EXAMINING THE GAPS IN ADOLESCENTS ACCESS TO CONTRACEPTIVES IN GHANA

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A thesis submitted in partial fulfilment of the requirement for the degree of
Master in Public Health
By
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Declaration:
Where other people's work has been used (either from printed source, internet or any other sources) these have been carefully acknowledged and referenced in accordance with departmental requirements. The thesis "Examining the Gaps in Adolescents access to contraceptives in Ghana" is my own work.

Signature: ----------

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LIST OF ABBREVIATIONS

AIDS	Acquired immune Deficiency syndrome
ARHP	Adolescents Reproductive Health Policy
ASRHR	Adolescents sexual and Reproductive Health Rights
CHAG	Christian Health Association of Ghana
CHN	Community health nurses
DFID	Department for International Development
EML	Essential Medicine List
ERHM	Essential Reproductive Health Medicine
FGM	Female Genital Mutilation
FHD	Family health division
FWCW	Fourth World Conference on Women
GAC	Ghana AIDS Commission
GBV	Gender Based Violence
GFPCIP	Ghana Family Planning Costed Implementation Plan
GDP	Ghana Drug Policy
GHS	Ghana Health Service
GNDP	Ghana National Drug Programme
GoG	Government of Ghana
HIV	Human Immune Deficiency Virus
ICPD	International Conference on Population Development
IUCD	Intra Uterine Contraceptive Device
JICA	Japanese International Cooperation Agency
LMIC	Low Middle Income Countries
MCH	Maternal and Child Health
MCH/FP	Maternal and Child Health/Family Planning
MEC	Medical Eligibility Criteria
MOF	Ministry of Finance
MoH	Ministry of Health
MSH	Management Science for Health
NDP	National Drug Programme
NHI	National Health Insurance
NHIA	National Health Insurance Authority
NPC	National Population Council
NPP	National Population Policy
NRHSPS	National Reproductive Health Service and Policy Standards
NYP	National Youth Policy
OCP	Oral Contraceptive Pill
OTC	Over The Counter
OOP	Out Of Pocket
PoA	Programme of Action
PHC	Primary Healthcare
PPAG	Planned Parenthood Association of Ghana
PPM	Procurement Procedure Manual
RCH	Reproductive and Child Health
RUM	Rational Use of Medicine

RSU	Rational Selection and Use
SDG	Sustainable Development Goals
SSNIT	Social Security and National Insurance Trust
SRH	Sexual and Reproductive Health
STG	Standard Treatment Guidelines
STI’s	Sexually Transmitted Infections
UNAIDS	United Nations Programme on HIV and AIDS
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugee
UNICEF	United Nations International Children's Emergency Fund
VAT	Value Added Tax
WHO	World Health Organization

ABSTRACT

Background: Adolescents are at high risk of unintended pregnancies and sexually transmitted infections which can be prevented by access to contraceptives and condoms respectively. However, the reality is that more than 70% of adolescents in Ghana do not have access to contraceptives.

Objective of the study: To critically analyse the gaps that influence adolescents access to contraceptives in Ghana and recommend evidence based practices that can be adopted by the MoH, GHS and stakeholders in adolescents sexual and reproductive health to improve adolescent's access to contraceptives in Ghana.

Methodology: Literature review was conducted on the subject matter based on the WHO 2004 access to essential medicine framework.

Findings: Gaps identified in adolescents access to contraceptives include inadequate government funding, inadequate implementation of the age appropriate comprehensive sexuality education, non-adherence to recommended guidelines, absence of specified strength for some contraceptives on the Essential Medicine List, irregular monitoring and supportive supervision, inadequate capacity of local pharmaceutical manufacturing companies to manufacture contraceptives, inadequate knowledge of staff on standard operating procedures of supply chain management and over reliance on donor assistance and funding for contraceptives.

Conclusion: Access to safe, effective, acceptable and affordable contraceptives for adolescents is essential in the attainment of SRHR. The Improving adolescents access to contraceptives in Ghana require not only putting in place demand side factors but also improving the supply side gaps identified in this studies. When these gaps are adequately addressed, adolescents' access to contraceptives may improve and unintended pregnancies and sexually transmitted infections among adolescents may as well reduce. Further, considerable gains may be realised on socio- economic aspects of Ghana's development.

Recommendations: adequate implementation of SRH policies for adolescent, add contraceptives to the NHIS list for adolescents access, regular monitoring and supervision of service providers to ensure they adhere to guidelines. Increase GOG funding for contraceptives procurements, and conduct regular supportive supervision to health facilities offering contraceptive services to adolescents.
Keywords: access, pregnancy, contraceptives, adolescents, sexuality, Ghana, affordability and funding.

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Introduction and Organization of the Thesis

Adolescence has been described as one of the critical transitional periods in the growth and development of humans from childhood to adulthood (1). During this period, sexual as well as physical and social maturity occurs (2). Their human rights are easily violated especially in the area of sexuality and marriage, resulting in unwanted pregnancies and sexually transmitted infection (STI).This is compounded by lack of access to sexual and reproductive health services in low and middle income countries (LMICs) in particular (3).

The major reproductive health challenge with adolescent in Donkorkrom as revealed by quarterly and annual report is increasing rates of teenage pregnancy. These reports indicate increasing trend of teenage pregnancy, unsafe abortions and related tragic complications. The District Health Management Team intensified its efforts and strategies to increase access to contraceptives for adolescents with the aim of reducing teenage pregnancy with its complications.

Awareness was created among junior and senior high students and communities but these yielded very little results. With the Conviction that when adolescent take control of their sexual and reproductive health by accessing and using contraceptives, cascades of future maternal and child health problems are being prevented, the student become interested in sexual and reproductive health (SRHR) especially for adolescents. Every opportunity was use to learn more about the subject with the aim of identifying challenges that prevent adolescents from having access to contraceptives and help them overcome it.
A research on adolescent's access to contraceptives will help identified new strategies that can be use or recommended to stakeholders to improve adolescents SRH in Donkorkrom and Ghana as a whole.

This thesis is organized in five major chapters with each further divided into sub chapters. **Chapter one** presents a description of the study setting-. It gives concise information on the Geography and demography, Culture, Ethnicity and religion, Economy and Employment, Education, Literacy and Gender, Socio-Political system, Health system and Health Financing, Reproductive Health Issues and Social networks, cultural norms and adolescents sexual and reproductive health in Ghana. **Chapter two:** focuses on the problem statement, justification, overall and specific objectives, methodology and the conceptual framework that is use for the analysis of this study. **Chapter three:** present literature review on the reproductive health policies that influence adolescents access to contraceptive, uses the MSH WHO framework on Access to Essential Medicines (ATM) framework on rational selection and use of essential medicines, affordable pricing, sustainable financing and reliable health and supply system. It further presents evidence based interventions that have worked in other counties to make recommendations to improve

adolescent's access to contraceptives in Ghana. This leads to **chapter four** which discusses the literature findings using elements of the framework. **Chapter** five gives a conclusion to the study and provides recommendations on how adolescents access to contraceptives can be improve in Ghana.

CHAPTER ONE: BACKGROUND INFORMATION ON GHANA

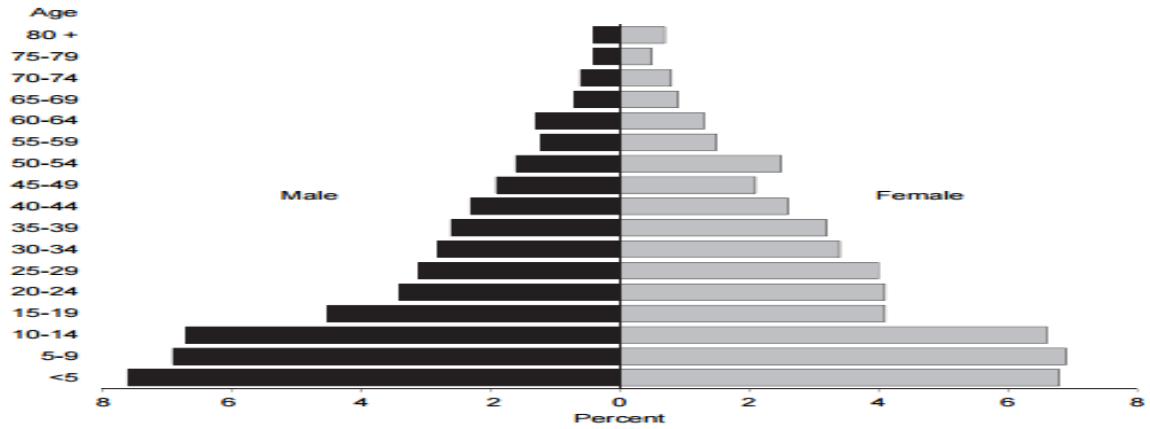
1. INTRODUCTION

This chapter presents description of the study setting-Ghana. It gives concise information on Geography and demography, Culture, Ethnicity and religion, Economy and Employment, Education, Literacy and Gender, Socio-Political system, Health system and Health Financing, Reproductive Health Issues and Social networks, cultural norms and adolescents sexual and reproductive health in Ghana.

1.1 Geography and Demography

Ghana is a country in sub Saharan Africa with a population of 24,658,823 of which 12,024,845 and 12,633,978 are male and female respectively. Ghana has a large youthful population of which 38.3% of adolescent are less than 15 years (4). The country is bordered in the east by Togo, west by Cote d'Ivoire, north by Burkina Faso and The Gulf of Guinea on the south (5). It has three ecological zones-the low sandy coastal plains, the middle and western zone characterized by a canopy of rain forest and the northern savannah surrounded by the black and white Volta Rivers (5). It is typically a tropical country with two main seasons-the dry (December – March) and the wet or rainy seasons (April -November), except in the Northern part where there are slight variations (5).

Figure 1: Population Pyramid of Ghana



Source: (5)

1.2 Culture, Ethnicity and religion

Ghana is a multi-cultural nation. There are diverse ethnic groups and traditional beliefs. Though English is the official language, it is known that the typical Ghanaian understand one of the major five languages (Akan, Ewe, Nzima, Dagbani or Ga). Ghanaians are very religious, 71.2% are Christians followed by Islam with 17.6%, 5.3% have no religion, 5.2% to traditional religion and 0.8% belong to other religion (4,6). Cultural and

religious influences SRHR of Ghanaian adolescents as sex before marriage is prohibited by all religious groups in Ghana (7).

1.3 The employment Sector, Economy and Employment

The private sector is the largest employer accounting for 93.1%, followed by the public sector employing 6.3% of economically active persons. The private informal sector remains the largest employer of the working population irrespective of sex and region of residence (4). As at 2010, there were 69,000 human resources for health. Of these 52,258 are formal in the health sector with 38% being non clinical support staff. The MoH employs 81.5% of the total health sector workforce (8).

Ghana has a Gross Domestic Product (GDP) of (PPP) $108.3 billion, per capita GDP of $4,129 and a growth rate of 4.2% growth. The current inflation is 15.5%. The Unemployment rate is 5.0% with adolescents in school forming majority (66.6%) of the economically not active population (9). Of the economically active population, about 41% are engaged in Agriculture (5,4).

1.4 Education, Literacy and Gender

The level of literacy has increased since 2000. Among population of 11 years and older, 67.1% can read and write English and 53.7% can read and write at least one Ghanaian language. In 2010, the nation recorded a literacy rate of 71.5% of the total population; of these 63.5% and 78.3% are female and male respectively. Adolescents 10-14 years are more likely to be highly literate in English than older adolescents (4,10).

1.5 Health system and Health Financing

Healthcare in Ghana is mainly provided by Government, faith based institutions and private health providers. The services of these providers are under the auspices of the MOH and GHS. The Ministry of Health (MOH) is the body responsible for formulation of policies, resources mobilization, monitoring and evaluation and regulation of health service delivery. The faith based, private and teaching hospitals are under the direct governance of the MoH (8). The GHS, an autonomous body is responsible for implementing national health policies among other functions under the control of the minister of health through the Ghana Health Service Council. It delivers healthcare at the national, regional, district, sub district and community levels in accordance with approved health policies (8). Within the GHS, the Reproductive and Child Health Department (RCHD) is responsible for sexual and reproductive health issues (11,12). The Korle-Bu, Okomfo Anokye and Tamale Teaching hospitals are autonomous with their management boards (13).

Healthcare financing in Ghana has gone through series of healthcare financing since independence in 1957. Current mix of financing for healthcare involves general tax, out-of-pocket (OOP), donor funding and health insurance (community based and national health insurance) (13).

The current National health insurance system was introduced in 2003; the National Health Insurance Authority (NHIA) was established under the national insurance health Act 852 to replace the user fee scheme that existed. Its aim is to ensure financial and universal access to healthcare services (14).

The scheme is financed by government budgetary allocations, levy of 2.5% on goods and services (VAT), 2.5% deduction from formal sector workers contribution to the Social Security and National Insurance Trust (SSNIT), Ministry of Finance (MoF) resources for exempted persons, Parliament allocations, donations and grants and premium paid by subscribers. The scheme currently reimburses almost all diseases in Ghana and has increases its enrolment up to 38% (14).

As of 2014, the General Government Health Expenditure (GGHE) as a percentage of Total Health Expenditure (THE) was 60%, out of pocket payment (OOP) as percentage of THE was also 27% whiles GGHE as percentage General Government Expenditure of was 7%. External resources as percentage of THE was 15% (15).

1.6 Reproductive Health

The current fertility rate in Ghana is 4.2 children per woman. However, rural women with no or little educational background have 1.7 children higher than their urban counterparts. Moreover, 22% and 39% of women usually have their first child before age 18 and 20 respectively (5). Antenatal coverage for 2014 was 87% a decreasing trend from 98.2% in 2011. Institutional delivery on the other hand increased from 44.6% in 2010 to 56.7% in 2014. Institutional maternal mortality ratio declined from 166 to 142 per 100,000 live births in 2010 to 2014 respectively (11).

Though child marriage is illegal in Ghana, available statistics according to the multiple indicator cluster survey (MICS), indicates that 28% of marriages among 20-24 year were ushered into before age 18. Similarly, the 2010 housing and population census revealed that 5.4% of girls between the ages of 12-17 were married at the time of the survey (16,4). Pregnancy rates among adolescents 10-19 year were 13.3% in 2011 and 12.1 % in 2014 respectively, adolescents seeking abortion services decreased from 18.9% in 2012 to 17.2% in 2014 (11).

The median age of first sexual intercourse for women and men 25-49 years is 18.4 and 19.8 respectively; comparatively the median age at first marriage is 20.7 years among women and 26.4 years among men. This indicates that women initiate sex before marriage (5).

CHAPTER TWO: PROBLEM STATEMENT, JUSTIFICATION, OBJECTIVES AND METHODOLOGY

2. INTRODUCTION:

This chapter begins with an analysis of the problem of interest, articulates a justification for studying the problem, presents the overall specific objectives of the thesis and explains the methodology and the conceptual framework that will be used to achieve the study objectives.

2.1 Problem Statement

The world's population is made up of about 1.2 billion (18%) adolescents (between the ages of 10-19 years), with 88% of them living in low and middle income countries (LMICs) (17). Each year, 11% of babies are born to an estimated 16 million adolescents and 3 million unsafe abortions are carried out (18). Further, Bearinger et al 2007, indicates more than 40% of all new cases of HIV are among adolescents (19). It is estimated that 30% of the world's population lacks access to essential medicines such as contraceptives, with adolescents in LMICs most affected (20). According to the United Nations Population Fund (UNFPA), as cited in Department for International Development (DFID), inadequate access to contraceptives will result in an extra 150,000 induced abortions, 800 maternal deaths, 11,000 infant deaths and 14,000 under 5 mortality annually (21). This makes the need for SRH services and access to contraceptives more urgent in these areas (22).

Historically, Ghana has made several policy interventions aimed at improving access to contraceptives. In 1983 Ghana's first essential drug lists (EML) and the standard treatment guidelines (STG) were published (23). In 1994, the National population policy (NPP) was published; it aimed at increasing contraceptive prevalence rate to 28% by 2010 and to 50% by 2020 (24). Additionally, in 2000, the Ministry of Health (MOH) developed the Adolescent reproductive health policy. To operationalize the policy, the Ghana Health Services (GHS) created the adolescent reproductive health corners in all government health facilities, in order to offer youth-friendly counselling and contraceptive services (25). In 2007, the Ghana essential medicine initiative (GEMI) was also established to provide access to essential medicines in rural districts of Ghana, as part of the strategies towards achieving MDG 8 (26). The National health insurance scheme (NHIS) was also established to ensure people have equitable access to basic healthcare services with the least financial burden (14).

These notwithstanding, there are still unacceptably high rates of maternal mortality, unintended pregnancy and induced abortion with long term tragic consequences on the SRH of women in Ghana. Adolescents

especially bear a disproportionately high part of the burden (27,28). Among adolescents, the demand for contraceptives increased from 66% in 2003 to 69.3% in 2014. However, only 26.8% of adolescents have access to contraceptives. 16.7% are of unmarried adolescents use any modern contraceptives whiles more than 50% of married adolescents have unmet need for contraceptives (5).

Studies show that national laws and policies restricting adolescent's access (29), inadequate availability of contraceptive services service, information and education, cost and educational levels are responsible for low contraceptive prevalence and use among adolescents in Ghana (30). It has also been noted that the few adolescents who have the courage to seek contraceptive services are met with stock-outs of commodities and unavailability of skilled and competent staff. These are further compounded by socio cultural influences that make the delivery of SRH services unfriendly in Ghana. In the traditional Ghanaian society SRH related matters are not openly discussed, this makes it difficult for adolescents to discuss such issues even with health workers (31). Available data describes the trend to be improving. However, there exist considerable gaps between awareness and accessibility to contraceptives for adolescents (32,10).

This study seeks to explore the gaps that exist with regards to adolescent's access to contraceptives based on review of available literature on Ghana. It does so by applying the WHO framework on essential medicines to identify, describe and analyse the gaps in access to contraception by adolescent in Ghana's healthcare delivery system.

2.2 Justification

Access to effective, safe, affordable and acceptable reproductive health services is an essential component in the attainment SRHR of individuals and communities (33). Undeniably, demand and community side factors influences adolescents access to contraceptives. Many of these demand side factors have extensively been studied. Yet much has not improved and adolescents continue to experience the effects of lack of access to contraceptives. This notwithstanding, adolescents access to contraceptives cannot be achieved if supply side factors are not adequately in place. In Ghana, supply side factors are a major bottleneck and have received little systematic studies.

Additionally adolescents who visit clinics to access contraceptives are usually challenged by financial access, stock-outs and inappropriate contraceptives methods. Providers who are inadequately trained on SRH opine adolescents abstain or limit them to the use of condoms only (34). These probably make the unmet need among adolescents twice higher than the older age groups (35).

Further, various studies have looked extensively at factors influencing adolescent's access to contraceptives but few have looked at it from the perspectives of equitable access to contraceptives as essential medicine. It is in view of the above that this studies review the supply side factor that influence adolescent's access to contraceptives and recommend evidence informed interventions to improve access to contraceptives for adolescents.

2.3 Overall objective

The objective of this study is to critically analyse the gaps factors that influence adolescents access to contraceptives in Ghana and recommend evidence based practices that can be adopted by the MoH, GHS and stakeholders in adolescents sexual and reproductive health to improve adolescent's access to contraceptives in Ghana.

2.4 Specific objectives

- To describe reproductive health policy that influence adolescent's access to contraceptives in Ghana.
- To describe and analyse the gaps in adolescent's access to contraceptives in Ghana based on the WHO Framework on equitable access to essential medicines.
- To make context appropriate recommendations to improve adolescents access to contraceptives in Ghana.

2.5 Methodology

This study reviewed literature and relevant information to the subject matter. Publications from institutional website such as the Ghana Health Service (GHS), Ministry of Health (MoH), Ghana Statistical Services (GSS), World Health Organization (WHO), United Nations Population Fund (UNFPA), and Guttmacher Institute, International Planned Parenthood Federation (IPPF) and Planned Parenthood Association of Ghana (PPAG) and other Websites that has relevant information to the study.

Data base such as PUB MED, Bio-semantics, Justor, **Cochrane Library** and the VU University Library were used to access Medline and the above stated web sites. Unpublished articles were also considered for the literature review. Only articles in English were considered, there was no time limit for year of publication of articles used. Snowballing retrieval of text was done using reference lists of published articles to get further information to compliment the search.

Table 1: presents search strategy and keywords used. Key words from the conceptual framework were used in combination with "AND", "OR" and "IN" to narrow down the search:

Table1: Literature search Table

#	Source			
		Objective 1	Objective 2	Objective 3
1	PubMed, VU e-library	"Unmet needs", "access to contraceptives", "Frameworks on access" "abortion services" "Population growth" "adolescents access" Ghana, "adolescent pregnancy"	"policy barriers tocontraceptives", "procurement of contraceptives" "manufacturing and supply of contraceptive"	"Global trends", "rational selection", "sustainable financing", "affordability reliable" "health system and supply'
2	National and International websites	'Ghana", "Access", "adolescents health policy", "Strategies and interventions" "evidence informed", "Contraceptives choice"	"reproductive health policies of Ghana", standard "treatment guidelines and protocols" "TRIPS agreements" "Cost of contraceptives" "affordable pricing and financing" "supply chain system", "international Patents rights", "Branded and generic", sustainable "funding for contraceptives", "Population council", "training of CHN and midwives", "private for profit"	"evidence based intervention", "investment in contraceptives" "funding Gaps"
3	Grey Literature	"Contraceptives use" "condoms" , girls, marriage, complications	International treaties,	"Comprehensive Sexuality" education, "Best practices"

2.6 Conceptual Framework

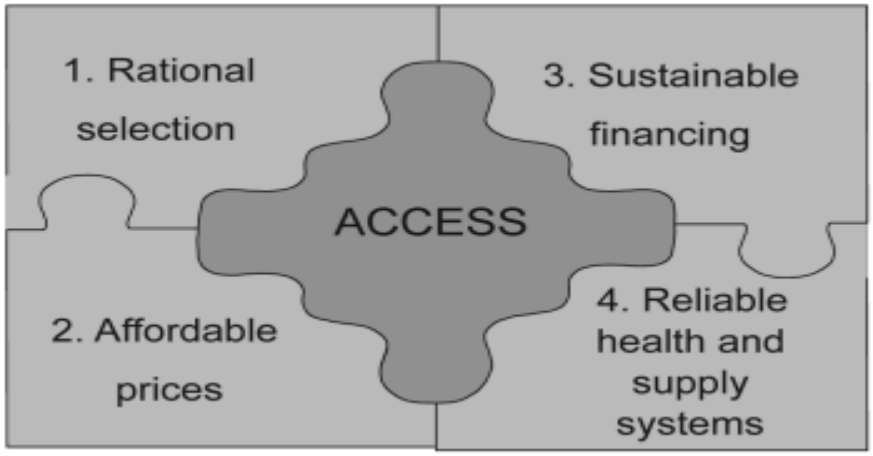
Access has been conceptualized by theorists in numerous studies. Pentchansky and Thomas (1981) stipulate that access is the degree of "fit between characteristics" of clients and the healthcare delivery system. They identified 5 groups of characteristics that exist between clients and health providers. The 5 referred to as the five A's of access to care include affordability, availability, accessibility, accommodation, and acceptability (36). Penchansky and Thomas' framework was adapted and formed the bases of the WHO access to essential medicine (ATM) framework by the WHO-MSH in 2000. The new WHO-MSH propounded the dimensions of access to include availability, affordability, acceptability, geographical accessibility, quality of products and services (37).

Peters et al. (2008) asserts that access barriers to the poor rise from demand side and/or the supply side. They explained that the demand side challenges determine households and communities ability to use the services whiles health care delivery barriers constitute the supply side constraints. They categorize interventions to address barriers to access into geographical, financial accessibility, availability, acceptability and quality (38).

The above frameworks can be used to analyse and determine intervention for this study, however, the WHO framework on equitable ATM (WHO MSH- 2004) was found to be suitable for the study. The framework discusses four major supply related factors that influence access to essential medicines in PHC delivery. These are (i) rational selection and use which discusses issues that affect rational therapeutic choices and those that improve clients use of drugs. (ii) affordable prices talks about equitable pricing on, (iii) sustainable financing looks at how available resources can be mobilized and decrease out of pocket payments and catastrophic expenditures, (iv) reliable health and supply system include health system strengthening, procurements and supply chain managements, laws and regulations and human resources that ensures equitable access to essential medicines and for that matter contraceptives (39).
All these components are very important and affects adolescents access to contraceptives, however due to the time available only selected elements of the Framework were discussed.
The Framework was found suitable because its concept of access has widely been use to study access to essential medicines (39). Also, the theme of access is very broad and complex but this Framework presents it in a structured form that makes it suitable for the analysis of this study. Finally, while there are many framework to study access to health services, this framework allows one to uniquely focus on the supply side factors influencing access to contraceptives as an essential medicine.

One may criticize framework for not taking into explicit consideration socio-cultural (individual and community) factors that influence adolescent's access to contraceptives. Such a criticism may be misguided as these socio-cultural factors have been captured in the various components of the framework.

Figure 2: MSH-WHO (2004) framework on access to essential medicine



Source: (20)

2.7 Limitations of the study

The study use open access articles published in only English, studies done in other languages which may contain relevant information may have been left out. Few studies have been done in Ghana among adolescents with regards to the supply sided factors, this limited the literature reviews. The study use more institutional reports than reviewed articles, this may lead to biases as institutional report may not necessarily present the situation as it is. Further there were limited systemic reviews on most of the institutional policies used; this gave a very narrow view of how effective they are for targeted problems.

CHAPTER THREE: LITERATURE FINDINGS

3. Introduction

This chapter presents findings from the literature review in accordance with specific objective 1 and 2. The **first section** presents finding on reproductive health policies relevant to this study. The section describes and identifies how adolescent's access to contraceptive is influenced by these policies. **Section 2** uses the WHO ATM framework to identify gaps in adolescent's access to contraceptives. The four elements of the framework (Rational selection, affordable pricing, sustainable financing, and reliable health and supply system), serve as subsections. Each subsection present findings that seeks to identify bottle necks at either policy or/and implementation level.

3.1 Reproductive Health Policies that influence adolescents access to contraceptives in Ghana.

This section presents findings on some reproductive health (RH) policies that influence adolescent's access to contraceptive. It describes RH policies in Ghana that are relevant to this study. It does so by first giving a brief introduction to the international context of SRHR, followed by analyses of the selected RH policies.

The SRHR of women is linked to the recognition of the fundamental human rights of couples and individuals. Following the International Conference on Population Development (ICPD) in 1994 and the Fourth World Conference on Women (FWCW) in Beijing (1995), there was a paradigm shift in the understanding of sexual and reproductive health (40). Sexuality was the main theme of these conferences with emphasis on human rights, women's empowerment and SRHR (41). Over the years global initiatives have been implemented to improve the health of women and adolescents. Two of these initiatives (Family Planning 2020 and the UN's Global Strategy for Women's, Children's and Adolescents' Health), were geared towards meeting all women's needs for modern contraceptives in order to reduce adolescent birth rates (42,43). These efforts, led to the advancement of the UN-led Sustainable Development Goals (SDG's), a global agenda to improve quality of life and end poverty by 2030. SDG's 3, 4 and 5, to a large extent depend on the improvement in the lives and health of adolescent (44).

In Ghana, family planning services (also referred to as contraceptive services) started as public welfare services by the Christian Council of Ghana in 1961. Later Planned Parenthood Association of Ghana (PPAG) extended contraceptive services throughout Ghana (45). In spite of these,

fertility rate increased and the population of Ghana doubled from 8.5 million to 25 million between 1970 and 2010 (46). To ensure a balance between the increasing population and social infrastructure, the National Population Policy (NPP) was formulated in 1969. The inability to achieve the objectives of this policy led to its revision in 1994 and the establishment of the population council in 1995 by ACT 485 of Ghana (47) . The revised policy includes emerging SRH issues such as HIV and AIDS, adolescent's RH and persons with disability. The revised NPP aimed at reducing Total Fertility Rate (TFR) from 5.5 to 5.0 by 2000 and to 3.0 by 2020 and increase contraceptive prevalence rate (CPR) from 15% by 2000 to 50% by 2020 and reduce population growth rate from 3% to 1.5% by 2020. Since then this policy is yet to be revised (24,47,48).

Following Ghana's ratification of ICPD and its programme of Action (PoA) in 1995, there was a shift from MCH/FP to reproductive and child health (RCH) and later SRH services which include the safe motherhood, family planning, prevention and management of STI's, infertility, unsafe abortion and post abortion care. It further gave recognition to adolescents SRH and gender based violence (47).

The Ghana social marketing foundation (GMSF), international planned parenthood federation (IPPF), PPAG, united nations population funds (UNFPA), United States Agency for International Development (USAID) all provide support for SRH of adolescents in Ghana. Together with Family Health International (FHI) these international organizations were instrumental in the development of policy guideline for contraceptive use in Ghana (49). They also play vital roles in contraceptive security and supply of contraceptive in Ghana. Relevant policies are formulated periodically to promote SRH in Ghana, relevant to this study are:

i. The National Reproductive Health Service Policy and Standards

The national reproductive health service policy and standards (NRHSPS) was first produced in 1996. This policy provided the guidelines for counselling and eligibility criteria for family planning methods in Ghana (50). In 2003, the policy was revised to include gender based violence (GBV) and SHR (47). It stipulated that spousal consent is not a prerequisite for providing contraceptives to both adolescents and adults. This policy promoted the recognition of the fact that women and adolescents are solely responsible for taking decisions that affect their sexuality. It facilitated the introduction of the mobile and static services to make contraceptive services available, accessible and affordable to all people including adolescents (45).

ii. The National HIV/AIDS and STI Policy

This policy was first formulated in 2001 as part of GOG's (GOG) response to HIV and AIDS. It established the Ghana AIDS Commission (GAC) in 2002. GAC is responsible for the coordination of all activities related to HIV and AIDS including procurement and distribution of condoms that

have proven to provide dual protection against STI's and unintended pregnancies (51). It further encourage the needs to make available at no or low cost to every Ghanaian regardless of age and sexual behaviour (52) Among other things, the policy made provisions for behavioural change communication, especially among sexually active adolescents (51,53).

iii. The Adolescent Reproductive Health Policy

Recognizing the challenges adolescents face in assessing SRH, the GOG formulated the Adolescent Reproductive Health Policy (ARHP) in 2000 (18). The policy aims at strengthening collaboration between public and private institutions involved in the implementation of SRH programmes among the youth (47). It objectives include

I. "To reduce the proportion of adolescents who marry before age 18 by 50% by 2010 and 80% by 2020.
II. To reduce by half the proportion of females who give birth before age 20 by 2010 and 80% by 2020.
III. To educate and inform about 80% of out-of-school adolescents on sexual and RH issues" (54).

The policy paved the way for the establishment of adolescent friendly facilities. It also led to the inclusion of SRH into secondary school curriculums (54). The ARHP however, emphasizes abstinence for all adolescents. In its pursuance, most programmes for adolescents emphasize abstinence over the use of contraceptive (11).

To this end, nurses in health facilities in Ghana impose barriers such as age restrictions and abstinence on adolescents seeking contraceptive services. At best, Condoms and short term contraceptives were recommended for adolescents (55). Additionally, adolescents generally are expected to remain chaste until marriage (56). This has led to a culture of silence where it has almost become a taboo to discuss sex with adolescents but adolescents engage in sex irrespective of this expectation (5). This has probable influence teacher's attitude towards the teaching of CSE (57). Studies show that teachers emphasize abstinence, presents vague concept of sexuality and use confusing terminologies and descriptions for "sensitive" words. These increases adolescents misconceptions and fear of contraceptives. Consequently, they lack knowledge on where to access such services if they decide to use contraceptives eventually. (58,56,59).

Abstinence is effective in the prevention of STI's and unintended pregnancies among adolescents, however abstinence alone programmes may not yield the desired outcome (55) as adolescents who practice abstinence may experience sexual violence and abuse or may decide to have sex (60). IPPF therefore urges the GOG to implement the policy on comprehensive sexuality education (CSE) and mandate the Ghana education services to teach age appropriate CSE at all levels of primary

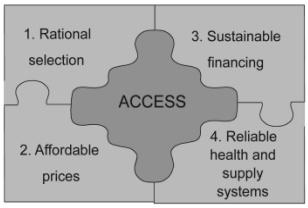
and secondary education (61). According to Oringanje et al. (2016) and the UNESCO 2015, when adolescents are given CSE it does not make them promiscuous, rather it presents them with the realities about the need to choose from a range of options to improve their SRHR, prevent HIV, delay sexual debut and increase access to contraceptives (62) (63).

iv. National Youth Policy 1999

The National Youth Policy (NYP) seeks to increase adolescents' knowledge on vulnerability to STI, including HIV and AIDS as major SRH issues. It also aims at decreasing new cases of STI and teenage pregnancy through the promotion of safe sexual practices among adolescents. It includes gender mainstream (ensuring gender sensitive interventions) in all development programmes. This policy by implication, recommends abstinence rather than contraceptives use to prevent STI's (64,65).

3.2 Using the WHO framework to identify gaps in adolescents access to contraceptives

This section presents findings that were identified using the WHO ATM framework to identify gaps in adolescents' access to contraceptives. The four elements of the framework, serve as subsections. Each subsection present findings that seek to identify bottle necks at either policy or/and implementation levels.



3.2 .1 Rational Selection and Use

This section discusses how adolescents' access to contraceptives is influenced by Rational Selection and Use (RSU), the use of treatment guidelines/protocol as well as rational and irrational use of contraceptives. Evidence shows that careful selection of limited range of essential medicines results in improved quality of prescription and of care, better management and quality of medicines and cost effectiveness in the use of health resources (66).

The conference of experts on rational use of medicines (RUM) convened by the WHO in 1985 requires that, people get access to medications appropriate for their health problems, in doses that meet their individual requirements, adequate for specific period of time, and at a cost that both the individual and community can afford (67). To ensure equitable access to essential medicines, the WHO in 1977, propounded the concept of essential medicines and the Essential Medicine List (EML). It encouraged countries especially LMICS to create their own EML based on their essential medicine needs, adapting the WHO's as a guide (68). The selection of essential medicines depend on their usefulness in primary Health Care (PHC), evidence of their efficacy, safety, quality, ability to be manufactured locally, identification by generic name and cost

effectiveness of the available treatment. The dynamic approach should be consultative, transparent and specify at which level of care it will be use (66). When WHO published the first Model of essential drugs, the current 2015 edition provides a list of safe and effective treatments for the majority of diseases and to achieve improved sexual and reproductive health status (69).
The EML has become useful for organizations such as the United Nations High Commission for Refugees (UNHCR), UNICEF, Doctors without Borders/Médecins Sans Frontières (MSF) and UNFPA in the procurement and supply of medicines (70).

The WHO recognizes the role and importance of RH medicines (RHM) and published the Interagency List of Essential Medicines for Reproductive Health (71). A survey conducted in 2003 by the WHO revealed that only 30% of contraceptives are on the EML of most countries. RHM comprised of contraceptives, drugs for treatment and prevention of STI's, HIV and AIDS, and those that promote safe and healthy pregnancy and child birth (33). The WHO recommends 12 core interventions that are essential for promoting RUM.

Table 2: The 12 key interventions recommended by the WHO for Rational Use of Medicines

1. A mandated multi-disciplinary national body to coordinate medicine use policies
2. Clinical guidelines
3. Essential medicines list based on treatments of choice
4. Drugs and therapeutics committees in districts and hospitals
5. Problem-based pharmacotherapy training in undergraduate curricula
6. Continuing in-service medical education as a licensure requirement
7. Supervision, audit and feedback
8. Independent information on medicines
9. Public education about medicines
10. Avoidance of perverse financial incentives
11. Appropriate and enforced regulation
12. Sufficient government expenditure to ensure availability of medicines and staff

Source: (67).

ii. Essential Medicine List in Ghana

The Ghana National Drug Program (GNDP) facilitates access to safe, effective, quality and affordable medicines for both the private and public sectors. Among other functions, it collaborates with appropriate stakeholders to develop and implement pharmaceutical policies that promote access to essential medicines. Ghana's first EML and therapeutic guidelines was developed in 1988 with the aim of improving and sustaining the health of Ghanaians by ensuring rational use and access to safe, effective, quality and affordable medicines and commodities (72). In accordance with the WHO's recommendations, Ghana's EML is reviewed every 3-5 years to upgrade the list to conform to WHO standards (73). The MOH has revised and published six editions of the EML. The latest, 2010 edition has 563 drugs of which 13 are contraceptives. Following the implementation of NHIS, the scheme developed its EML that guides the procurement and supply of drugs. Most medicines on its list are reimbursed. This list largely influenced by the Ghana's EML. As of 2010, contraceptives were not listed on the NHIS medicine list (74). According to Gribble and Clifton 2010, adding contraceptives to the EML advances efforts at achieving contraceptive security, however this may be challenged by limited funds and priorities may shift to vaccines and curative medicines (75).

EML are vital in supply chain management. It defines sets of medicines that are essential for the treatment and prevention of common diseases. It also guides the procurement, supply and prescription of drugs at all levels in the PHC (76). It is in this regard that, the MOH recommend the availability of EML at all health facilities. A survey conducted among public health facilities in Ghana, revealed that the regional medical stores (RMS) and the regional hospital procure medicines outside the EML. Health facilities also called for the revision of the EML to reflect their essential medicine (EM) needs (76). To this effect the EML has been reviewed to meet current essential medicines (74). Generally, adolescents accessing contraceptives from both public and private pharmacies in Ghana are not required to produce prescription (77).

In table 3.1, Ghana's EML list is compared with the WHO's recommended list to identify what differences exist in Ghana's EML. From the table below, Ghana's essential medicine list have 13 individual molecules as against 12 on the WHO's. Moreover, Ghana's EML did not specify the dosage required for Ethinylestradiol + Levonorgestrel and Ethinylestradiol + Norethisterone contraceptives (74). On the contrary Nigeria, a country in West Africa has EML that has well specified strength for contraceptives (78).

Table. 3: Comparison between Ghana's and the WHO essential contraceptive list

	WHO LIST	GHANA'S LIST
	Oral Hormonal Contraceptives	
	Ethinylestradiol + levonorgestrel: Tablet: 30 micrograms + 150 micrograms	Ethinylestradiol + Levonorgestrel
	Ethinylestradiol + norethisterone: Tablet: 35 micrograms + 1 mg.	Ethinylestradiol + Norethisterone
	Levonorgestrel :Tablet: 30 micrograms; 750 micrograms	Levonorgestrel 0.75 mg
		Conjugated Oestrogen + Norgesterol Tablet, 625 microgram + 150 microgram Conjugated Oestrogen Tablet,625 microgram
	Injectable hormonal contraceptives	
	Estradiol cypionate + Medroxyprogesterone acetate: Injection: 5 mg + 25 mg	
	Medroxyprogesterone acetate: Depot Injection: 150 mg/ mL in 1- mL vial.	Medroxyprogesterone Acetate Injection, 150 mg (Depot)
	Norethisterone enantate: Oily solution: 200 mg/ mL in 1- mL ampoule.	
	Intrauterine devices	
	Copper-containing device	
	Levonorgestrel-releasing intrauterine system: Intrauterine system with reservoir containing 52 mg of levonorestrel	Levonorgestrel Intra Uterine

	Barrier methods	
	Condoms	Male and female condoms
	Diaphragms	
	Implantable contraceptives	
	Etonogestrel-releasing implant: Single-rod etonogestrel-releasing implant, Containing 68 mg of etonogestrel.	
	Levonorgestrel-releasing implant: Two-rod levonorgestrel-releasing implant, each rod containing 75 mg of levonorgestrel (150 mg total).	Levonorgestrel Implant Contraceptives
	Intravaginal contraceptives	
	Progesterone vaginal ring: Progesterone-releasing vaginal ring containing 2.074 g of micronized progesterone. *For use in women actively breastfeeding at least 4 times per day	Conjugated Oestrogen Vaginal cream, 625 micrograms

(79,69).

iii. Standard Guidelines/Protocols for family Planning or contraceptives.

Standard Guidelines (SGs) are disease specific systemic reference tool for assessing, diagnosing, prescribing and treating clients at various levels of the healthcare delivery system. It is used to aid clients make an informed choice in the case of contraceptives (80). The implementation of the NHIS with it medicine list serves as a check to prevent practices such as poly-pharmacy, fraud and inefficiencies (80). According to the UNAIDS 1999, a well formulated and implemented guideline on contraceptives, enhances RSU of contraceptives and ensures equitable allocation of resources. When these guidelines are use with the EML it provides a solid foundation for the procurement and supply chain process. Hence the need to update and supportively supervise its use at all levels periodically (81,67).

The WHO developed and recommends the use of family planning technique guidelines for counselling and in guiding clients to make an informed choice. The guidelines – Medical Eligibility Criteria for Contraceptive Use, Selected Practice Recommendations for Contraceptive Use, Decision-making Tool for Family Planning Clients and Providers, and The Global Handbook for Family Planning Providers – are collectively known as the ”four cornerstones” for family planning (82).

The medical eligibility criteria (MEC) and the Global Handbook for Family Planning (GHFP) are the recommended guidelines for contraceptive use in Ghana. There is limited literature evidence on their availability in health facilities providing contraceptives. To improve access to contraceptives, the WHO assisted several countries including Ghana to simplify the MEC and made it available at all health facilities in Ghana. Assessment of this intervention few years after implementation received endorsement from health workers on its usefulness, handiness, user friendliness among other things (83). Other agencies have developed guidelines and protocols to aid the provision of contraceptives to adolescents. Pathfinder International also developed “Cue cards for counselling adolescents on contraceptives” based on the MEC and GHFP and recommends it for adolescent’ contraceptive services (84).

Hutchison et al. assessments of client satisfaction and quality of family planning service provision in Ghana, Kenya and Tanzania, found that the MEC and the GHFP are widely available in most public than private health facilities in Ghana (85). A baseline assessment of selected health facilities in Ghana by the population council suggests that, the MEC was available in most health facilities. However, not all service providers know and could use the guidelines in counselling and providing contraceptives, probably due to inadequate knowledge on its importance (86). This implies not all adolescents who visit health facilities may be counselled based on the recommended guidelines. Moreover, lack of knowledge of the content of these guidelines may further influence provider’s attitude toward adolescents and may recommend abstinence as the first option and services provided may not be youth friendly (87). Further, there may be inadequate counselling on side effects of the contraceptives chosen. This may influence access as adolescents may discontinue the use of the contraceptives (86,11) .

iv. Rational use of essential Contraceptives

Access to contraceptives can be influenced by inadequate knowledge and skill of staff to effectively counsel and administer long acting and permanent contraceptive methods (88). Following the WHO’s recommendation on task sharing and shifting with regards to implants services, selected CHN’s were trained (89). Prior to this training, the role of CHN‘s in SRH services did not include implants and IUCD services. The programme increased access to contraceptives and improved the skills of these nurses to prescribe and administer contraceptives appropriately.

Subsequently, there was a call for policy change for more CHN's to be trained and their curriculum upgraded to include such services (11,45).

The private sector's role in access to contraceptives cannot be overemphasized. Chemical/pharmacy shops are the first point of call for most people including adolescents accessing contraceptives. Among other things, they provide counselling and refer clients to clinics for other service (90,11). A study conducted by Keesara Et al. among post-partum women in Kenya, found that clients prefer to access contraceptives from private rather than public facilities. Reasons cited include confidentiality, short waiting time and respectful care (91). The situation in Ghana may not be different from that of Kenya. To facilitate access to and ensure these practitioners administer the appropriate contraceptives, FHD of Ghana collaborated with the Licensed Chemical Seller Association and Pharmacy Council of Ghana to upgrade the knowledge of some private providers (90,11). Suggestively, those trained are those recognized and belong to certified association. The challenge remains with private venders who do not belong to such associations but take advantage of the gap (more than 70% unmet need) of adolescents (90). Keesara et al. opines that standardization of care of these providers can improve access to contraceptive services for adolescents (91).

Irrational use of contraceptives

Irrational use of contraceptives occurs when they are prescribed, dispensed or sold inappropriately to adolescents. It also refers to adolescents not taking prescribed and dispensed contraceptives correctly (92). Irrational prescription and use of contraceptive is unethical. It leads to increased misconceptions about side effects such as menstrual irregularities (66).
Irrational use of medicine occurs when guidelines are not used in the procurement and supply of contraceptives. Needs assessment survey conducted by the population council in two regions of Ghana found 65% of the 149 providers interviewed, had no knowledge on and the importance recommended guidelines for contraceptives services (86). This implies contraceptive provision to adolescents is not guided by any recommended guidelines/protocols at these health facilities. This can also be said of the other 8 regions in Ghana. A study conducted by Otupiri et al 2013, and Ladin et al 2011, indicate the abuse of contraceptive by adolescents in Ghana (93,94). A hospital based case control study by Bhadoria et al 2013, also found that women who abuse and have long term use of oral contraceptives pills (OCP's) are 9.5 times more at risk of breast cancer than other women who were not using OCP's (95).

3.2.3 Affordable Pricing

This section looks at how access to contraceptives is influenced by the local production of pharmaceutical and marketing, equitable pricing, trade

policies, and the procurement of contraceptives in Ghana. The procurement of essential medicines and commodities is a determinant of the availability of the right medicines of an acceptable quality and at affordable price. A mismanagement of this process may influence adolescent's ability to afford contraceptive (96,97).

i. Production and marketing of contraceptives in Ghana

Ghana has 38 pharmaceutical manufacturing units, none of these manufactures contraceptives. Local manufacturers are actively involved in manufacturing and sales, particularly of over the counter (OTC) products. Local production accounts for 30% of the market, of these, 25% are OTC products. The remaining 70% of which contraceptives constitute a large component is imported by both private and public pharmacies. The low productivity of these local industries can be attributed to inadequate policies that make access to markets, finance and technology difficult (98,99). In 2005, more than half of these industries were certified Good Manufacturing Practice (GMP) by the FDA, but do not measure up to WHO recommended GMP standards.

There are however concerns that the FDA is not able to supervise many local manufacturer (98), though most of them are yet to meet WHO recommended prequalification criteria. To this effect, the FDA organizes trainings for manufacturers to enable the local industries meet the prequalification requirements (100). Considering that contraceptives are imported from India and China, the FDA tries to ensure that the quality of contraceptives procured is not compromised. The FDA is responsible for import control and through its pharmacovigilance centre; it tries to ensure that drugs manufactured or imported meet approved quality standards (100). This has not been achieved as Ghana continually records the presence of counterfeit EM including contraceptives in public and private health facilities (98). In 2013, the FDA impounded several boxes of fake condoms from China (101). Adolescents may become use to branded contraceptives thereby rejecting generic versions. It is important that the qualities of these brands are ascertained (102).

ii. Trade policies

Ghana is a member of the World Trade Organization (WTO) and a signatory to the TRIPs agreement. The Registrar General's Department is responsible for enforcing patents and Intellectual Property Rights in Ghana (103). As a middle income country, Ghana is not eligible for the transitional period which ends in 2016. There are no legal provisions for maximising TRIPs specific flexibilities, data exclusivity for pharmaceuticals, patent extensions or patent authorization. These imply that Ghana may be unable to secure cheaper medicines. The consequences of this is high pricing of contraceptives which may be too

expensive for adolescents who are mostly schooling, unemployed and still dependent on their parents or guardian to afford (104).

Ghana's distribution system for medicines is flooded by importers, distributors and wholesalers (99). There are Zero import duties on all materials and equipment's needed for the production of formularies, however, finished products attract 10% import duty. There was also the refunding of 15% VAT imposed on all resources for formulary production but this was withdrawn in 2013. To further help the local pharmaceutical industry grow, the GOG, formulated policies that prohibit the importation of finished formulations of 14 commonly used products excluding contraceptives (99,98). According to Mackintosh et al (2016), those banned formularies are manufactured adequately in Ghana and at 1.5 times cheaper than when they were being imported (99).

This implies that when contraceptives are manufactured locally, they will be much more affordable to adolescents especially. However inadequate finance, lack of essential technology and international manufacturing policies militate against the local production of contraceptives in Ghana (99).

iii. Procurement of contraceptives

The National Reproductive Health Commodity Security (RHCS) Strategy of 2011–2016 was formulated among other things to ensure contraceptives are accessible. It works with the Inter-agency Coordinating Committee for Commodity Security (ICC/CS) to ensure contraceptive security at all levels of the healthcare delivery system (45).

The procurement of EM is guided by the Ghana's EML and the STG at the Central Medical Stores (CMS), Regional Medical Stores (RMS) and at all levels of health care delivery (96). The procurement of contraceptives is based on the principle of decentralization and autonomy of individual facility within the cycle of procurement and distribution. These individual facilities make procurement decisions based on the procurement procedure manual (PPM). The PPM outlines steps on contract packages, specifications, timelines for bid advertisement, opening and evaluation as well as roles and responsibilities of personnel (103). The procurement of contraceptives is supported by Japanese International Cooperation Agency (JICA), UNFPA, and USAID (96).

The private health sectors are fully autonomous and engage in "negotiated" and "direct" procurement and supply of contraceptives. According to Ashigbie et al 2016, this may cause the prices of contraceptives to be higher in private facilities than public health facilities (105).
The type of contraceptives procured into the country comprise of brands of combined oral contraceptives (Lo-femenal/ Microgynon) and progestin

only pills (Ovrette and Micronor); Progestin-only injectables (Famplan/Depo-Provera); a monthly combined injectable (Norigynon); Condoms (male condom and female condoms, vaginal foaming tablets (Neosampoon); Implants (Norplant); and intra-uterine devices (Copper-T) (102).

Sterilization for male and female are accessed more in the public facilities than the private facilities. The limited number of skilled providers who can administer these methods has resulted in its being under-utilized; also most people who utilize these methods are people who already have the desired number of children (5).

iv. Equitable Pricing

Ghana NRHSPS aims at making contraceptives free or at low cost for everybody including adolescents. Implies that there is the need to put in place mechanisms to make contraceptive prices affordable or free (45). Government still subsidizes contraceptives, which are then sold to adolescents at prices lower than the open market price. Nonetheless, a study conducted by Asante, in some selected PHC facilities revealed on the average a client spends Gh¢ 86.2 out of pocket (OOP) per annum on combined injectable contraceptives (106). This implies adolescents may be unable to afford modern contraceptives from the health facilities (104). Under the NHIA provisions, there are exemptions for ANC and deliveries services but contraceptives are excluded from the exemptions and are not reimbursed by the NHIS compounding adolescent's access financially (107,5).

The NHIA Act of 2012 mandate Family Planning services to be included in the NHIS benefits package, four years on this provision is yet to be operationalized (45,5). Such exclusions can result in difficulty in accessing contraceptives. As a result adolescent may become pregnant and attempt self-induced abortion. Interestingly care for such pregnancies and complications arising from induced abortions are covered under the NHIS (88). To ease the financial burden on adolescents, a pilot study is underway in some parts of the country, to assess the feasibility of implementing free contraceptives for all, irrespective of NHIS status (45). There is limited literature on the positive effects of adding contraceptives to NHIS; however, Chaitkin et al. 2015, indicates that insured clients are more likely to access preventive and curative health services. Kohler et al., 2012a; Naik et al. 2014, as cited by Chaitkin et al. 2015, further suggests that insurance schemes generally increase contact between women and contraceptive service providers, increases revenue necessary for facility level supply chain management and it may incentivize providers to improve quality of contraceptive services for adolescents (108). Similar findings have also been documented in Rwanda which suggests that inclusion of contraceptive services in the NHIS increases

access to healthcare and makes it conducive for uptake of contraceptives (109).

Though the private sector is noted to be profit oriented, Marie stopes, PPAG and other Civil service organizations usually provide contraceptives to adolescents at cheaper cost. These have contributed to increase the coverage for contraceptive. For example PPAG's activities resulted in the aversion of 30, 783 unintended pregnancies, provided 277,523 women with new contraceptive methods and increased Couple year Protection by 39% (61).

The table below present the unit cost of the various contraceptives available in Ghana.

Table 3 : Unit cost of contraceptive services in Ghana

Family Planning Service	Unit Cost	
	GH¢	US$
Natural family planning (NFP) method	11.75	6.53
Lactational amenorrhoea method (LAM)	11.25	6.25
Female condoms	135.29	75.16
Male condoms	20.43	11.35
Diaphragm/cervical cap	N/A	N/A
Spermicides	N/A	N/A
Combined cral contraceptive (COC)	26.87	14.93
Combined injectable contraceptive (CIC)	82.60	45.89
Progestin-only pills (POP)	19.46	10.81
Progestin-only injectable (POI)	45.72	25.40
Implants	63.11	35.06
Intrauterine devices (IUDs)	19.39	10.77
Voluntary surgical contraception (tubal ligation)	52.20	29.00
Voluntary surgical contraception (vasectomy)	46.36	25.76

N/A—service was not provided in 2012 by the sites/facilities visited for data collection.

Source: Asante (106).

3.2.4 Sustainable financing for contraceptives in Ghana

This section presents finding on donor assistance and public funding for contraceptives in Ghana. To understand sustainable financing, the entire healthcare financing has to be taken into consideration. Financing cut across all the WHO building blocks and its desired outcome. It performs three basic function of risk pooling, increasing revenue and purchasing (110). Although most developing countries use diverse healthcare financing mechanisms, there is often more room for better or increased spending on essential medicines (39). The WHO also stipulates that LMICs can increase public spending on health and essential medicine through

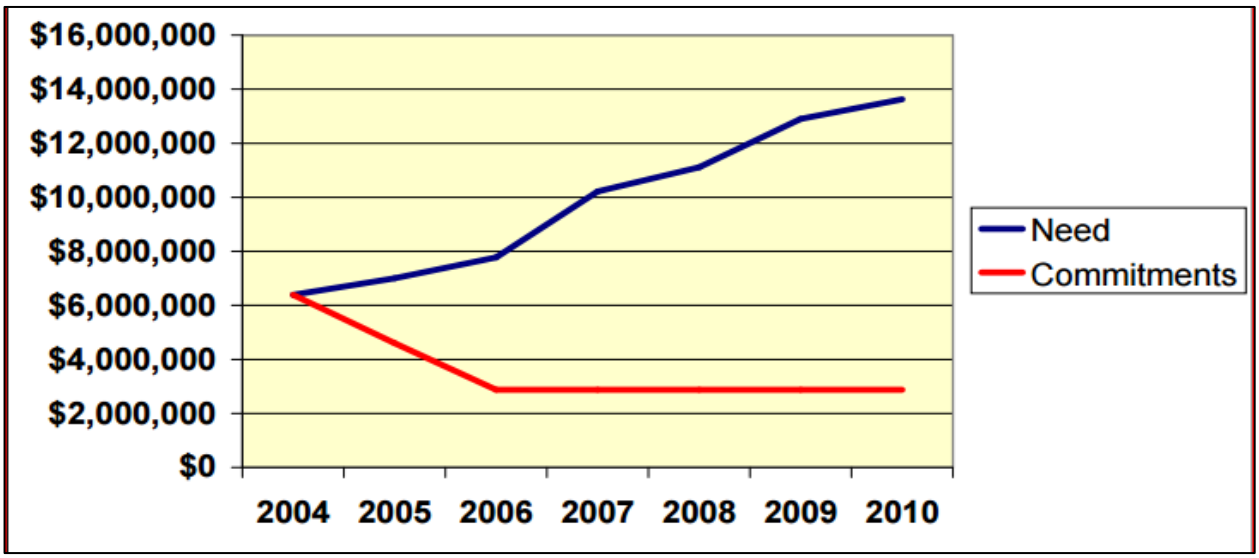
increased public funding, OOP spending and cost sharing with patients, health insurance, donor assistance and development, loans, donor funding and donations of medicines (66).

A study conducted by Singh and Speidel suggests that an investment of a dollar into contraceptive services yields a $4 gain that would have otherwise been spend treating complications associated with non-use of contraceptives among adolescents. Further, reduction in fertility rate is associated with economic gains from expenditure in health, education, housing, water and sanitation (111,112). The Ghana FPCIP 2015-2020 further suggests that adequate investments in family planning in Ghana, will prevent over 2.3 million unintended pregnancies, more than 800,000 abortions, over 30,000 under five deaths, and more than 5,000 maternal deaths by 2020. Additionally, the public health and educational sectors, as well as infrastructure, will make significant gains due to increased contraceptives use (45).

i. Donor Assistance and Funding for contraceptive in Ghana

The GOG has made policies to improve access to and utilization of modern contraceptives; however, there are no budgetary allocations for contraceptives (102). The MoH funding for contraceptives is heavily dependent on international donations and funds. About 75% of contraceptives are donor funded by UNFPA, UNSAID and DFID (45). According to Mohammed (2014), the over-reliance and dependency funding has resulted in lack of policy ownership, non-harmonization of SRH programmes and distorts implementation of contraceptive programmes. Consequently, contraceptives programmes may be faded out of GOG priorities due to lack of adequate funding (113). Further, over-reliance has resulted in a huge funding gap as shown in figure 3.1. For example in 2010, there was an estimated contraceptive funding need of US$ 13.6 million but a total of US$ 2.8 million was committed by both government and donors (102).

Figure 4: Ghana Contraceptive Financing Gap 2004-2010



Source: MOH (102).

These gaps have often resulted in contraceptives stock-out especially at the facility levels decreasing adolescents' access. In 2010 and 2011 respectively, DFID carried out what it termed "emergency procurement" of injectables and implants to prevent anticipated stock out in Ghana (114). A review of literature on contraceptives stock-outs by Douglas-Durham et al.(2015), indicates that frequent stock-outs was the reason for discontinuation of contraceptives and is a major cause leading to unintended pregnancy among adolescents in Kenya, Uganda and Senegal (32). Similar findings have also been documented among adolescents in Uganda according to Nalwadda et al. (2011) as cited by Chandra Mouli (28).

These notwithstanding, the negative consequences of unreliable and unsustainable donor funding coupled with the global debate on whether to withdraw or continue to give donor assistance to LMICs implies an alternative financing mechanism is needed (115).
To address the challenges of non-harmonization of programmes the GFPCIP (2015), stipulates that all stakeholders should align all programmes, strategies and funding with those stated in the GFPCIP 2015-2020 strategic plan. Among other things, it mandates the MoH to hold all stakeholders responsible for the achievements of such programmes (45).

ii. Public funding for contraceptives:

Increasing public spending on essential contraceptives has the potential to increases adolescent's access to such services. Developing countries have limited fiscal space for increased spending and usually rely on donor funding (110). Between 2000 and 2001, GOG relied on World Bank loan to support the procurement of contraceptives. The GoG expenditure for contraceptives and other commodity purchases range from as high as $1.4 million (USD) in 2009 to low of $55,517 in 2011.

One of Ghana's first contraceptive Security (CS) plans was the establishment of the ICC/CS in 2002. This made GoG assumed some financial responsibility. These funds are either delayed or not released at all, an indication that contraceptive funding are not prioritise and do not measure up to contraceptive demand and supply (102,45).
The inadequate funding from GoG, also affects the various levels of service provision. Transporting of contraceptives and other commodities from the regions to the district health facilities remain a major consequence of inadequate funding by GOG. This result in frequent stock-outs of contraceptives at the facilities and may influence adolescents' access (45). The NHIS was introduced to reduce the burden of direct OOP yet almost half (47%) of all cost are borne by clients. It is important that efforts are made to increase sources of funding (116).

Figure 5: Reproductive Health Commodity Procurements financing in the public sector, 2008-2013.

	2008	2009	2010	2011	2012	2013	2014
Total GoG funds allocated for procurement (USD millions)	$1.91 million[clxvi]	$2.49 million	$1 million	$2 million	$2.24 million	$3 million	-
GoG expenditure contribution (USD millions)	$1.3 million	$1.4 million	$1.24 million	$55,517	$1.35 million	$1.16 million	$2.39million
% of GoG budget released	68%	56%	124%	3%	60%	39%	-
Donor funding (USD millions)	$5.64 million	$1,95 million	$3,78 million	$3.53 million	$5.08 million	$3.3 million	$6.81million
Total expenditure on commodities (USD millions)	$6.94 million	$3.35 million	$5.02 million	$3.58 million	$6.43 million	$4.46 million	$9.20million
GoG contribution (%)	19%	41.8%	25%	2%	21%	26%	26%
Donor contribution (%)	81%	58.2%	75%	98%	79%	74%	74%
Total expenditure on contraceptives as a percentage of the amount needed to be procured (%)	not available	not available	48%	89%	112% [clxvii]	214% [clxix]	160% [clxx]

Source: (45)

iii. Cost sharing with patients:

According to the WHO, cost sharing should be a temporary measure towards a more equitable financing mechanism such as national health insurance (92).

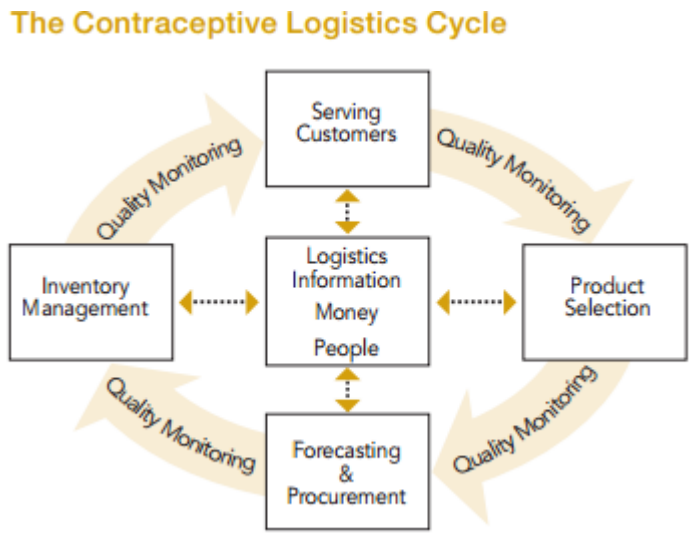
A study by WHO, found that patients in Ghana on the average pay about 3 times more than the recommended international reference price for medicines. It further revealed that Clients of private and mission facilities in rural communities pay slightly higher amount for medicines but vice versa for those in the urban centres (117). This coupled with indirect cost of transportation among others, could deter adolescents especially from accessing contraceptives services. A study conducted by Awusabo et al found that cost of contraceptives and distance to health facilities were cited by adolescents as reasons for not accessing SRH services (7).

3.2.5 Reliable Health and Supply System of contraceptives

According to Beith et al,(2006), as cited in Gribble and Clifton (75), reliable supply system is essential in ensuring and improving access to contraceptives and may lead to the prevention of unintended pregnancies and STI's. It further ensures that contraceptive programmes are responsive to client's needs. A good supply system relies on accurate and timely information such as stock level and demand (75).

i. Supply Chain management of contraceptives

Figure 6: The contraceptive Logistics cycle



According to Gribble and Clifton (2010), designing a system for effective and sustainable supply chain of contraceptives requires strong political commitment and quality monitoring system of the contraceptive logistic cycle as presented in the in Figure 4. They suggest that that this cycle can only be effective if adequate investment and monitoring is made in the number of trained staff, infrastructure and information management system (75).

The purchase of pharmaceuticals in Ghana follows international and local competitive procurement (102). Ghana uses a centralized drug supply system to procure and supply contraceptives to facilities. The Procurement Unit of the MOH is responsible for contraceptive purchases and donated contraceptive commodities from donors while the CMS stores and sell/distribute the contraceptives to all facilities via the 10 RMS (96).

ii. Ware Housing and Distribution

Ghana has a functional public procurement management, warehousing and delivery system. There are three points of ware housing –Central Medical Store (CMS), Regional Medical Stores (RMS) and the District Medical Stores (RMS) (96). Ghana has only one CMS which is situated in Accra. It is responsible for warehousing, quantification and forecasting of contraceptive commodities. In 2015, the CMS was guttered by fire. This created shortage of some Essential medicines and necessitated the pharmaceutical society of Ghana to donate and call on all Ghanaians to donate one Ghana cedi each to refurbish the CMS (118). The existence of

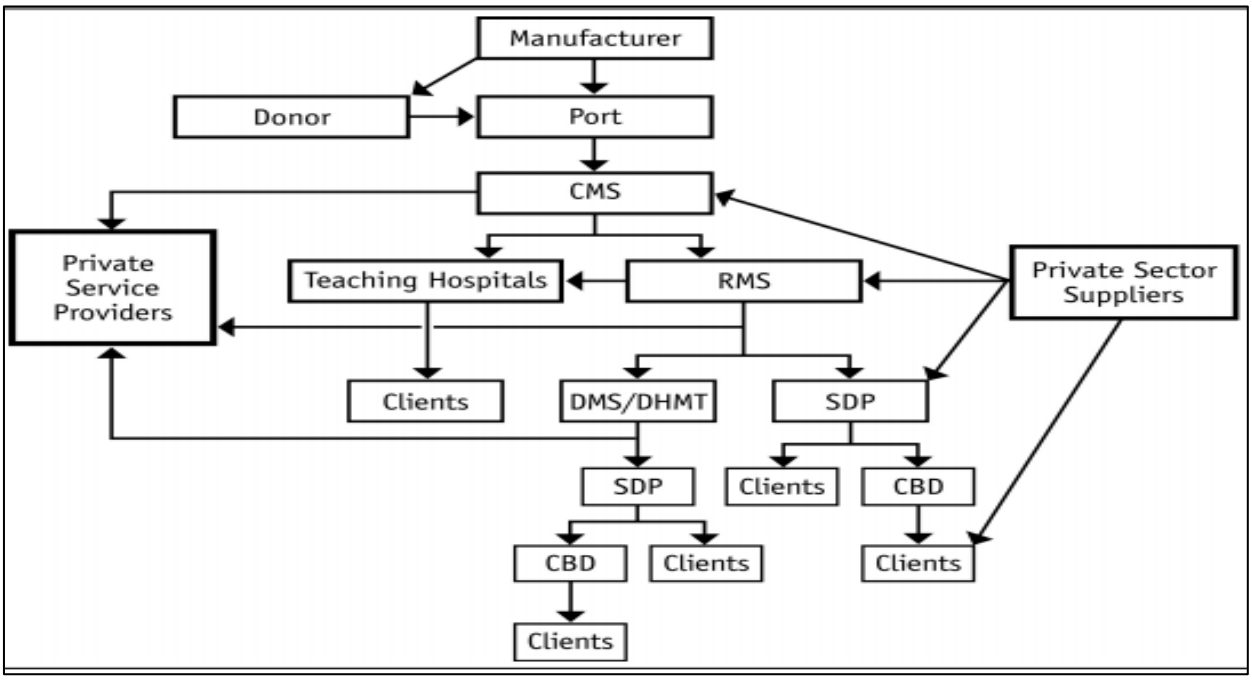
just one CMS in central part makes movement to the northern part and other deprived regions very challenging. The Regional Medical Stores serve as a link between the facilities and the CMS by storing and distributing contraceptive commodities to facilities. Contraceptive supply has been integrated into the sector wide system (SWS). The SWS has challenges that compromises timely and availability of good and quality contraceptives. Moreover the limited number of staff coupled with inadequate knowledge on existing standard operating procedures (SOPs) for relevant procurement and supply documents results in inadequate quality assurance and inventory (102).

While MOH policy restrict facilities from procuring contraceptives from private sector, periodic stock-outs and inefficiencies in the public sector prompt private sector purchases at all levels (99).This sometimes leads to acquisition of substandard or high priced medicines, which are passed on to adolescents.

iii. Public- private-NGO MIX

The public –private NGO mix approach is recommended as an additional means of ensuring availability and timeliness of quality medicines and supplies (75). In Ghana the private sector (both for profit and not for profit) plays important roles in making contraceptives accessible to women, especially in the rural areas. However, the process is very complex and without effective coordination, which sometimes lead to delayed shipments, high prices, and ultimately, reduced access to contraceptives. Figure 3.4 illustrates the mix of suppliers in Ghana.

Figure 7: Contraceptives Delivery System, Ghana



Source: (119).

For example the Food and Drugs Authority has the equipment and the legal mandate to test medicines for quality and issue approvals certificates (120). The government also established centres for testing traditional medicinal products and issuing certifications. But they are unable to cope with all the suppliers in the market leading to the proliferation of substandard medicines into the system, which coupled with fear of side effects, could lead to contraceptive failure and discontinuations among adolescents (11). The public sector supply system is also largely inefficient, due to shortages in staffing, funding, transportation and storages equipment. Although the private sector may have more funds and means to distribute contraceptives, they have high risk of supplying substandard medicines and high prices than in the public (45).

V. Quality Assurance through Regulatory Control

Quality of contraceptive services to adolescents does not merely refer to having contraceptives but requires that all necessary steps are taken to ensure that the services meet adolescent's requirements (34)
The regulatory authorities, pharmaceutical producers, distributors, and other stakeholders have the responsibility of enforcing the regulations necessary to ensure the quality of contraceptive products. In Ghana, the Food and Drugs Authority (FDA), as enshrined in the Public Health Act, 2012 (ACT 851) controls the manufacturing, exportation/importation, distribution of pharmaceuticals (120). The FDA regulates drug approval and ensures quality of pharmaceutical. The approval of drugs may take between 6-10 months compared with 100 and 90 working days in Nigeria and Kenya respectively (121). The cost of technical assistance inspection is borne by the applicants. The process of drug approval has been criticised as being complex and may encourage frequent stock-out, high prices of medicine as well as the influx of unauthorized and substandard medicines into the country (121).

At the facility level, inadequate staffing, coupled with high workload and inadequate may result in poor understanding of contraceptive use (45). Moreover irregular supportive supervision and monitoring had been reported as a disincentive for staff performance (122). Consequently, adolescents may not use contraceptives appropriately, resulting in failure and deter follow up and continuation (28).
Additionally, about 70% of rural communities do not have health personnel. Adolescents may have to travel longer than the WHO recommended 5km distance, incurring additional cost to access contraceptives (8). To this end the GHS adopted the concept of youth friendly services for adolescents. This has however not been without challenges as the attitudes of some healthcare providers in some of these facilities have been described as unfriendly, thereby preventing adolescents from further accessing contraceptives (45).

vi. Traditional and complementary medicines

The WHO also recommends integration of traditional and allopathic medicines in the mainstream healthcare delivery, to improve access and the quality of services (20) According to WHO, about 70% of Ghanaians depend exclusively on traditional practitioner for their healthcare needs (123). The Traditional Medicine Practice Act 595 (passed on 23 February 2000) regulates traditional and allopathic medicine practice in Ghana. Although, the MOH has a traditional medicine directorate, their services are not properly supervised. Adongo and et al. suggest that most women in Ghana rely on herbal products for contraception (124). This may partly be due to the fact that most Ghanaian women do not have adequate information on the side-effects of modern contraceptives (56). Though available study did not find evidence of use of herbs or alternate medicines for contraceptives, the fact that some adolescents seek abortion and ANC services from traditional practitioners is worth mentioning in this study (125).

3.3 Evidence informed interventions

This section provides evidence informed approaches that have been used in other countries to solve gaps identified in Ghana per the findings in this study.

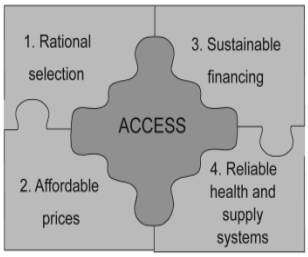
- Evidence informed interventions for policy change

It is evident from the findings that Ghana's intervention targeted at preventing unintended pregnancy is skewed towards abstinence (126). A systematic review by Oringanje et al. (2016), found that interventions that combines contraceptive education, skill-building and promotion are the most effective. It was found to reduce about 34% of adolescent risk of unintended pregnancies (62). This conclusion was based on moderate quality results. Contrary to the fears of most parents and other opposition groups, the study found no difference in early initiation of sexual intercourse among adolescents who were exposed to the intervention and those who were not. Oringanje et al (2016), further, it found that none of the interventions, when implemented in isolation, can lead to the reduction of the risk of adolescent unintended pregnancies (62). The findings suggest that the policy emphasis on sex education in schools without contraceptive promotion is counterproductive. Countries such as South Africa have promoted contraceptive use among adolescents with promising results (127).

- Evidence informed interventions Government Funding

The family health international reports that the governments of Kenya and Tanzania, have both shifted from in-kind donor contributions to government-managed financing and procurement of contraceptives (128). In 2005, Tanzania created a line item for contraceptive procurement in their annual budget. The experience of Kenya and Tanzania show that it is feasible for Ghana to take control of contraceptive supply. What may be lacking in Ghana is the political will to implement

CHAPTER FOUR: DISCUSSION OF FINDINGS



This chapter discusses the findings from the literature review. Section 4.1 analyses the SRH policies that influence adolescents access to contraceptives whiles section 4.2 uses the WHO-MSH ATM framework (2004) to analyse findings on RSU, affordable pricing, sustainable financing and Reliable health and supply system. The uniqueness of the framework helped to identify the supply sided factors that influence adolescents' access to contraceptives and makes it more suitable for this study compared with other access frameworks. It further aided the achievement of the overall objective of this study by providing structured elements that formed the themes for the analysis.

4.1. Adolescent Reproductive Health Policies in Ghana

Ghana's response to the challenges facing adolescent's access to SRH was to formulate policies that will create the enabling environment for adolescents to have adequate access to contraceptives. The ICPD and its PoA also highlighted the need for women and adolescents sexual rights to access contraceptive services (54,47). Ghana's ARHP, emphasize abstinence over contraceptives use and this has been evident in many adolescent RHP such as the family Health division's (FHD) programmes for adolescents (11). The facts that the policy emphasizes abstinence have led to most programmes in Ghana being abstinence-only programmes. Some health workers have misinterpreted this undue emphasis, offer and restrict adolescents seeking contraceptives to abstinence alone or at best to condom use (87). This raises concern about human right issues as abstinence only policies and programmes withhold health and life threating information from adolescent's (60). Further it contradicts recommendations by UNESCO that adolescents SRH programmes must necessary lead to a delay in the initiation of sex and made available contraceptives for adolescents who may decide otherwise (63).

Additionally the implementation of the AHRP has not been adequate. This may be because policy makers in attempt to pacify moral and religious critics do not enforce implementation of these policies. If adolescents are being restricted from accessing contraceptives by nurses who are in facilities dubbed youth Friendly, it an indication that these nurses themselves do not understand the concept of ASRHR which the SRH policies enumerated in the previous chapter has established. This attitude towards adolescents by nurses is probably influenced by the Ghanaian cultural norms and values that encourage abstinence till marriage. These may have also influenced teachers to avoid or replace words which are

considered "vulgar" and "sensitive" when teaching sexuality education (59).
It must be noted that per the conditions of ICPD and its PoA which Ghana have ratified, adolescents are to receive age appropriate comprehensive sexuality education (CSE) that include introduction to and information on full range of contraceptives for adolescents who cannot abstain. Moreover, the policy emphasis on abstinence has probably resulted in increased knowledge but low usage of contraceptive as indicated in the GDHS 2014 (5).
Abstinence in itself is not a bad option, but the fact remains adolescent at a point may want to have sexand there should therefore be options to ensure that they practice safe sex.

4.2. Rational selection and use

i. Essential Medicine List

In accordance with the WHO's recommendations, Ghana has formulated and updated six EML as at 2010. This has been done to reflect changing epidemiological trends of diseases among populations in the country. The EML has been made available at all levels of healthcare delivery and is use for the procurement and supply chain management. A critical examination of the EML revealed that Ethynilestraldiol + Levonorgetrel, Ethynilestraldiol + Norethisterone and Levonorgetrel intra uterine have no specified strength (74). This may lead to misquotations and delays in procurement, supply and contraceptive stock-outs. This probably results in discontinuation of contraceptives by adolescents (96).
This demonstrates how unreliable donor funding for contraceptives can affect national policies as indicated by (113). It is also possible that the revision of the current EML was done at a time when stock-out of contraceptives was anticipated (2010 and 2011) and the DFID had to do emergency procurement to save the situation. This notwithstanding, considering the usefulness of the EML for contraceptive security such omissions can lead to the procurement of substandard, and prescribers may have a hard time determining exactly what should be the recommended strength especially for adolescent.

ii. Standard Guidelines/Protocols for contraceptives

Findings suggest that Ghana has standard guidelines and policies such as the GHFP and the MEC. These are widely available in health facilities (85). However, inadequate knowledge of providers on the guidelines implies they are not being implemented fully. The limited literature on contraceptives guideline may be that they are not available in many facilities. It is worth noting that guidelines on their own do not improve access to contraceptives it is only when they are used for prescription that they can improve access to contraceptives for adolescents. Ghana can adopt the cue cards (84) or popularise any of the "cornerstones" designed

by pathfinder to provide adolescent specific counselling and ensure its use through supportive supervision.
When service providers are supervised adequately and intermittently, loopholes such as the non-adherence and use of guidelines are identified and rectified. Practically, introduction to new and updated guidelines through a day's in-service training or workshop is often inadequate for most staff. Thus, adolescents may not be adequately served with the appropriate contraceptives, leading to misconceptions about side effects and discontinuation.
Involvement of the private Sector: the role of private chemical sellers in adolescent's access to contraceptives cannot be over emphasized. The Pharmacy Council of Ghana with the GHS has tried to regulate the activities of private service providers such are registered pharmacies and health facilities (90,11). However, unlicensed and unregistered chemical sellers provide substandard medicines; they take advantage of the huge (73%) supply gap by providing substandard medicine (5) which often leads to increased contraceptive failures, unintended pregnancy and unsafe abortions. Negative experience may deter further utilisation even from qualified and licensed providers

4.3. Affordable pricing

i. Manufacturing and Marketing of contraceptives

There are no manufacturing plants for contraceptives in Ghana; all contraceptives are imported mainly from China and India. Mackintosh et al. noted that locally manufactured medicines are cheaper than imported medicines (99). However most local pharmaceutical manufacturers lack funds, technology and expertise to meet recommended international requirements. Additionally though Ghana has the right political and economic environment to manufacture contraceptives, local manufacturer do not meet WHO GMP to obtain the right to manufacture essential contraceptives. Consequently, contraceptives are imported at high prices, though part of these cost are absorbed by GoG and donors, adolescents may have to pay high prices to access contraceptives in the private sector. The high cost of contraceptive is felt more by adolescents who may access contraceptives from the private for-profit sector, due to long distances to public health facilities, respect and confidentiality provided at these places. Other NGOs including PPAG and Marrie stopes international Ghana (MSIG) often dispense contraceptives free to adolescents but these are not done regularly forcing adolescents to discontinue their use. The Public sector still remains the largest provider for contraceptives services to adolescents. This requires a more effective measure to make contraceptives affordable to all adolescents.

ii. Equitable Pricing

Cost is a key determinant of adolescent's access to contraceptives. Adolescents in Ghana are usually unemployed, schooling and dependent

on their parents or guardians. To access contraceptives such adolescents may have to pay not only the direct but also the indirect cost such as transportation, especially where services are located further from their homes. Although the WHO recommends the inclusion of contraception in insurance package, Ghana's NHIS package excludes contraceptive services (14). The implications are that adolescents who are unable to afford the price of contraceptives may not also be able to afford safe abortion if they get pregnant. Studies suggest that pregnant adolescents self-induce abortion in order to access safe post abortion care which, although is more expensive, is covered by the NHIS (88). Including contraceptives could help reduce the rate of unintended pregnancies and unsafe abortions. Moreover, it is not clear how Ghana can achieve a reduction in fertility by making ANC and free Delivery if little room is given for people to access contraceptives at low cost or free of charge. Making pregnancy and delivery services free whiles adolescents pay for contraceptives, by implication may be discouraging adolescents from using contraceptives. This could probably explain why there is an increasing rate of unintended pregnancy among adolescents (5). However it is important to note that most of these pregnancies results from unmet needs for contraceptives which would have prevented the occurrence of these pregnancies and abortions.

4. 4. Sustainable financing

i. Donor Assistance and funding for contraceptives in Ghana

Evidently, GoG funding for the health sector has generally not been able to meet the recommended 15% of GoG budget as indicated in the Abuja declaration. Adding contraceptives to the NHIS has been recommended by the WHO as an alternative to user fees. It is more reliable and sustainable than donor reliance, however there is the risk of moral hazard if contraceptives provided completely free for everyone. In some countries such as Nicaragua, vouchers are distributed to poor women and adolescents to enable them access contraceptives (34). Donor contribution in itself is not bad but when there is overreliance on them and they dictate the pace of contraceptive programmes, it's become problematic. The over reliance on donor funding could result from inadequate GOG commitment to contraceptives especially for adolescents. Generally, government allocate large percentages of budgets to curative rather than preventive health, due to underestimation of preventive services and commodities such as contraceptives. GOG stands to gain if adequate investments are made in contraceptives. It is important that the pilot project being implemented is scaled up and its usefulness on adolescent's access to contraceptives assessed.

4.5 Reliable Health and supply system

The findings show that although distribution systems are in place, the contraceptive supply system as a whole is neither reliable nor sustainable. The procurement unit for instance hardly procure contraceptives because as the facts show, donors decide the quantity and variety of contraceptives to procure. In terms of warehousing, the reliance on one central management store proved to be inadequate when a fire disaster in 2015 burnt all stock of medicines, causing shortages of all essential medicines.

The distance between the CMS in Ghana's capital, Accra and the northern part of the country also means the RMS need to travel to Accra for all essential drugs which is expensive. This affects the distribution system as there are already challenges of transporting contraceptives to various part of the health care delivery system.

Moreover, inadequate staff and their knowledge on standard operating procedures also mean that stock management may be inadequate. Further information needed for forecasting and timely procurement may be lacking, accounting for the stock-outs that usually occur. FDA is challenged by up to date technology that results in delay in intercepting fake drugs on the market. These fake products end up in the facilities long before they are stopped. Meaning some consumers may have used them unknowingly, some of whom may have resulted in contraceptive failures or side effects. For adolescents, such experiences may only confirm their misconception about contraceptives and discourage further usage.

The traditional and complementary medicines, though abundant in virtually every chemical shop, are neither documented nor properly regulated. Their impact on adolescent may be similar to the substandard medicines in the black market. The fact that they are used as abortifacients and aphrodisiacs, especially in the rural areas and the urban slums, also meant that side effects may be common.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Access to effective, safe, affordable and acceptable SRHR is an essential component in the attainment of SRHR of individuals and communities. Despite the near universal knowledge of adolescents on contraceptives, more than 70% of adolescents in Ghana do not have access to contraceptives. Though this trend is reported to be improving, there is a wide gap between knowledge and access to contraceptives. This study used the WHO 2004 framework on access to ATM identify gaps in adolescents' access to contraceptives in Ghana. Some of the gaps identified include inadequate government funding for contraceptive procurement, inadequate implementation of the age appropriate comprehensive sexuality education, non- adherence to recommended guidelines for the provision of contraceptives to adolescents, absence of specified strength for some contraceptives on the EML, irregular monitoring and supportive supervision of service providers, inadequate capacity of local pharmaceutical manufacturing companies to manufacture contraceptives, inadequate knowledge of staff on standard operating procedures of supply chain management and over reliance on donor assistance and funding for contraceptives.

5.2 RECOMMENDATIONS

5.2.1 Adolescent SRH policy

- The NPC and MoH should review and update the ARHP to include contraceptive options for adolescents who cannot abstain.
- MOH, GHS and GES: should organise in service training for teachers at all levels on age appropriate CSE. Further, the curriculum of teacher training colleges should be revised to include CSE and district directors of education and district public health nurses should be mandated to supervise and ensure that teachers lessons to pupils are age appropriate, content specific and devoid of misconceptions.
- MOH and GHS: should conduct value clarification training for all CHN and other cadre of nurses who provide contraceptives especially in the public sector to be confidential, non-judgemental and professional in their dealing with adolescents.

5.2.2 Rational selection and use

- MoH and GHS: should popularise the use of the MEC or the GHFP and encourage providers to adhere to it.
- MoH and GHS: should include how to use recommended family planning guidelines in the curriculum of auxiliary nurse's trainings schools so they become conversant with these guidelines and use them in the provision of contraceptives to adolescents especially.
- MoH and GHS: should mandate line managers to conduct regular monitoring and supportive supervision of service providers to ensure they adhere to the use of recommended guidelines for family planning.
- MoH, NDP, and GHS: should ensure that all contraceptives on the EML have the recommended strength. If for any reason this cannot be it should be explained in the EML.

5.2.3. Affordable pricing

- GOG and Private pharmaceutical companies should explore the possibilities of locally manufacturing contraceptives to ease the burden of importing high cost contraceptives.
- FDA should regularise the training and ensure local manufactures meet the WHO recommended standards of GMP.
- MoH and GHS should advocate for timely completion of the ongoing research to assess the feasibility of making contraceptives free for all and and scale to the other regions.

5.2.4 Sustainable financing

- MOH, NHIA and GHS advocate for GOG to expedite procedures to operationalise the inclusion of contraceptives on the NHI EML.
- MoH, Donors, GHS and NGO should hold GOG accountable to fufil its abuja declaration and budget allocations for contraceptive commodities.

- GoG: should start exploring alternate sources of contraceptive financing in the face of dwindling donor support.

5.2.5 Reliable health and supply system

- MOH and GHS: should establish a CMS for the northern sector to reduce the cost of transportation and also to serve as back up for contraceptive security.
- Ghana pharmacy Council: explore avenues to regulate the practise of unlicensed private chemical sellers.
- The Mampong centre for scientific research: into plan medicine should be supported to conduct research into the use of plants as contraceptives.

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