana and Tanzania), it found that among the fifty adolescent health facilities that were sampled across countries, a majority of the clinics needed considerable improvement. Findings showed that NGOs clinics were rated more youth-friendly than government operated clinics. NGOs clinics were cleaner and less crowded, whereas government clinics were overcrowded, had long waiting time, poorly maintained and short client-provider interaction (Judith *et al*., 2003).

2.3.2 Process Factors

- ***Provider Attitude***

A positive provider attitude is essential in adolescent health care delivery. Apart from providers demonstrating professional competence, they must as well put-up good attitudes towards their clients. Providers are required by both ethical and legal standards to respect the rights of their clients and treat their information confidentially. Studies have found that positive attitudes, competences and skills of health providers are important elements in adolescent health care quality improvement (Ambresin *et al*., 2012; WHO, 2015). Health care based on care protocols and guidelines are necessary for improving adolescent health care quality (Ambresin *et al*., 2012).

In a comparative study of four African countries including Ghana, Judith *et al*. (2003) found that adolescents prefer well-trained health providers. Providers, who have respect for adolescents, ensure their privacy and keep their information confidential. It was further found

that among the four countries, a majority of the health providers had not received any formal training in adolescent-friendly care. This affected their performance negatively, since a majority reported that they were not comfortable addressing the health problems of adolescents (i.e. providing them with contraceptives). Supervision was found to be poor in all the four countries coupled with inadequate support and motivation for health providers (Judith *et al*., 2003).

Studying health providers' perceptions of adolescent sexual and reproductive health care in Switzerland, Mngadi *et al*. (2008) found that about half of the providers did not have continuous education coupled with lack of effective supervision from management. In this regard, many providers exhibited poor professional competencies. For instance, some providers demonstrated negative attitudes and unethical practices on sensitive adolescent issues like contraceptive use and abortion. A majority of the respondents wished they had continuous training in adolescent health care. Geary *et al*., (2014) found lack of youth-friendly training for staff, lack of privacy and breach of confidentiality to parents by health providers as factors affecting quality adolescent health care delivery in South Africa.

AlBuhairan and Olsson (2014) conducted a study in Saudi Arabia to identify measures of improving knowledge transfer for adolescent health care services. The authors found that less than fifty percent of the providers did not received any form of training in adolescent health care during their training in college, while a little over fifty percent stated they have adequate knowledge about the health care needs of adolescents. In a comparative mixed method study by Sogarwal *et al*. (2013), it was found that many adolescent-friendly clinics had well-trained health providers. Adolescents rated the attitudes of providers as welcoming and friendly. Over half of the respondents reported having ample time and interactions during

consultations with physicians. However, issues of privacy and confidentiality were below expectation. Geary *et al.* (2014) found that even though adolescents perceived health workers to be friendly, respectful and good communicators, they were less likely to recommend services to their peers. Judith *et al*. (2003), argued that the heavy workload associated with the high outpatient attendance in some government health facilities is responsible for the negative attitudes of providers towards adolescents.

In other settings, it was found that some caregivers lacked the confidence to address adolescent health issues, such as violence, sexual and substance abuse (WHO, 2014). AlBuhairan and Olsson, (2014) found that providers were more interested in acquiring more knowledge in adolescent health care. They acknowledged that adolescents have specific needs different from adults and children. However, the study failed to consider the views of adolescents. In rural Soweto, Schriver *et al*. (2014) found that a majority of the respondents were dissatisfied with the quality of health services provided in youth-friendly clinics. Their dissatisfaction was intensified by their perceived lack of choice, privacy, poor attitude of providers and inequity. Geary *et al*. (2014) found that adolescent visit to clinics was influenced by provider attitudes, such as their interaction with providers, the details of their consultation, and the provider's ability to ensure privacy and confidentiality. Anecdotal evidence shows that health providers' attitudes towards adolescents in Ghana are generally perceived to be poor (GHS, 2014).

- ***Appropriateness of care***

It is important to provide health care that is age appropriate, adolescent-friendly and addresses their health needs (WHO, 2015). The package of health care services should include counselling, health education, promotion and prevention. Moreover, referral and

outreach health services should be incorporated into the adolescent healthcare package (WHO, 2015). Literature shows that most health interventions tagged adolescent friendly are not comprehensive enough, some important adolescent health issues are usually missing (WHO, 2014; WHO, 2015).

In study on adolescents' preference of care, it was established that adolescents wanted health providers to discuss issues related to drugs, smoking, sexually transmitted infections, alcohol and good eating behaviour with them, even though they were not comfortable initiating the conversation (Ackard and Neumark-Sztainer, 2001). In assessing the state of youth-friendliness in health facilities in four African countries including Ghana, it was found that adolescents preferred facilities that provided wide range of services, such as counselling, information on sexuality, safe sex, reproductive health, contraceptive, pregnancy testing, abortion and post -abortion management (Judith *et al*, 2003).

- ***Community Support***

Maximum community and parental support for adolescent health care interventions is important. Adolescent health interventions will be of little impact if parents do not allow their wards to participate (WHO, 2015). In this regard, it is necessary for health facilities to engage community leaders, members and parents in adolescent health interventions. These stakeholders play vital roles and without their maximum support, adolescent health interventions may not be sustainable (WHO, 2014; Denno *et al*., 2015). Esantsi *et al*. (2015) conducted a study in some urban slum communities in Ghana and found that majority of parents or guardians had some support for adolescent health interventions. Especially, the receiving of sexual and reproductive health services from health facilities. Also, most community leaders supported adolescent contraceptive use, arguing that it will help to reduce

teenage pregnancies, abortion and STIs. It has also been found that some parents supported their children to participate in adolescent health programmes, especially health education but were strongly against their use of contraceptives (GHS, 2015). However, Ghana Health Service reported that community participation in adolescent health programmes has been weak. But increasing number of adolescents and young people were getting more involved in health programmes development and implementation (GHS, 2015). Esanti *et al*. (2015) found that some parents did not support their children to access sexual and reproductive health services because they are too young for family planning, and that it will promote prostitution and immoral behaviour among them. The authors proposed that to effectively address the health needs of adolescents, there will be the need for broad stakeholders' collaboration. Bringing 'all hands on deck' will facilitate community participation and support, which in return will reduce cultural and social barriers adolescents face when accessing health care (Esanti *et al*., 2015). However, their study was limited to only slum communities, making it risky to generalize.

- ***Equity and Non-Discrimination***

Improving health care quality for adolescents will mean ensuring fairness and equal treatment. Adolescents prefer health facilities that are free of discrimination (WHO, 2015). Adolescents wish to access health care that is unbiased of one's ability to pay, age, sex, marital status, education, ethnicity, origin, sexual orientation and among others (WHO, 2014). Evidence available indicates that adolescents may be neglected, because they are stigmatised and not may not be considered in health interventions (WHO, 2014; Waddington and Sambo, 2015). For example, Chandra-Mouli, Chatterjee and Bose, (2016) found that unmarried adolescents were stigmatised when they sought for STIs testing, safe abortion and contraceptives. Financial constraints may also deter adolescents from accessing health care.

Therefore, exemption mechanisms ought to be in place to cater for poor adolescents (Waddington and Sambo, 2015). Judith *et al*. (2003) found that among four African Youth Alliance countries including Ghana, there were policies supporting the provision of care to adolescents regardless of their age, marital and financial status.

However, other forms of discrimination have been reported in some countries. For instance in Burkina Faso, Bankole *et al.* (2007) found the lack of support from adults, discrimination and negative attitude towards unmarried adolescent girls who tried accessing contraceptives. Similarly, in Nigeria, Ahanonu (2014) found that providers discriminated against adolescents in their delivering of care. For instance, some providers were not willing to provide contraceptives to unmarried adolescents, arguing that it will promote promiscuity among the young ones. Some providers swiftly added that adolescents should abstain from pre-marital sex, because it was against their cultural and religious beliefs. Chilinda *et al*. (2014) did a systematic review of literature on adolescent sexual and reproductive health in developing countries. The authors found that health care workers were not comfortable providing family planning services to adolescent girls, because they perceived them as children.

- ***Adolescent Participation***

Adolescents' involvement in the planning and evaluation of their care is a right step towards promoting adolescent-friendly health care (WHO, 2015). Adolescents have the right to participate in decisions that affect their lives. It is therefore very important to encourage the participation of adolescents in health care (Ambresin *et al*., 2013). There are a number of ways that adolescents can get involved, all of which can influence both the quality of services provided as well as health outcomes. Adolescents have an important role to play in policy-making, planning, implementation and evaluation of their care. However, Judith *et al*. (2003)

found that adolescent involvement was largely missing in both NGO and government youth-friendly clinics. It was apparent that adolescents were not involved in the design, implementation and evaluation of health services.

2.4 Challenges adolescents encounter when accessing health care

Many adolescents across the globe encounter challenges when accessing health care services (WHO, 2015). For example, financial barriers, long queues, unfavourable working hours, lack of parental and poor community support were found in Kenya and Zimbabwe by Erulkar *et al.* (2005). Mmari and Magnani (2003) also found the lack of resources in facilities, unfriendly and negative attitude of providers, poor quality of care and lack of choice or perceived inequity and fear as major challenges to accessibility and utilisation of adolescent-friendly health care in Zambia. In a comparative study of four African countries including Ghana, Judith *et al*. (2003) found fee-for service as a major challenge to accessing health care by adolescents. The authors found that many of the clinics did not operate at hours that are convenient for adolescents, such as evenings, weekends and public holidays. In addition, stigma and fear of being seen by adults from the community were also identified as barriers to accessing health facilities.

Similarly, in the USA Lim *et al*. (2012) found that adolescents face significant barriers in accessing health care, and requested for reforms in health systems. Among the major barriers identified were: difficulty in making an appointment, long waiting hours, negative provider attitude and lack of privacy and confidentiality. In addition, a majority of the participants reported that providers were reluctant in discussing mental health issues. In southeastern Asia, Tangminkongvorakal *et al*. (2012) found poor provider attitude as a challenge for adolescents to access health care. A majority of the providers were perceived by adolescents

as judgmental and denied unmarried and female adolescents family planning services. The authors found that some adolescents preferred private health facilities to public, arguing that privacy and confidentiality were assured and providers were not judgmental. However, the high cost of accessing health care in private facilities deterred adolescents from using them.

In South Central Asia, Sogarwal *et al.* (2013) also found lack of privacy and confidentiality as major challenges to the utilisation of adolescent health care services in India. According to WHO (2014), adolescents' perceptions of providers significantly influences their utilisation of health services. For instance, adolescents sometimes consider mainstream health care as inaccessible due to their perceived lack of respect, privacy, confidentiality and discrimination on the part of providers. In Vanuata, Kennedy *et al*. (2013) found that social-cultural norms and taboos associated with sexual behaviour were the major challenges restricting adolescents from accessing reproductive health services like contraceptives. Also, adolescent personal fear and shame (Judith *et al*., 2003), the judgmental attitude of health workers and resistance from community leaders were also found to be significant challenges. Other factors like lack of confidentiality and privacy, cost and adolescents' lack of knowledge on health seeking behaviour were additional challenges to accessing health services by adolescents.

Similar challenges were established by Geary *et al*. (2014) in rural South Africa. Adolescents perceived primary health care facilities as lacking youth-friendly health care services. Stigma, negative attitudes of providers, cost of care and lack of adequate knowledge on the part of adolescents were also found as significant barriers. In addition, Samargia *et al*. (2006) found lack of parental support, transportation challenges, financial problems, stigma and lack of knowledge of where to access mental health services as significant challenges for adolescents.

In Ghana, it was found that some adolescents were not comfortable accessing health services, especially in general health facilities, because they perceived quality to be poor. They complained that the providers and the environment were not adolescent-friendly. For instance, providers were judgmental, discriminatory and not trustworthy (GHS, 2015). Judith *et al*. (2003) found that despite the high prevalence of HIV among adolescents is Africa, condom promotion remains poor and not widely available in most health facilities labelled adolescent-friendly. The authors also found that most providers were hesitant to give out condoms to adolescents, due to the fear of community members reactions. A significant number of studies have looked at the challenges adolescents encounter when accessing and using health care facilities. Challenges such as poor provider attitudes, inconvenient operating hours, distance, financial constraints and lack of parental support have been found. However, many of the studies were done in foreign countries and may not be a true reflection of Ghana's situation.

2.5 Measures of improving adolescent health care quality

Improving the quality of adolescent health care is very important and should be embraced by all stakeholders. Studies have suggested the involvement of adolescents in designing, implementing and evaluating health services coupled with the publicity of adolescent's clinic location and services. Operating at convenient hours of adolescents, such as evening time, weekend and public holiday has also been recommended as measures for improving the quality of care for adolescents (Sendrowitz, 2003). Samargia *et al*. (2006) argued that to improve the quality of adolescent health care, school health and health promotion must be intensified.

Improving quality of care will mean mitigating barriers to quality. In this regard, Coker *et al*. (2010) examined the perspective of adolescents and their parents on how to increase adolescent service utilisation in Los Angeles. They found that reducing provider-level barriers were necessary to improving health care utilisation. Barriers such as long waiting time, lack of privacy and confidentiality should be mitigated. Some adolescents recommended that the use of text messaging, emails and the internet in providing information and counselling on sensitive health issues will go a long way to improve prevention, service utilisation and quality of care. On the other hand, other adolescents preferred having a face to face discussion with clinicians.

In a qualitative study by Lim *et al.* (2012) in the USA, a majority of the participants suggested that health facilities should have separate waiting areas for children, adolescents and adults. They added that to improve quality, clinics should be equipped with entertainment (such as games), food and friendly health providers. Little inference can be made from these findings due to the inherent inability to make generalisations based qualitative findings. Intensifying public awareness, providing separate waiting rooms for adolescents and making available both female and male doctors were also suggested by adolescents in India (Sogarwal *et al*., 2013).

Maintaining privacy and confidentiality coupled with actively involving adolescents have been recommended as effective measures for improving adolescent health care quality. Other studies have found in-service training for providers, increase in outreaches and advertisement of adolescent health corners (Geary *et al.*, 2014). The World Health Organization also recommended that it is necessary for health systems globally to undergo a transformation.

This transformation comprises of the adoption and implementation of standard-driven approaches in the health system (WHO, 2015).

Adolescents have special health needs that are different from that of adults and children. Their health needs far exceed just medical, sexual and reproductive health care. Adolescents equally need mental health care, health literacy and information on nutrition. Apart from these, the characteristic of the health facility and the providers are also dear to their heart. Understanding health care quality indicators for adolescents is necessary for their health care quality improvement. However, adolescent health care quality improvement has received little research, policy and practical attention in Ghana.

2.6 Conceptual Framework

The conceptual framework was developed based on Donabedian's model of healthcare quality assurance. According to Donabedian, understanding the relationship between structure, process and outcome is important in quality assessment (Donabedian, 1988). He argued that health care quality can be assessed based on structural, process and outcome factors.

In this study, structural factors include: Health literacy (examples: sign post, health information materials and education) and Facility characteristics (examples: convenient location, clean environment, adequate medicines, supplies, skilled providers and convenient operating hours).

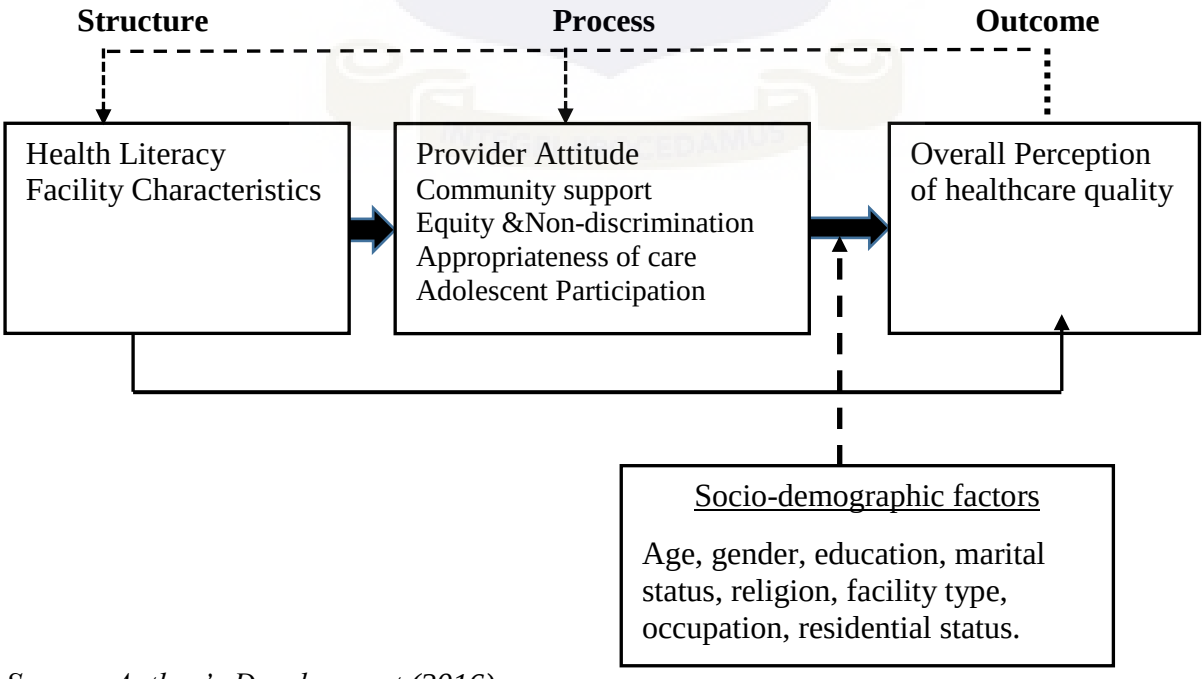
Process factors in this study are; Provider attitudes (i.e. respect, friendliness and non-judgmental), Community support (i.e. parental support, community acceptance, cultural and religious beliefs), Equity and non-discrimination (i.e. fairness and non-discrimination),

Appropriate of care (i.e. counselling, family planning and nutritional services) and Adolescent participation (i.e. involvement in care decisions, planning and evaluation).

The Outcome in this study refers to adolescents' ratings of overall perception of quality.

The researcher conceptualized that both structural and process factors would influence outcome. In other words, the availability of adolescent-friendly structures and processes in the AHCs can lead to positive perceptions of health care quality and vise-versa holding other factors constant. Donebedian's model has been criticised for exempting socio-demographic factors, which are important social determinants of health (Coyle and Battles, 1999). However, in this study socio-demographic factors such as age and education have been included in the model as moderating factors of outcome. In addition, the researcher conceptualized that structural factors can influence process quality of care. Furthermore, adolescents' overall perceptions of healthcare quality in return can influence their perceptions of process and structural quality, hence giving us the feed-back loop. See Figure2.2.

Figure 2.2. Conceptual framework for assessing adolescents' perceptions of health care quality



Source: Author's Development (2016)

2. 7 Chapter Summary

In summary, this study adopted Donabedian's model of healthcare quality assessment. Donabedian argued that health care quality can be assessed based on structure, process and outcome, and that there is a linear relationship between these constructs. However, Donabedian failed to consider that individual factors can also influence quality assessment. Also, he did not indicate how the various components network. These weaknesses were however considered in the conceptual framework by adding socio-demographics factors and feedback loop to the model. The review of empirical literature was based on World Health Organization's adolescent health care quality standards.

CHAPTER THREE

3.0 METHODOLOGY

3.1Introduction

This chapter discusses the research paradigm, design, population and the sampling techniques. The chapter also discusses the data collection instrument, validity of the instrument and procedures for data collection. Ethical considerations, an overview of the study area, inclusion and exclusion criteria are as well discussed in this chapter.

3.2 Research Paradigm

A research paradigm is " a set of beliefs, values and techniques which are shared by members of a scientific community, and which acts as a guide or map dictating the kind of research problems scientists should address and the type of explorations that are acceptable to them" (Kuhn, 1970) cited in Boateng (2014). Identifying philosophical ideas in research is very important. Despite the fact that it remains largely hidden, the research can be influenced by it (Slife and Williams, 1995). Therefore, it is necessary every research work relates to a particular scientific community and share in its ideologies and assumptions. In this regard, this study was based on the Pragmatic paradigm.

Pragmatists' belief in actions, situations and consequences rather than antecedent conditions (Cherryholmes, 1992). They argue that in conducting research, emphasis should be placed on the problem and outcomes and not the methods and procedures. Pragmatists belief that research occurs in a context and should aim at changing phenomena. The Pragmatic worldview does not limit researchers to a particular method, but gives them the opportunity to choose the methods that best fit their study. The Pragmatic philosophy has been recommended for mixed methods studies (Creswell, 2013).

3.3 Research Methodology

The main research methods are qualitative, quantitative and mixed methods (combination of the two). Qualitative researchers adopt an inductive style to explain or understand the meaning individuals or a population gives to a particular social phenomenon (Creswell, 2013). Quantitative researchers on the other hand adopt a deductive approach to research. They focus on testing hypotheses, theories and measuring relationships between variables (Creswell 2013). The proponents of mixed methods approach believe in doing what 'works' within the rules of research to investigate, predict, explore, describe and understand a phenomenon (Johnson and Onwuegbuzie, 2004; Tashakkori and Teddlie, 1998).

Specifically, the Concurrent mixed methods approach was adopted for this study. This approach allows the researcher to collect both quantitative and qualitative data at the same time, and then combine the information in the interpretation of the overall findings (Creswell, 2013). This approach was adopted based on the assumption that collecting both data will help in the understanding of the research problem better. Also, knowing that all research approaches have limitations, Johnson and Onwuegbuzie, (2004) recommend that mixed methods approach can help researchers to avoid limitations of qualitative and quantitative approaches.

3.4 Research Design

Creswell (2013) defined a research design as "a plan and a procedure for research that span the decisions from broad assumptions to detailed methods of data collection and analysis". A research design is a logical structure of enquiry. The cross-sectional survey design was adopted for this study. A cross-sectional survey "is a study of a particular phenomenon at a particular time in a given population" (Creswell, 2013). According to Bhattacherjee, (2012), a

survey design involves using a standardised questionnaire to collect data about people, their perception, preferences, thoughts and behaviour. A survey is a flexible design which can produce quantitative and qualitative data depending on how it is structured and administered (Creswell, 2013). It allows a comparative analysis of subgroups within a population due to its unobtrusive nature. Furthermore, scholars argue that a survey is an ideal design for collecting data from a large population that will be too difficult to study directly (Bhattacherjee, 2012). Survey design is also less costly, since it allows the researcher to collect different and large amount of data at a point in time.

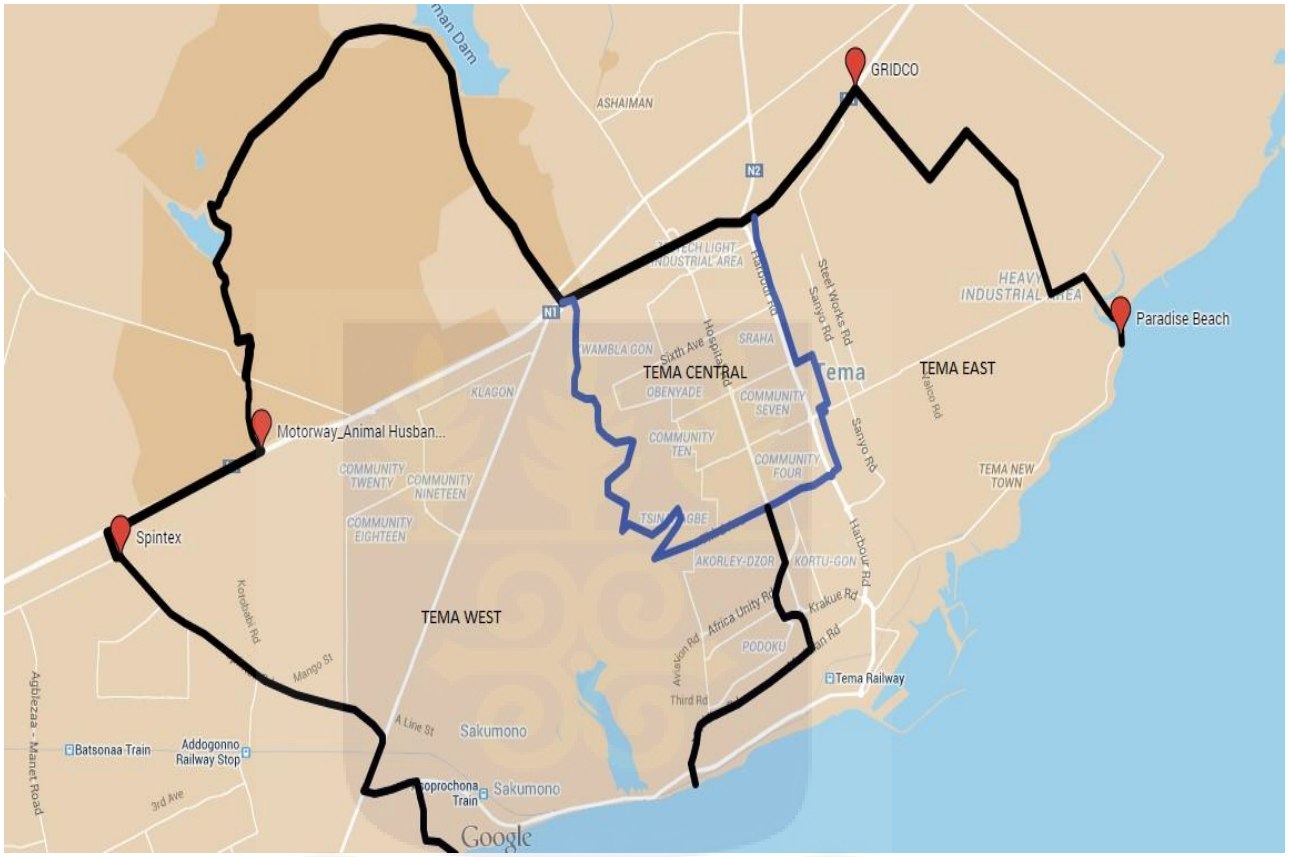
3.5 Study Area

The Tema Metropolis is one of the ten districts in the Greater Accra region, the capital of Ghana. Tema is located at the southeastern part of Ghana. It is the second largest populated district in the region after Accra Metropolis. The metropolis is divided into three sub-metropolitans namely; Tema West, Tema East and Tema Central, and covers a land size of about 87.8km square. The Greenwich Meridian (longitude zero) passes through the metropolis and situated only about 50 kilometres from the equator. Tema Metropolis is considered as being a city at the center of the world.

It had a population of about 292,773 and an annual growth rate of 2.6 percent, according to the 2010 Population and Housing Census (GSS, 2013). This represents 7.3 percent of the regional total population with 47.8 percent males and 52.2 percent females respectively. The metropolis has a large youthful population with over 40 percent below 30 years. Under 15 years alone represented 34.5 percent of the total population, showing a broad base population pyramid (GSS, 2013). The Metropolis has four public health facilities, two quasi-government

health facilities and many private health facilities. It has four adolescent health corners and 19 adolescent health clubs, distributed among the communities and second cycle institutions.

Figure 3.1. Map of Tema Metropolis with its major divisions.



Source: TMHD, (2016)

3.6 Population, Sample and Sampling Procedure

The target population for this study was all adolescents (10-19 years) residing in the Tema Metropolis. Adolescents in the study area were about 67,861 people representing 20.3 percent of the total population according to the 2016 Ghana Statistic Service annual projections. Sampling is a process of selecting a portion, piece, or a segment that is a representative of a whole (Onwuegbuzie and Collins, 2007). Sampling makes it possible for the researchers to

infer or generalise research findings to a larger population. The sample frame was all adolescents visiting the adolescent health corners for health care services.

3.7 Sample Size Determination

The sample size was determined using OpenEpi Info software (Open Source Epidemiologic Statistics for Public Health) version 3.01. OpenEpi is open source software for epidemiological statistics and other health related disciplines. The software calculates sample size using the design effect, population size, the estimated proportion and desired absolute precision.

The design effect is defined as "the ratio of the variance of the estimate of the actual design used to produce the estimate to the variance of the estimate assuming the same data to have come from a simple random sampling" (Kaiser, et al., 2006) cited in Abuosi (2014). The design effect is important when the sampling technique is cluster sampling, since it assumes that the sampling technique is simple random. So in situations where the simple random sampling is used, the design effect used can be small since sampling errors have been compensated for by the simple random sampling technique. The design effect can precisely be determined when there is information from a prior survey. The sample size was therefore determined using a design effect of 1 and an estimated proportion of 50%, which is the default percentage when the researcher is not sure of the exact percentage of the population that will respond to the outcome variable. Per the inputs, the software generated a sample size of 382. Table 3.1 shows how the sample size was calculated.

Formula for sample size.

$$n = deff \times \frac{Npq}{\frac{d^2}{1.96^2}(N-1)+pq}$$

n= sample size

deff= design effect

N= population size

p= estimated proportion

q= 1-*p*

d= desired absolute precision /absolute level of precision.

Table 3.1: Sample size Determination of adolescents in Tema Metropolis

Population size (*N*) (For finite population correction factor)	67,861
Hypothesized % frequency of outcome factors in the population (*p*)	50% ± 5
Confidence limits as % of 100 (absolute ± %) (*d*)	5%
Design effect (simple random sampling) (*DEFF*)	1
Sample size (*n*) for 95% confidence level	382

Source: Open Epi version 3.0, open source calculator (SSpropper). (http://www.openepi.com/SampleSize/SSPropor.htm).

Ten percent of the calculated sample size (n=19) was added to the calculated sample size to cater for non–respondent, summing up to 401 adolescent respondents (both males and females). In all, a total of 365 adolescents responded to the questionnaires, recording a response rate of 91 percent.

3.8 Sampling Method

The Concurrent sampling technique was adopted for this study. According to Teddlie and Yu (2007), concurrent sampling is a combination of probability and non-probability sampling

and is appropriate for a mixed methods studies. The sampling techniques adopted comprised of purposive and simple random sampling. The study area was purposively selected due to the vibrant nature of adolescent health care, the youthful characteristics of the population and the increasing rates of adolescent health issues, such as teenage pregnancy. The purposive sampling technique was also applied to select health facilities with adolescent health corners. In this regard, all the four public health facilities in the metropolis were selected. The health facilities were Tema General Hospital, Tema Polyclinic, Manhean Health Centre and Tema Metropolitan Assembly (T.M.A) Maternity and Child Clinic.

Within the selected AHCs, the simple random sampling technique was applied to select respondents. Prospective respondents who showed interest of participation were asked to draw from a box containing folded pieces of paper with 'yes' and 'no' responses. The picking of a 'yes' or a 'no' was only based on chance. Therefore, the researcher had no influence in the selection of respondents. The simple random is a probability sampling technique that gives all participants an equal chance of being selected, hence reducing sampling bias (LoBiondo-Wood& Haber, 1990; Mustafa, 2010) cited in Abuosi (2014). It supports generalisation of findings and remains the simplest but reliable probability sampling techniques (Bhattacherjee, 2012).

3.9 Inclusion and Exclusion Criteria

Data collection was done in four AHCs located in four public health facilities. Both male and female adolescents were selected for the study. However, adolescents who visited the selected health facilities but did not pass through the AHC were excluded. This is because, they may not have any experience about what goes on in the AHC.

3.10 Instrument for data collection

Taking the research design and objectives into consideration, the appropriate research instrument for data collection was a structured questionnaire. Creswell (2013) argued that,in mixed methods the researcher can collect primary data (both qualitative and quantitative concurrently) using both closed-ended and open-ended items on the same questionnaire. The questionnaire was adapted from the World Health Organization and Ghana Health Service (See appendices). The questionnaire was adapted to assess adolescents' perceptions of health care quality. To explore challenges to accessibility and utilisation of health care services by adolescents, and their opinions on how health care quality can be improved, two open- ended questions were added to the adapted instrument. The final questionnaire had forty-six (46) items categorised into three main sections- socio-demographic, perception of quality and qualitative data section.

The socio-demographic section asked questions related to respondent's gender, age, religion, education, marital status, occupation and residential status. Section two assessed perceived quality of health care based on seven dimensions adopted from WHO namely: health literacy, facility characteristics, provider attitude, appropriateness of care, adolescent participation, equity and non-discrimination and community support. Section three asked open-ended questions on perceived challenges to accessibility and respondents' opinions on how adolescent health care quality can be improved. Also, the questionnaire had an introductory section and sections for consent and comments.

3.11 Validity of the Instrument

The validity of an instrument is the ability of the instrument to measure what it is designed for. The validity of the instrument was assured. The World Health Organization developed

the global standard scale for assessing adolescent health care quality. The design went through rigorous scientific procedures (WHO, 2015; Nair *et al*, 2015). The Ghana Health Service and Ministry of Health collaborated and designed a context based instrument adopting some of WHO's standards. The instrument was tested in ten (10) health facilities in Ghana, and passed through a validation process (GHS and MOH, 2011). The validity of the instrument was high due to the rigorous processes and testing it passed through.

3.12 Data Collection Procedure

Data collection was done at the adolescent health corners. The health facilities were Tema General Hospital, Tema Polyclinic, Manhean Health Centre and T.M.A Maternity and Children Clinic. Questionnaires were administered in a face-to-face interview approach by the researcher. Respondents were requested to consent either verbally, signing or thumb printing. Respondents were taken to a convenient area to ensure privacy. Before and during the interview, respondents who did not understand any item on the questionnaire had the freedom to ask questions for clarification. Respondents who felt uncomfortable to continue with the interview for whatever reason had the free will to opt out. For adolescents who could not read, items on the questionnaire were read out to them in language they understand and their responses recorded by the researcher.

Every completed questionnaire was cross-checked by the researcher and follow-ups were made on unclear responses. For respondents who could read and write, the questionnaires were given to them to respond in the presence of the researcher. After responding, cross checks were made by the researcher for unclear and unanswered items. On average, 10 minutes were spent with a respondent.

The researcher encountered some challenges during the data collection. For example, some respondents were not willing to participate, but after explaining to them the purpose and ethics involved, they consented. While some were curious to know more by asking questions, others requested for incentives, such as money and gifts. Many respondents enjoyed the interview session and commended the researcher. Some facility managers developed keen interest in the study and requested for a copy of the final report. Although the data collection was tedious and challenging, it gave the researcher much experience and joy.

3.13 Ethical Consideration

Ethics in research refers to the correctness of the researcher's behaviour in relation to the right of participants of the study or people who may be affected by it (Creswell, 2013). Ethics can also be considered as a system of accepted beliefs which control behaviour, especially such as a system based on morals". Recognising the importance of ethics in research, an introductory letter endorsed by the supervisor was taken from the Department of Public Administration and Health Services Management to the Greater Accra Regional Health Directorate. A permission letter was taken from the Regional Health Director to the Tema Metropolitan Health Directorate for the director's endorsement. From the metropolitan level, introductory letters were sent to the managers of the selected health facilities for their approval. The researcher received an approval from various facility managers as well before data collection started. Furthermore, permission was taken from guardians or parents who had escorted their children to the health corner. To ensure higher ethical standards, names of respondents were not asked and information given remained confidential.

3.14 Data Analysis

All completed questionnaires were coded and keyed in the Statistical Package for Social Science (SPSS) software, version 20. Data were cleaned to correct errors and omitted responses. Quantitative data were analysed using frequency distributions, percentages and charts. Cross tabulations using chi-square test was used to test for significant association between the dependent variable and the independent variables at a confidence interval of 95%. Multiple linear regression was computed to test for significant predictors. Qualitative data were analysed in themes.

3.14.1 Factor Analysis

Principal Component Analysis (PCA) is a data reduction technique. It checks the features of the data that are redundant and condenses the information into principal components without losing information from the original data (Pallant, 2005). Factor Analysis (FA) is an interdependent approach that defines the underlying variables or dimensions that explain most of the variance in the large data set. In this study, PCA was computed to reduce the large data set of perceived quality of health care into principal components. After which Factor Analysis was computed to find the distinct number of factors to retain.

- **Suitability of the data for Factor Analysis**

A data set must satisfy some statistical assumptions before factor analysis can be computed (Pallant, 2005). One of the assumptions to determine whether a data set is suitable for factor analysis is the sample size. A sample size of 150 or more is ideal for factor analysis (Pallant, 2005). Furthermore, it is a rule of thumb that a correlation coefficient of r = 0.3 or better is required for factor analysis (Pallant, 2005). Kaiser Meyer-Olkin (KMO) and Bartlett's test of sphericity can also be used to determine the factorability of data. The Bartlett's test of

sphericity must be significant ($p < 0.05$), before factor analysis can be computed (Pallant, 2005). The coefficient of KMO test must be between 0 and 1, with 0.6 as the threshold for factor analysis (Tabachnick and Fidell, 2007).

The data set for this study satisfied all the assumptions stated above. The sample size for the study was 365, and the correlation matrix generated a coefficient of 0.4, satisfying both the first and second assumptions. The KMO test was found significant ($p= 0.000$) and the coefficient of Bartlett's test of sphericity was also high (0.724). See Table 3.2.

Table 3.2: Suitability for Factor Analysis

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.724
Bartlett's Test of Sphericity	Approx. Chi-Square	2700.709
	df	595
	sig.	0.000

Source: Author's field survey

- **Factor Extraction**

Table 3.3: Total Variance Explained						
Com	Initial Eigenvalues			Extraction SS Loadings		
	Total	% of Variance	Cum. %	Total	% of Variance	Cum. %
1	4.190	11.972	11.972	4.190	11.972	11.972
2	3.130	8.943	20.915	3.130	8.943	20.915
3	2.348	6.710	27.625	2.348	6.710	27.625
4	2.020	5.770	33.395	2.020	5.770	33.395
5	1.588	4.538	37.933	1.588	4.538	37.933
6	1.393	3.981	41.914	1.393	3.981	41.914
7	1.274	3.641	45.555	1.274	3.641	45.555
8	1.252	3.576	49.131	1.252	3.576	49.131
9	1.110	3.171	52.302	1.110	3.171	52.302
10	1.062	3.035	55.337	1.062	3.035	55.337
11	.998	2.852	58.188			
12	.980	2.800	60.989			
13	.914	2.613	63.601			
14	.910	2.599	66.201			
15	.871	2.489	68.690			
16	.816	2.333	71.022			
17	.802	2.290	73.313			
18	.776	2.218	75.531			
19	.761	2.176	77.706			
20	.680	1.943	79.649			
21	.662	1.891	81.540			
22	.636	1.817	83.357			
23	.617	1.763	85.120			
24	.567	1.621	86.740			
25	.522	1.491	88.232			
26	.508	1.453	89.684			
27	.485	1.387	91.071			
28	.459	1.312	92.383			
29	.446	1.275	93.658			
30	.423	1.208	94.867			
31	.410	1.171	96.038			
32	.395	1.130	97.167			
33	.364	1.039	98.207			
34	.324	.926	99.132			
35	.304	.868	100.000			
Extraction Method: Principal Component Analysis.						

Source: Author's field survey

- **Scree Plot**

The scree plot is a technique that can be used to determine the exact number of factors to retain for further analysis. The scree plot helps the researcher to know the number of principal components that summarize the data by plotting a graph. According to Cartell (1966) cited in Abuosi (2014), the scree plot gives a plotting of the eigenvalues of the various

factors. The "elbow effect" is always used to determine the exact number of factors to extract. It is a rule of thumb that all factors above the elbow are to be retained. In this study, even though ten factors had eigenvalues of 1.0 or better, the elbow effect was very clear at the fifth factor. (See Figure 3.2).

Figure 3.2: Scree plot

Source: Author's field survey

However, it has been recommended that a researcher adopt an exploratory approach, where he or she experiments with different number of factors until a satisfactory number is attained (Tabachrick & Fidell, 2001) cited in Pallant (2005). In this regard, the researcher experimented with different numbers and settled on five factors which were retained for factor rotation.

- **Factor Rotation**

For the purposes of making interpretation of the relevant factors, factor rotation was computed. There are many methods of factor rotation, such as promax, equamax, and varimax. However, this study adopted the varimax rotation method. Mostly, factors with loadings of 0.3 or better are qualified to be retained. However, to obtain stronger loadings,

this study adopted a factor loading of .5 as the minimum. Table 3.4 shows the rotated factor loadings for the study.

Table 3.4: Rotated Component matrix	Component				
	1	2	3	4	5
Availability of books to read at the corner?	.741				
Do you get health information in schools?	.712				
Did the provider inform you about health services available?	.650				
Availability of sign post at the corner?	.518				
Availability of books to take home with you?	.512				
Do you have any idea of how adolescents involve in care?					
Did someone accompany you to the corner?					
Did the provider talk to you about how to prevent diseases?					
Did the service provider assure you of confidentiality?					
Is there a display indicating non-discrimination?					
Were you denied any care because of your gender?		.653			
Were you denied any care because of lack of money?		.634			
Were you denied any care because of your age?		.600			
Were you denied any care because of your marital status?		.572			
Do you want the corner to be relocated?					
Have you been involved in health care delivery before?					
Have you been involved in the planning and evaluation of health services before?					
Are you comfortable with the working hours of the corner?			.623		
Will you feel comfortable if people see you visiting the corner?			.560		
Can you access health care without guardian's awareness?			.545		
Were supplies and medicines available for you to pick up?			.500		
Did the provider inform you about their outreaches?					
Do your parents support your use of the corner?					
Is the environment adequately clean and welcoming?					
Did the providers involve you in care decisions?					
Did the provider treat you in a respectful and friendly manner?				.635	
Did the provider explain issues to your understanding?				.608	
Did the provider condemn your decisions or actions?				-.588	
Did the provider spend adequate time to listen or examine you?				.557	
Do you have the social and cultural support to use the corner?					
Is pregnancy and STIs test available at the corner?					.744
Is counselling for mental health provided at the corner?					.736
Are family planning services available at the corner?					.683
Are general health services available at the corner?					
Does the design of the corner enhance privacy and confidentiality?					
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					

Source: Author's field survey

- **New Dimensions of Adolescent health care quality**

The initial scale had 35 items categorized into seven main dimensions with five items each. The seven dimensions include: Health literacy, Community support, Appropriateness of care, Equity and non-discrimination, Adolescent participation, Facility characteristics and Provider attitude. However, after computing for factor analysis, 15 items were dropped remaining 20 items. The factor analysis condensed the seven initial dimensions into five new dimensions. The new dimensions that emerged from the factor analysis were: Health literacy, Equity and non-discrimination, Provider attitude, Appropriateness of care and Facility characteristics. From this point, further analysis on the scale is based on the new dimensions. See Table 3.5 for the new dimensions of quality of health care and their respective factor loadings.

Table 3.5: New Dimensions of adolescent health care quality

Rotated Component Matrix	Component				
	1	2	3	4	5
1. Health Literacy					
Were educational materials on adolescent health and services available for you to read in the adolescent corner?	.741				
Have you ever received information, counselling or health services in the community setting?	.712				
Did any service provider inform you about health services available?	.650				
Did you see a sign post indicating the operating hours, days and the type of services provided to adolescents at the facility?	.518				
Were educational materials available for you to take home with you?	.512				
2. Equity and non-discrimination					
Were you denied any service because of your gender?		.653			
Were you denied any services because you were not having money or health insurance?		.634			
Were you denied any service because of your age?		.600			
Were you denied any service because of your marital status?		.572			
3. Facility Characteristics					
Were you comfortable with the working days and time of the facility?			.623		
Will you feel comfortable if you are seen by someone from your community while visiting the adolescent corner?			.560		
Do you think you can get health care at the adolescent corner without your guardian's awareness?			.545		
Were you able to get all the medicines or supplies that were prescribed for you at the facility?			.500		
4. Provider Attitude					
Did the service provider treat you in a respectful and friendly manner?				.635	
Did the service provider explain or demonstrate health issues to your understanding?				.608	
Did the service provider condemn your decisions or actions?				-.588	
Did the service provider spend adequate time to listen to you or examine you?				.557	
5. Appropriateness of care					
Can you get pregnancy and sexually transmitted infection test done at the corner?					.744
Can you get counselling for mental health and substance abuse at the corner?					.736
Can you get family planning services like condoms, pills at the corner?					.683
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					

Source: Author's field survey

3.14.2 Reliability of Data

Reliability is a principal construct that needs to be considered critically when selecting any scale for data collection (Creswell, 2013). The reliability of a scale is the ability of the scale to obtain consistent results when applied at different times or locations. According to Pallant (2005), the reliability of a scale is its ability to be free from random error. To examine the reliability of the scale, a reliability test was computed. The Cronbach Alpha is a widely known reliability test. It is a rule of thumb that a coefficient of 0.700 is ideal. However, the Cronbach Alpha coefficient for the scale used in this study was 0.707. It can be concluded that the instrument for the data collection was statistically reliable. See Table 3.6.

Table 3.6: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
0.707	0.705	35

Source: Author's field survey

3.14.3: Multiple Linear regression

This section of the data analysis aimed at identifying significant predictors of overall perception of healthcare quality. In this regard, a multiple linear regression was computed.

- **Assumptions of multiple regression**

Multiple regression can control some variables and test the predictability of a model (Pallant, 2005). Before multiple regression can be computed, certain statistical assumptions must be satisfied. Key among the assumptions is the scale of measurement. According to Pallant (2005), multiple regression can be applied when the dependent variable is continuous and the independent variables are either categorical or continuous. This assumption was satisfied since the dependent variable (overall perception of quality) was a continuous variable.

- **Sample size**

The sample size is another principal assumption of multiple regression that should not be violated. According to Stevens (1996) cited in Pallant (2005), a sample of 15 subjects per a predictor is ideal for a reliable equation. This assumption was also satisfied since the study had a total sample size of 365 respondents against 5 predictors. The ratio therefore was 75 subjects per a predictor.

- **Multicollinearity**

Multiple regression also holds the assumption of multicollinearity. According to Pallant, (2005), multicollinearity exist when the independent variables are highly correlated (r= 0.9 and above). Multiple regression does not like multicollinearity. In this regard, the highest correlation coefficient between the independent variables was r= 0.26, which is far less than r=0.9, hence, this assumption was not violated. (See the appendix).

- **Outlier, Normality, Linearity, Homoscedasticity**

Multiple regression is sensitive to outliers. This assumption must not be violated according to Pallant (2005). The Normality P-P Plot and the Residual Scatter Plot can be used to test for outliers and linearity. The Normal P-P plot is expected to lie on a straight diagonal line from bottom left to top right. Normality, linearity and homoscedasticity are the various distribution of the scores and the nature of the underlying relationship between the variables. Normality means the residuals should be normally distributed about the predicted dependent variable scores. Linearity means the residuals should have a straight line relationship with the predicted dependent variable scores. Homoscedasticity means the variance of the residuals about the predicted dependent variable scores should be the same for all predicted scores (Pallant, 2005). These assumptions were tested using a Residual Scatter plot and a Normality

P-P plot. It is expected that the residuals in the scatter plot should be roughly rectangular distributed with most of the residual at the centre (i.e. along the zero point). Figure 3.3 is the Normality P-P plot. It shows that there was no major deviation from normality and outliers. Figure 3.4 is a Histogram also showing that the scores were normally distributed. Figure 3.5 is the Residual Scatter plot showing that outliers were not many in the data set. Hence, the assumptions stated above were all satisfied.

Figure 3.3: Normal P-P plot for regression residuals

Figure 3.4: Histogram for Normality of distribution

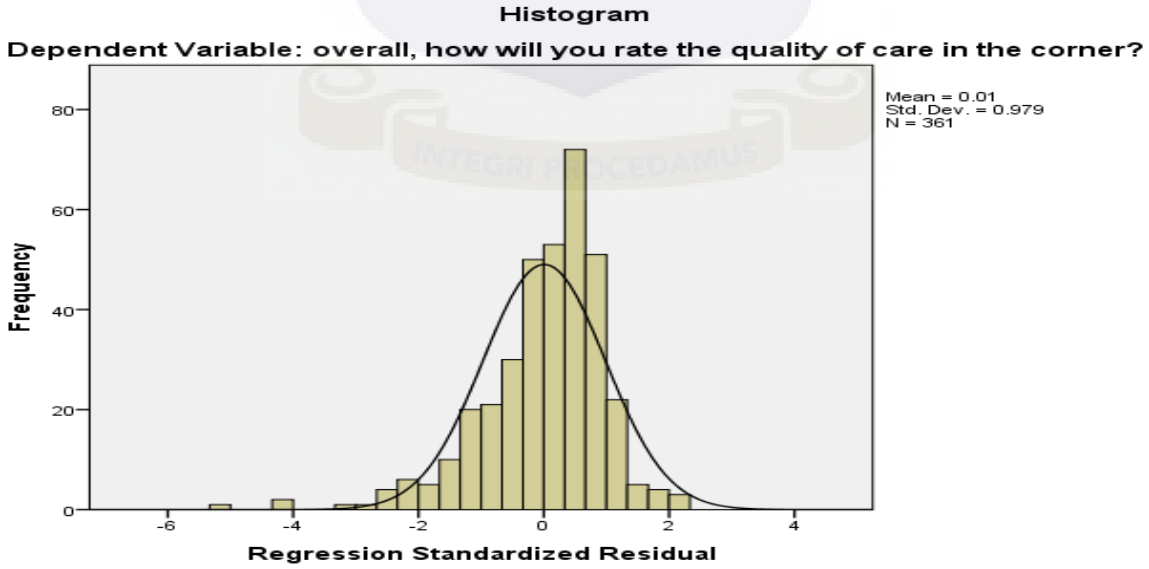


Figure 3.5: Scatter plot for regression residuals

3.15 Chapter Summary

The study adopted the Pragmatic paradigm, mixed methods and cross-sectional survey. The simple random and purposive sampling techniques were applied to select respondents and health facilities respectively. Adolescents formed the study population with Tema Metropolis as the study area. A structured questionnaire was administered to respondents. All ethical considerations concerning scientific research were respected.

CHAPTER FOUR

4.0 RESULTS

4.1 Introduction

This chapter discusses how data collected for the study were analysed. The Statistical Package for Social Science (SPSS) version 20 was used to analyse quantitative data. Results were presented in the form of descriptive statistics, charts, factor analysis, chi-square and multiple regression. Qualitative data were analysed according to themes and presented in quotations.

4.2: Descriptive Statistics

4.2.1: Socio-Demographic Characteristics of Respondents

The total sample size for the study was three hundred and sixty-five (n=365) adolescents. Both males and females were involved in the study; however, females were more than males. Out of the 365 respondents representing 100%, 13% (n=113) were males and 69% (n=252) were females. A majority (68%, n=313) of the respondents were Christians, the remaining 13% (n=48) were Muslims and 1% (n=4) did not disclose their religion. Also, a majority (91%, n=332) of the respondents were unmarried, while 9% (n=33) were either married or cohabiting.

Respondents' age ranged between eleven and nineteen. In other words, the youngest respondent was eleven years old and the oldest was nineteen years old. The Mean age was 16.35 years, the Median age was 17 years and the Modal age was also 17 years. The Standard Deviation was 1.852 and a Variance of 3.431. Regarding the educational status of respondents, a majority 72% (n=263) had junior high education. Respondents who had attained secondary/vocational education recorded 15% (n=53). The least was primary school and below also recording 13% (n=49). With regards to occupation or what the respondents

were currently engaged in, a majority of the respondents, 61% (n=224) were in school, while the minority 39% (n=141) were engaged in other activities, such as trading. To know whom respondents were staying with, it was found that a majority of them (78%, n=285) were living with their parents, while 21% (n=80) were living with other relatives who were not their parents. See Table 4.1.

Table 4.1: Socio – Demographic characteristics of respondents

Variable	Frequency	Percentage
Gender		
Male	113	31
Female	252	69
Age (years)		
11	3	1
12	4	1
13	16	4
14	48	13
15	48	13
16	57	16
17	77	21
18	63	17
19	49	14
Resident status		
Not living with parent(s)	80	22
Living with Parent (s)	285	78
Religion		
Christian	313	86
Muslim	48	13
(Missing)*	4	1
Education		
Primary School and below	49	13
Junior High School	263	72
Secondary/Vocational	53	15
Occupation		
Schooling	224	61
Not schooling	141	37
Health Facility Type		
Hospital	62	17
Polyclinic	55	15
Health centre	202	55
Clinic	46	13
Marital Status		
Unmarried	332	91
Married/Cohabiting	33	9

Source: Author's field survey ** No response*

4.2.2: Frequency distribution for dimensions of adolescent health care quality

- **Health Literacy**

Out of the 365 respondents representing 100%, a majority of them (55%, n=199) stated that during their visit at the health facility, they did not see any sign post giving direction to the AHC. Regarding respondents perceptions of availability of health information materials, a majority (60%, n=219) of the respondents stated that materials was available for them to read at the corner. To ascertain whether adolescents could have access to the health literature, and read at their convenience, a majority (70%, n=255) of the respondents stated that they could not borrow the materials. Assessing the knowledge of respondents about health services provided in the AHCs, a majority (66%, n=242) of the respondents stated that health providers informed them about services available in the AHC, and were able to give examples. To find out if adolescents had access to health information in schools or clubs, a majority (62%, n= 227) of the respondents stated that they have received health information in schools or clubs before. Generally, respondents' perceptions of health literacy were good. See Table 4.2.

Table 4.2: Frequency for Health Literacy

Question	Response		
	Total (n)	Yes (%)	No (%)
Availability of sign post at the corner?	365	45	55
Availability of books to read in the corner?	365	60	40
Availability of books to take home with you?	365	30	70
Did the providers inform you about services available?	365	66	34
Do you get health information at schools or clubs?	365	62	38

Source: Field survey.

- **Facility Characteristics**

It was found that a majority (69%, n=251) of the respondents were comfortable with the operating hours of the corners. Regarding the availability of medicines and supplies, a majority, (55%, n=200) of the respondents stated that medicines and supplies were not

always available for them to pick-up at the corners. A majority (66%, n=240) of the respondents also stated that they were comfortable accessing health care at the corners. This implies that the location of the AHCs was convenient for many of the respondents. Also, a majority (57%, n=207) of the respondents reported that they could access health care from the corners without their guardian's awareness. In summary, respondents' perceptions of facility characteristics were good. However, the availability of supplies and medicines needed considerable improvement. See Table 4.3.

Table 4. 3: Frequency for Facility Characteristic

Question	Response Total (n)	Yes (%)	No (%)
Are you comfortable with the working days and hours?	365	69	31
Are medicines and supplies always available for you to pick up?	365	45	55
Will you feel comfortable if community members see you visiting the corner?	365	66	34
Can you access health care without your guardian's awareness?	365	57	43

Source: Author's field survey

- **Appropriateness of care**

It was found that out of the 365(100%) respondents, a majority (85%, n=311) of the respondents perceived that they could access counselling services at the corner. A majority (78%, n=284) of the respondents also stated they could get family planning services at the corner. In addition, a majority (86%, n= 314) of the respondents indicated they could access pregnancy and sexually transmitted infection tests at the corner. The package of health care services provided at the adolescent corners was perceived as appropriate for adolescents. See Table 4.4.

Table 4. 4: Frequency for Appropriateness of care

Questions	Response Total (n)	Yes (%)	No (%)
Counselling on mental health and substance abuse available?	356	85	15
Family planning services like condoms, pills available?	365	78	22
Pregnancy and sexually transmitted infection tests available?	365	86	14

Source: Author's field survey

- **Provider Attitude**

It was found that out of the 365 (100%) respondents, a majority (93%, n=341) stated that the providers spent adequate time to examine and listen to them. A majority (96%, n=349) of the respondents perceived providers attitudes as respectful and friendly. Furthermore, a majority (90%, n=328) of the respondents stated that the providers demonstrated or explained health issues to their understanding. A majority (86%, n=313) of the respondents also stated that the health providers never condemned their actions or decisions. Generally, provider attitude was perceived to be very good. See Table 4.5.

Table 4.5: Frequency for Provider Attitude

Question	Response Total (n)	Yes (%)	No (%)
Did the provider spend adequate time to listen or examine you?	365	97	7
Did the providers treat you in a respectful and friendly manner?	365	96	4
Did the provider demonstrate issues to your understanding?	365	90	10
Did the provider condemn your decisions or actions?	365	14	86

Source: Author's field survey

- **Equity and Non-discrimination**

It was found that out of the 365 respondents, a majority (85%, n=312) stated that they were never denied health care because of their inability to pay. A majority (92%, n=337) of the

respondents also stated that they were never denied care due to their gender. It was also found that a majority (91%, n=331) of the respondents were not denied care due to their marital status. Finally, a majority (88%, n=322) stated that they were not denied care due of their age. In summary, adolescents received fair treatment at the corners. See Table 4. 6.

Table 4.6: Frequency for Equity and Non-discrimination

		Response	
Question	Total (n)	Yes (%)	No (%)
Were you denied any care because of lack of money?	365	15	85
Were you denied any care because of your gender?	365	8	92
Were you denied any care because of your marital status?	365	9	91
Were you denied any care because of your age?	365	12	88

Source: Author's field survey

- **Frequency for Adolescents' overall perception of quality of care**

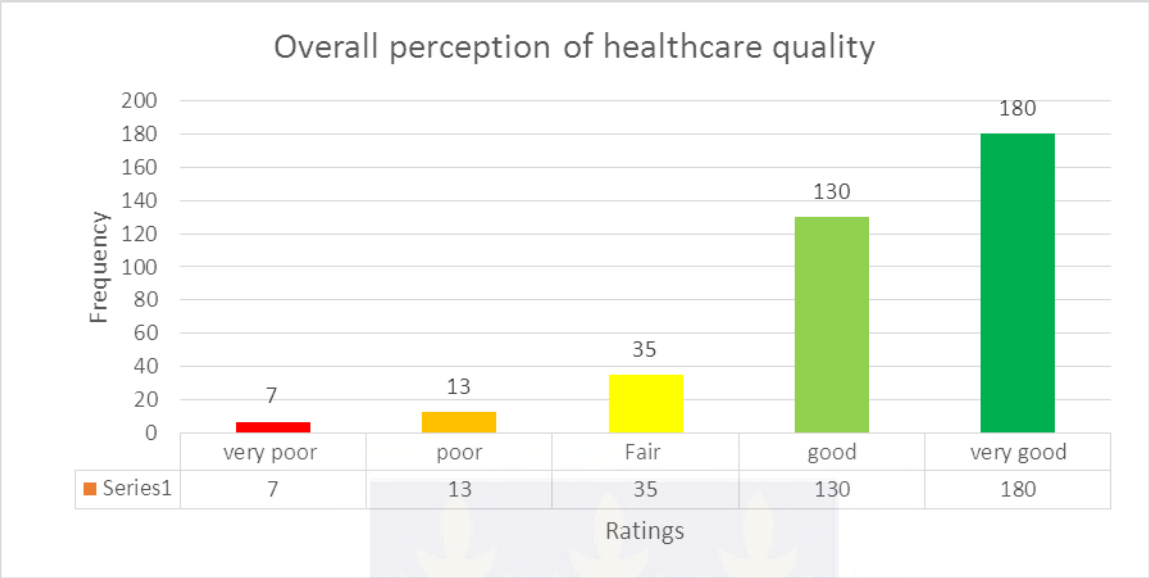
Close to 50 percent (n=180, 49%) of the respondents perceived overall healthcare quality to be very good. About 36 percent (n=130) perceived overall healthcare quality to be good. Exactly, 10 percent (n=35) perceived overall healthcare to be fair. Less than 5 percent (n=13, 4%) and exactly 2 percent (n=7, 2%) perceived overall healthcare quality to be poor and very poor respectively. In summary, respondents overall perceptions of healthcare quality was good. See Table 4.7.

Table 4.7: Frequency for Overall Perception of healthcare quality

Question	**Response**	**N**	**(%)**
Overall, how will you rate the quality of care in the adolescent health corner?	Very poor	7	2
	Poor	13	4
	Fair	35	10
	Good	130	35
	Very good	180	49
Total		**365**	**100**

Source: Author's field survey

Figure 4.1: Bar chart for adolescents' overall perceptions of healthcare quality



Source: Author's field survey

4.3: Chi-Square Test

The Chi-square test is used to test for dependent relationships between categorical variables in a data set (Pallant, 2005). In other words, it is used to test whether two categorical variables are related. The chi-square test is a non-parametric, distribution free and ideal for nominal scales. The Chi-square test holds the following assumption. The sampling techniques must be random, the samples size must be large enough at least hundred and both the independent and dependent variables must be categorical (Pallant, 2005). To meet the stated assumptions, overall perception of healthcare quality was re-coded into 'low' quality and 'high' quality. Responses such as very poor, poor and fair were classified as "low quality of care". Responses like good and very good were classified as "high quality of care". Fisher's Exact Test was used in cases where the expected counts were less than 5 (Pallant, 2005). Note that all variables with an asterisk (*) are significant at the 0.05 level of significance.

4.3.1: Cross tabulation of Health Literacy and overall perception of healthcare quality

The chi-square test found a significant relationship between availability of books to read at the corner and overall perception of quality. Among the respondents who had books to read at the corners, 90% perceived overall quality as high, and among the respondents who did not get books to read at the corners, 78% perceived overall quality as high. This means that respondents who had access to books at the corners were more likely to perceive healthcare quality as high than respondents who did not.

There was also a significant relationship between access to health information and overall perception of healthcare quality. Out of the 227(100%) respondents who stated they had health information at schools or clubs, 91% perceived healthcare quality as high and among the 138 (100%) respondents who stated they did not get health information at schools nor clubs, 75 % perceived healthcare quality as high. This means that respondents who had access to health information at schools or clubs were more likely to perceive healthcare quality as high than respondents who did not have access to health information at schools or clubs.

A significant relationship was also found between providers' dissemination of health information and perception of healthcare quality. Out of the 242(100%) respondents who stated providers informed them about available services, 91% perceived healthcare as high and among the 123(100%) respondents who stated providers did not inform them about services available, 73% perceived healthcare quality as high. This implies that respondents who received health information from providers were more likely to perceive healthcare as high than their counterparts. Respondents who did not see a signpost at the corner were more likely to perceive healthcare quality of as low than respondents who did see a signpost. Out

of the 199(100%) respondents who stated they did not see sign post at the corners, 19% perceived healthcare quality as low, and out of the 166(100%) respondents who saw a signpost, 10% rated overall quality of care as low.

However, no significant relationship was found between the availability of books to borrow and overall perception of healthcare quality. Thus, respondents' perceptions of healthcare quality did not relate with the availability of books to borrow at the corners. See Table 4.8.

Table: 4.8: Cross tabulation of health literacy and overall perception of healthcare quality

Question	Response	N	Low (%)	High (%)	Chi-square	p-value
Availability of books to read at the corners?	Yes	219	10	90	8.050	.005*
	No	146	22	78		
Adolescent get health information in schools or clubs?	Yes	227	9	91	17.102	.000*
	No	138	25	75		
Providers inform adolescent about services available. ?	Yes	242	9	91	18.688	.000*
	No	123	27	73		
Availability of sign post?	Yes	166	10	90	4.874	.027*
	No	199	19	81		
Availability of books to borrow?	Yes	110	12	88	.962	.327
	No	255	17	83		

Source: Author's field survey

4.3.2: Cross tabulation of Facility Characteristics and Overall perception of quality of care

The findings show that out of the 251(100%) respondents who stated they were comfortable with the operating hours, 88% perceived healthcare quality as high. And among the 114(100%) respondents who were not comfortable with the operating hours of the corners, 78% perceived quality as high. There was a significant relationship between convenience of operating hours and overall perception of healthcare quality. However, it was found that respondents' overall perception did not relate significantly with convenience in accessing health care. Also, there was no significant relationship between availability of medicines and

supplies and respondents' overall perceptions of healthcare quality. Respondents' overall perception of quality was also independent of parental support. See the Table 4.9.

Table 4.9: Cross tabulation of Facility Characteristics and overall perception of healthcare quality

Question	Response	N	Low (%)	High (%)	Chi-sq.	p-value
Comfortable with operating hours and days?	Yes	251	12	88	5.343	.021*
	No	114	22	78		
Comfortable when seen by community members?	Yes	240	15	85	.011	.918
	No	125	14	86		
Can you access health care without guardian awareness?	Yes	207	14	86	.250	.617
	No	158	17	83		
Availability of medicines and supplies?	Yes	165	14	86	.161	.689
	No	200	16	84		

Source: Field Survey

4.3.3: Cross tabulation of Equity/Non-discrimination and overall perception of healthcare quality

The author found that respondents who were denied care due their inability to pay were more likely to perceive healthcare quality as low compared to respondents who were not denied care in this regard. Out of the 53(100%) respondents who stated they were denied care due to lack of money, 28% rated overall quality of care as low. Out of the 312(100%) respondents who stated they were not denied care due to lack of money, 13% rated overall quality of care as low. However, perceived discrimination based on age, gender and marital did not associate significantly with respondents' overall perceptions of healthcare quality. See Table 4.10.

Table 4.10: Cross tabulation of Equity /Non-discrimination and overall perception of healthcare quality

Question Were you….	Response	N	Low (%)	High (%)	Chi-sq.	p-value
Denied care because of your gender?	Yes	28	18	82	.024	.591
	No	337	15	85		
Denied care because of lack of money?	Yes	53	28	72	7.318	.007*
	No	312	13	87		
Denied care because of your age?	Yes	43	14	86	.000	1.000
	No	322	15	85		
Denied care because of your marital status?	Yes	34	21	79	.480	.488
	No	322	15	85		

4.3.4: Cross tabulation of Provider attitude and overall perception of healthcare quality

It was found that out of the 349 (100%) respondents who stated providers treated them with respect, 88% perceived overall quality of care as high, as against 25% of the 16(100%) respondents who stated they were not treated respectfully by providers. Also, out of the 328(100%) respondents who stated providers' explained health issues to their understanding, 90% rated overall quality of care as high. Among the respondents who stated providers did not explain health issues to their understanding, 40% of 37(100%) rated overall quality of care as high. Furthermore, respondents who did not have their decisions or actions condemned by providers were more likely to perceive overall quality of care as high than respondents who stated providers condemned their actions and decisions. From the cross tabulation below, it can be seen that out of the 341(100%) respondents who stated providers spent adequate time with them, 89% rated overall quality of care as high compared to 33% of 24(100%) who stated providers did not spend adequate time with them. This means that respondents' overall perceptions of healthcare quality have a significant relationship with duration of consultation. See Table 4.11.

Table 4.11: Cross tabulation of Provider attitude and overall perception of healthcare quality

Question	Response	N	Low (%)	High (%)	Chi-square	p-value
Did the provider treat you in respectful and friendly manner?	Yes	349	12	88	42.193	.000*
	No	16	75	25		
Did the provider explain or demonstrate health issues well?	Yes	328	10	90	59.596	.000*
	No	37	60	40		
Did the provider condemn your decisions or actions?	Yes	52	27	73	5.622	.018*
	No	313	13	87		
Did the provider spend adequate time to listen or examine you?	Yes	341	11	89	49.213	.000*
	No	24	67	33		

Source: Author's field survey

4.3.5: Cross tabulation of Appropriateness of care and overall perception of healthcare quality

The author found that the package of services provided at the adolescent corners did not associate significantly with respondents' overall perception of quality, except counselling services. Out of the 311(100%) respondents who stated they could access counselling services at the corners, 87% perceived overall quality of care as high, while 74 % of the 54(100%) respondents who stated they could not access counselling services at the corners perceived overall quality of care as high. Indicating that respondents who knew the corners provided counselling services were more likely to rate overall quality of care as high than respondents who did not know. However, respondents' overall perceptions of quality were independent of other health care services like family planning and STIs test. See Table 4.12.

Table 4.12: Cross tabulation of Appropriateness of care and overall perception of healthcare quality

Question	Response	N	Low (%)	High (%)	Chi-sq.	p-value
Pregnancy and sexually transmitted infection test available?	Yes	314	14	86	2.592	.107
	No	51	24	76		
Counseling services available?	Yes	311	13	87	4.884	.027*
	No	54	26	74		
Family planning services available?	Yes	284	13	87	3.475	.062
	No	81	22	78		

Source: Author's field survey

4.3.6: Cross tabulation of socio-demographic variables and overall perception of healthcare quality

It was found that the relationship between gender and overall perception of quality was not significant. Respondents' overall perception of quality was independent of their marital status. Additionally, no significant relationship was found between respondents' residential status and their overall perception of quality. Furthermore, the study did not find any significant relationship between facility type and respondents' overall perceptions of quality.

However, a significant relationship was found between respondents' age and their overall perceptions of healthcare quality. Respondents' educational status was also found to be significantly associated with their overall perception of quality. Respondent's occupational status was significantly associated with their overall perceptions of quality. See Table 4.13.

Table 4.13: Cross tabulation of socio-demographics and overall perception of quality of care

Demographics	Response	N	Low (%)	High (%)	Chi-sq.	p-value
Gender	Male	113	17	83	.217	.641
	Female	252	14	86		
Age	15years and below	119	8	92	5.381	.020*
	16-19 years	246	18	82		
Education	Primary and below	49	25	75		
	Junior High School	263	12	88	7.986	.018*
	Secondary/Vocational	53	23	77		
Occupation	Schooling	224	11	89	7.732	.005*
	Not Schooling	141	22	78		
Marital Status	Unmarried	332	15	85	.072	.788
	Married or cohabitating	33	18	82		
Resident Status	Don't live with parent(s)	80	19	81	.748	.387
	Living with Parent(s)	285	14	86		
Facility type	Hospital	62	18	82		
	Polyclinic	55	16	84	6.922	.074
	Health Centre	202	11	89		
	Clinic	46	26	74		

Source: Author's field survey

4.4: Testing of Hypotheses -

To identify factors influencing adolescents' overall perceptions of healthcare quality, three linear regression models were tested.

4.4.1: Evaluation of Models

- ***Regression model 1****: $OQoC = \beta 0 + \beta 1HL + \beta 2FC + \varepsilon$*

(Where: OQoc- Overall quality of care; HL- Health Literacy; FC- Facility Characteristics; β-beta; ε-error term)

In Model 1, Structural factors such as HL and FC were used as predictors of overall quality of care, controlling for socio-demographics. Table 4.14 is the summary of the first model. The R (regression) coefficient for the first model is (r= 0.459). This shows that there is a relationship between overall quality of care and structural factors. The R Square (0.211 x

100) shows that about 21.1% of the variation in the dependent variable is explained by the predictors.

- ***Regression model 2***: $OQoC = \beta 0 + \beta 1PA + \beta 2AoC + \beta 3END + \varepsilon$

In Model 2, Process factors were used as predictors of overall quality of care, controlling for socio-demographics. Table 4.14 is a summary of the second model. The R coefficient (r= 0.517) shows there is a relationship between overall quality of care and process factors. The R Square (0.268x100) showed that about 26.8% of the variation in the dependent variable is explained by the predictors.

- ***Regression model 3***: $PQoC = \beta 0 + \beta 1HL + \beta 2FC + \varepsilon$ *(where; PQoC- Process Quality of Care)*

In Model 3, Structural factors were used as predictors of Process quality of care, controlling for socio-demographics. Table 4.14 is the summary of the third model. The R coefficient (r=0.215) shows there is a relationship between process quality of care and structural factors. The R Square (0.046x100) shows that about 4.6% of the variation in the dependent variable is explained by the predictors.

Table 4.14: Summary of the Models

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.459	.211	.188	.823
2	.517	.268	.245	.794
3	.215	.046	.019	1.41993

Model 1: Dependent variable: Overall perception of quality of care.
Predictors: (Constant), total health literacy, total facility characteristics, type of facility, age, resident status, occupation, marital status, religion, gender, education.
Model 2: Dependent variable: Overall perception of quality of care
Predictors: total provider attitude, total appropriateness of care, total equity and non-discrimination, type of facility, age, resident status, occupation, marital status, religion, gender, education.
Model 3: Dependent variable: Process Quality of care
Predictors: (Constant), Total Facility Characteristics, Total Health literacy, type of facility, age, resident status, occupation, marital status, religion, gender, education.

- **ANOVA Table for the Models**

To find out the significance of the regression relationships, ANOVA table was computed. In Table 4.15, the regression relationship in Model 1 is significant (F= 9.36, p= .000). This implies that the null hypothesis which states that there is no significant regression relationship between structural factors and overall perception of quality was rejected at the 95% confidence interval. In other words, all things being equal, respondents' overall perceptions of quality were influenced by the availability of adolescent-friendly structures while controlling for socio-demographic factors.

The regression relationship in Model 2 was also found to be significant (F= 11.60, p= 0.000). The means that the null hypothesis which states there is no significant regression relationship between Process factors and overall perception of quality was also rejected at the 95% confidence interval. This implies that all things being equal, respondents' overall perceptions of healthcare quality were influenced by process factors, controlling for socio-demographic variables. See Table 4.15.

However, the regression relationship in Model 3 was not statistically significant (F=1.69, p= 0.082). This means that the researcher accepts the null hypothesis which states that structural factors do not influence Process quality of care at the 95% confidence interval. This means that adolescents' perceptions of process quality were not influenced by the availability of adolescent-friendly structures in the adolescent health corners. See Table 4.15.

Table 4.15: ANOVA table

	ANOVA					
		Sum of Squares	**df**	**Mean Square**	**F**	**p-value**
Model 1	Regression	63.364	10	6.336	9.358	.000
	Residual	236.986	350	.677		
	Total	300.350	360			
Model 2	Regression	80.425	11	7.311	11.603	.000
	Residual	219.925	349	.630		
	Total	300.350	360			
Model 3	Regression	34.063	10	3.406	1.689	.082
	Residual	705.674	350	2.016		
	Total	739.737	360			

- **Evaluation of each (Predictor) independent variable in Model 1**

To examine the significance of each predictor's contribution to the dependent variables, further analyses were done. It was found that all the structural factors made significant positive contributions to overall perception of quality, controlling for socio-demographic variables. For instance, a unit increase in Health literacy (p= 0.000) will lead to 0.371 units increase in overall perception of quality. A unit increase in Facility characteristics (p= 0.046) will lead to 0.102 units increase in overall perception of quality. However, Age (p=0.025); a controlled variable, had a significant negative influence on overall perception of quality. That notwithstanding, the influences of the following control variables (i.e. gender, religion, type of facility, education, occupation, resident status and marital status) were not statistically significant. See Table 4.16.

Table 4.16: Regression of structural factors on overall perception of healthcare quality

Independent variables	B	Std. Error	Beta	t	p-value
(Constant)	4.357	.671		6.496	.000
Total health literacy	**.205**	**.032**	**.371**	**6.442**	**.000**
Total Facility characteristics	**.075**	**.037**	**.102**	**2.006**	**.046**
Type of facility	.014	.054	.013	.251	.802
Gender	.047	.104	.024	.449	.653
Religion	-.223	.136	-.083	-1.643	.101
Age	**-.066**	**.029**	**-.133**	**-2.250**	**.025**
Education	.033	.058	.030	.571	.568
Occupation	.101	.131	.054	.771	.441
Resident status	.082	.139	.037	.589	.556
Marital status	.276	.201	.087	1.376	.170
Dependent variable: Overall perception of quality of care					

- **Evaluation of each (Predictor) independent variable in Model 2**

The study also found that all the Process factors made significant positive contributions to overall perception of quality, controlling for socio-demographic variables. For example, a unit increase in Provider attitude (p= 0.000) will lead 0.357 units increase in overall perception of quality. Also, a unit increase in Appropriateness of care (p= 0.011) will lead to 0.122 units increase in overall perception of quality. In addition, a unit increase in Equity and Non-Discrimination (p= 0.011) will lead to 0.102 units increase in over perception of quality. Some controlled variables like Occupation (p= 0.018), made a significant positive influence on overall perception of quality. However, the influence of the following controlled variables was not significant, namely: gender, type of facility, religion, age, education, residential status, and marital status. See Table 4.17.

Table 4.17: Regression of process factors on overall perception of healthcare quality

Independent variables	B	Std. Error	Beta	T	p-value
(Constant)	2.492	.721		3.456	.001
Total Provider Attitude	**.584**	**.077**	**.357**	**7.562**	**.000**
Total Appropriateness of care	**.127**	**.050**	**.122**	**2.543**	**.011**
Total Equity & Non-Discrimination	**.122**	**.048**	**.120**	**2.542**	**.011**
Type of facility	.063	.052	.062	1.202	.230
Gender	.008	.101	.004	.081	.936
Religion	-.186	.131	-.069	-1.417	.157
Age	-.054	.028	-.109	-1.889	.060
Education	.055	.055	.049	.993	.322
Occupation	**.274**	**.115**	**.146**	**2.384**	**.018**
Resident status	.127	.134	.058	.950	.343
Marital status	.202	.194	.063	1.037	.300
Dependent variable: Overall perception of quality of care					

- **Evaluation of each (Predictor) independent variable in Model 3**

The author found that Structural factors did not contribute significantly to Process quality of care, controlling for socio-demographic variables. None of the controlled variables were found to be significant. This means that a unit increase in Health literacy or Facility characteristics will not lead to any significant increase in Process quality. Hence, the researcher's hypothesis was not supported at the 95 % confidence interval.

However, this finding is supported by a critique leveled against Donabedian model. According to Lau *et al*. (1982) cited in Abuosi (2014), "the relationship between structural and process variables are weak, inconsistent and paradoxical" According to Mitchell, Ferketich and Jennings (1998), the relationship may sometimes vary, and therefore not necessarily linear. Therefore, the finding in Model 3 can be attributed to the reasons stated above. See Table 4.18.

Table 4.18: Regression of structural factors on Process quality of care

	B	Std. Error	Beta	t	p-value
(Constant)	9.953	1.157		8.600	.000
Total health literacy	**.063**	**.055**	**.073**	**1.152**	**.250**
Total Facility characteristics	**.040**	**.064**	**.035**	**.622**	**.534**
Type of facility	-.144	.093	-.091	-1.541	.124
Gender	-.315	.179	-.102	-1.755	.080
Religion	-.158	.234	-.038	-.676	.499
Age	-.053	.050	-.068	-1.051	.294
Education	.169	.100	.097	1.697	.090
Occupation	-.122	.226	-.041	-.539	.590
Resident status	-.109	.240	-.032	-.456	.649
Marital status	.554	.346	.111	1.600	.111
Dependent variable: Process Quality of care					

4.5: Challenges of accessing adolescent-friendly health care

Evidence shows that adolescents confront challenges when accessing health care (WHO, 2015). To ascertain the unique challenges adolescents in the study area face when accessing adolescent-friendly health care, an open-ended question was asked. It was found that the respondents confront challenges associated with health literacy, community support, facility characteristics and provider attitude. To ensure anonymity, facility names were not disclosed. However, the researcher used alphabets, such as A, B, C and D to represent the various health facilities.

It was found that some of the respondents confront facility level challenges. They complained about the small size and poor ventilation at some of the corners.

> "*The adolescent corner is too small and warm. Whenever we come in our numbers we are always overcrowded.* " ***Female, 14 years, student, Facility C.***

Other respondents expressed concerns about the shortage of medicines and supplies at the corners.

> "*Sometimes we do not get the medicines from this facility. We have to go and buy, but the lack of money has always been our problem*" ***Female, 17 years.***

"Sometimes, you can request for a condom and the nurses will tell you it is finished. I always do not feel happy to hear that, especially when I have a 'match'" ***Male, 18 years, facility D.***

Some respondents complained about the lack of privacy at some of the corners.

"*There are no curtains on the door and windows. When you are inside the room with the nurse, anyone who enters can see you, and also hear what you are telling the nurse*" ***Male, 17 years, Facility A.***

"The corner is a single room used for many purposes, such as consultation, counselling, a library and a waiting area. The level of privacy at the corner is not the best" ***Female, 19 years, Facility C.***

Other respondents were not comfortable with the operating hours and days of the adolescent corners, and therefore, wanted something to be done about it.

"*The nurses come in the morning and close in the afternoon; they do not come on holidays and weekends. I am a student and cannot leave classes and come here, so they should work after school and on weekends. Today, for instance, I was able to come to the corner because we are having games at our school*" ***Female, 14 years, JHS, 2, Facility B.***

Issues of overcrowding and long waiting time at the corners were also raised by some respondents, especially the pregnant girls. Pregnant adolescents who had come for their monthly antenatal care were mixed–up with the adults, and had to go through the normal routine before they were segregated and attended to by an adolescent health care provider. As stated by a **17- years- old pregnant adolescent in facility A,**

"If *I want to go home early, I have to reach here (the facility) as early as 5:30 am in order to avoid long queues and unnecessary delays*"

Challenges relating to parental and community support were also found. Some respondents complained about the lack of parental support to use the adolescent corner.

"If *my parents find out I come to the corner, they will beat me, and warn me not to step foot here again* ***"Female, 14 years, JHS 1, Facility D.***

"My parents will not allow me to come to the adolescent corner, because they think I will become a bad girl" ***Female, 15 years, Facility C.***

These were adolescents who had come to the corner to read during a break time in school.

In addition, some respondents expressed concerns about negative perceptions of community members.

"I *do not want people to see me when am coming to the corner. Because, they will think am coming for a pregnancy test or an abortion"* ***Female, 18 years, facility A.***

Respondents experienced restrictions from friends and lovers when they tried visiting the corner for the first time.

"My *boyfriends and girlfriend told me not to visit the corner, because if people see me they will think am a bad boy*" ***Male, 17 years, facility B.***

Another challenge identified was poor provider attitude.

"*Some nurses at the corner are rude, making it difficult to ask them questions*" ***Female, 17 years, facility B***.

Some respondents were denied services by some health providers.

"*I was told to do a laboratory test, but my boyfriend did not get money for me to go for the result. The nurse refused to attend to me because I was not having the laboratory results*" **Female, 17 and pregnant, facility A.**

Some respondents reported issues of discrimination and lack of fairness on the part of some health providers.

"If you come early and your card (folder) is on top, someone who comes late and knows a nurse can be attended to before you" ***Female, 19 years and Pregnant, facility A.***

Finally, respondents reported challenges related to health literacy. Some respondents requested for restocking and re-equipping of the adolescent libraries:

"*We want to come here and read, but the books are old and few, and the chairs and tables are not enough*" ***Male, 15 years, facility D.***

"*There is no television in the corner to watch health videos like YOLO"* ***Male, 13 years, facility C.***

"Some adolescents are not aware of the corner, because there is no signpost" ***Male, 18 years, facility D***.

In summary, adolescents confront challenges when accessing care at the AHCs. Therefore, measures should be put in place to address these challenges.

4.6: Measures of improving adolescent health care quality

To help improve quality in the corners, respondents were asked to list the things they expect from the AHCs. In this regard, key areas that needed improvement were recommended by some respondents. They include: an improvement in health literacy, community/parental support, provider attitude and facility characteristics.

Some respondents suggested an improvement in the characteristics of the AHC, such as expanding the corners:

"The *adolescent corner should be expanded or partitioned, curtains and more chairs and tables should be provided*" ***Male, 16 years, facility C.***

"The *number of adolescent health corners in the community is few, they should be increased to avoid overcrowding, and the travelling for long distances*" ***Female, 18 years, pregnant, facility A.***

Other respondents recommended an improvement in the ventilation of some corners, provision of games and videos at the some corners.

"*We need more fans, Oware, Ludo and television at the adolescent corner*" ***Female, 13 years, facility D***.

Some participants suggested that the operating hours should be reviewed.

"*The nurses should work on weekends and in the evening. Also, more nurses should be employed to reduce the pressure and workload of the few nurses*"

Respondent requested for more supplies at the corner;

"*we need more condoms and medicines at the adolescent health corner*" ***Male, 18 years, facility D.***

Another recommendation made by respondents was an improvement in health literacy. Health literacy includes the provision of health books, leaflets, flyers, and videos.

"*They should bring more current health education materials to the corner*" ***Male, 14 years, facility B.***

"*They should give us books to read at home, also we need more health talks and videos to watch*" ***Female, 15 years, facility A.***

"*A sign post should be erected at the entrance to give direction and services provided at the corner*" ***Male, 16 years, facility D.***

Some respondent suggested that some providers should change from their negative attitude towards adolescents.

"*Some of the providers must learn how to talk to adolescents, they should not be rude to us*" ***Female, 14 years, facility B.***

"*Providers must communicate in a simple language the adolescents can easily understand, and should avoid using jargons. Also, some provider must learn how to speak English very well*" ***Female, 17 years, facility C.***

"I think they should train the nurses on how to treat adolescents in a friendly manner" ***Male, 19 years, Facility B.***

Finally, respondents recommended an improvement in community and parental support. Community sensitization was recommended as a strategy that can help reduce the negative perceptions of some community members.

"*The community members should be educated on the importance of adolescent health, and reasons why they should support adolescent health programs*" ***Female 19 years, facility C.***

Some respondents suggested that the nurses inform their parents.

"*They should inform our parents, and also involve them in adolescent health programs"* ***Male, 17 years, facility D.***

Adolescent healthcare quality can be improved through the implementation of adolescent-friendly measures.

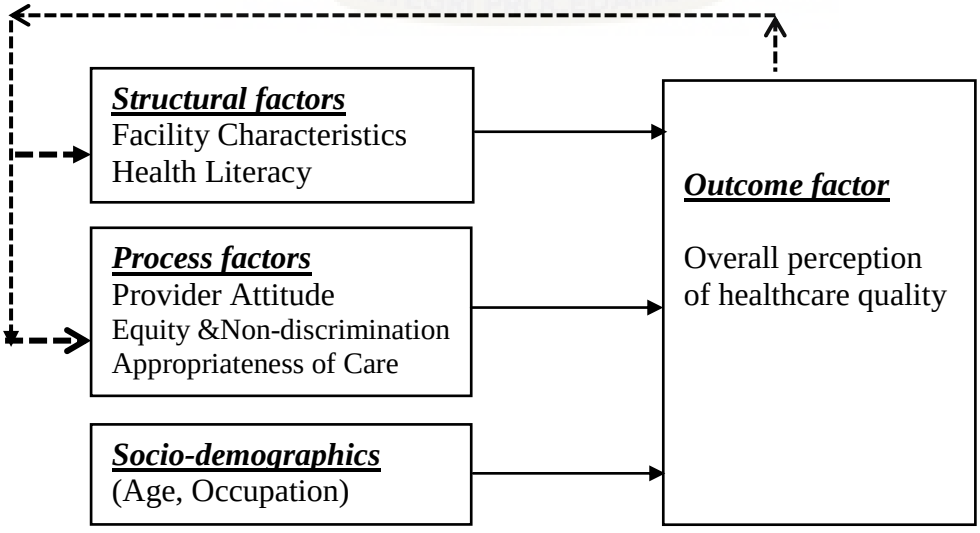
4.7: Revised Conceptual Framework

The researcher found that both structural and process factors can influence adolescents' perceptions of health care quality, controlling for socio-demographic variables. However, structural factors did not influence Process quality. These findings somehow support Donabedian's argument that good structures influence good processes and good processes

influence good outcome. It was also found that structural factors can directly influence outcome without being moderated by process factors. This confirms the criticism leveled against Donabedian's model as too linear, and that the relationship may not always be linear (Mitchell, Ferketich and Jennings, 1998).

Based on these findings, the conceptual framework was revised to reflect the findings of the study. In the revised conceptual framework, both structural and process factors influence outcome independently. However, structural factors do not influence process quality. Also, an improvement in overall perception can influence an improvement in structural and process quality, hence creating a feedback loop. The broken lines in the framework indicate the feedback loop. The solid arrows show the influence of structural and process factors on the overall perception of quality. Furthermore, socio-demographic variables, which were moderating factors in the initial framework are now predictors in the revised framework. These findings address some of the weakness in the original model, and support the argument that the outcome may also be influenced by antecedent characteristics, such as socio-demographic factors (Coyle and Battles, 1999). See Figure 4.2 for the revised conceptual framework.

Figure 4.2: Revised Conceptual Framework for assessing adolescent health care quality



Source: Author's Development.

4.8: Chapter summary

In this chapter, the researcher presents the results of the study. It was found that adolescents' perceptions of healthcare quality in the AHCs were good or satisfactory. That notwithstanding, adolescents confront challenges when accessing health care at the corners. The findings somehow conform to the assumptions of the adopted model, and also confirm some of its weaknesses. Therefore, the conceptual framework was revised to reflect the current findings.

CHAPTER FIVE

5.0 DISCUSSION OF FINDINGS

5.1: Introduction

This section of the thesis presents the discussion of findings, conclusions and recommendations.

5.2: Discussion of adolescents' demographic information

Ensuring that adolescents have access to quality health care is necessary for sustainable development (Ki-Moon, 2016). The objectives of the study were to examine factors that influence adolescents' perceptions of healthcare quality; identify challenges adolescents confront when accessing care; and explore measures of improving adolescents' health care quality. To achieve the study's objectives, the researcher interviewed 365 adolescents from four AHCs in the Tema Metropolis using a structured questionnaire.

It was found that females were more than males. This finding is understandable, because anecdotal evidence shows that female adolescents patronise health care services more than males. The researcher also observed that pregnancy-related cases dominated the number of cases reported at the adolescent corners. Therefore, it was understandable to find more female adolescents visiting the corners than males. The study also found that many of the respondents were Christians. Ghana is Christian dominated, likewise the Tema Metropolis, hence it was understandable to have Christians in the majority. The study found that a majority of the respondents were unmarried, schooling and stayed with parents. Taking the age bracket (10-19) into consideration, it is too early a stage for most adolescents to get married. In addition, the study area has a high literacy rate, and is supposed to know the

importance of formal education. This confirms that formal education is a protective factor against early marriage, hence formal education among adolescents should be encouraged.

5.3: Factors influencing adolescents' overall perceptions of healthcare quality

According to Donabedian, health care quality can be assessed based on structures, processes and outcomes. It was assumed that to know how adolescents in the study area perceive quality of care in adolescent health corners, assessing the structures, processes and outcome was necessary.

5.3.1 Structural Factors

- **Health literacy**

Health literacy as a dimension of structural quality refers to adolescents being knowledgeable about their health, and knowing where to access health care services. A sign post indicating where a facility is located and the type of services provided is an important indicator of health literacy. However, the study found that a majority of the respondents were not aware of any signpost giving information and direction to the adolescent health corner. This is confirmed by what the researcher observed. For instance, out of the four adolescent health corners studied, only two had sign posts. Additionally, the sizes of the sign posts were not large, and the inscriptions were also not visible enough to be easily spotted. The sign posts were not also positioned at vantage points. Therefore, it was not surprising to find a majority of the respondents indicating that they did not see any sign post during their visit at the adolescent health corners.

Adolescents can improve their health literacy through access to health information from books, flyers and information packs (Esantsi *et al*, 2015). A majority of the respondents

stated that there were books in the adolescent corners to read during their visit. This is similar to what Sogarwal *et al*. (2013) found in India, a majority of their participants stated that there were educational materials in adolescent clinics for them to read. In this study, the researcher also observed that out of the four AHCs, three had libraries stocked with adolescent-friendly health information materials. Evidence from the ADHD programme report indicates that thirty-thousand (30,000) information, education and communication materials in the form of booklets and posters were printed and distributed to AHCs across Ghana (GHS, 2015). However, a majority of the respondents did not know that they could borrow the information materials. The researcher found that there were policies in place for adolescents to borrow books. However, these policies were not well communicated to the adolescents. Future studies involving health providers may find out reasons for this policy implementation gap. A possible explanation could be this, providers fear that adolescents may not return the limited information materials when lent out to them. To help bridge this gap, it is suggested that more information materials should be printed and made available at the corners.

It was also found that health providers play principal role in adolescent health education and promotion. Even though evidence shows that adolescents lack adequate health information (Lim *et al*., 2012; WHO, 2015), this study found that a majority of the respondents were knowledgeable about their health and services provided at the adolescent health corner, but gave credit to the health providers. This confirms the finding that health providers are the main source of adolescent health information (Ackard & Neumark-Sztainer, 2001). The health education and promotion programs were focused on pregnancy, STIs and family planning. This finding is consistent with what Sogarwal *et al*. (2013) found. A majority of their participants were knowledgeable about the health care services provided in adolescent clinics.

These findings indicate that the AHCs are really influencing the health and well-being of adolescents in Ghana and therefore should be promoted.

- **Facility Characteristic**

A facility characteristic is a key dimension of structural quality. Adolescents prefer health facilities with adolescent-friendly structures and equipment. Since most adolescents are mostly in school, they require health facilities with convenient operating hours where they can easily make appointment. In this study, it was found that the operating hours were convenient for most respondents. A majority of the respondents stated that they could access health care from the corners without the awareness of their parents, and were also comfortable with the location of the corners. These findings are consistent with existing literature. Studies have found that adolescents may not access health care from health facilities that are not well-equipped, not adequately clean, lack privacy, confidentiality and convenient operating hours (Ambresin *et al.*, 2012; Judith *et al.*, 2003; Geary *et al*., 2014; Schriver *et al*., 2014).

Furthermore, much investment was made into the ADHD programme. For instance, the UKAID through the Palladium group refurbished and equipped 54 adolescent corners in the Greater Accra region. Marie Stopes International Ghana as part of its 'NO YAWA' project also refurbished and supported 17 adolescent health corners in Ghana. As part of the ADHD programme, logistics were procured and supplied to 158 public health facilities to support adolescent health care. It was also stated in the ADHD report that funds for adolescent health programmes have increased considerably (RCH-GHS, 2013, 2015). Considering the great amount of resource invested in setting up the adolescent health corners in Ghana, it was

understandable to find a majority of the respondents perceiving the characteristics of the AHCs as good.

In spite of the great investment, the study also found a majority of the respondents reporting that they did not get the supplies and medicines prescribed for them from the adolescent corners. Thus, the AHCs sometimes run-out of medications and supplies, such as condoms. However, this did influence respondents overall perceptions of quality.

In the nutshell, overall quality of care was perceived to be very good by a majority of the respondents, because adolescent-friendly structures were available in most of the corners.

5.3.2 Process Factors

- **Provider Attitude**

Provider attitude is a major dimension of adolescent healthcare quality. Negative provider attitudes may sway adolescents, while positive provider attitude can attract adolescents (Ambresin *et al.*, 2012; WHO, 2015). The study found that a majority of the respondents were happy or comfortable with the attitudes of the providers. The respondents indicated that the providers treated them with respect, explained health issues well and spent adequate time with them during consultations. A majority of the respondents also stated that providers were non-judgmental, respected their privacy and assured them of confidentiality.

Findings from previous studies are contradictory. For example, there is evidence to show that some health providers lack adequate training, competence and display poor attitude when delivering health care to adolescents (Judith *et al.*, 2003; Mngadi *et al.*, 2008; Geary *et al.*, 2014; AlBuhairan and Olsson, 2014; Schriver *et al.*, 2014).

However, other studies support the findings of this study. For instance, Sogarwal *et al*. (2013) found that provider attitudes, skills and competence were satisfactory in India. Geary *et al*. (2014) also found providers' attitudes as good, welcoming and friendly in South Africa. Also, providers were well trained in adolescent-friendly health care, and demonstrated good communication skills in their service delivery.

- **Appropriateness of care**

Quality adolescent healthcare is supposed be adolescent-friendly, appropriate, accessible, acceptable and comprehensive (Ambresin *et al*., 2013). It was found that the package of health care services provided in the adolescent corner was quite comprehensive. A majority of the respondents stated that they could access pregnancy test, STIs tests, counselling, family planning and general health care services at the AHC. Previous studies have found that adolescents wanted their providers to discuss similar health topics with them (Ackard and Neumark-Sztainer, 2001; Judith *et al.,* 2003). However, the study found that a majority of the respondents were not aware of health care services provided through outreach and referral services. This aspect of the findings confirms the assertion that most adolescent health care services are not comprehensively packaged (WHO, 2014; WHO, 2015).

- **Equity and Non-discrimination**

Adolescents require health care that is free from discrimination and unfair treatment. Adolescents expect providers to respect their rights and avoid preferential treatment (WHO, 2015). To find out whether respondents were discriminated against at the corners, it was found that a majority of the respondents received fair treatment. A majority of respondents

indicated that the providers did not deny them health care due to their sex, age, marital status or ability to pay.

This finding is inconsistent with previous research findings. For instance, there is evidence to show that some adolescents may be left out of adolescent health programs (WHO, 2014; Waddington and Sambo, 2015). Previous studies have found instances were adolescents were denied contraceptives, because they were unmarried or considered to be young (Chandra-Mouli, Chatterjee and Bose, 2016; Bankole *et al*., 2007; Ahanonu, 2014). What might have accounted for the differences in findings is the fact that adolescent health care in Ghana is backed by strong protocols and guidelines. Therefore, putting checks on any form of discrimination (Judith *et al*., 2003). Generally, most of the process indictors were perceived to be adolescent-friendly, and had a positive significant influence on adolescents overall perceptions of health care quality.

In summary, the structural and process factors available at the adolescent health corners were perceived by most adolescents to be adolescent-friendly. This may explain why a majority of the respondents perceived overall quality of care to be very good.

5.4: Challenges of accessing adolescent health care services

Even though adolescents' perceptions of health care quality were good, respondents raised some concerns that cannot be overlooked. The study found that some respondents faced challenges when accessing health care at the corners. For example, lack of privacy, poor ventilation, lack of entertainment, poor parental support and negative community perception. Other challenges include: negative attitudes of some health providers, shortage of condoms, inability to borrow books and lack of health videos in the corners.

These findings are confirmed by existing studies. In Zambia, Mmari and Magnani (2003) found lack of resources, poor provider attitude and inconvenient operating hour as key adolescent challenges to accessing care. In Zimbabwe, Erulkar *et al*. (2005), found the lack of parental support, long waiting time and financial barriers as challenges hindering adolescents from accessing care. Judith *et al*. (2003) in their comparative study of four countries also found inconvenient operating hours, inconvenient location of the adolescent corner and fear on the parts of adolescents as challenges to accessing care (Sogarwal *et al.*, 2013; Samargia *et al*., 2006). In developed countries like the USA, Lim *et al* (2012) also found negative provider attitude, difficulty in making an appointment, lack of privacy and long waiting hours as the key challenges faced by adolescents when accessing care (Kennedy *et al*., 2013). In southeastern Asia, Tangminkongvorakal *et al*. (2012) made similar findings.

Adolescents across the world confront similar challenges when accessing health care. These challenges go beyond the boundaries of adolescent health care facilities. Therefore, a multi-sector collaboration comprising of parents, community leaders, teachers and health providers is required to effectively address adolescent health care challenges.

5.5: Measures of improving adolescent health care quality

As part of measures to help improve adolescent health care quality, respondents recommended that new adolescent health corners should be set up, and old ones should be expanded and well equipped. This recommendation is similar to what Lim *et al*. (2012) found in the USA. Their respondents requested for a separate waiting area equipped with videos and games.

To help address negative public perception about users of the corners, respondents suggested community sensitization and public education. Sogarwal *et al*. (2013) recommended to improve adolescent health care quality, public awareness must be intensified, adolescents should be provided with a separate waiting area, and both male and female health providers should be available at adolescent-friendly care facilities.

Other respondents suggested that more health providers should be recruited and the existing staff should be trained. In South Africa, Geary *et al*. (2014) found respondents making similar suggestions. To help make operating hour more convenient for adolescents, respondents suggested that the corners should operate on weekends and public holidays. Sendrowitz (2003), argued that since many adolescents are in school, adolescent clinics ought to operate at times that are more convenient for adolescents, such as late afternoon, weekends and during public holidays. Recommendations were also made regarding the publicity of the corners and its promotion. Samargia *et al*. (2006) also suggested that adolescent health care should also run on outreach basis to help capture adolescents who might not feel comfortable to visit the clinic.

Adolescents by their nature are shy people, and may feel uncomfortable accessing health care when faced with the least challenge. Therefore, identifying challenges and possible solutions are right steps towards improving adolescent health care utilization and quality.

5.6: Summary of key findings

The study found that adolescents' perceptions of healthcare quality in the corners were good. A statistically significant association was found between structural factors and adolescents' perceptions of healthcare quality. There was also a significant association between process

factors and adolescents' perceptions of healthcare quality. Multiple linear regression analysis found structural and process factors as predictors of adolescents' overall perceptions of quality. The factors are: health literacy, provider attitude, facility characteristics, equity and non-discrimination and appropriateness of care. However, facility characteristics and health literacy were not significant predictors of process quality of care.

Despite the fact that a majority of the respondents' perceived quality of care as very good, did not mean the corners were without challenges. Respondents identified some challenges that interfered with their accessibility and utilisation of health care. A majority of the respondents complained about the ill-equipped nature of the corners. Respondents raised issues of inadequate privacy and shortage of medicines and supplies at the corners. Other respondents stated that the publicity of the corners was poor, and they could not borrow health information materials from the corners. Few respondents raised issues of poor provider attitude and the lack of adolescent participation in the planning of their health care. Some adolescents also stated they lack the needed support of their parents to access health care at the corners.

In this regard, respondents appealed to all stakeholders to come to the aid of the adolescent health corners. Some respondents requested for an expansion of the corners to reduce overcrowding and improve ventilation. Other respondents requested for the setting up of new corners in the metropolis to help reduce waiting time and transportation challenges. Respondents also requested for a restocking of the libraries, and the provision of entertainment at the corners. Community sensitization was recommended as a remedy for poor parental and communal support for adolescent health care.

5.7: Conclusion

The objectives of the study were to examine factors that influence adolescents' perceptions of health care quality, identify challenges and explore measures of improving adolescent health care quality. The study found health literacy, facility characteristics, provider attitude, appropriateness of care, and equity and non-discrimination as the factors that influence adolescents' perceptions of health care quality. Also, adolescents confront facility, provider and community level challenges when accessing health care in Ghana. A multi-sector collaboration is therefore required for the improvement of adolescent health care quality in Ghana. Also, renovating the corners, restocking the libraries and educating the public can help reduce the challenges, and can influence an improvement in adolescents' perceptions of health care quality and utilization.

It can be concluded that the respondents perceived overall quality of care as good because adolescent-friendly structures and processes were available in the AHCs. Provider attitude and health literacy emerged as the principal predictors of overall perception of quality. In this regard, it can be concluded that respondents were impressed with the attitudes of health providers, and health information they received from corner. In the nutshell, adolescents in Tema perceived the quality of their health care to be good despite prevailing challenges.

5.8 Limitations of the study

The study was limited to Tema and excluded adolescents in other regions. In this light, generalization of the finding must be done with caution. Data collection was done at the AHCs, this can have an influenced on adolescents' responses. However, care was taken to ensure privacy, and respondents were assumed anonymity in order to reduce bias. The data collected for the study was biased towards females. Future studies should consider increasing the number of males to have a more balance gender view. Due to resource constraints, the

study did not capture adolescents in the communities. Finally, assessing the perspective of the health providers, and understanding their side of the story would have given a broader understanding to the research problem. However, this study was limited in that regard, hence future studies should consider including health providers.

5.9 Recommendations for policy and practice

The following recommendations are proposed for policy and practice.

1. New adolescent health corners should be set up, and existing ones should be re-equipped and expanded. This will help address issues of overcrowding, long waiting time, confidentiality and privacy.
2. Operating hours should be reviewed to help adolescents make convenient appointments.
3. Proper management systems should be put in place to effectively monitor the supplies at the health facilities; this will help address issues of shortage.
4. Health facilities should engage community members, and educate them on the importance of promoting adolescent health care.
5. Health providers should be given continuous training on adolescent-friendly health care delivery. This will help address issues of negative provider attitude.

Implementing these strategies can help improve accessibility, utilisation and quality of adolescent health care in Ghana.

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APPENDICES

Correlation matrix for Independent Variables

Descriptive Statistics			
	Mean	Std. Deviation	N
Total HL	2.64	1.652	365
Total FC	2.3644	1.24315	365
Total PA	2.9315	.55788	365
Total AOC	2.4904	.87583	365
Total END	3.5671	.89811	365

Correlations						
		Total health literacy	Total FC	Total PA	Total AOC	Total END
Total HL	Pearson Correlation	1	-.141**	.259**	.154**	-.183**
	Sig. (1-tailed)		.004	.000	.002	.000
	N	365	365	365	365	365
Total FC	Pearson Correlation	-.141**	1	.024	.010	.019
	Sig. (1-tailed)	.004		.322	.428	.361
	N	365	365	365	365	365
Total PA	Pearson Correlation	.259**	.024	1	.153**	-.037
	Sig. (1-tailed)	.000	.322		.002	.238
	N	365	365	365	365	365
Total AOC	Pearson Correlation	.154**	.010	.153**	1	.037
	Sig. (1-tailed)	.002	.428	.002		.243
	N	365	365	365	365	365
Total END	Pearson Correlation	-.183**	.019	-.037	.037	1
	Sig. (1-tailed)	.000	.361	.238	.243	
	N	365	365	365	365	365
**. Correlation is significant at the 0.01 level (1-tailed).						

Research Questionnaire

Adolescent Questionnaire

Code …… **Date…….**

Introduction and consent

Hello, I am ANABA EMMANUEL, from University of Ghana Business School. I will like to take your opinion on the current status of adolescent health services provided in the adolescent health corner and whether they serve the needs of adolescents. I will like to ask you some questions and I assure you that nothing you tell me will be shared with anyone else without your consent. The information you provide will facilitate improvement in the quality of services by helping to address the challenges with service delivery. You can refuse to participate in the interview or stop it anytime if you wish. Your refusal to participate will not in any way affect the services you and your family receive. With this, I would like your consent.

If you agree to be interviewed please sign/ thumbprint here …….

I would like to thank you for kindly consenting to participate in this interview.

Section A: Demographic Information.

No	Question	Response	Check here (√)
1	Gender, please?	Male	
		Female	
2	Please, what is your religion?	Christianity	
		Islam	
		Others (specify)	
3	Please, what is your marital status?	Unmarried	
		Married/cohabitating	
		Other (specify)	
4	Please, how old are you?	……years.	
		Primary and below	

		Junior high	
		Secondary/vocational	
6	Please, what do you do currently? (Occupation)	Schooling	
		Not schooling	
7	Please, residential status?	Parent(s)	
		Not parents	
		Others (specify)	

Section B: Perception of quality of Healthcare Services.

Please, kindly answer the following questions by ticking in the (Yes) or (No) box.

No	Question		
A	**Health Literacy**		
8	Did you see a sign post indicating the operating hours, days and the type of services provided to adolescents in the facility?	Yes	No
9	Were educational materials on adolescent health and services available for you to read in the adolescent corner?	Yes	No
10	Were educational materials on adolescent health and services available for you to take home with you?	Yes	No
11	Did any service provider inform you about health services available in the adolescent corner or outreaches?	Yes	No
12	Did any service provider talk to you about how to prevent diseases and what to do to stay healthy?	Yes	No
B	**Facility Characteristics**		
13	Do you want the Adolescent Health Corner to be relocated outside the health facility?	Yes	No
14	Are you comfortable with the working days and time of the facility?	Yes	No
15	Were there curtains on doors and windows to ensure that no one saw or overheard you during the consultation or examination?	Yes	No
16	Was the facility environment adequately clean and welcoming	Yes	No
17	Were you able to get all the medicines or supplies that were prescribed for you to pick up at the facility?	Yes	No
C	**Community Support**		
18	Did someone accompany you to the adolescent health corner?	Yes	No
19	Do your guardians support your using of the adolescent corner?	Yes	No
20	Will you feel comfortable if you are seen by someone from your community while visiting the adolescent corner?	Yes	No
21	Do you think you can get healthcare in the adolescent corner without your guardian's awareness?	Yes	No
22	Do your cultural or religious values support your using of the adolescent corner?	Yes	No
D	**Appropriateness of Adolescent services**		

	Do you think you can get the following services in the adolescent corner if you need them?		
23	Pregnancy and Sexually Transmitted Infections test	Yes	No
24	Counseling on mental health, substance and sexual abuse	Yes	No
25	Family planning services like condoms, pills, injections etc.	Yes	No
26	General health services like treatment for malaria etc.	Yes	No
27	Did the service provider inform you that you can get these services through referrals or outreaches?	Yes	No
E	**Provider Attitude**		
28	Did the service provider spend adequate time to listen to you or examine you?	Yes	No
29	Did the service provider treat you in a respectful and friendly manner?	Yes	No
30	Did the service provider assure you that, your information would not be told anyone without your consent or awareness?	Yes	No
31	Did the service provider explain or demonstrate issues to your understanding?	Yes	No
32	Did the service provider condemn your decisions or actions?	Yes	No
F	**Equity and Non- discrimination**		
33	Did you see a display which mentions that services will be provided to all adolescents without discrimination?	Yes	No
34	Were you denied any services because you were not having money or health insurance?	Yes	No
35	Were you denied any service because of your gender?	Yes	No
36	Were you denied any service because of your marital status?	Yes	No
37	Were you denied any service because of your age?	Yes	No
G	**Adolescent's Participation**	Yes	No
38	Did you feel that you were involved in the decisions regarding your care?	Yes	No
39	Did you feel that you were involved in the decisions regarding your care?	Yes	No
40	Today, or in other occasions, were you or your friends approached to help facility staff in planning health services, or any activity to improve the quality of services such as surveys, participating in meetings to discuss the quality of care, or any other?	Yes	No
41	Do you have any ideas for how adolescents could get more involved in planning, designing and implementing good quality health care in this community?	Yes	No
42	Have you ever received information, counselling or health services in the community setting (for example in school, clubs, community meetings, or any other?	Yes	No
43	So will you recommend the adolescent health corner to your friends?	Yes	No

44	Overall, how will you rate the quality of health care at the Adolescent Health Corner?				
	Very Poor 1	Poor 2	Fair 3	Good 4	Very Good 5

Section C: Qualitative Data

45	What are some of the barriers you or your colleagues face when accessing health care services at the adolescent health corner? **1.** …… **2.** …… **3.** …… **4.** …….. 5. ……
46	What do you think can be done to improve the quality of health care for adolescents in the adolescent health corner? 1. …… 2. …… 3. …… 4. …… 5. ……

Comments

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……

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Thank you

UNIVERSITY OF GHANA
BUSINESS SCHOOL
DEPARTMENT OF PUBLIC ADMINISTRATION
AND HEALTH SERVICES MANAGEMENT

UGBS
University of Ghana Business School

Ref. No.:.....*PAHS/26*.....

23rd January, 2017

The Director
Tema Metropolitan Health Directorate
Tema

Dear Sir/Madam,

LETTER OF INTRODUCTION

The bearer of this note, Mr. Emmanuel Anongeba Anaba is a final year student of the University of Ghana Business School, Legon. He is undertaking a course leading to the award of Master of Philosophy in Health Services Management. As part of the requirements of the programme, he has chosen to research on the topic: ***Towards improving the quality of adolescent Healthcare in Ghana: A study of selected health facilities in Tema Metropolis.***

I would be most grateful if you could give him the necessary assistance to facilitate his data collection.

Thanks for your cooperation.

Yours faithfully,

Dr. Aaron A. Abuosi
Senior Lecturer/Supervisor

DR. AARON A. ABUOSI
SNR. LECTURER
DEPT. OF PUBLIC ADMIN. &
HEALTH SERVICES MGT.
UNIV. OF GHANA BUSINESS SCH

COLLEGE OF HUMANITIES
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In case of reply the number and date of this letter should be quoted.

My Ref. No. TMHD/

Your Ref. No. .....

GHS Core Values

- PEOPLE -CENTERED
- PROFESSIONALISM
- TEAM WORK
- INNOVATION/EXCELLENCE
- DISCIPLINE
- INTEGRITY

GHANA HEALTH SERVICE

Your Health - Our Concern

Tema Metro Health Directorate
GHANA HEALTH SERVICE
PRIVATE MAIL BAG
TEMA
Tel: 0507711236

January 23, 2017.

ALL HEALTH FACILITY HEADS, TEMA

LETTER OF INTRODUCTION MR. EMMANUEL ANONGEBA ANABA – STUDENT

This is to introduce to you the above-named final year student from the University of Ghana Business School, Legon, who has chosen to research on the topic: **'Towards improving the quality of Adolescent healthcare in Ghana: A study of selected health facilities in Tema Metropolis, Ghana.'**

This office shall be very grateful if you would, kindly, accord him the necessary assistance and supports to enable him undertake the exercise successfully.

Counting on your usual cooperation.

Thank you.

DR. JOHN B.K. YABANI
METRO DIR. OF HEALTH SERVICES
TEMA