SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA

ECONOMIC BURDEN OF TEENAGE PREGNANCY ON HOUSEHOLDS IN ELMINA COMMUNITY

BY

MAVIS TSAAKO NARH

(10239643)

THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF PUBLIC HEALTH DEGREE

JULY, 2017

DECLARATION

I declare that all information produced from this project is a result of my own research. Other works cited have been duly acknowledged by means of referencing. No part of this research has been presented elsewhere for another degree.

Signature: _____

Mavis Tsaako Narh

(Student)

Date: 04/10/2017

Signature: _____

Dr. Genevieve Cecilia Aryeetey

(Supervisor)

Date: 4/10/2017

DEDICATION

This Dissertation is dedicated to my beloved children Dennis Ofosu, Michael Ofosu, and Emmanuella Ofosu for their encouragement and support throughout the course of this programme.

ACKNOWLEDGEMENT

This dissertation is a team effort. Many individuals and institutions have contributed to it. I owe a gargantuan debt of gratitude to Dr. Genevieve Cecilia N.O. Aryeetey my supervisor, who continuously encouraged me to put my shoulders to the task by providing the needed guidance and support. I am also grateful to Prof. Moses Aikins and Dr. Justice Nonvignon for their useful suggestions. To the Staff of the School of Public Health, I say "Thank you" for providing mentorship.

My heartfelt appreciation goes to Dr. Samuel Tetteh Kwashie, the Regional Director of Health Service, for Central Region for his fatherly support, Dr. John Otoo, the District Director of Health Service, Komenda Edina Aguafo Abirem District for allowing me carry out this research in his District. I thank the following individuals who provided me with information. They include: Mr Emmanuel Edum-Fotwe, Mr. Anthony Ayisadu, Mrs Juliana Armah, Mr. Richard Darku, and Mr. Collins Sakyi. I am also grateful to Benjamen Quainoo and Frank Atombo, the research assistants who helped with data collection.

Special thanks to Mrs. Vida Odoi, Mrs Constance Jenkins, Mr. Ebenazer Koomson, Mr Solomon Frempong, Miss Yvonne Graham Hayfron, Mrs Rose Sackey, Miss Priscilla Amaninampong, Miss Sarah Nartey, Mr. Michael Mireku Opoku, Miss Nana Asor Boateng, Mr. Madeez Adamu-Issah, Miss. Portia Dzivenu, Mr. Humphrey Nkumsah-Riverson and Miss Charlotte Eleanor Okae for their encouragement. My Parents, Mr. Davis Narh & Miss Janet Tawiah, have my approbation for providing for my foundational education. Finally, I wish to express my sincerest thanks to God Almighty for making this work possible. Any errors, omissions and misrepresentations remain the responsibility of the author.

ABSTRACT

Introduction: Teenage pregnancy is the situation in which a teenage girl, usually between the ages of 10 and 19 years, becomes pregnant. Most teenagers do not plan becoming pregnant but they may do. These girls who have become pregnant are faced with the numerous challenges associated with parenthood. The study, however, aimed at estimating the economic burden of teenage pregnancy on households in Elmina community.

Method: The study adopted the cross-sectional survey which makes use of the collection of data to make inferences about a population of interest. Descriptive analysis was used to generalize the research results and conclusions were drawn. Data was gathered by administering questionnaire comprising both open and close-ended questions. A sample of 100 household heads in Elmina was involved in the study. Out of the 100 households, 90 responded to the questionnaires. Data was analyzed using Statistical Package for Social Sciences (SPSS).

Results: Direct medical cost that household heads spend when there is teenage pregnancy in the home. The mean direct medical cost was estimated at GHS 1,593.00 (USD 359.62). This meant that the average household in Elmina spent more in terms of the minimum wage. Again, indirect cost (travel costs, absenteeism and hours spent with the child) of teenage pregnancy in a household is very high. The valued waiting time cost the household heads as much as GHS1, 144.25 (85.3%) a month while the valued travel time cost the household heads GHS197.23 (14.7%) a month.

Conclusion: From the findings, it was realized by the researcher that, indirect cost of teenage pregnancy to the household is very high.

TABLE OF CONTENTS

LIST OF TABLES

LISTS OF FIGURES

LIST OF ACRONYMS

CDC	Centers for Disease Control
GHS	Ghana Health Service
GNA	Ghana News Agency
GSS	Ghana Statistical Service
HSRC	Human Sciences Research Council
IQWiG	Institute for Quality and Efficiency in Healthcare
NCPTUP	National Campaign to Prevent Teen and Unplanned Pregnancy
PIH	Pregnancy-Induced Hypertension
SIECCAN	Sex Information and Education Council of Canada
UK	United Kingdom
UNFPA	United Nations Food and Population Agency
USAID	United States Agency for International Development
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background

In this modern era, teenage pregnancy with its resultant teen motherhood has become a major problem facing many countries especially the under-developed ones (Gyan, 2013). Almost half of the world's populace is under 24 years, with about 1.8 billion of the population who are 10 to 24 years old living in developing countries (United Nations Population Fund, 2014). Although there is a global decline in adolescent fertility in recent decades, teenage pregnancies, births, and their accompanying undesirable results remain serious problems in many countries (UNFPA, 2013; Guttmacher Institute, 2014; World Health Organization, 2014). This menace has stimulated as much scrutiny and policy deliberations in developed countries such as the United States of America, as well as in developing countries of Africa. A study carried by the United Nations Regional Institute for Population Studies indicated that "one out of three girls aged 15 to 19 living in Ghana's Central Region has had a child. The area's fertility rate is 5.6 %, compared to the national rate of 5.5 %" (Xinhua, 1996) Adolescent pregnancy in Ghana remains a public health concern with ramifications that embrace a variety of social, monetary and health costs, on individuals, households and communities as a whole.

Currently, motherhood in adolescents is a major public health issue in most nations. United Nations Population Fund (2013) said "more than half the women in sub-Saharan Africa and about one third in Latin America and the Caribbean give birth before the age of 20 years." According to the Ghana Demographic and Health Survey Report

2014, on the whole, 14 % of females age 15-19 have begun reproduction, 11 % have delivered and 3 % were pregnant within the research period. The segment of youngsters who have commenced childbirth upsurge swiftly with age, from 1 % at 15 years to 31 % at 19 years. Adolescents domiciled in rural settings (17 %), those in the Brong Ahafo, Central, and Volta regions (21-22 %), those with no education (23 %), and those in the second wealth quintile (21 %) incline to begin motherhood earlier than other teenagers (GSS, GHS & ICF, 2015).

Over the past five years, teenage pregnancy and parenting have been on the public health and political platform. One of the explanations for this is the United Kingdom's consistently high rates of teenage conceptions and live births in relation to the rest of Europe. A second reason is growing recognition of the reciprocal relationship between poverty, teenage parenthood and social, health and economic inequalities teenage parents tend to come from deprived or socially excluded backgrounds, and becoming a teenage parent tends to have the effect of exacerbating these inequalities (Mayor of London, 2007).

Adolescent pregnancy has a lot of health repercussions. Mortality is twice as high amongst teenagers aged 15 to 19 year olds compared to 20 to 24 year olds (UNFPA, 2007). Teenage mothers and their babies are known to be exposed to both short and long term risks associated with pregnancy at that age as a result of unpreparedness and physical immaturity. "Stillbirths and death in the first week of life are 50 % higher amongst babies born to mothers younger than 20 years than amongst babies born to mothers 20–29 years old" (WHO, 2014). The rates of premature birth and low birth weight are higher amongst children of adolescents swelling the likelihood of fatality and potential health problems for the baby (Nyinaku, 2010). Again, many young people

face blockades to their health and well-being, comprising lack of access to contraception, unpremeditated gestation, dangerous abortion, HIV, sexual compulsion, and judgment centered on gender, gender uniqueness, and sexual alignment. Literature has associated the level of formal education of the adolescent, economic status, peer influence, child/parent relationship, religious affiliation, knowledge and usage of contraceptives to be among the major contributory factors to this menace.

1.2 Statement of the Problem

Globally, teenage pregnancy is a serious public health problem that needs immediate attention. It is estimated that sixteen million adolescents deliver each year which is about 11 % births worldwide. The rates of teenage pregnancies and births in Ghana compare favorably to neighboring and other low- and middle-income countries. Costs resulting from teenage pregnancy consist of continuing emotional, social and economic drawbacks for the young mother, as described by lower academic achievements, lower earnings, and a larger risk of becoming a single parent (Sullivan, Clark, Castrucci, Samsel, Fonseca, & Garcia, 2011).

In Ghana about 750,000 teenagers between 15 to 19 years were estimated to become pregnant annually (Ghana News Agency, 2013). The central region, in recent times has been consistently ranked as one of the regions with high prevalence of teenage pregnancy rate in Ghana. The region recorded over 13,000 teenage pregnancies in 2016 with Komenda, Edina, Aguafo, Abirem District reporting 793 cases. About half of the reported cases were reported by those between the ages of 10 to 14 years (GNA, 2013). The ascending rate of teenage pregnancy in the region could be attributed to negligence in parenting, broken homes, and peer influence among others. In addition, misconceptions regarding the utilization of contraception, insufficient number of

workers with necessary expertise to render services at healthcare facilities and inadequate care for emergency obstetric and neonates were some health challenges faced by the district (GNA 2013).

The consequences of teenage pregnancy on teenagers and their households are varied as there are social consequences, psychological consequences and economic consequences. Although, studies have looked at the social consequences, there is little knowledge about the economic burden of teenage pregnancy on households. The determination of this study was to explore the considerable economic drift of households finances associated with taking care of a pregnant teenager, and to determine the cost of each individual family. These costs included those incurred on child care, transportation to health facility, remediation, housing, financial support, social and psychological encounters faced by these households.

1.3 Objectives

1.3.1 General Objective

The general objective of this study was to estimate the economic burden of teenage pregnancy on households in Elmina community.

1.3.2 Specific Objectives

The specific objectives of this study are:

1. To estimate the direct cost of teenage pregnancy.
2. To examine the indirect cost of teenage pregnancy.
3. To determine the intangible cost of teenage pregnancy.

1.4 Research Questions

The research questions for this study are as follows:

1. What are the burdens of teenage pregnancy on households in Elmina?
2. What are the direct costs of teenage age pregnancy on households in Elmina?
3. What are the indirect costs of teenage pregnancy on households in Elmina?
4. What are the intangible costs of teenage pregnancy on households in Elmina?

1.5 Justification

Although the problem of teenage pregnancy and motherhood is cross-national, very few comparative and cross-national analyses exist. Taking care of a pregnant teenager can be a major drain on the household's finances. The need to estimate the economic burden cannot be underestimated. Understanding the economic burden of teenage pregnancy on households can help families hold themselves in readiness towards pregnancy, delivery and postpartum. It will also support policy makers figure out, knowledge on teenage pregnancy related economic consequences, and how households contend with this challenge. Also knowledge of economic burden on households would inform financial experts to come out with innovative schemes that will protect households from stressful financial moments associated with teenage pregnancy. For health care providers, costing data would be advantageous in planning and implementing and scaling up interventions in the curbing of economic burden arising from teenage pregnancy. It is believed that the study would complement existing knowledge on economic burden (cost) of teenage pregnancy on households. It is also

anticipated that this study would aid researchers and students who want to pursue a study on this topic especially in Ghana.

1.6 Conceptual Framework

Taking care of a pregnant teenager involves money, time and psychological issues. The family as well as the pregnant teenager are faced with unplanned for expenditure and emotional challenges. Three (3) main classifications of cost are identified in health economics. These are direct costs, indirect costs, and intangible costs as shown in Figure 1.

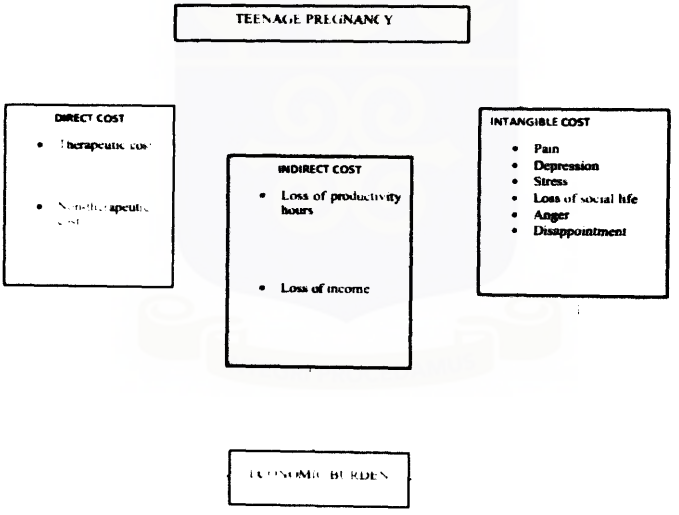

Figure 1: Conceptual Framework of the Economic Burden of Teenage Pregnancy

Direct costs are partitioned into direct medical and direct non-medical. With the direct medical cost being costs incurred when the pregnant teenager visits a health facility, such as monies paid for consultations, laboratory investigations, medications, abdominal scans, delivery, postnatal services etc. Direct non-medical costs include health cost that are not directly related to the pregnancy such as food, water, transportation cost of the pregnant teenager to and fro the health facility for care, items for the mother and baby during delivery etc.

Indirect costs include precious time spent with pregnant teenager while travelling to the health facility for antenatal session, waiting time whiles the teenager receives care, time spent with her when she feels unwell because of the changes going on in her immature body, time spent with her when she is delivering, through the moments you supervise her feed her baby, bathe and clothe it etc. Intangible costs are attributed to the psychological challenges associated with having a teenager household member becoming pregnant, which cannot be directly expressed in monetary terms. These include heart ache of not seeing your daughter to the alter or marrying before she becomes pregnant, the ridicule she receives from her neighbors, the stress of not completing school, the stress of seeing your teenage girl going through delivery pain etc. These direct and indirect costs culminate to give the total economic burden of teenage pregnancy.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter focused on the definition, causes, and effects of teenage pregnancy followed by a discussion the concepts of the burden of teenage pregnancy. The economic burden of the phenomenon on households, addressed financial and non-financial consequences globally and within the Ghanaian context.

2.2 Definition of Teenage Pregnancy

The Health – Cares.Net (2005) clarifies that adolescent parenthood is a delivery that ensues in a teenager. A teenager is a female, who is below 19 years. Adolescent parenthood is the occurrence of juvenile girls delivering and it is a modern-day societal problem in most countries, particularly in the United States of America whereas in unindustrialized nations adolescent delivery is not a big concern, since several women are projected to be married and give birth earlier than 20 years. Odu and Christian (2007) indicated that women have inclined to commence giving birth in their early 20s, while Yutokoutreach (2007b) describes adolescent parenthood in girls who are "under-aged" giving birth. These bases also stated that the term is constrained to those below the legal adulthood age of 18 years in most countries universally.

According to Fox (2008), adolescent parenthood can be insecurely defined as a girl delivering before attaining the lawful age of maturity. Whereas adolescent motherhood is not admired by developing countries, a group of ethnic settings in the world essentially admire the occurrence, because it signifies fertility in the undeveloped female. Motherhood declares the female as flawlessly capable of giving birth.

Sams (2008) harmonized with Fox (2008) and Yutokoutreach (2007) to say that, teenage motherhood is when a female below the legal adulthood age commences child bearing. Adulthood begins at the age of 16 in certain places and 18 in others. Luong (2008) declares that adolescent mothers are females, who started child bearing before 20 years while Garblah (2009) said that teenagers, who delivered yearly are between 15 and 19 years, and these adolescents cannot meet the expense of supporting the children, for this reason "their children may be involved in crime to live due to improper upbringing. As cited in Garblah (2009), least one in three girls aged 15 to 19 years, have delivered and more than one in six girls between the same age cluster (15 to 19) years deliver annually. The Encyclopaedia of Children and Childhood in History and Society (2008), echoes that readings converging on causes and implications of teenage parenthood typically includes young women 15 to 19 years old. Child bearing happening among teenagers 15 years is regularly included in aggregate national statistics. Adolescent motherhood denotes to the birth of child to a female below 20years, either married or unmarried (Guttmacher Institute, 2000). The (WHO, 2011) approximates 10% of all world births are born to 15 to 19 year old teenage girls."

In several industrialized countries teenage parenthood comes up with many societal issues such as lower educational level attainment and "higher rates of poverty. In established regions such as North America and Western Europe, adolescent mothers are inclined to be unmarried and teenage birth is perceived as a social issue and conveys a social stigma in numerous communities and cultures. Adolescent motherhood in these countries is typically outside marriage and not hailed by family and society. America has the uppermost adolescent birth (51.1% birth per 1000) compared to other established countries. This is a concern and is a communal, civic, and health concern"

(Shaw, Lawlor, & Najman, 2006). About 5% of teenage girls aged between 15 and 17 give birth each yearly, in the United States.

French, Mercer, Kane, Kingori, Stephenson, Witkinson, Gruddy & Lachowycz (2007), established that "adolescent motherhood has been lessening in Europe in countries like the Netherlands and Scandinavia since 1970 and this decline is related with upright sex education and increased contraceptive usage. Stigmatization associated with adolescent motherhood also backed the decline. According to Guttmacher Institute (2000), Sub Saharan part of Africa has the uppermost teenage delivery worldwide (143 per 1000 girls aged 15 to 19), in that women marry at an early age. About 87% of women surveyed in Mali were married and 53% had delivered at 18 years. Adolescent birth and motherhood is perceived as a blessing, because it signifies fertility in the young woman." Garblah (2009) point out that one in three girls in Nigerian aged 15 to 19 years, give birth annually. Gustafsson & Worku (2007) disclosed that nations like Kenya, Nigeria and Zimbabwe have high rates of fertility that are more than 100% per 1000 per person age.

The ascending rate of adolescent delivery as stated by HSRC report (2009) is ascribed to the conduct of nurses "concerning juveniles' provision of contraceptives to adolescents." This study also established that the societal burden mostly prohibited immature females from patronizing contraceptives. The adolescents thought they would only be acknowledged as women once they demonstrate their fertility. Several mothers desired their adolescent daughters to become mothers and deliver at home. Some viewers recommended that the "child support grant given by the state as an incentive, motivates these girls to deliver."

Household studies such as the "Demographic Health Survey and Multiple Indicator Cluster Survey on the fraction of women aged 20 to 24 who had a live birth by age 15 or 18. The most current estimate available specifies that almost one in five women aged 20 to 24 (19 %) had a live birth by their 18th birthday. An equal value of 3 % was experiential for those who had the live birth by age 15. As with many medians, there are considerable variations across diverse regions. Before age 18, extreme values are observed in sub- Saharan Africa, at 28 % in West and Central Africa, and 25 % in Eastern and Southern Africa, compared to just 4 % in Eastern Europe and Central Asia. By contrast, Latin America and the Caribbean show a worth close to the worldwide estimates at around 18 %" (UNFPA 2013).

The proportion of pregnancy and childbirth is extraordinarily high among poorer adolescents. Many researchers revealed that 83% of youngsters who become parents are from poor homes (Helen, Holgate, & Francisco, 2006). Literature shows that youngsters existing in deficiency have a rate of adolescent pregnancy which is 5 times the normal. Societal and economic statuses appear to account for vital rates of adolescent motherhood. There may be a mounting 'lost generation' of juveniles who don't see why they should not to get pregnant. For some youth who are disadvantaged, predominantly girls whose self-worth tends to fall as they advanced; sexuality is entirely what they value.

Moore & Rosenthal (2006) argued that to some youngsters, pregnancy is not unintentional and undesirable but child bearing is a deliberate and subtle choice. To these teenagers, the resolution to become a parent is often subjective by collective factors, such as having parents who commenced child bearing at an earlier an earlier age, yoking with peers who are themselves young parents and are in an unwavering

relationship, and are either married or may not be married. Teenage pregnancy is a threat that is primarily caused by poor parental administration. Some parents in urban areas don't care or are less concern of where their children slumber, what they eat or what they wear. Children are left to fend for themselves, and have to take care of their financial, social, spiritual and emotional needs all by themselves. Pregnant teenagers eventually quit schooling which may have future repercussions.

2.3 Causes of Teenage Pregnancy

Adolescents may find themselves pregnant before the age of 20 years, when she participates in sexual activity either intentionally or unintentionally. Many times, these young females are considered as immoral and apathetic by the population at large. Parents' lack of information about safe sex and use of contraceptives such as condoms, pills, and loops (Posel, 2013) is problematic coupled with nonexistence of "education on safe sex, be it is from parents, schools, or otherwise" is a root of teenage pregnancy.

Other study reported that "early marriage, low educational realization of women, poor welfare status and high spousal age difference" created the main socioeconomic and socio-cultural factors enabling teenage childbearing (Sutay, 2010). Cultures have impact on how early girls should fall pregnant or get married. If adolescents are in communities where girls get married young they are all indebted to follow suit. Forced marriages practiced in certain cultures end in teenage girls having babies at tender ages. Some families put pressure on their youngsters to get married when they are still too young.

A lot of youngsters are not educated on contraception usage and ways to handle peer influence regarding sex until they are matured. Some cultures, customs and traditions encourage early marriage, which would therefore lead to early pregnancy. In these cases, pregnancy is tolerable and most often deliberate; however they are happening in developing countries, such as India and Sub-Saharan Africa. Poverty, shortage of family planning experts, drug abuse, absent parents, and non-use of contraceptives are factors which contributed to teenage pregnancies. A study discovered that teenage pregnancies had "adverse or damaging effect on the school turnout and performance, emotional behaviour and relationships between pregnant teenagers, their peers and educators" (Malahlela, 2012).

Incomplete education, isolation, rejection by parents, mothers' health and financial handicaps are the effects of adolescent pregnancy. Lack of adequate knowledge, on sexual education, makes teenagers vulnerable to pre-marital sex and subsequent pregnancy (Ogori, 2013). The School system in a country, as well as parents do not provide adequate sex education making the teenagers ill- informed to withstand pressures associated with pre-marital sex, as well as pressures from their peers and irresponsible adult (Thobejani, 2015).

A lot of myths and fallacies surrounding pregnancy and the use of contraceptives have aggravated the teenage pregnancy rate. Many youngsters are of the view that contraceptives usage makes them sterile and that plastic wrap can replace a condom during sex. A section of adolescents perceive that they may not get pregnant on their initial sexual attempt, when menstruating, and when the male partner withdraws the penis, or when standing sex position is assumed (Gouws, Kruger, & Burger, 2008).

Peer pressure together with teenagers' strong desire for material things such as expensive cars, dresses, houses and other pleasures of life such as travelling and site seeing, pushes the girls to engage pregnancy rates the country records. Some adult men are grossly irresponsible such that they lure teenagers with money to have sex with these innocent adolescents. Some go to the extent of defiling or raping their victims and making them pregnant. Teenagers derive diverse incorrect information from their peers regarding the use of family planning methods which lead them into problem. The central "factors are intrapersonal, interpersonal, institutional, structural and public policy. Part of the vulnerability of pregnant teenagers is related to the social determinants that led to early pregnancy" (Akina, 2011).

2.4 Effects of Teenage Pregnancy

The major cause of adolescent pregnancy shows a discrepancy between countries. Some of the factor that are related to teenage pregnancy include "rapid urbanization, low socioeconomic status, low educational and career aspiration, residence in a single parent home and poor family relationship" (Adegbenga, Sunmola, Sunday & Otu, 2003). "In many African countries more than 20% of women aged 15 to 19 have given birth to at least one child. In Nigeria, Mauritania and Sudan, more than 15% of the girls have given birth before age 15." According to Irinoye, Oyeleye, Adeyemi, and Tope-Ojo (2004), "about 43% of pregnancies among Nigerian adolescents" occur in many institutions occurred in non-marital relationships.

Bodeeb (2015) in her article on "Effects of Teenage pregnancy stated that teenage pregnancy is a grave issue that may influence the future of a young woman. Any teen pregnancy will be a challenge as teens characteristically lack skills needed to grip pregnancy and motherhood. Patience, maturity and ability to handle stress are

obligatory for pregnant mothers of all ages." Rejection is one major thing pregnant teenagers are bedeviled with, they are often emotionally traumatized. The victim is most often abandoned by all and sundry, she feels very immoral to go in the midst of people because of the state in which they find themselves (Akakpo, 2013).

The odds of delivering an infant with low birth weight are more than doubled for adolescents less than 15 years, compared with mothers older than 16 years. Biological immaturity and uninterrupted maternal growth may stand for biologic growth barriers for the foetus. This may result in antagonistic perinatal outcomes (Kurth, Bélard, Mombo-Ngoma, Schuster, Adegnika, et al., 2010). A study by Pun & Chauben (2011) stated that adverse pregnancy penalties could be ascribed to low age of mother, poor socio-economic background, poor quality of prenatal visits and family supports.

Children born to teenagers if they survive being born, have a tendency of going through a vicious cycle just like their mothers, in that, they may lack good nutrition and become anemic, they may need clothing, they may not have proper shelter and also adequate health care, for the simple fact that their mothers normally are not financially sound due to low level of education originating from pregnancy (Akakpo, 2013).

Adolescent mothers have fewer prospects of graduating from high school are more likely than their colleagues who defer childbirth to live in scarcity and to rely on welfare (Hoffman, 2006). Offspring of adolescent mothers are often born at small-for-date, they are susceptible to health and developmental difficulties, and are normally poor, ill-treated, and/or unloved (Hoffman & Maynard, 2008; NCPTUP, 2010). Offspring of adolescent are often born prematurely and are susceptible developmental delays such as "infantile death, blindness, deafness, chronic respiratory problems, mental impedance, mental ailment, cerebral palsy, dyslexia and hypertension."

An adolescent who abandons school because of pregnancy reduces her opportunities in life; this means her child is likely to live in abject poverty as he/she joins the poverty cycle. Society pays an enormous price for these children who are predisposed to poor parenting, financial insecurity and at great risk of behavioral glitches and wrongdoings such as crimes, substance abuse and prostitution (Katayamoyo, 2010).

2.5 Consequences of Teenage Pregnancy

Teenage pregnancy comes with a lot of consequences both on the teenage mother and society at large. "As a system of a family social pathology, juvenile pregnancy has received noteworthy public and professional attention, but petite quantitative analysis has addressed it as a community difficulty. One cradle of apparent community consequences is the level of care and guidance given to the adolescent involved in the first pregnancy. Although deliveries among minors account for 11% of all births worldwide, they are the reason for 23% of the overall burden of disease (in terms of disability adjusted life years) due to pregnancy and childbearing among women of all ages. In developing countries, complications of pregnancy and delivery are the foremost cause of demise in females aged 15–19 years. Up to 65% of females with obstetric fistula developed this during adolescence, with awful consequences for their lives, physically and socially" (WHO, 2011). "Early, undesirable pregnancies are allied with augmented levels of induced abortion, which when done in unsafe conditions brings severe health risks, including death. In 2008, an estimated three million unsafe abortions were carried out in developing countries among 15–19 year olds" (WHO, 2011, p2).

Acharya, Bhattarai, Poobalan, Van Teijlingen, and Chapman (2010), indicated that "pre-term delivery, still birth, fetal distress, birth asphyxia, anaemia, low birth weight,

and pregnancy-induced hypertension (PIH) are met as costs of teenage pregnancy" (p.6). According to Magadi, Agwanda and Obare (2007), the public health problem of teenage childbearing is a reflection of what is considered to be socially, culturally and economically acceptable. Other than health problems associated with teenage pregnancy it can also affect the girl's future by delaying or terminating education, decreasing the chances of poor marriage, unemployment or low paying job. It is also noted that than pregnancy causing girls to drop out of school, other factors such as the lack of socio-economic opportunities for girls and women in general as well as the domestic demands placed on them, coupled with the gender inequities of the education system, may result in unsatisfactory school experiences, poor academic performance and an acquiescence in or endorsement for early motherhood (Winnie, 2012).

In Ghana, cultural and social norms are also not very favorable to adolescent pregnancy as this is considered as shame to the family and community. Teenage pregnancy results in social and economic consequences that in long-term affect the economic situation of the future generation (Magadi, *et al.*, 2007). The World Health Organization reported that "the social consequences of pregnancy in adolescence, particularly for unmarried girls, can be severe. Similarly, pregnancy among unmarried girls in some cultures is reported as a ground for homicide, on the basis of maintaining family honor" (WHO, 2011).

Research has indicated that "early pregnancies are also associated with higher overall fertility rates. Reducing the number of early pregnancies and promoting adequate birth spacing contribute to lower total fertility rates. Lower total fertility rates, in turn, are associated with better health status of children (ibid). It is worth noting that teenage pregnancy and child bearing are stressful not only for teenage mothers but also for

teenage male who become fathers. Of concern are the fact that socioeconomic, health and psychological wellbeing of many of these youth tend to below standard. Their knowledge and access to health care facilities and resources appear to be limited."

Other studies indicated that "teenage pregnancy constitutes a health hazard both to the mothers and the fetus. The mother is at increased risk of pregnancy induced hypertension, anaemia, obstructed labour and its sequelae" (Uwaezuoke Uzochukwu, Nwagbo, & Onwujekwe, 2004). They are also "three times more likely to die as a result of the complications of pregnancy and delivery than those aged 20-24" (Aboyeji, Fawole, & Ijaiya, 2001; UNFPA, 2000). "The fetus is prone to be delivered preterm, small for gestational age and has an increased risk of peri-natal death" (Uwaezuoke et al., 2004). The core issues that have toughly influenced the pattern of pubescent pregnancy include the decreasing age at menarche and the upsurge in the number of years spent in school. This impacts the timing of marriage.

2.6 Socio-Economic Effect of Teenage Pregnancy

Various social factors such as religious beliefs, educational level and economic well-being have been identified to be strong predictors of adolescent pregnancies. A research by Lehman (2001) revealed that the socio-economic effect of teenage pregnancy extends to every aspect of a nation. Child upbringing, and its attendant cost places a burdensome demand on adolescent mothers, their families and significant others. It was widely thought that teenage mothers drop out of school as a result of the poor decisions made. However, other pertinent reasons such as high parental pressures, stigmatization and the economic burden associated with child upbringing have been identified (Lehman, 2001).

According to the Ghana Maternal Health Survey carried out in 2007, three times as many women with little or no education compared with women with secondary or higher education have ever been pregnant. Early pregnancy is known to be both a cause and an effect of low education which invariably impacts negatively on the social and economic quality of life of the adolescent (Lemos, 2009).

Many studies have shown that economic deprivation has a higher tendency to influence risky sexual behaviours and heighten early pregnancy (Nattras, 2009). Using a retrospective questionnaire, Shrestha in a study conducted in 2002 demonstrated in rural Nepal that the incidence of teenage pregnancies is significantly higher in the lower social classes (52%) than in the higher social classes (26%). This was attributed to the rising levels of transactional sexual encounters where young girls engage in sex with older partners in exchange with gifts or money in some studies (Krishnan, Dunbar, Minnis, Medlin, Gerdts, & Padin, 2008). Again, lack of employment or job opportunities which largely defines ones economic status in the community was shown by Mchunu, Peltzer, Tutshana, & Seutlwadi, (2012) to be a determinant of early pregnancy.

Religious beliefs indeed is an integral part of the very fabric of societies which the adolescent also relates to bye and large. Some studies have demonstrated the role of such beliefs on the occurrence or otherwise of adolescent pregnancy and early marriage. Such evidences have largely gingered some enthusiasm and attention to the outcomes of interventions anchored around religious beliefs (Olorunfemi, 2012). Teenage parenthood has been strongly linked to early sexual experience and poor educational attainment independently in many studies.

Research has indicated that women who deliver in adolescent ages are more likely to drop out of school and have more health challenges than females who do not give birth during adolescence (Perper, Peterson, & Manlove, 2010). The relatively low educational level significantly impact their earning potential, and usually leads to high economic stress and poverty on both the adolescents and their families (CDC, 2017).

Pubescence can be a major cause of conflicts between parents and their teenagers. Mostly, these teenagers in their quest to attain uniqueness end up challenging authority for their independence and yearn "growing up" on their own. At this stage, the teenagers perceive themselves to be mentally equipped for serious decision-making. This may pose serious "concerns" to their parents who may be "threatened" by this new stage of independence and its associated challenges. These teenagers tend to be very observant of their physiological changes and are prone to experimenting with those changes. In the bid to understand these changes and their sexuality, teenagers tend to resort to various groups including peers, family, media and other form of individual exploration, which may be good or misleading. Some of them alternatively go on to engage in all forms of undesired sexual behaviours, which may lead to early and unwanted pregnancy with its accompanying socio-economic effect on them, their families and society at large (UNFPA, 2000). The socio-economic effect of teenage pregnancy on the family cannot be underestimated as it puts the family in a state of imbalance. This is due to the family's own value system as well as societal expectations of them to raise their adolescents into responsible members of society.

Upon delivery, many of these teen mothers have difficulty furthering their education while providing for their newborns. This is usually due to economic and financial stress faced by such mothers as a result of low income earning potentials. The medical cost

associated with pregnancy cannot be overlooked either, although it is reduced in situations where there is a medical insurance cover. Usually, adolescents are covered by the insurance of their parents or guardians. However, the introduction of an unborn child and its needed care can exert extra financial cost on other dependents in the family. This situation is worsened in instances where there are no or insufficient health insurance packages for the family and as such, out-of-pocket payment is the only way out.

2.7 The Concept of Economic Burden

Adolescents who become pregnant and deliver are more likely to face economic, personal and societal hardships. Juvenile mothers are less likely to complete high school, and their offspring are at a greater risk of significant learning and development difficulties as compared to those that delay childbirth. It is projected that only one-third of adolescent mothers receive a high school diploma (CDC, 2017). Averting juvenile pregnancy is largely seen as a priority among policymakers and the public because of its' economic, social, and health repercussion. Adolescent parents are inclined to have less education and have a tendency of living in poverty than their peers who are not teen parents. Children delivered by adolescents are susceptible to chronic medical conditions, rely profoundly on provided health care, perform badly school, give birth during their teen years (continuing the cycle of teen pregnancy), serve juvenile detention or jail terms, and be unemployed or underemployed when they grow up, than children born by adults (Lambani, 2015). Getting pregnant during the adolescent period makes it difficult for girls who come from deprived homes to break the cycle of poverty (Ipantenco 2014). Girls who are economically reliant on their parents and/or continue to live at home and are psychologically immature (Segen 2012).

In United States of America, it has been reported that "teen childbearing in the United States cost taxpayers (federal, state, and local) about $9.4 billion in 2010, according to an analysis by The National Campaign to Prevent Teen and Unplanned Pregnancy. According to the report, most of the costs of teen childbearing are interrelated with undesirable consequences for the children of teen mothers, including increased costs for health care, child welfare, incarceration, and lost tax revenue. The study looks only at the increase in these costs that is associated with having a child before age 20 versus having a child at age 20 or 21". The December 2013 research by the National Campaign to avert teen pregnancy "estimated that in 2010, teen childbearing cost U.S. taxpayers about $9.4 billion per annum: $3.1 billion in child welfare benefits; $2.1 billion in public sector health care expenses; $2.0 billion in expenditure on incarceration (for the sons of women who had children as adolescents); and $2.2 billion in absent tax revenue because of lesser earnings of children of teen mothers over their own adult lifetimes. Research specifies that adolescents that give birth are less likely to complete high school and go on to college, thereby reducing their potential for economic self-sufficiency. The research also shows that the children of teens are more likely than children of older parents to experience difficulties in school and drop out of high school, and as adults are more likely to replicate the cycle of juvenile pregnancy and poverty. The 2013 report contends that if the teen birth rate had not dropped between 1991 and 2010, the annual costs associated with teen childbearing would have been about $21 billion, instead of $9.4 billion" (Solomon-Fears, 2016).

Adolescent pregnancy poses a substantial monetary burden to society, "estimated at $10.9 billion per annum in lost tax revenues, public support, child health care, foster care, and engrossment with the criminal justice system. Teenage pregnancy poses a substantial financial burden to society, estimated at $10.9 billion annually in lost tax

revenues, public assistance, child health care, foster care, and involvement with the criminal justice" (NCPTUP, 2011).

Further, adolescent pregnancy can also have undesirable social and economic effects on adolescent girls, their families and communities. "Many teenagers who become pregnant have to drop out of school. An adolescent girl with little or no education has fewer skills and opportunities to find a job. This can also have a fiscal cost with a country losing out on the annual income a young woman would have received over her lifetime, if she had not had an early pregnancy" (WHO, 2014).

When observed across the spectrum of life, the penalties of adolescent births are staggering. Just the lost potential of the mother coupled with the expenditure on health, food and nutrition programs, clothing and shelter slashes significantly into the states resources. There are the human costs: suffering from abuse and neglect, children born with bodily and mental disabilities because they had low birth weight, children who grow up at an augmented risk of becoming parents in adolescence, never reaching their potential because they will quit school and remaining in the low wage brackets (Schuyler Center for Analyses and Advocacy, 2008).

According to Kutzin (2012), "economic obstacles to the use of health services include the costs of seeking and obtaining care. Some studies reported cost as a major barrier to seeking and reaching care for emergency complications. These costs consist of the user fee that must be paid to the health-care provider and/or to institutions, the travel costs and the opportunity costs of the potential patient's time (and that of the accompanying caregiver)." Another researcher indicated that "where resources are scarce, families, including the women, spend less time, effort and money in seeking health care for women and girls than for men. Adolescent girls' lack of control over the

use of resources suggests that costs of seeking care can be a major obstacle in their utilization of services. Financial concerns regarding access to care are also expressed in developed countries." "A study in the United States, based on focus group discussions with adolescents, found "payment" as a specific barrier for adolescents to access health care" (Mmari, 2016), though this particular study was conducted primarily to determine the factors affecting the decision to seek preventive health care. Financial barriers, including lack of medical insurance, ineligibility for subsidized antenatal care, and transportation costs have also been suggested as impediments to acquiring adequate care in developed countries.

2.8 Cost of Teenage Pregnancy to the Household

Economic costs of teenage pregnancy broadly include direct cost and indirect cost (IQWiG 2009, USAID 2008, WHO 2002a,) and intangible cost (IQWiG 2009). Most studies however do not include the estimation of intangible cost.

2.8.1 Direct and Indirect Costs

Costs in economic evaluations are commonly classified into the following cost categories: direct medical cost, direct non-medical cost, indirect cost (productivity losses) and intangible costs.

Direct costs refer to the resource consumption in the provision of health care interventions. "They encompass the entire current resource use and, depending on the time frame under consideration, also future resource use attributable to the programme. Future costs can span a lifetime in some therapeutic areas. Direct costs are further split into direct medical and direct non-medical costs. Direct medical costs refer to the resource consumption in the health care sector associated with the provision of health

care interventions. Resource consumption includes the costs of hospital stays, outpatient visits, drugs, medicinal substances and devices. Direct non-medical costs refer to resources supporting the medical services delivered in the health care sector." Depending on the perspective (household or health provider), direct non-medical cost can be travel costs to medical interventions or the valuated time spent by patients and their family caregivers in relation to their illness (IQWiG 2009).

"Indirect (opportunity) costs differ from financial cost as they include the cost of foregone income due to the inability to work" because of the pregnancy in the home and loss of time due to visits to health facilities, time spent on the road to and at health facilities, lost productivity and loss of job.

Besides direct and indirect costs, a third category of costs are those incurred through coping strategies (coping costs) of a household to meet daily requirements despite extra expenditure or loss of income. "Coping strategies can be defined as a set of actions that aim to manage the costs of an event (shock) or process that threatens the welfare of some or all of the household members. Ultimately coping strategies are seeking to sustain the economic viability and sustainability of the household" (Sauerborn, Adams, & Hien, 1996). These include the sale of assets, taking up debt, saving on food or other items, taking a child out of school to care for the patient or taking up another job.

Russell (2001) noted that "coping strategies are vitally important for poor households faced with illness cost shocks, since the costs associated with serious illness can absorb a large proportion of the household budget and therefore require the mobilization of substantial additional resources. Even minor illness costs can exceed the low and insecure daily or weekly budgets of the poor, who often survive on a daily wage that is barely enough to meet minimum food requirements."

On the other hand, intangible costs are a "category of costs that is nowadays seldom used. These costs refer to items difficult to measure and value in cost terms, e.g. pain and suffering associated with a treatment, stigma and fear of death. However, parts of intangible costs are actually not costs (i.e. no resources are denied an alternative use), and overall they are often not strictly intangible, as they can actually be valued through quality-of-life measures or willingness-to-pay approach. One of the most far-reaching changes pertaining to prenatal norms is in the past; children were expected to give to their parents what the parent(s) demanded" (Lehman, 2001). This expectation has changed in contemporary society since there are now more demands on parents to meet the needs of their children.

Adolescent pregnancy also affects the sociological structure of the family. It creates an environment of demand on all family members must adhere to in order to maintain a productive family structure (Lehman, 2001). Naturally, most parents and guardians tend to resort to setting good clear boundaries and guidelines in order to protect the values, safety and self-respect of their adolescents. As such, parents may become disappointed when the teens fail to adhere to such values (Lehman, 2001).

Diverse immediate family members assume diverse roles and responsibilities to maintain a functional lifestyle in managing teenage pregnancy. The role of the father is dialectically related to roles of the mother, which has changed dramatically over the post war years, dissolving the males' distinctive and authority enhancing role as primary wage earner, and children whose status in the family historically shifted from being economic assets to economic liabilities. The family has transformed from being a unit of production to being a unit of consumption (Ruggles, 2001).

Adolescent pregnancy also puts the father into a dual father and "premature" grandfather role, thereby furthering complicating the father's roles and responsibilities towards the other children in the family. A greater financial burden is also created on the father. He now assumes the "bread winner" role for both his biological family and unexpected extended family. "When an adolescent family member becomes pregnant, the task of treating all children equally also becomes a challenge" (Lehman, 2001).

Boer, (1992) indicated that "sibling relationships are characterized more negatively and less positively when parents direct unequal amounts of intrusiveness, responsibility, positive affect, and negative affect toward their several children, as well as different amounts of control and discipline in response to similar child behaviors." Lehman (2001) revealed that, "the parental impact that adolescent pregnancy has on the younger female sibling is one of increased control during the stages of social interaction and development. This control is done mainly in hope that the younger daughter will not be faced with the dilemma that the older daughter has encountered." The result of this is an overprotected parenting style that is not appreciated by these teens who are desirous of gaining an increased self-awareness (Wang & Leichtman, 2000).

"Fathers, in particular, have a difficult time dealing with the realism of a pregnant daughter" (Lehman, 2001). For years, the father may have perceived the same adolescent to be pure and innocent. However, this perception could change due to the pregnancy. He undoubtedly questions himself as to the effectiveness of his discipline and upbringing tactics, and spends countless hours pondering on what, if anything, he could have done to change the situation" (Lehman, 2001). The adolescent pregnancy further "eliminates" the father's ultimate dream of proudly escorting his daughter down the aisle in a white gown, symbolizing purity and wholeness; a cherished experience

that only a father can share with his daughter. "The long lasting effects that adolescent pregnancy poses on the father-daughter relationship can continually accumulate if the feelings of dissatisfaction and disappointment are not dealt with effectively and efficiently" (Lehman, 2001).

The typical role of the mother is to be the nurturer, regardless of age, situation, or circumstance. Unsure of their new role, mothers of pregnant adolescents contend with the conflicting role of being a mother and a grandmother prematurely simultaneously. From the maternal point of view, she also questions herself as to where she as a mother failed. At what point and time did the family values that she instilled upon her daughter disband? If the mother was raised in an environment where adolescent sexuality was viewed as a taboo topic, and was viewed morally as something to be saved for marriage, she may experience an even more difficult time accepting her new role in society, as a grandmother. In an orthodox family structure, the mother may sequester herself from other friends and relatives due to the shame of the pregnancy. In a family unit where moral values are emphasized, even though the pregnancy violated those beliefs, the life of the unborn is still viewed as sacred (Lehman, 2001). As Magistro (2000) stated, "there are a number of crucial questions that must be dealt with such as; should we continue to be hard on our daughters, or should we ignore the harsh realities of teen pregnancy? Why can't we celebrate this gift from God? And, aren't we allowed to be happy when a grandchild is born? In a family situation where the mother also was a teenager at the time she conceived her first child, the consequences play out differently. In this setting the mother views the pregnancy as more acceptable, mainly for the reason that she herself survived the difficulty and may feel unable to condone such actions on her daughter's behalf."

"Teen pregnancy/parenting cycle is likely to be repeated. Children of teen parents start sexual activity earlier than their peers and are more likely to become teen parents themselves. Nationally, half of mothers who had their first child as teens had at least one daughter whom became a teen parent. This compares to one-quarter of those who were over twenty when they had their first child" (Howard, 2011). "Mothers are often the first to be told about the pregnancy, in hopes of gaining their additional guidance and support when sharing the news to other relatives. The long lasting effects and most strenuous factor on the mother usually emanate from living arrangements. She is viewed not only as the mother, but also wife, grandmother, peacekeeper, chef, mediator, and cleaner" (Lehman, 2001). "Mothers are the forgotten component during a family teen pregnancy crisis, as the only member of the family unaffected by the pregnancy. These women have raised their kids, and now they have to give up their lives again" (Magistro, 2000).

Many times, the longest lasting relationship experienced by individuals in their lifetime is the relationship with siblings. Studies show that the "closest sibling relationship are between sisters, followed by brother-sister relationships, and finally between brothers" (Seltzer, 2009). "The impact that pregnancy has on siblings can be one of disconnectedness or vulnerability. Brothers tend to become disconnected with their adolescent pregnant sister, mainly as a result of role confusion. They once perceived their sister as an equal within the family and now view them as a sexual being. Sisters on the other hand become more vulnerable to the same type of behavior as their adolescent pregnant sibling. Young adolescent girls whose older sister becomes pregnant during adolescence are at an even greater risk of becoming pregnant than girls whose sisters have not become pregnant."

2.9 Prevention of Teenage Pregnancy

Many researchers revealed that "although some teenage pregnancies are the outcome of causal sexual encounter, many are the result of close long-standing relationship. Given the adverse consequences of teenage pregnancy with all its implications, a multi-disciplinary approach must be taken by professionals to attack this problem head on. The strategies used for remediation and amelioration must be multifaceted, multidimensional and multi-objective" (Dionne, 1999 in Muvunyi, 2011). Long range goals must be established, with measurable objectives outlined to meet the goals, both macro and micro-level planning must be undertaken simultaneously that is at the federal government as well as at the local community level.

In addition to massive efforts by the multidisciplinary professional communities, there must be commitment at the federal government, states and federal government levels to make teenage pregnancy at the top priority. "Long-term follow up is recommended to truly gauge the effectiveness of a program. Behaviour and attitudes are in constant flux during adolescence. A program designed at decreasing the age of sexual involvement among young teens, should include follow-up evaluation during middle to late teen years. Long-term follow-up is often difficult if not impossible due to financial constraints or challenges associated with keeping in contact with program participants. However, wherever possible, it is important to make some effort at follow-up once a program is completed. It is only through careful evaluation that the effective and ineffective elements of a particular approach can be identified and shared with others in the prevention field" (SIECCAN, 2007). There is "good evidence that including teenagers' parents in information and prevention programs is effective. Further, young people whose parents discuss sexual matters with them are more likely to use

contraception at first intercourse." Catherine (2004) also stated that "although feedback from young people is frequently very encouraging, there is little research evidence to support their use as a tool to encourage contraceptive use or prevent teenage pregnancy."

The author indicated that an American study found "no differences pre- and post-use, or between those who had used the dolls and a control group, with regard to sexual behaviour, intentions regarding childbearing, the extent to which they had plans for their future, realism about the responsibility of parenting or reported contraceptive use" (Somers & Fahlman, 2001).

2.10 Government Policies on Teenage Pregnancy

Duncan, Edwards & Alexander (2010) contends that "policies fixated on the consequences of adolescent motherhood only approach the broader issues of social drawback obliquely, so policies need are focused on improving the socio-economic conditions and situations of these young women. There is mounting research in the arena that contests the negative view of teen pregnancy.' Higgenbottom, Marsh, Mathers, Kirkham, & Owen, (2005) have stressed the "need for government policy to take into account the positive experiences and ambitions of teenage mothers that qualitative studies in this field present. This view is echoed by a number of other researchers who carried out a study of teenage mothers in the 1980s and found that most of the mothers and their children were faring well and that motherhood seemed to have pushed some women into education or employment."

A thesis by McLeod (2013) revealed that "government and local policy may need to "incorporate the view that young mothers may want to return to education or

employment when they are ready to do this and legitimise this view which represents a different life pattern from the norm and different life choices, which may not sit well with policies that assume otherwise." Duncan, Edwards and Alexander (2010) suggest that "teenage mothers are viewed as ignorant and immoral because they have deviated from the planned pathway of life. He goes on to suggest that a refocus is needed on the value of teenage motherhood, and a focus on the positive benefits and experiences of becoming a parent, and on the young parents' own individual strengths."

Research presented above strongly indicates that there is a need for "government policy which acknowledges diversity and difference amongst teenage mothers and strategy that should be implemented to support this. Research previously presented suggests that even when pregnancies are unplanned, teenage mothers seem to find motherhood fulfilling and any plans that they may have had prior to having a child then seem to be postponed for a length of time until their child is older" (Kidger, 2004).

Attachment theory proposes that "new-born babies need continuous loving care from their main care giver for many months to enable secure attachment to develop. This period of time in a teenage mother's life should then be commended, not vilified, which leads to the suggestion that government policy should recognize the positive choices of young mothers in being full- time care givers during the first few years of their child's life, with the intention of re-entering education or employment in flexible stages"(Moen & Flood, 2013).

The Social Exclusion Unit, according to Bullen, Kenway & Hay, (2006) suggests that "educational and employment disruption is one of the major disadvantages of teenage parenting, hence the implementation of government policy, which outlines that school age mothers should return to education within four months. The initiative to encourage

teenage mothers to return to education within four months denies these young mothers rights and choices offered to mainstream, traditional parents on traditional maternity leave."

2.11 Conclusion

Teenage pregnancy is one of the important public health and social problems all over the world with a varying prevalent rate. According to Kumar, Singh, Basu, Pandey and Bhargava (2007), the incidence is increasing in recent years due to early onset of puberty, early sexual activities in girls, and relative lack of education about contraceptive methods. This is because of the high economic burden in creates on the individual, household, society and the state as a whole. Empirical results indicate that girls' education level has significant influence on the probability of teenage birth, with non-schooling adolescents and those with primary school level education being more vulnerable.

Just because research identifies no direct causal connection between two variables, for example, between the age at which a woman has her first birth and family income, for example, does not mean there is no association at all. If an early first birth is associated with reduced schooling, which is in turn, associated with lower earnings, and lower income, then an early first birth is indirectly associated with lower family income later on. According to a 2012 World Health Organization (WHO) fact sheet on adolescent pregnancy, it is estimated that 16 million adolescent girls give birth every year – most in low- and middle-income countries which includes Ghana. Adolescent pregnancy brings change to the lives of young girls and in most instances negative social consequences such as dropping out of school and interrupted education. Adolescent

pregnancies contribute to many health problems as girls enter into motherhood before they are physical and psycho-socially ready (Godding, 2008; Richter & Mlambo, 2005).

Various econometric techniques have been attempted to try to tease out an accurate measure for the socio-economic costs of early motherhood. The first method largely considers cross sectional data sets and estimates wage equations with an additional dummy variable indicating whether the women concerned was a teen mother. Such direct comparisons often find a large negative coefficient on the teen motherhood dummy variable. Similar work considers link between education and early motherhood. Most teens aren't equipped to support themselves, and they are even less able to support an infant. The teens' parents often end up providing at least some financial support for the baby, which can cause hardship, especially in lower-income families.

The current study seeks to fill the gaps by identifying and estimating the economic burden (direct, indirect and intangible costs) of teenage pregnancy in Elmina in the Komenda Edina Eguafo Abrem Municipality of the Central Region of Ghana.

CHAPTER THREE

METHODS

3.1 Introduction

This chapter discusses the methods used for the study, the profile of the study area, the research design, and justifications for choices and methods explained. The population, sample and the sampling procedures used, instruments used in collecting the data, the method of data collection, pre-testing of instruments through a pilot study and data analysis procedure are also explained.

3.2 Research Design

According to Cooper and Schindler (2002), research design is the path researchers follow in carrying out their study. In other words, the research design spells out the basic strategies that the researcher adopts to develop information that is accurate and interpretable. More and more researchers in health sciences have become interested in using complex mixed methods designs such as longitudinal mixed methods designs (Plano Clark et al., 2014; Rayburn, 2013; Van Ness, Fried, & Gill, 2011) and cross-sectional mixed methods designs (Bowling, 2009; Chow, Quine, & Li, 2010; Hasan, Muhaddes, Camellia, Selim, & Rashid, 2014) to investigate different health-related issues across countries.

The cross-sectional research is a research approach in which the researchers investigate the state of affairs in a population at a certain point in time (Bethlehem, 1999). In a cross-sectional study, data are collected on the whole study population at a single point in time to examine the relationship between disease (or other health related state) and

other variables of interest. Cross-sectional studies therefore provide a snapshot of the frequency of a disease or other health related characteristics in a population at a given point in time.

This study was based on a cross-sectional design, with data collection carried over a period of approximately 1 year (1st June, 2016 – 30th June, 2017). This design enabled the researcher to observe two or more variables at the point in time and was useful for describing a relationship between two or more variables" (Breakwell, Hammond & Fife-Schaw, 1995).

3.3 Study Area

The study was conducted in the Komenda-Edina-Eguafo-Abrem Municipality in the Central Region. The K.E.E.A Municipality is boarded on the north by Twifo-Hemang-Lower-Denkyira District, on the south by the Atlantic Ocean, on the east by the Cape Coast Metropolis and on the west by Mpohor West Municipality of the Western Region. The Municipality Capital is Elmina. The total population of K.E.E.A as at 2000 was 112,437 of which 42.6 % were under 15 years of age. The gross primary school enrolment rate was about 86% p (Ghana Statistical Service, 2003). Generally also, there is a high dependency ratio which has various effects on the Municipality since major urban settlements of the Municipality are fishing and farming towns and villages.

Population Size, Structure and Composition

The population of Komenda Edna Eguafo Abrem Municipal, according to the 2010 Population and Housing Census, is 144,705 representing 6.6 % of the region's total population. Males constitute 48.2 % and females represent 51.8 %. About 64 % of the population is rural. The Municipal has a sex ratio of 92.8. The population of the district

is youthful (40.2% of the population below 15 years) depicting a broad base population pyramid which tapers off with a small number of elderly persons (8.6%). The total age dependency ratio for the District is 86.8, the age dependency ratio for males is higher (88.9) than that of females (84.8).

Fertility, Mortality and Migration

The Total Fertility Rate for the Municipality is 3.6. The General Fertility Rate is 105.0 births per 1000 women aged 15-49 years. The Crude Birth Rate (CBR) is 24.6 per 1000 population. The crude death rate for the Municipality is 9.1 per 1000. The death rate for both males and females are highest for age 70. Accident/violence/homicide/suicide accounted for 11.3 % of all deaths while other causes constitute 88.7 % of deaths in the Municipality. Majority of migrants (55.2 %) living in the district were born in another region while 44.8 % were born elsewhere in the Central Region. For migrants born in another region, those born outside Ghana constitute the highest of 16.7 % followed by Western with 15.2 % and Eastern region 3.8 %.

Household Size, Composition and Structure

The Municipality has a household population of 139,056 with a total number of 35,402 households. The average household size in the district is 3.9 persons per household. Children constitute the largest proportion of the household structure accounting for 39.5 %. Spouses form about 9.7 %. Nuclear households (head, spouse(s) and children) constitute 27.9 % of the total number of households in the Municipal.

Economic Activity Status

About 67.6 % of the populations aged 15 years and older are economically active while 32.4 per cent are economically not active. Of the economically active population, 93.6 % are employed while 6.4 % are unemployed. For those who are economically not active, a larger percentage of them are students (42.4%), 19.3% perform household duties and 5.9 % are disabled or too sick to work. Five out of ten unemployed persons in the Municipal are seeking work for the first time.

3.4 Study Variables

The description of the study variables is presented in Table 1. Table 1 further describes the components of cost incurred by households, in the care of pregnant teenagers.

Table 1: Description of Study Variables

Type of Cost	Category of Cost	Description
Direct cost	• Medical cost	1.Cost of medication 2.Cost of antenatal care 3.Cost of delivery 4.Cost of postnatal
	• Non-medical cost	1. Cost of travel for teenager 2. Cost of food for teenager 3. Cost of baby and mother items 4. Miscellaneous
Indirect cost	• Productivity loss	1. Productivity loss to household head 2. Productivity loss to household head due to travel 3. Productivity loss to household due to waiting time at clinic

Intangible cost	• Intangible cost	1. Shame 2. Depression 3. Stress 4. Loss of social life 5. Anger 6. Disappointment 7. Overall burden

3.5 Study Population

Population, as defined by Sekaran (2003), is the entire group of people, events or things of interest that the researcher would like to investigate. Polit and Hungler (1995) posit that, it is the entire aggregation of cases that meet a designed set of criteria. Simply put, it deals with a target group about which the researcher has the interest in gaining information and drawing conclusions. The population for the study was household heads who had pregnant teenager (s) from1st June 2016 to 30th June 2017 and are resident in Elmina. The households were traced through the community health extension workers.

3.6 Sample Size

The sample size for this study was calculated using the Cochran's formula:

$n = \frac{z^2 p(1-p)}{d^2}$ n= is the number of respondents to be calculated for.

Z= Confident level of 95 % = 1.96

P= estimated proportion of teenage pregnancy in Elmina = 0.07

d= Desired margin of error=0.05

$N= 1.96^2 \times 0.07(0.93) / 0.05^2$

$N= (3.84 \times 0.065) / 0.0025$

N= 0.25 / 0.0025

N= 100

3.7 Sampling

Malhotra and Birks (2007) stipulate that a sample is the sub–group of the population selected for participation in a study. Sekaran (2003) also states that it is a subset of the population since it consists of some members who are selected from the population. "It is the process of selecting a sufficient number of elements from the population, so that the study of the sample and understanding of its properties and characteristics would make it possible for one to generalize such properties or characteristics to the population elements (Sekaran, 2003, p. 267)". This implies that a sample consists of carefully selected subset of the units that comprise the population. Therefore, by observing critically the characteristics of the sample, one can make certain inferences about the characteristics of the population from which it is drawn.

3.7.1 Sampling Procedure

According to Patton (1990), deciding on a sample size for descriptive survey can be even more difficult than quantitative survey because there are no definite rules to be followed. It depends on what the researcher intends to know, the purpose of the inquiry, what is at stake, what will be useful, what will have credibility and what can be done with available time and resources. With fixed resources which are always the case, one can choose to study one specific phenomenon in depth with a smaller sample size or a bigger sample size. The sample should be judged on the basis of the purpose and rationale for each study and the sampling strategy used to achieve the purpose of the study. The validity, meaningfulness, and insights generated from qualitative inquiry

have more to do with information-richness of the cases selected and the observational and or analytical capabilities of the researcher but not with sample size (Patton, 1990). The important consideration to Fraenkel & Wallen (2000) as far as the sample size is concerned, is to obtain a representative sample.

Mindful of the above a sample population for this study was made up of 100 adult parents (both male and female aged between 40 and 99 years). This age range for the adults was considered because, within this range, children are supposed to take instructions from adults and obey them. The second group of the sample comprised 100 teenage girls who were considered pregnant and aged between 13-19 years. Although there are two subsets of respondents, the total was therefore 100 because the pregnant teenagers are in the same household and also the study targeted only household heads.

Purposive sampling method was mainly used to select the 100 respondents comprising of the adults (household heads) and teenage pregnant girls who were relevant to the study. The decision to select these respondents, purposively, was supported by Masaiti & Manchishi (2011) when they stated that respondents could be selected as such because of their roles, experiences and characteristics in the area under study.

Purposive sampling is used to ensure that the elements which satisfy some predetermined criteria, for instance, possessing certain characteristics relevant to the study is selected (Nworgu, 2006).

Purposive sampling seeks information-rich cases- which can be studied in depth and breadth (Patton, 1990). It was thus used in the study area because it is the capital of the Municipality.

Inclusion Criteria: Household heads who had taken care of pregnant teenagers who were not married, between the ages of 10 and 19 years, from 1st June 2015 to 30th June 2016, willing to participate in the study, and reside within the geographical location of Elmina.

Exclusion Criteria: Household heads that took care of unmarried pregnant teenagers within the said period, and reside in Elmina, who were unwilling to participate in the study.

3.8 Data Collection Techniques

Collection of data was carried out using the survey questionnaire in order to evaluate determinants of economic burden on household heads in Elmina. Sekaran (2003) defines a questionnaire as a set of pre-formulated written questions to which respondents record their answers. Questionnaires are resourceful mechanisms for data collection, provided that the researcher knows exactly what is required and how to measure the dependent and independent variables of interest. The questionnaire for this study was therefore a self–developed, open ended questionnaire, soliciting information that covers the specific objectives of the study. This was used to gather information that provided insight into the research questions.

The merit of using the questionnaire as a data collecting instrument is that of its affordability, less time consuming and also, it gives the assurance of no interview bias as compared to other forms of data collecting instrument. According to Mouton (1996), data collection from a survey approach using questionnaire allows the researcher to gather information from large sample groups and it can be administered with ease. Since the researcher was dealing with a large sample group of 100 respondents, using

the questionnaire was deemed appropriate. The questionnaire offered the participants an opportunity to respond accurately and also it is when analyzing the information gathered.

The questionnaire was divided into two main parts. The first part explained the purpose of the study to respondents, as well as assuring respondents of confidentiality (ethical issues). The second part was sub-divided into sections (A to F). Section A dealt with demographic data of correspondence; Section B dealt with household income and expenditure; Section C dwelt on Direct Cost Information; Section D – Indirect Cost Information; Section E – Intangible Cost Information; Section F – Questionnaire for Pregnant Adolescent.

A likert – type response alternative of four point gradation was used to measure the responses. One (1) measured the least agreement to the issues whereas five (5) represented the strongest. 1 – Not at all; 2 – A little; 3– Moderate; 4 – Quite a bit; 5 – Extremely.

3.9 Quality Control

Data was collected from household heads as well as the teenager who the household heads took care of through pregnancy. After consulting prospective respondents, the researcher introduced herself and politely described the purpose and benefit of the study. Consent form was provided for those who could read and comprehend. For those who could not read the consent form was read and explained to them in a language they could understand.

3.9.1 Reliability and Validity

Reliability

Reliability as indicated by Sekaran (2003) is the consistency and stability of a measuring instrument regardless of the stability of test takers. Stangor (2004) stipulates that the reliability of a measuring instrument is the extent to which the instrument is free from error, thus measuring consistency over time variables of interest. The test-retest method was used to establish the reliability of the instrument using the Cronbach Alpha formula to establish the reliability co-efficient.

Reliability of the instrument was undertaken in Cape Coast to find the precision, consistency and suitability of a score from the instrument over different testing and time spans. The first administration of the questionnaire was done and then after two weeks the second administration was also done using the same students and questionnaire. Reliability was done for each of the scales as they measured different issues (thus internal consistency).

According to Pallant (2005), a Cronbach's Alpha Coefficient of 0.70 or more is considered adequate. Therefore an overall reliability of 0.94 was achieved on the questionnaire.

Validity

According to Sekaran (2003), validity of an instrument relates to the extent to which it actually measures what it is supposed to measure. Siniscalo and Auriat (2005) state that an instrument has content validity when an agreement is obtained from a panel of judges or expects on a topic that the statements in the instrument do not relate to what they are

supposed to measure. The questionnaire was given to experts who are well versed in research at the Ministry Health for scrutiny, taking into consideration how well the items are developed and whether the objectives of the study, research questions, as well as the variables of interest are met. This helped in ascertaining the face and content validity of the research instrument.

This was done to examine whether the items are related to the research questions and also if they comprehensively cover the content needed to provide appropriate response to the research questions. Suggestions and corrections were made, adopted and incorporated into the questionnaire to enhance its validity.

3.9.2 Training

Three research assistants were trained to familiarize themselves with the questionnaire. During the training, they were also taught on community entry approaches and how to present the consent forms to the respondents prior to the commencement of the interview.

3.9.3 Pre-Test of Instrument

A pilot test was conducted to serve as a means of refining the questionnaire. As stipulated by McMilllan and Schumacher (2001), pilot test brings about an informal critique of individual items as they are prepared as well as a pilot test of the full questionnaire. A pilot test was be carried out in the Cape Coast Metropolitan Area using 20 household heads. Pilot test is meant to help the researcher eliminate irrelevant, ambiguous and misleading items before the final administration of the questionnaire. Additional information requiring the appropriateness of the general layout of the questionnaire is obtained. The information obtained from the subjects will be used as a

basis to build a more refined survey instrument (questionnaire) for administration in order to yield accurate response.

3.9.4 Editing and Revision of Tools

The tools were revised after pre-test to take into account relevant comments and suggestions from respondents who participated in the pre-test.

3.10 Data Collection Procedure

The questionnaire on was administered by the researcher with assistance from trained personnel. Prior to the collection of data, a letter of introduction and the clearance letter from the Ethical Review Committee of the Research and Development Division of the Ghana Health Service were shown to the selected households as evidence. On arrival, the purpose of the study was explained to the heads of the households and the pregnant adolescents.

3.11 Data Analysis

The data collected from research becomes meaningful only when it is organised, summarized and observations explained in order to determine its essential causes, statistical relationships, pattern and trends. The process requires the researcher to analyse the data that have been collected (O'Leary, 2004). Thus, the statistical programme used for the analysis and interpretation of data was the Statistical Package for Social Sciences (SPSS) version 17. Prior to this, copies of the questionnaire were coded for the data analysis.

Descriptive statistics such as frequencies, %ages, means and standard deviations were used to describe the demographic characteristics and answer the research questions and

objectives. According to Dane (2011), it is in the interest of the researcher to determine how frequently a certain phenomenon occurs, the mean average of the data collected and the extent of variability between the variables. The purpose for the use of descriptive statistics as a tool of analysis is to describe the phenomenon of interest (Sekaran, 2003).

3.11.1 Estimation of Direct Cost

Total direct cost was estimated by summing up all direct medical cost (medication, antenatal care, delivery, postnatal care) and non- medical (cost of travel for teenager, cost of food, mother and baby items and miscellaneous such as telephone calls).

Table 2: Estimation of Direct Cost

Type of Costs	Cost Estimation approach
Consultation	This is the summation of the costs of consultation and registration of the pregnant teenagers at the health facilities during the study period.
Antenatal Care	This is the summation of the cost of antenatal care for the pregnant teenagers during the study period
Delivery	This is the summation of the costs of delivery by the pregnant teenagers during the study period
Mother and Baby Items	This is the summation of post-delivery items for use by the mother including clothes, diapers, washing soap, disinfectants among others
Medication	This is the summation of the medications prescribed for the pregnant teenagers during the study period

Total Medical Cost	This is the summation of the total costs of consultation, Antenatal care, Delivery and medication by pregnant teenagers during the study period

3.11.2 Estimation of Indirect Cost

Indirect cost was estimated using the human capital approach which measures output loses through loss of productivity. The productivity days lost due to absenteeism and inability to work due to ward's pregnancy, productivity loss to household head due to travel to hospital facility with pregnant teenager, productivity loss to household head due to waiting time at the hospital facility with the pregnant teenager was estimated by calculating the average productivity day's earnings lost to the household head. The overall cost was estimated by totalling up the direct and indirect cost.

Table 3: Estimation of Indirect Cost

Category	Estimation Approach
Total Travel Time	This is the summation of the hours spent travelling to the health facility and hours spent travelling from the health facility to the house.
Valued Travel Time	This was estimated by multiplying the total travel time spent by household heads who are employed by the hourly rate of the daily minimum wage.
Total Waiting Time	This is the summation of the hours spent on waiting at the health facility and also in the house
Valued Waiting and Treatment	This was estimated by multiplying the total hours spent on waiting at the health facility

	by employed household heads by the hourly rate of the daily minimum wage.
Productivity Days Lost	This is the summation of the total number of days lost by household heads who are employed.
Valued Productivity Days Lost	This was estimated by multiplying the total number of days lost by household heads who are employed.
Total Indirect Cost	This is the summation of valued travel time, valued waiting and treatment time and valued productivity days lost by the patients.

3.11.3 Estimation of Intangible Cost

Intangible costs were estimated using the Likert scale to measure the effect of teenage pregnancy on patients and their households. For this study, the Likert scale used will had five dimensions namely, 1) Not at all; 2) A little; 3) Moderately; 4) Quite a bit; and 5) Extremely. The domains of intangible cost included stress, shame. Fear of the future, anger, disappointment and social interactions. The scores for each domain of the intangible costs was then used to describe that domain.

Table 4: Description of Intangible Cost

Category	Description
Sadness	%age of household heads who agreed that they are sad
Stress	%age of household heads who agreed that they are stressed
Shame	%age of household heads who agreed that they are ashamed

Social interaction	%age of household heads who agreed that social interaction is a problems to them
Anger	%age of household heads who agreed that they are angry
Disappointment	%age of household heads who agreed that they are disappointed

3.12 Ethical Consideration

The following were observed during the study:

3.12.1 Ethical Approval

Ethical approval for the study was obtained from the Ethical Review Committee of the Research and Development Division of the Ghana Health Service.

3.12.2 Permission from Study Site

Permission was also obtained from the District Director of Health Service for Komenda Edina Eguafo Abirem District through the Regional Health Directorate for observation at the hospital as well as the household heads before the research was conducted.

3.12.3 Description of Subjects Involved in the Study

The study population was made up of household heads and pregnant teenagers staying in the same house from 1st June 2016 to 30th June, 2017.

3.12.4 Informed Consent

It is imperative and necessary for every researcher to put into consideration ethical issues governing the research. This is for the fact that social researchers need to prepare

themselves in terms of all ethical issues in the design of a study in order to build a sound–ethical practice (Neuman, 2006). In this study, the respondents' privacy will be respected by seeking their consent first, as one of the tenets in social research requires voluntary participation of respondents. In this regard, there was an explanation of the objectives of the study, as well as its significance to boost respondents' voluntary participation.

Again, the respondents were informed that there will be no compensation since the work is purely academic and the researcher was bearing all the cost involved in the research. Also, the respondents were informed that they are at liberty to withdraw from the research at their own free will.

3.12.5 Privacy/Confidentiality/Anonymity

There is the belief that subjecting respondents to answering items in a questionnaire could cause physical and emotional harm to them. Thus, statements in the questionnaire were framed in a way that presented a variety of options and free will to respondents so that, they can select items appropriate to them. Respondents were also assured of anonymity and confidentiality. The researcher revealed her identity to participants of the study for the purpose of clearing their minds of all doubts and deceptions of the study.

3.12.6 Potential Risks and Benefits

The study population and other stakeholders will benefit from this study because it will inform them on the economic burdens of teenage pregnancy on household heads in Elmina. The study brought to fore, the costs involved in catering for a pregnant teenager

in terms of loss of productivity, loss of time and stress involved. However, there were no risks associated with study.

3.12.7 Data Storage and Usage

The questionnaires were coded and kept in a secure location by the researcher. Data collected was coded and entered within 24hours of collection, and was saved on the personal computer of the researcher after which a copy was saved in different locations to avoid loss of data. The data collected will be kept by the researcher for 5years before it will be discarded. During this period, the data will be used for several publications.

3.12.8 Conflict of Interest

I declare no competing and conflict of interest.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents the results covering the following: socio-demographic characteristics of household head and teenager, direct cost, indirect cost and intangible cost. All costs were estimated over the past one month.

4.2 Socio-Demographic Characteristics of Household Heads in Elmina

The characteristics examined included age, educational background, religion, marital status, ethnicity and employment status. The response rate for this study was 90% for household heads and about the same for teenagers. Table 2 presents the summary of results on the socio demographic characteristics of households.

Table 5: Socio-Demographic Characteristics of Household Head

Socio-demographic variables	Household Heads (n=90)	
	Freq.	%
Age (in years)		
28 – 35	11	12.2
36 – 42	13	14.4
43 – 49	14	15.6
50 – 56	32	35.6
57 – 65	14	15.6
66 – 99	6	6.6
Sex		
Female	67	74.4
Male	23	25.6
Religion		
Christianity	83	92.2
Muslim	5	5.6
Others	2	2.2
Marital status		
Single	27	30.0
Divorced	19	21.1
Married	44	48.9
Educational Status		
No formal education	37	41.1
Primary	30	33.3
Secondary	20	22.2
Above Secondary	3	3.3
Employment Status		
Unemployed	17	18.9
Self-employed	68	75.5
Employed by private entity	2	2.2
Employed by formal sector	3	3.3
Type of work		
Street vending	30	30.0
Security	3	3.0
Dress making	11	11.0
Fishing	18	18.0
Fish mongering	26	26.0
Teaching	5	5.0
Dwelling characteristics		
Ownership of house	55	61.0
Availability of pipe born water	14	16.0
Availability of electricity	75	83.0

With regard to age, out of the total respondents of the household heads, the minimum average age for respondents was 28years while the maximum age was 99years. This

clearly shows that the household heads are in the position to take care of a teenage pregnant girl in the house.

The results also indicate that 37 (41.1%) of the household heads had no formal education. About 33% of the respondents have basic education while 22.2% of them attained secondary education. In terms of their religious affiliation, the respondents were largely Christians (92.2%) and 5 (5.6%) being Muslims. Again, on the whole, almost 48.9 % of the respondents were married. Specifically, the unmarried respondents were mainly 27(20.0%), compared to the 19 (21.1%). It was also revealed that 68 (75.5%) of the households were self-employed as against 17(18.9%) of their counterparts who were not engaged in any form of employment. Furthermore, 3(3.3%) were employed by the formal sector and 2(2.2%) were with the private sector.

About 30.0% of the household heads were engaged in street vending as a form of employment. Around 26 per cent of the respondents were also into fish mongering. Many of the households do not have large family size. The largest family was 17(1.0%) and the least was 2(1.0%).

4.3 Socio-Demographic Characteristics of Teenage Mothers

Table 6: Socio-Demographic Characteristics of Teenagers

Socio-Demographic Variables	Teenagers (n=87)	
	No	%
Age (in years)		
13 – 14	4	4.6
15	5	5.7
16	10	11.5
17	19	21.8
18	22	25.3
19	27	31.0
Religion		
Christianity	83	92.2
Muslim	6	6.7
Others	1	1.1
Educational Status		
Not at all	5	5.6
Less than primary	2	2.2
Primary	22	24.4
Junior High School	55	61.1
Sen. High/Voc./Tech. School	6	6.7

From table 3, the age of individuals included in this study ranges from 13 to 19 with a mean age of 17.71 and standard deviation of 1.35. In terms of education, 55(61.1%) of the respondents had junior high school level of qualification, 22(24.4) had primary education. Majority, 92.2 % were Christians.

Again, the teenagers were asked whether they were employed or not. It was discovered from the data that 75 out of the 90 who responded to the questionnaire, representing 83.3 % were not in any form of employment. The teenagers 50 (55.6%) stated that their parents are the ones who takes care of them while 25 (27.8%) were being taken care of by a guardian. It was however interesting to know that 12.2 % of them said their partners do take care of them.

4.4 Direct Costs of Teenage Pregnancy on Households

4.4.1 Direct Medical Cost

Table 5 presents the direct medical cost that household heads spend when there is teenage pregnancy in the home. Total direct medical cost was estimated at GHS1, 593.00 (USD 359.62). The mean direct medical cost was estimated at 31.235 with a standard deviation of 71.053.

Table 7: Direct Medical Cost of Teenage Pregnancy

Cost component	Cost			Cost Profile
	N	GHS	USD	(%)
Direct Cost				
Medical Cost				
Registration/Consultation	26	122.00	27.62	7.7
Medication	16	1,056.00	238.05	66.2
Laboratory/diagnostics	39	415.00	93.95	26.1
Total		**1,593.00**	**359.62**	**100**

Source: Field Study, 2017; GHS4.42=USD1 (BoG inter-exchange rate)

The cost of medication was estimated at ¢1, 056.00 (USD 238.05) and laboratory/diagnostics estimated at GHS415.00 (USD 93.95) which represented 66.2% and 26.1% respectively of the total medical cost to the household.

Table 6 depicts the direct non - medical cost per month on both the household heads and the pregnant teenagers. The least amount sent is GHS 630.90 (USD 142.82) which represents 3.2 % of the cost. A standard deviation of 135.22 and a mean of 225.5852 was achieved in this analysis. This goes to state that more resources is spent on direct non-medical cost as compared to the direct medical cost.

4.4.2 Direct Non-Medical Cost

From Table 6, it can be seen that in almost every household that the researcher visited had a pregnant adolescent. Out of the total respondents, 75.2 % of the household heads spent more money on food (GHS14, 923.60 – USD 3,378.34).

Table 8: Direct Mon-Medical Cost of Teenage Pregnancy

Cost Component	Cost			Cost Profile
	n	GHS	USD	(%)
Non-Medical Cost				
Travel	78	630.90	142.82	3.2
Food	85	14,923.60	3,378.34	75.2
Mother and Baby Expenses	54	2,975.00	673.47	15.0
Others	29	1,322.00	299.27	6.6
Total		**19,851.50**	**4,493.90**	**100**

Source: Field Study, 2017; GHS4.42=USD1 (BoG inter-exchange rate)

4.5 Indirect Costs of Teenage Age Pregnancy on Households

The study established that indirect cost is the main cost burden experienced by households similar to findings of other studies. Indirect cost of teenage pregnancy as %age of household burden is very high. Attending to teenage pregnant mothers is also entailed indirect costs. Travel costs, absenteeism and hours spent with the child are some of the variables involved. Other indirect costs include the food that teenagers including the household heads purchased whilst waiting to be attended.

Table 9: Total Indirect Costs of Teenage Pregnancy

Cost Component		Cost		Cost Profile
	N	GHS	USD	(%)
Indirect Cost				
Valued Travel Time	45	197.23	44.65	14.7
Valued Waiting Time	44	1,144.25	259.03	85.3
Total Indirect Cost		**1,341.48**	**303.68**	**100**

Source: Field Study, 2017: GHS4.42=USD1 (BoG inter-exchange rate)

The results showed that the household heads absented themselves from work to travel with their pregnant girls to the medical facilities. The valued waiting time cost the household heads as much as GHS1, 144.25 (USD 259.03) (85.3%) while the valued travel time cost the household heads GHS197.23 (USD 44.65) (14.7%) every month. The analysis also pointed that teenage mothers and household heads spent on the average 3 hours at the health facility and also spent about 10 minutes travelling to the health facility. On questioning the respondents on the state of the family's finances vis-à-vis food, medicines, education of children and entertainment/travel, it was evident that teenage pregnancy had a substantial impact on the family's expenses.

4.6 Overall Cost of Teenage Pregnancy on Households

The total direct cost (Direct Medical and Non-medical cost) of teenage pregnancy on the household heads is estimated at GHS70, 092.00 (USD15, 867.14). Table 10 depicts the estimated overall costs of teenage pregnancy on household heads during the year under review in Elmina.

Table 10: Total Cost of Teenage Pregnancy

Cost component	Cost		Cost Profile
	GHS	USD	(%)
Direct Cost	70,092.00	15,867.14	90.8
Indirect Cost	7,140.00	1,616.32	9.2
Total Cost	**77,232.00**	**17,483.47**	**100.0**

Source: Field Study, 2017: GHS4.42=USD1 (BoG inter-exchange rate)

The total burden of indirect costs was much smaller, at GHS7, 140.00 (US$1,616.32) amounting to 9.2% of overall total costs. The proportions of direct and indirect costs are represented in figure 2.

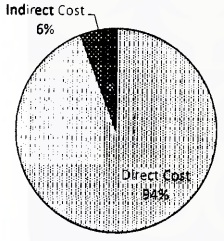

Figure 2: Distribution of Direct and Indirect Cost

4.7 The Burden of Teenage Pregnancy by Socioeconomic Status

Different causes are found to be among the factors of teenage pregnancy in a household in Elmina. Table 11 depicts the socioeconomic causes of teenage pregnancy in a household in Elmina.

Table 11: Which Socioeconomic Group Incurs the Most Cost/Burden

Wealth quintile	N	Minimum (GHS)	Maximum (GHS)	Std. Deviation	Mean (GHS)
Poorest	16	15.00	604.52	153.44	217.17
Poorer	18	30.00	425.00	120.14	250.08
Middle	18	105.00	604.67	134.56	289.86
Richer	18	40.00	540.25	133.6	273.4
Richest	18	23.75	550.75	149.18	259.49

The results showed that the middle class (18) and the poorest (16) spent higher (GHS604.52) on a monthly basis in taking care of the pregnant teenager. This was however significant because a standard deviation on 153.44 was realized with a mean of GHS 217.17. The richest in the community however do not incur much cost because it is assumed by the researcher that the family is insured health-wise and there the basic amenities that will ensure the safety of the teenage pregnant girl. A minimum of GHS 23.75 is spent when there is pregnancy in the house as against a maximum of GHS 550.75.

4.8 Intangible Costs of Teenage Pregnancy

Adolescents do not usually plan to get pregnant when they engage in sexual behaviour. Teenage pregnancy presents itself to an affected teenager as an experience associated with a variety of psycho-socio-economic implications for the child, the mother and the society as a whole. The teenager who is pregnant is likely to encounter issues such as emotional, financial and societal challenges which can result in disruption in their self-esteem, and may be prone to conditions like depression, high dependency on parents and other loved ones.

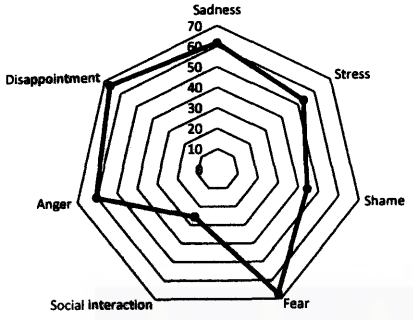

Figure 3: Expressions of Intangible Cost by Household Head

About 65% of the respondents (household heads) felt extremely disappointed and fear about the state of the teenage pregnant girl. Again, 62% hinted that they were sad about the situation in the household. But it appeared that social interaction was their least worry.

4.9 Teenager's Expressions on Burden of Teenage Pregnancy

The shock associated with undesired pregnancy can be psychologically devastating and traumatic for the teenage mother. In instances where support system is ineffective, the adolescent may be predisposed to heightened apprehension and frustration, whereas others may progress into a state of dejection. These teenagers have the tendency of discarding their babies, isolate themselves from society and may ultimately "end it all" by taking their lives.

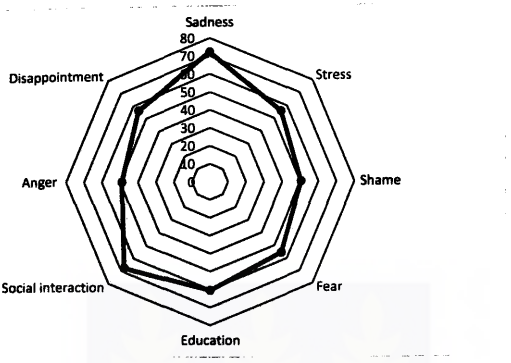

Figure 4: Expressions of Intangible Cost by Teenage Mothers

Furthermore, the researcher sought to find out the teenagers expression of intangible cost. It was found that about 72% of the pregnant teenagers were sad but not that disappointed of their state and the subsequent effect it will have on the household head. This translates to the fact that there is an economic burden when one becomes pregnant. It is therefore worthy to note here that the overall intangible cost of pregnancy to the teenager is sadness. This is so because they felt that they have lost out in the society where their peers are going to school and doing economic ventures while they are pregnant.

CHAPTER FIVE

DISCUSSION

5.0 Introduction

This study examined the economic burden of teenage pregnancy on households in Elmina between 1st June, 2016 and 30th June, 2017. According to Kutzin (2012), cost is a major barrier to seeking and reaching care for emergency complications. These costs consist of the user fee that must be paid to the health-care provider and/or to institutions, the travel costs and the opportunity costs of the potential patient's time (and that of the accompanying caregiver).

About 90 out of the 100 sampled responded to the questionnaire. These were households with pregnant teenage mothers. This study found that, the average age of household head was 50 years. The highest number of girls had the age of 19 years with a mean age of 17 years. Since majority of the teenage mothers were between ages of 17-19, it implies that the teenage mothers were older teenagers. This is consistent with what has been reported earlier (Kamini & Avvaru, 2014; Izugbara 2015; Sultana et al., 2009) which revealed that, older teenagers were more likely to become pregnant than the younger teenagers, although the younger the teenager the greater the risk (unfavorable outcomes).

Majority of the teenage respondents have had at least primary education. This confirms the findings of other studies (Khairani et al., 2010; Sharma et al., 2002), who found out that, teenagers who had given birth had lower educational levels. On religion, the respondents were found to be largely Christians. This is not surprising because in the 2010 population and housing census conducted by the Ghana Statistical Service

revealed that both at the national and within Elmina Municipality, Christians dominated. One would expect that because Christianity discourages pre-marital sex among young adults, teenage pregnancy would not be found among Christian teenagers. Christianity frowns upon sex before marriage. This means that the Christian value of frowning upon sex before marriage is not been upheld by the young men and women in the Christian community because this research revealed that a greater proportion of the participants were Christians. The majority of households surveyed did not have access to different facilities necessary to make life easy in an economy where everything is difficult to get. It was found that majority of the households where staying in their own houses but with some problems such as having no pipe borne water.

5.1 Direct Costs of Teenage Pregnancy on Households

Teen childbearing cost U.S. taxpayers at least $7 billion a year or $3200 a year for each teenage birth in direct costs associated with health care, foster care, criminal justice, and public assistance, as well as lost tax revenues based on a study by Rebecca Maynard of Mathematica Policy Research in Prince town, New Jersey (National Campaign to Prevent Teen Pregnancy (NCPTP), 2001). A cost benefit analysis suggested that the U. S. government could spend up to eight times more than it is currently spending on teen pregnancy prevention and still break even (Sawhill, 2001). Teen childbearing costs taxpayers at least $7 billion each year in direct costs associated with health care, foster care, criminal justice, public assistance and lost tax revenue. Teen childbearing also carries tremendous monetary costs for the family.

The respondents revealed that teenage pregnancy affects households' costs through a variety of channels. The study showed that family heads were responsible to take care of the pregnant teenagers. The average cost of a teenage pregnancy episode to the

household was estimated at ¢1,056.00 (USD) and it was on Medication. On a monthly basis, the amount spent is GHS 1,593.00 and if this is multiplied by twelve to estimate an annual cost, this will amount to GHS 19, 116.00 (USD). This goes to indicate that, household heads spend more money when there is pregnancy in the household.

With the free maternal health policy, borne out of the National Health Insurance Scheme (NHIS), all direct medical costs incurred in all public and accredited private health facilities are shouldered by the government but some elements like laboratory diagnostic are to be taken care of by the patient. On the direct non-medical, household heads lost productivity were found to be greater. The cost of food was seen to have taken a huge toll on the finances of the household heads. Of the total household respondents, 85 (65.49%) of them spent more money on food (GHS14, 923.60). These are hidden costs of teenage pregnancy but critical to household ability to buy essentials for the pregnant teenager.

5.2 Indirect Costs of Teenage Pregnancy on Households in Elmina

Attanakaye, Fox-Rushby and Mills (2000) in a study, estimated household indirect costs of teenage pregnancy to the household by multiplying the average daily income by the households' labour days lost through the period of pregnancy. The value of time lost is assumed to be equal to the earnings people could have earned but for the pregnancy. The hours spent by respondents per month to send pregnant teenager to a health facility was quantified to be GHS197.23 and the valued waiting time was GHS 1,144.25. Time spent by the household heads spanned the time for simply being a companion to facilitating social interaction and reducing social exclusion. Indirect costs associated with both productivity losses by household heads and were, therefore, worth examining.

5.3 The Intangible Costs of Teenage Pregnancy on Households

Typically, most teenagers do not intend conceiving during a sexual encounter. This unplanned gravidness can culminate into all forms of pressures from household members and the community at large, thereby influencing their subsequent decisions (Wirkus & Maxwell, 2012). According to Mokwena (2003), the failure of teenagers to perceive looming dangers associated with their conducts and mental naivety predisposes them to jeopardy. Conception during adolescence is an event which is with linked socio-economic repercussions and psychological stressors for the teenage mother and her baby as well as the family.

As one researcher said, "the shock of an unwanted pregnancy can be emotionally traumatic for the young teenage mother-to-be and in situations where there is no emotional support, some teenagers may experience increased anxiety and frustration, while others may develop depression, emotionally reject the existence of an unborn baby, become alienated from life, break communication with family and friends, and may eventually commit suicide" (Bezuidenhout, 2009).

It was found that about 72 % of the pregnant teenagers were sad but not that disappointed of their state and the subsequent effect it will have on the household head. This translates to the fact that there is an economic burden when one becomes pregnant. About sixty five % of the respondents (household heads) felt extremely disappointed and fear about the state of the teenage pregnant girl. The least of the intangible cost to the household is social interaction.

The result of adolescent pregnancy can further complicate the sociological makeup of the family. Adolescent pregnancy creates an irreparable climate that all members of the family must compensate for in order to maintain a constructive family structure

(Lehman, 2001). Several studies mentioned that the fear depression and feelings of isolation surrounding intangible costs lingered on for months and even for years indicating prolonged effects. When unrecognized or untreated, depression and isolation if unrecognized or untreated can lead to self-harm and in some cases, suicide (Cacciatore & Bushfield, 2007; Cacciatore, 2010). The underlying implication is that, when unrecognized or untreated, the feeling of depression and isolation can reduce the quality of life due to these symptoms and will require long-term therapy and treatment. As protective factors in an adolescence environment, most parents and guardians express their love and concern for their children by setting good clear limits and guidelines. It is natural for parents to protect their teen's self-respect, values, and safety therefore they do not want their adolescent to become sexually active.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter presents a summary of the study and the most important findings highlighted from the data analysis. It also highlights the conclusions drawn based on the findings as well as recommendations offered to draw attention to some economic burden of teenage pregnancy on households in the Elmina community of the Komenda Edina Eguafo Abrem Municipality of the Central Region. Areas for further research are also suggested.

6.2 Conclusion

Teenage pregnancy is a major health concern in Elmina and Ghana at large. The increase in the number is causing a great concern and is becoming a critical issue among households in Elmina. From the findings, certain socio-demographic factors are risk factors in the economic burdens of the households. It again appears that the high incidence of teenage pregnancy in the municipality attributed to the high prevalence of economic burden in the household. The study also revealed that teenage pregnancy results in social dependency, educational constraints and health disparities that are major challenges to socio-economic development of the household. The study concludes that, when there is pregnancy in the household, the household head is economically burdened.

6.3 Recommendations

The following recommendations were made:

1. Household heads should prioritize their expenditure and also ensure that pregnant teenagers are catered for.

2. Direct medical cost that household heads spend when there is teenage pregnancy in the home should be taken care of by the government.
3. As protective factors in an adolescence environment, most parents and guardians must express their love and concern for their children by setting good clear limits and guidelines.

REFERENCES

Aboyej,i A.P., Fawole, A.A., & Ijaiya, M.A. (2001). Knowledge and previous contraceptive use by pregnant teenagers in Ilorin, Nigeria. Tropical Journal of Obstetric Gynecology, 18(2),73-76.

Acharya, D.R., Bhattarai, R., Poobalan, A., Van Teijlingen, E. & Chapman, G.(2010). Factors associated with teenage pregnancy in South Asia: a systematic review. Health Science Journal, (1), 3-14.

Adebayo, O. (2014). Factors associated with teenage pregnancy and fertility in Nigeria. Ibadan: Nigerian Institute of Social and Economic Research.

Adegbenga M., Sunmola, M. D., Sunday B., & Otu D. A. (2003). Reproductive knowledge, sexual behaviour and contraceptive use among adolescents in Niger State of Nigeria. *African Journal of Reproductive Health* 7(1), 37-48.

Akakpo, P. (2013). *Teenage pregnancy in Ghana.* Retrieved from: http://patienceakakpo6.blogspot.com/2013/05/normal-0-false-false-false-en-gb-x-none.html

Akina, S. (2012). *Teenage Pregnancy in Nepal: Consequences, Causes and Policy Recommendatins.* Nepal: Royal Tropical Institute.

Attanakaye, N., Fox-Rushby, J. & Mills, A. (2000). Household Costs of Malaria Morbidity: A Study in Matale District, Sri Lanka. *Tropical Medicine and International Health* 5: 595-606.

Bethlehem, J. (1999). Cross-sectional Research. In H. J. Adèr & G. J. Mellenbergh (Eds.). *Research methodology in the life, behavioural and social sciences.* London, UK: Sage.

Bezuidenhout, F.J. (2009). *A reader of Selected Social Issues: Emotional Development of Adolescents* (3rd Edition). Pretoria: Van Schaik.

Bodeeb, J. (2015) *Effects of teenage pregnancy.* Retrieved from http://www.livestrong.com/article/86972-effects-teenage-pregnancy/

Boer, F. (1992). Children's sibling relationships: Attributions and Behavior in Marital Interaction. *Developmental and Clinical Issues*, 613-628.

Bowling, A. (2009). *Research methods in health (3rd Ed.).* Maidenhead: Open University Press.

Breakwell, G. M., Hammond, S., & Fife-Schaw, C. (1995). *Research methods in psychology.* London: Sage Publications.

Bullen, E., Kenway, J. & Hay, V. (2000). New labour, social exclusion and educational risk management: The case of "gymslip mums". *British Educational Research Journal*, 26 (4), 441-456

Cacciatore, J. (2010). The unique experiences of women and their families after the death of a baby. *Social Work in Health Care*, 49(2), 134–148.

Cacciatore, J., & Bushfield, S. (2007). Stillbirth: The Mother's experience and implications for improving care. *Journal of Social Work in End-of-Life & Palliative Care*, 3(3), 59–79.

Catherine, D. (2004). Teenage pregnancy: an overview of the research evidence Health Development Agency (HNS). Retrieved from: http://webarchive.nationalarchives.gov.uk/+/http:/www.wiredforhealth.gov.uk/PDF/bloopregPO.pdf

CDC (2017). Teen pregnancy in the United States. Retrieved from https://www.cdc.gov/teenpregnancy/about/index.htm

Chow, M. Y. K., Quine, S., & Li, M. (2010). The benefits of using a mixed methods approach - quantitative with qualitative - to identify client satisfaction and unmet needs in an HIV Healthcare centre. *AIDS Care*, *22*(4), 491–498.

Cooper, D., & Schindler, P. (2005).*Business Research Methods* (6th ed.). New Delhi: Tata McGraw-Hill Publishing Company Limited.

Dane, F.C. (2011). *Evaluating research: methodology for people who need to read research.* Los Angeles: Sage Publications.

Dionne, J.J. (1999). Teenage Pregnancy: Developing Strategies for Change in the Twenty-first Century. New Jersey: Somerset

Duncan, S., Edwards. R. & Alexander, C. (2010). *Teenage parenthood: What's the problem.* London: Tufnell Press.

Encyclopaedia of Children and Childhood in History and Society (2008). *Teenage Pregnancy* USA: Bloom School Publishers.

Fox, M. (2008). *Factors causing teen pregnancy.* Retrieved from http://ezinearticles.com/?Factors-Causing-Teen-Pregnancy&id=132175

Fraenkel, J. R., & Wallen, N. E. (2000). *How to design and evaluate research in education.* New York: McGraw-Hill Higher Education.

French RS, Mercer CH, Kane R, Kingori P, Stephenson JM, Witkinson P, Gruddy C & Lachowycz K (2007). 'What impact has England's teenage pregnancy strategy had on young people's knowledge and access to contraceptive services?' *Journal of Adolescent Health*, 41, 594-601.

Garblah, O.B. (2009). *Teenage motherhood Alarming*, Retrieved from: http://www.allafrica.com.

Ghana Statistical Service (GSS), Ghana Health Service (GHS), & ICF International. (2015). *2014 Ghana Demographic and Health Survey (DHS) Key Findings.* Rockville, Maryland, USA: GSS, GHS, and ICF International.

Ghana Statistical Service. (2003). *2000 population and housing census, special report on urban localities.* Retrieved on 8th December, 2010 from http://www.statsghana.gov.gh/

*Ghana News Agency (GNA) (*2013, May 10). 750,000 teenagers become pregnant in Ghana annually. Retrieved from http://ghananewsagency.org/social/750-000-teenagers-become-pregnant-in-ghana-annually-59955

Godding, J. (2008). Emergency contraception. *Emergency Nurse,* 16 (4) (2008), 22-24

Gouws, F.E., Kruger, N. & Burger, S. (2008). *The adolescent.* Johannesburg: Heinemann Publishers (Pty) Ltd.

Gustafsson,S. & Worku, S. (2007). *Teenage Motherhood and Long-run Outcomes in South Africa.* South Africa.

Guttmacher Institute. (2014). *American Teens' Sexual and Reproductive Health.* New York. Retrieved from https://www.guttmacher.org/sites/default/files/pdfs/pubs/FB-ATSRH.pdf

Guttmacher Institute (2000). *Save a Child Report 2000.* USA: Guttmacher Institute.

Gyan, C. (2013). The Effects of Teenage Pregnancy on the Educational Attainment of Girls at Chorkor, a Suburb of Accra. *Journal of Educational and Social Research MCSER Publishing, 3*(3), 2239–978.

Hasan, T., Muhaddes, T., Camellia, S., Selim, N., & Rashid, S. F. (2014). Prevalence and Experiences of Intimate Partner Violence against Women with Disabilities in Bangladesh Results of an Explanatory Sequential Mixed-Method Study. *Journal of Interpersonal Violence,* 29, 3105-3126

Health – Cares.Net (2005). *Teenage pregnancy.* Retrieved from http://womens-health.health-cares.net/teenage-pregnancy.php

Helen, S., Holgate, R., & Francisco, K O. (2006). *Teenage pregnancy and parenthood: Global perspective issues and interventions.* London: Routledge, Taylor and Francis group.

Higginbottom, G., Marsh, P., Mathers, N., Kirkham, M. & Owen, J. (2005). *An exploration of the teenage parenting experiences of young people of Bangladeshi, African Caribbean, Pakistani and dual ethnic origin in England.* University of Sheffield: Institute of Primary Care.

Hoffman, S. D. (2006). *By the numbers: The public costs of teen childbearing.* Washington, DC: National Campaign to Prevent Teen and Unplanned Pregnancy.

Hoffman, S. D., & Maynard, R.A. (eds.) (2008). *Kids having kids: Economic costs & social consequences of teen pregnancy, (2nd edition).* Washington, DC: The Urban Institute Press.

Howard, K., Martin, A., Berlin, L. J., & Brooks-Gunn, J. (2011). Early Mother-Child Separation, Parenting, and Child Well-Being in Early Head Start Families. *Attachment & Human Development, 13*(1), 5–26.

HSRC (2009). *Teenage pregnancy in South Africa with specific focus on school going learners.* Pretoria: HSRC

Institute for Quality and Efficiency in Health Care (IQWiG) (2009). *Cost Estimation.* Working Paper Version 1.0, 2009

Irinoye, O.O., Oyeleye, B.A., Adeyemi, B.A. & Tope-Ojo, V.A. (2004). Analysis of parents' and adolescents' concerns and prescriptions for the prevention and management of teenage pregnancy in Nigeria. *African Journal of Nursing and Midwifery,* 6(1), 25-32.

Ipatenco, S. (2014). Why are low income likely to become pregnant? *Global Post American World News Site*. Retrieved from: www.everydaylife.Global Post.com.

Izugbara, C., (2015). "Socio-demographic risk factors for unintended pregnancy among unmarried adolescent Nigerian girls." *South African Family Practice*, (ahead-of-print), 1-5

Kamini, S., &Avvaru, V. K. (2014). Teenage pregnancy: Maternal and fetal outcomes. *Journal of Dental and Medical Sciences 13*(4), 41-44.

Katayamoyo, P. (2010). *Determinants of teenage pregnancy in Lusaka District.* Lusaka: University of Zambia

Khairani, O., Suriati, H., & Azimah, M. N. (2010). Adolescent pregnancy outcomes and risk factors in Malaysia. *International Journal of Gynaecology and Obstetetrics, 111*(3), 220-223.

Kidger, J. (2004). Including young mothers: limitations to new labour's strategy for supporting teenage parents. *Critical Social Policy*, 24(3), 291-311.

Krishnan, S., Dunbar, M.S., Minnis, A.M., Medlin, C.A., Gerdts, C.E., & Padian, N.S. (2008). Poverty, gender inequities, and women's risk of Human Immunodeficiency Virus/AIDS. *Ann NY AcadSci* 1136(1), 101-110.

Kumar, A., Singh, T., Basu, S., Pandey, S., & Bhargava, V. (2007). Outcome of Teenage Pregnancy. Journal of Pediatrics 74(10), 927-931.

Kurth, F., Bélard, S., Mombo-Ngoma, G., Schuster, K., Adegnika, A.A., et al. (2010) Adolescence as risk factor for adverse pregnancy outcome in Central Africa – A cross-sectional study. *PLOS ONE* 5(12): e14367.

Kutzin, J. (2012). "Anything Goes on the Path to Universal Health Coverage? No." *Bulletin of the World Health Organization* 90, 867–68.

Lambani, M. N. (2015). Poverty the cause of teenage pregnancy in Thulamela Municipality. *Journal for Sociology and Anthropology*, 6(2), 171-176

Lehman, R. S. (2001). *The Effects That Adolescent Pregnancy Has on Family Life.* University of Wisconsin-Stout.

Lemos, G. (2009). *Freedom's consequences: Reducing teenage pregnancy and their negative effects in the UK.* London. Lemos &Crane.

Luong, M. (2008). Life after teenage motherhood. *Perspectives Statistics Canada Cataloque,* 75, 0001-x.

Magadi, M.A., Agwanda, A.O., & Obare, F.O. (2007). A comparative analysis of the use of maternal health services between teenagers and older mothers in sub-Saharan Africa: evidence from Demographic and Health Surveys (DHS). *Soc Sci Med.* 64(6), 1311

Magistro, N. (2000). *What life delivers: Support group help mothers of teenage parents adjust to new roles as grandmothers.* Retrieved from: http//www.dailynorthwestern.com

Malahlela, M. (2012). *The effects of teenage pregnancy on the behaviour of learners at secondary schools in the Mankweng Area.* Limpopo: University of South Africa.

Malhotra, N, K., & Birks, D, F. (2007) *Marketing research; an applied approach.* (3rd Edition). UK: Pearson Education

Masaiti, G., & Manchishi, P. C. (2011). The University of Zambia pre-service teacher education progranmme: Is it responsive to schools and communities aspirations. *European Journal of Education, 3*(2), 311-324.

Mayor of London (2007). *Review of evidence for the Mayor's Health Inequalities Strategy.* Retrieved from: http://s3.amazonaws.com/zanran_storage/www.london.gov.uk/ContentPages/10955713.pdf

Mchunu, G., Peltzer, K., Tutshana, B., & Seutlwadi, L. (2012) Adolescent pregnancy and associated factors in South African youth *African Health Sciences* 4, 426 – 434

McLeod (2001), Changing patterns of teenage pregnancy: population based study of small areas *British Medical Journal 323:199*

McMillan, J.H. & Schumacher, S. (2001). *Research in education. A conceptual introduction.* (5th Ed.). New York: Longman.

Mmari, V., Mchumvu, Y., Silberschmidt, M. & Rasch, V. (2000). Teenage girls with illegally induced abortion in Dar-es-Salaam: The discrepancy between sexual behaviour and lack of access to contraception. *Reproductive Health Matters* 8(15), 52-59.

Mmari, K, Kalamar, A.M., Brahmbhatt, H., & Venables, E. (2016). The influence of the family on adolescent sexual experience: A comparison between Baltimore and Johannesburg. *PLOS ONE* 11(11): e0166032.

Moen, P., & Flood, S. (2013). Limited Engagements? Women's and Men's Work/Volunteer Time in the Encore Life Course Stage. *Social Problems*, *60*(2), 15-25

Mokwena, J.P. (2003). *The general health and coping strategies of teen mothers*. South Africa: University of the North, South Africa.

Moore, S. & Rosenthal, D. (2006). *Sexuality in Adolescence*. London: Routledge.

Mouton, J. (1996). *Understanding social research*. Pretoria: Van Schaik

Muvunyi, J.O. (2011). *Implications of teenage pregnancy on socio-economic development of rural communities in Rwanda. A case study of Fumbwe sector/Rwamagana district.* (Unpublished thesis). Kigali: Catholic University of Rwanda

National Campaign to Prevent Teen and Unplanned Pregnancy (NCPTUP) (2011). *Counting It Up: The Public Costs of Teen Childbearing: Key Data*. Washington, DC: National Campaign to Prevent Teen and Unplanned Pregnancy. Retrieved from: http://www.thenationalcampaign.org/costs/pdf/counting-it-up/key-data.pdf

National Campaign to Prevent Teen and Unplanned Pregnancy (NCPTUP) (2010). *Fact Sheets: Why it Matters*. Washington, DC: National Campaign to Prevent Teen and Unplanned Pregnancy.

National Campaign to Prevent Teen Pregnancy (NCPTP). (2001). Halfway there: A prescription for continued progress in preventing teen pregnancy. Washington, DC: National Campaign to Prevent Teen Pregnancy.

Nattrass, N. (2009). Poverty, sex and HIV. *Journal of AIDS Behaviour*, 13(5), 833–840.

Neuman, W.L. (2006). *Social research methods: qualitative and quantitative Approaches*. New York: Pearson Allyn and Bacon.

Nworgu, B.G. (2006). *Educational Research: Basic Issues and Methodology (Revised and enlarged edition)*. Nsukka: University Trust Publishers.

Nyinaku, P. A. A (2010). *Socio-cultural and economic factors in adolescent pregnancy in Klottey Sub-Metropolitan Area*. (Unpublished Master in Public Health Thesis), Ghana, Accra: University of Ghana.

Odu, K.B. & Christian, J.A. (2007). Menace of teenage motherhood in Ekti State. *Middle East Journal of Scientific Research*, 2(3-4), 157-161.

Ogori, A. (2013). *The cause and effect of teenage pregnancy: Case of Kontagora Local Government Area in Nigeria State, Northern Part of Nigeria*. Niger State: School of Vocational Education.

O'Leary, Z. (2004). *The essential guide to doing research*. London: Sage.

Olorunfemi, E. A., (2012) A comparative analysis of predictors of teenage pregnancy and its prevention in a rural town in Western Nigeria, Amoran. *International Journal for Equity in Health*, 11:37.

Pallant, J. (2005). SPSS survival manual: A step by step guide to data analysis using SPSS. Australia: Allen and Unwin.

Patton, M. Q. (1990). *Qualitative evaluation and research methods*. Thousand Oaks, CA: Sage.

Perper, K., Peterson, K., & Manlove, J. (2010). *Diploma Attainment Among Teen Mothers. Child Trends Fact Sheet.*

Plano Clark, V. L., Anderson, N., Wertz, J. A., Zhou, Y., Schumacher, K., & Miaskowski, C. (2014). Conceptualizing Longitudinal Mixed Methods Designs: A Methodological Review of Health Sciences Research. *Journal of Mixed Methods Research*. 9 (4), 297-319

Polit, D. E & Hungler, B.P. (1995*) nursing research: principles and methods* (5th ed.). Philadelphia: J.B. Lippincott Company.

Posel, S. (2013, October 31). UN: Teen Pregnancy is a Huge Global Problem. *Sussane Posel Investigative Headline News.* Retrieved from: http://www.investigativeheadline.com

Pun, K.D., & Chauhan, M. (2011) Outcomes of adolescent pregnancy at Kathmandu University Hospital, Dhulikhel Hospital. *Kathmandu University Medical Journal*, 33(1)503.

Rayburn, R. L. (2013). Understanding homelessness, mental health and substance abuse through a mixed-methods longitudinal approach. *Health Sociology Review*, *22*(4), 389–399.

Richter, M.S. & Mlambo G.T. (2005). Perceptions of rural teenagers on teenage pregnancy. *Health SA Gesondheid*, 10 (2), 1-69

Ruggles, S. (2001). Living Arrangements and the Well-being of Older Persons in the Past, *Population Bulletin of the United Nations*, 42/43, 111-161

Russell, S. (2001). *Can households afford to be ill? The role of the health system, material resources and social networks in Sri Lanka.* PhD thesis. London School of Hygiene and Tropical Medicine, University of London.

Sams, P. (2008). 'Teenage pregnancy and effect on teenage girls'. *Health and Health Care Journal.*

Sauerborn, R., Adams, A. & Hien, M. (1996): Household strategies to cope with the economic costs of illness. *Social Science and Medicine*, 43 (3), 291-301.

Sawhill, I. V. (2001). What can be done to reduce teen pregnancy and out-of-wedlock births? Brookings Policy Brief 8.

Segen, F. (2012). *Segen medical dictionary.* United Kingdom: Farlex CRS Press.

Schuyler Center for Analysis and Advocacy (SCAA) (2008). *Teenage births: Outcomes for young parents and their children.* Retrieved from http://www.scaany.org/documents/teen_pregnancy_dec08.pdf

Sekaram, U. (2003). *Research methods for business: A skill–building approach* (2nd ed.). New York: John Wiley & Sons, Inc.

Seltzer, M. M., Orsmond, G. I., & Esbensen, A. J. (2009). Siblings of individuals with an autism spectrum disorder: Sibling relationships and wellbeing in adolescence and adulthood. *Autism : The International Journal of Research and Practice, 13*(1), 59–80

Sex Information and Education Council of Canada (SIECCAN.2007) (2007). *update report on teen pregnancy prevention.* Ottawa: SIECCAN

Sharma, A., Vema, K., Katri, S. & Kannan, A. (2002). Determinants of pregnancy in adolescents in Nepal. *Indian Journal of Paediatrics, 69*, 19-22.

Shaw, M., Lawlor, D. A. & Najman, J. M. (2006). Teenage children of teenage mothers: Psychological, behavioural and health outcomes from an Australian prospective longitudinal study. *Social Science & Medicine, 62*(10), 2526-2539.

Siniscalco, MT & Auriat, N (2005). *Quantitative research methods in educational planning.* Retrieved from: http://www.sacmeq.org/modules/module8.pdf.

Solomon-Fears, C. (2016). *Teenage pregnancy prevention: Statistics and programs.* Congressional Research Service. Retrieved from: https://fas.org/sgp/crs/misc/RS20301.pdf

Somers, C. L., & Fahlman, M. M. (2001). Effectiveness of —*Baby Think It Over* teen pregnancy prevention program. *The Journal of School Health, 71*(5), 188-195.

Strangor, C. O. (2004). *Research method for behavioural sciences.* Borton: Houghton Mifflin Co.

Sullivan, K., Clark, J., Castrucci, B., Samsel, R., Fonseca, V., & Garcia, I. (2011). Continuing education mitigates the negative consequences of adolescent childbearing. *Maternal & Child Health Journal, 15*(3), 360–366.

Sultana, N., Huq, S. R., Parvin, T., Hussain, M. A., & Rahaman, M., A. (2009). Outcome of Teenage Pregnancy Associated with Medical Conditions. *Journal of Shaheed Suhrawardy Medical College, 1* (2), 10-13.

Sutay, F. (2010) *Factors Contributing to Teenage Pregnancies in Morocco, Egypt, and Turkey.* Rabat: TX publishers.

Thobejane (2015)., factors contributing to teenage pregnancy in South Africa: The case of Matjitjileng village. *Journal of Sociology Soc. Anthropology* 6(2): 273-277.

UNFPA. (2013). Adolescent Pregnancy: A Review of the Evidence. *Unfpa*, 53.

Retrieved from https://www.unfpa.org/sites/default/files/pub-pdf/ADOLESCENT PREGNANCY_UNFPA.pdf

United Nations Population Fund. (2000). *Fast Sheet: Young people and Demographic Trends*. New York: UNFPA.

United Nations Population Fund (UNFPA) (2007). *Giving girls today and tomorrow: Breaking the cycle of adolescent pregnancy*. New York: UNFPA.

USAID (2008). *The Tuberculosis Coalition for Technical Assistance (TB|CTA): Tools to estimate patients 'costs.*

Uwaezuoke, I.O., Uzochukwu, S.C., Nwagbo, F.E., & Onwujekwe, O.E. (2004). Determinants of teenage pregnancy in rural communities of Abia State, South East Nigeria. *Journal of College of Medicine*, 9, 28-33

Van Ness, P. H., Fried, T. R., & Gill, T. M. (2011). Mixed Methods for the Interpretation of Longitudinal Gerontologic Data: Insights From Philosophical Hermeneutics. *Journal of Mixed Methods Research*, 5(4), 293–308.

Wang, W. & Leichtman, M.D. (2000). Same beginnings, different stories: A comparison of American and Chinese children's narratives. *Child development, 71*, 1329 –1346

Wirkus, J. & Maxwell, A. (2012). *Teen Pregnancy*. Retrieved from: www.teenpregnancy.org

Winnie, O. (2012). The impact of teenage pregnancy on school dropout among secondary school girls in Embu Municipality. (Unpublished thesis). Rwanda: KIDS College

World Health Organization. (2014). *Media Centre - Adolescent pregnancy. Fact sheet N° 364*. Geneva. Retrieved from: http://www.who.int/mediacentre/factsheets/fs364/en/

World Health Organization (WHO) (2011). *World Health Statistics 2012*. Geneva: WHO

World Health Organization (WHO) (2008). *Fact sheet on maternal mortality*. Geneva: WHO.

World Health Organisation (2002a). *Guidelines for cost and cost-effectiveness analysis of tuberculosis control*. Geneva: WHO/CDS/TB.

Xinhua News Agency (1996, June 20) "Teenage pregnancy high in Ghana's central region,". Retrieved from: www.xinhuanet.com/English

Yutokoutreach (2007). *Yu Tok Radio – Youth outreach program*. New Guinea: Papua.

APPENDICES

Appendix I: Consent Form of Participants

Statement of Consent from Teenage Mothers

I ..... have been thoroughly briefed on the entire methodology and significance of the ongoing research. On my own freewill, I hereby consent to be part of the study based on my understanding of the study details. I am doing this on the condition that under no circumstance should any reference be made to my actual identity to any person after providing all the information requested to be made from me for this particular study as promised by the researcher.

Name of Participant: ..... Date:.....

Signature or Thumb Print of Participant:

.....

Thank you for agreeing to participate.

I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Principal Investigator:..... Date:.....

Signature of Researcher: .....

Statement of Consent from Household Head

I ..... have been thoroughly briefed on the entire methodology and significance of the ongoing research. On my own freewill, I hereby consent to be part of the study based on my understanding of the study details. I am doing this on the condition that under no circumstance should any reference be made to my actual identity to any person after providing all the information requested to be made from me for this particular study as promised by the researcher.

Name of Participant: ..... Date:.....

Signature or Thumb Print of Participant:

.....

Thank you for agreeing to participate.

I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Principal Investigator:..... Date:.....

Signature of Researcher: .....

Appendix II: Questionnaire for Household Head

Title of Research: Economic Burden of Teenage Pregnancy on Households in Elmina Community

SECTION A. Background characteristics

1. Age of household head at last birthday (age).....
2. Sex of household head
   (a) Female [ ]
   (b) Male [ ]
3. Marital status
   (a) Single (never married) [ ]
   (b) Widowed [ ]
   (c) Divorced [ ]
   (d) Married (Monogamy) [ ]
   (e) Married (Polygamous) [ ]
   (f) Separated [ ]
4. Level of education of household head
   (a) No formal education [ ]
   (b) Primary education [ ]
   (c) Secondary /Vocational [ ]
   (d) Above secondary education [ ]
5. Religion of house hold head
   (a) Christianity [ ]
   (b) Islamic [ ]
   (c) Traditional [ ]

(d) Other (specify) [ ] .....

6. How many people live in this house? .....

7. How many people in the household, are:

   (a) Less than 5 years .....

   (b) 5-17 years .....

   (c) 18-49 years .....

   (d) 50-69 years .....

   (e) 70yrs and above .....

8. Which of the following best describes your employment status?

   (a) Unemployed [ ]

   (b) Self-employed [ ]

   (c) Employed by private entity [ ]

   (d) Employed by formal sector [ ]

9. What type of work do you do? Tick as many as may be applicable

   (a) Street vending [ ]

   (b) Security [ ]

   (c) Dress making [ ]

   (d) Fishing [ ]

   (e) Fish mongering [ ]

   (f) Teaching [ ]

   (g) Farming [ ]

   (h) Health worker [ ]

   (i) Other (specify) [ ]

SECTION B: Household income and expenditure

10. How many people in the household earn income? .....

11. From what sources do the household members earn their income?

.....

.....

12. Do you own this house?

(a) Yes [ ]

(b) No [ ]

If yes go to 14; If No continue from 13

13. Are you a tenant renting this house

(a) Yes [ ]

(b) No [ ]

14. Do you have any of the following utilities in this house?

(a) Pipe borne water Yes [ ] No [ ]

(b) Electricity Yes [ ] No [ ]

15. Do you or any of your household members have the following?

Item	Yes	No
Mobile phone		
Canoe		
Fishing net		
Motor bike		
Television (black and white)		
Television (colour)		
Flat screen TV		
Unsewn cloths		
Jewelry		

Electric stove		
Gas stove		
Kerosene stove		
Refrigerator		
Deep freezer		
Outboard motor		
Car(s)		
Motor bike		
Bicycle		
Video player		
Audio player		
Radio set		
Cooking utensils set (aluminum)		
Cooking utensils set (enamel)		
Ceramic serving bowls/plate/trays set		
Enamel serving bowls/plate/trays set		

16. How much did you spend in buying them? Indicate the amount against each item.

Item	Amount (GHS)
Mobile phone	

Canoe	
Fishing net	
Motor bike	
Television (black and white)	
Television (colour)	
Flat screen TV	
Clothe	
Jewelry	
Electric stove	
Gas stove	
Kerosene stove	
Refrigerator	
Deep freezer	
Outboard motor	
Car(s)	
Motor bike	
Bicycle	
Video player	
Audio player	
Radio set	
Cooking utensils set (aluminum)	
Cooking utensils set (enamel)	
Ceramic serving bowls/plate/trays set	
Enamel serving bowls/plate/trays set	

17. How much do you pay for each of the following in a month?

Item	Amount (GHS)
Water	
Electricity	
Phone units	
Firewood	
Charcoal	
Gas	
Kerosene	

18. How much do you spend on the following food items within a week?

Food items	Amount (GHS)
Maize	
Rice	
Beans	
Cassava grits "Gari"	
Yam	
Cassava	
Cocoyam	
Plantain	
Meat	
Fish	
Milk	
Beverage	

Sugar	
Vegetables	
Salt	
Spices	
Oil and fat	

SECTION C. Direct cost information

19. How many pregnant teenagers are in this household? .....

20. How many pregnant teenagers are married?

.....

21. Do the pregnant teenagers in your household attend antenatal care?

(a) Yes [ ]

(b) No [ ]

22. If no, state reason

.....

.....

.....

23. If yes, how often?

(a) Weekly [ ]

(b) Fortnightly [ ]

(c) Monthly [ ]

24. How much money does/do the pregnant teenager spend on?

(a) Registration/ Consultation? .....

(b) Medication? .....

(c) Laboratory tests? .....

(d) Admission if applicable.....

Direct non-medical cost information

25. Do you usually give money to the pregnant teenager for their upkeep?

(a) Yes [ ]

(b) No [ ]

26. How much do you usually give her/them for

(a) Cost of travel in and out for care? .....

(b) Cost of food .....

(c) Cost of drink/water.....

(d) Other costs .....

SECTION D: Indirect cost information

27. Have you ever absented yourself from work to take care of your pregnant teenager?

(a) Yes [ ]

(b) No [ ]

28. If yes how many times have you absented yourself from work?

Once [ ] Twice [ ] Thrice [ ] ≥ Four times [ ]

29. Have you ever travelled to the health facility with your pregnant teenager?

(a) Yes [ ]

(b) No [ ]

30. How many minutes or hours did you spend travelling with her to the health facility?

.....

31. How many minutes or hours did you spend in the facility?

.....

SECTION D: Intangible cost information

32. Do you feel sad about the state of your teenager?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

33. Do you feel stressed trying to cope with her condition and other household activities?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

34. Do you feel ashamed of her state?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

35. Are you afraid of what the future holds for her?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

36. Do you feel your social life has suffered because of her state?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

37. Are you angered because of your ward's state?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

38. Do you feel disappointed because of your ward's state?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

39. Overall, how burdened do you feel about her state?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

Appendix III: Questionnaire for Pregnant Adolescent

1. How old are you? .....

2. What is your level of formal education?

(a) No education [ ]

(b) Less than primary [ ]

(c) Primary [ ]

(d) Junior high secondary [ ]

(e) Senior high/vocational/technical school [ ]

(f) Tertiary level [ ]

3. Religious background

(a) Christian [ ]

(b) Muslim [ ]

c) Traditional religion [ ]

(d) Other [ ]

4. Are you employed?

(a) Yes [ ]

(b) No [ ]

5. If yes in [3], how much do you earn monthly? .....

6. Who takes care of your needs?

(a) Parent [ ]

(b) Self [ ]

c) Guardian [ ]

(d) Partner [ ]

6. How much do you spend monthly on?

(a) Travelling to antenatal GHS.....

(b) At the ANC session GHS.....

(c) Medication GHS.....

(d) Food GHS.....

(e) Clothing GHS.....

(f) Shelter GHS.....

7. Do you feel sad about your current state?

(a) Yes [ ]

(b) No [ ]

8. Do you feel stressed trying to cope with your condition and other household activities?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

9. Do you feel ashamed of your state?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

10. Are you afraid of what the future holds for you?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

11. Do you feel your educational life has suffered because your state?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

12. Do you feel your social life has suffered because of your state?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

13. Are you angered because of your state?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

14. Do you feel disappointed because of your current state?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

15. Overall, how burdened do you feel about your state?

(a) Not at all [ ]

(b) A little [ ]

(c) Moderate [ ]

(d) Quite a bit [ ]

e) Extremely [ ]

Appendix IV: Ghana Health Service Ethical Approval

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

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

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

MyRef. GHS RDD/ERC Admin/App/17/524
Your Ref. No

Mavis Esaako Narh
University of Ghana
School of Public Health
Legon, Accra

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

GHS-ERC Number	GHS-ERC: 23/02/17
Project Title	Economic Burden of Teenage Pregnancy on Households in Elmina Community
Approval Date	24th May, 2017
Expiry Date	23rd May, 2018
GHS-ERC Decision	Approved

This approval requires the following from the Principal Investigator

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

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

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

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

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

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

Appendix V: Letter of Permit to the Study Area

P. O. Box 63

Cape Coast

31ST May 2017

Dear Sir/Madam,

PERMISSION TO UNDERTAKE A STUDY IN THE CENTRAL REGION

As part of the requirement for the award of MPH degree, it is expected of me to undertake a piece of research to enable me write a dissertation.

My topic is Economic Burden of Teenage Pregnancy on Households in Elmina I shall be very grateful if your outfit would allow me used the Komenda Edina Eguafo Abirem Municipal for the needed information.

Thank you your cooperation.

Sincerely yours,

Mavis Tsaako Narh