

**SOCIAL DETERMINANTS OF NON-MARITAL ADOLESCENT
PREGNANCY IN NKWANTA SOUTH DISTRICT**

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**THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON
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DEDICATION

This dissertation is especially dedicated to my wife, Joanna and daughter, Kekeli for their support and understanding.



DECLARATION

I hereby declare that apart from specific references which have duly been acknowledged, this research dissertation is my own work put together.

Stephen Selasi Corshi Akakpo

(Student)



Professor Richard M. K. Adanu

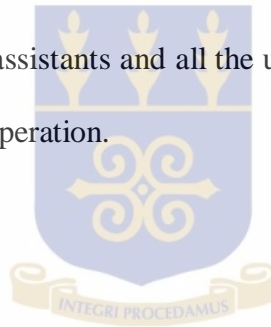
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ABSTRACT

INTRODUCTION: Adolescence is a period of biological, psychological and social transformations as a child transits to adulthood. Thus adolescents, including those in Nkwanta South district, are vulnerable to themselves and the environment.

OBJECTIVES: This study identified the social determinants of non-marital adolescent pregnancy in terms of formal education, adolescent parent and peer relationships.

METHODS: The study was a community based cross sectional research. Two communities were selected from each of the four sub-districts of Nkwanta South District. All adolescents in alternate houses were interviewed with questionnaires until the required number was obtained. A total of 242 adolescents were analysed using Stata 11.0. Frequency tables were generated and logistic regression was used to generate odds ratios. Significance was set at a p-value of 0.05.

RESULTS: About 11% of the respondents have no education and 79.8% were in school. Non-marital adolescent pregnancy prevalence in the district was about 17.8%. The odds of pregnancy showed a decreasing trend as an adolescent goes up the educational levels and the odds of pregnancy was significantly high among those with poor parental and peer relationships after adjusting for other factors (OR: 3.20 and 5.31).

CONCLUSION: Non-marital adolescent pregnancy is relatively high in Nkwanta South district and is significantly associated with no or low levels of education, poor parental relationship and poor peer relationship. Parents should be encouraged to develop personal relationship with their children and be made to understand the benefits of girls' education and their roles as stakeholders in the Free Compulsory Universal Basic Education (FCUBE) policy in Ghana.

Future research should look into parental perspectives on non-marital adolescent pregnancy and its prevention.

KEY WORDS: Adolescent pregnancy, Peer relationships, Nkwanta South District.

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LIST OF ABBREVIATIONS AND ACCRONYMS

AIDS	– Acquired Immune Deficiency Syndrome
APPCNC	– Adolescent Pregnancy Prevention Campaign of North Carolina
BECE	– Basic Education Certificate Examinations
DDHS	– District Director of Health Services
DHMT	– District Health Management Team
FCUBE	– Free Compulsory Universal Basic Education
GHEI	– Ghana Health and Education Initiative
GH-ERC	– Ghana Health Service Ethical Review Committee
GHS	– Ghana Health Service
GSS	– Ghana Statistical Service
HIV	– Human Immune Virus
IRB	– Institutional Review Board
MDGs	– Millennium Development Goals
MOH	– Ministry of Health
MOE	– Ministry of Education
NDPC	– National Development Planning Commission

NPC	– National Population Council
NSDHA	– Nkwanta South District Health Administration
PFRH	– Population Family and Reproductive Health
PTA	– Parent-Teacher Association
STI	– Sexually Transmitted Infections
UNDP	– United Nations Development Programme
UNESCO	– United Nations Educational, Scientific and Cultural Organization
UNFPA	– United Nations Population Fund
WHO	– World Health Organization

DEFINITION OF TERMS / OPERATIONAL DEFINITIONS

For the purpose of this study the following definitions apply:

- i. **Adolescence** is a period where a child transits to adulthood and is associated with the age limits 10 to 19 years (WHO, 2012).
- ii. **Adolescent** refers to anyone who falls within the period of transition to adulthood, usually from age 10 to 19 years (WHO, 2008).
- iii. **Adolescent- pregnancy** is a pregnancy occurring in a girl aged 10 to 19 years (WHO, 2009).
- iv. **Non- marital adolescent pregnancy** is a pregnancy occurring in adolescent girl who is not married as recognized by the society in which she lives.
- v. **Social determinants** are the circumstances in which people are born, grow, live, work and age (WHO, 2013).
- vi. **Relationship** refers to the way in which two or more people talk to, behave toward, and deal with each other (Merriam-Webster Online Dictionary, retrieved 2nd May, 2012).

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Adolescence is a period of both disorientation and discovery where a child transits to adulthood and is associated with the age limits 10 to 19 years (World Health Organization, 2012). This transition is characterized by biological, psychological and social transformations. These changes affect adolescent behaviour where they are vulnerable to themselves and the environment. They wonder about their body changes, feel closer to friends than to family, rebel against parents/guardians, feel to experiment with new things and want to be independent (Ghana, Health Service [GHS], 2008; Garfield, 2007). Their risk-taking behaviours lead to serious life-long consequences, while others result in injuries or poor judgments that can be corrected (GHS, 2008; Nair et al., 2011).

In the past, with low average life expectancy many women gave birth early on in life. Today, however, birth at an early age is usually considered an adverse outcome, even in developing countries, due to increasing life expectancies over most of the latter half of the 20th century. Adolescent-pregnancy is a case in point here. Not only will a teenage mother be less able to take care of the child at birth due to her often low socioeconomic status but future care will be affected as well, since the accumulation of human capital will be at the expense of her earlier caretaking, all being equal. Again, without a partner to support with finances and/or childcare, she will be unable to take good care of herself and her child (Blunch, 2011).

Adolescent girls are exposed to higher risk when it comes to sexual vulnerability compared to their male counterparts, as in addition to the risk of sexually transmitted infections (STIs) and human immune deficiency virus / acquired immune deficiency syndrome (HIV/AIDS), pregnancy and its associated consequences may occur. Evidence suggests that adolescents behave responsibly when they are well informed especially on issues such as career development, relationships and sexual and reproductive health (National Population Council [NPC], 2000). Reproductive health and sexuality are always sensitive subjects, especially so when it concerns the adolescent population.

Social determinants work at different levels to influence exposure to the risks of unintended adolescent pregnancy. There are many opportunities for providing information for adolescents on reproductive and sexual health: schools, religious institutions, youth organizations, community groups, parental communication, peer education, media, and health service facilities. Adolescents who are enrolled in school, especially girls, are better informed and more motivated to delay pregnancy than their non-enrolled peers (Blunch, 2011).

Even though there are substantial studies on teenage pregnancy, young women are becoming fertile before their teens and secondly not all adolescent pregnancies are socially unacceptable especially in sub-Saharan Africa. There is therefore the need to expand the age bracket of adolescent research to include early adolescent age group. This will add to the already existing knowledge about adolescent pregnancy so that future reviews will help in establishing comprehensive adolescent programmes. This study is about the social determinants (with respect to education, parental and peer relations) and the magnitude of non-marital adolescent pregnancy in rural Ghana, specifically Nkwanta South District.

1.2 Statement of the problem

Adolescent pregnancy is a big problem in both developed and developing countries especially in sub-Saharan Africa where adolescent birth rate is about 140 per 1000 adolescents with inter-country variations, from 45 in Mauritius to 229 in Guinea. This is very high compared to the world average of 65 (WHO, 2004). The situation is more serious in the rural communities where poverty is rife; hence discussions about adolescent pregnancy tend to be associated with the poor and the rural dwellers of nations. In Ghana the situation is the same. Teenage pregnancy is endemic in Ghana as there was no significant change in the rates between 2003 (14%) and 2008 (13%); about one in ten adolescents 15 to 19 years of age have begun childbearing in the urban areas whilst about twice the number is the problem in the rural communities (GSS, 2009).

Reports on teenage pregnancy in Ghana become frequent during the periods of the Basic Education Certificate Examinations (BECE). In the year 2009 in Lower Manya Krobo District in the Eastern Region 33 female students failed to write the BECE, due to pregnancy whilst in the Shama District of the Western Region 572 teenage pregnancies were recorded in the district, with an accompanying mass failure of the BECE. However in the same year, 2009, Volta Region reported a decline in teenage pregnancy rate from 13.5% in 2007 to 12.9% in 2009, however, the direction of this decline cannot be predicted now (Selby, 2010).

The 2005 Volta Regional annual health report revealed that early and late adolescent pregnancy were on the increase, which was a great concern. In Nkwanta South District adolescent pregnancy with its associated complications is one of the headaches of the District Health Management Team (DHMT) as told by the District Director of Health Services (DDHS). Non-marital adolescent pregnancy has untold consequences that is felt by the girl primarily (and the

child) and less by the boy or man. These include, dropping out of school, stigmatization, malnutrition, pregnancy and birth complication, illegal abortion and death.

1.3 Justification of the study

Adolescent pregnancy is of grave concern worldwide. About 11% of all births worldwide is due to young women below 20 years of age and they account for 23% of the world's burden of disease (disability adjusted life years) as a result of pregnancy and childbirth (WHO, 2012). In sub-Saharan Africa our situation is worse, as more than 50% of adolescents in the region give birth contributing to the poor millennium development goal indices in the region (WHO, 2012). These adolescents if in school, dropout and are left with no employable skills. They become burden to their family, community and the nation. They make population control difficult and perpetuate the vicious cycle of poverty.

Adolescent childbearing in Ghana is associated with high infant and child mortality. These adolescents are more likely to experience complications including death during pregnancy and delivery than older mothers (GSS, 2009), and contribute to the high under five mortality rate (69/1,000 live births) and maternal mortality ratio (350/100, 000 live births) in Ghana (UNDP, 2011), the Millennium Development Goals (MDGs) 4 and 5. Adolescents childbearing in Nkwanta South District is high (11.3%) compared to the national average of 13 percent (DHMT, 2011; GSS, 2009). Also, according to the National Population Council (NPC), Ghana's rapid population growth (2.4%) is a threat to our economic progress hence our middle income status. The age structure of the population reflects a youthful population with about 40 percent of the population under 15 years of age (NPC, 2011). Therefore there is an in-built momentum for further growth which would further slow down the attainment of the MDGs, if we missed the

opportunity to strengthen adolescent education on reproductive rights and responsibilities through research.

A lot of research has been conducted in this area worldwide including sub-Saharan Africa, however in Ghana, most of the studies were carried out in urban communities whilst about half (48.5%) of the population lives in rural areas (UNDP, 2011). Thus media coverage, policy and programme of public health importance tend to be more focused on urban areas. To enable any successful intervention programme and action to be taken by leaders and various stakeholders, home tailored evidence need to be provided into the social determinants of non-marital adolescent pregnancy, as marital adolescent pregnancy is sanctioned in most rural areas and its associated pregnancy more likely to be intended, thus the determinants may be different from those of the urban areas, hence the need for this study.

It will help institute interim measures to contain the problem of non-marital adolescent pregnancy, locally by the DHMT and also the findings can help institute long term programmes in Nkwanta South District and other districts in Ghana, thus contributes to the progress in achieving the MDGs especially goals 4 and 5, and further enhance our economic status as a country. It also adds to the research knowledge base in the country and identifies other areas of future research.

1.4 Objectives

1.4.1. *General objectives*

To identify the social determinants of non-marital adolescent pregnancy in Nkwanta South District.

1.4.2. *Specific objectives*

1. To describe the relationship between formal education and non-marital adolescent pregnancy.
2. To determine the association between adolescent-parent relationship and non-marital adolescent pregnancy.
3. To assess the effect of peer relationship on non-marital adolescent pregnancy.

CHAPTER TWO

2.0 LITERATURE REVIEW

Usually defined as the second decade of life, adolescence is a transitional period between childhood and adulthood associated with biological, psychological and social maturation. Anyone who falls within this period of transition, usually from age 10 to 19 years, is considered an adolescent (WHO, 2008). Therefore an adolescent pregnancy is a pregnancy occurring in a girl aged 10 to 19 years (WHO, 2009). The biological maturation results in physical changes that are the most noticeable signs that a child is becoming an adolescent. The physical transformations affect every aspect of the lives of adolescents. Changing bodies may lead to changes in circles of peers, adults' view of adolescents, and adolescents' view of themselves. The timing of physical and psychological changes varies throughout adolescence. Even if a teenager is adult-sized, he or she may not be fully developed emotionally or cognitively. Conversely, a young person may not look full-grown, but could possess more advanced reasoning and abstract thinking skills than his or her more physically developed peers (McNeely & Blanchard, 2009).

Social development of adolescents is best considered in the contexts in which it occurs; that is, relating to peers, family, school, work, and community. Adolescent social development varies with race and ethnicity (APA, 2002), as expected behaviour from adolescents differs depending on the culture of the people where the adolescent finds him or herself. Adolescents face an astonishing array of options in modern society—everything from choosing multiple sources of entertainment to deciding among alternative educational or vocational pathways. They are confronted with more decisions, and more complicated decisions, than their parents and

grandparents faced, often in complex environments that trigger conflicting feelings and desires (McNeely & Blanchard, 2009). One of the important decisions faced by adolescents is early sexual intercourse, when they are not ready for the consequences such as sexually transmitted infections and unplanned adolescent pregnancy with its associated complications.

For some decades now, adolescent pregnancy has assumed public importance in many countries, both rich and poor. However contemporary views and attitudes about adolescent pregnancy can be traced to the past. In the late 19th and early 20th centuries the emphasis was on pregnancy outside marriage rather than the age, and industrialization made this worse as more women moved to industrial towns for jobs which led to more non-marital births. Post World War I, attention was focused on lack of moral or psychological defects as cause of delinquency and non-marital pregnancy rather than social conditions such as poverty and lack of education. In the early 1960s and 1970s married adolescent pregnancy and birth was no issue, and became a medical issue as teenage non-marital births increased and was accordingly treated with birth control and abortion, and the immoral view was revised to psychological or health problem. From late 1970s to present day the concept of teen pregnancy hence adolescent pregnancy replaces the mantras “unwed mother” and “illegitimate child.” Since then adolescent pregnancy has been discussed and researched in terms of economic and health costs to society (Bissell, 2008; WHO, 2004).

Adolescents are different both from young children and from adults. Specifically, adolescents are not fully capable of understanding complex concepts, or the relationship between behaviour and consequences, or the degree of control they have or can have over health decision making including that related to sexual behaviour. This inability may make them particularly vulnerable to sexual exploitation and high-risk behaviours. Laws, customs, and practices may also affect

adolescents differently than adults. For example, laws and policies often restrict access by adolescents to reproductive health information and services, especially when they are unmarried. In addition, even when services do exist, provider attitudes about adolescents having sex often pose a significant barrier to use of those services (WHO, 2012).

When the adolescent becomes a mother, financial hardship can aggravate her social adjustment issues, increasing the likelihood of resorting to prostitution to augment her income. However, unmarried adolescents are at greater risk for the consequences of unintended pregnancy than their married peers (Ehlers, 2003). Thus unintended adolescent pregnancy is a public health problem worldwide. The increase in adolescent pregnancy worldwide can be explained by the two major events, biological and social changes. The biological change is the decreasing age at menarche (0.2 years per decade) which means adolescents become fertile earlier than observed in the past hence are exposed to longer period of poor judgement and experimentation with sex (Aryeetey, Ashinyno, & Adjuik, 2011; Adanu, Hill, Seffah, Darko, Anarfi, & Duda, 2006).

The second event, which is the social change, has to do with education with prospects of socio-economic benefits, which motivate adolescents to stay in school longer there-by postponing motherhood. These major changes over the decades make adolescents vulnerable to premarital sex and unintended pregnancy potentiated by growing independence from parents and families, more peer influence, conflict between Western and traditional values and preference for relatively costly Western marriage rites (WHO, 2004; Village Exchange Ghana, 2005; Boonstra, 2007; Awusabo-Asare, Abane & Kumi-Kyereme, 2004).

2.0.1 The magnitude of adolescent pregnancy

Pregnancy is a physiological process, presenting with history of missed period, fatigue, breast enlargement and tenderness, abdominal distension, nausea and vomiting together with light-headedness. Urinary or serum levels of human chorionic gonadotrophin (HCG) and abdominal ultrasound scan are confirmatory tests for pregnancy. When these happen at age of 19 years or below they are called adolescent or teenage pregnancies. Adolescents are a heterogeneous group: there are those under 15 years of age, there are those in school, there are those who have had sex before but not married and those in casual or permanent sexual relationships. Approximately 11% of all births worldwide are due to birth by about 16 million late adolescent girls (15 to 19 years of age), of which greater majority occur in developing nations (WHO, 2011).

In low- and middle-income countries, about 10% of girls become pregnant by 16 years of age, with sub-Saharan Africa and south-central and south-eastern Asia recording the highest rates. There is great variation in the proportion of early adolescent girls (10-14years) who become pregnant before their 15th birthday, for instance in sub-Saharan Africa Rwanda and Mozambique registers 0.3% and 12.2% respectively (WHO, 2012), similarly adolescents age 15-19 years who have ever experienced pregnancy in sub-Saharan Africa ranges from 4% to 43% (Khan & Mashra, 2008). In Ghana teenage pregnancy is high with urban-rural teenage (15-19 years) childbearing of 11 to 16 percent and wide regional range of 7 to 23 percent. Volta Region where the study area is located has teenage child bearing rate of 16%, one of the highest in the country (GSS, 2009).

Pregnancy and birth complications to both mother and baby has a reciprocal relationship with the age of a woman such that early adolescents have highest risk and women in their 20 and 30 years

of age have the least of risks (Mangiaterra, Pendse, McClure & Rosen, 2008). For example, it has been established that young mothers are more prone to anaemia and postnatal depression than older mothers and their offspring may be at risk for preterm delivery and higher rates of cerebral palsies and mental retardations due to birth injuries. (Khan & Mashra, 2008). Girls aged 15–19 are twice as likely to die during childbirth as women in their twenties and those under the age of 15 years are about 5 times as likely. For example in Ghana the pregnancy-related mortality ratio (PRMR) for the 10 years preceding the 2008 health survey indicates that the risk of death per birth is higher for younger women (age 15- 19) and older women (age 35-44), compared with women age 20-34 [National Development Planning Commission (NDPC), 2012].

Physiological immaturity is not the only factor affecting the pregnancies of adolescent girls. Social factors, such as poverty, a lack of education, and inadequate family support, place them at high risk for sexually transmitted infections, unsafe abortions, labour and delivery complications, insufficient weight gain, anaemia, and pregnancy-induced hypertension, all being worsened by inadequate prenatal care. Moreover, children born to parents who are unprepared to care for them are faced with many problems. They are at risk for abuse, neglect, and school failure and are more likely to engage in criminal behaviour later on in life (Omar et al., 2010). In Costa Rica, adolescent mothers, and especially those without a partner, postponed antenatal care in order to hide their pregnancies, and admit to having feelings of guilt and rejection towards their condition. These feelings of shame, denial and confusion, hiding the signs of pregnancy and the possible controversies that adolescents can experience within their social relationships and surroundings may compromise the girls' use of prenatal services and care during pregnancy, which is associated with worse health outcomes for both the mother and the child (Sintonen, Bonilla-Carrion & Ashorn, 2012).

2.0.2 Social determinants of non-marital adolescent pregnancy

There are many but varied factors which determine the occurrence of non-marital adolescent pregnancy and these factors are integral part of social determinants of health. The WHO (2013) says “The social determinants of health are the conditions in which people are born, grow, live, work and age, including the health system.” These circumstances are influenced by the distribution of money, power and resources at global, national and local levels. The social determinants of health are mostly responsible for the unfair and avoidable differences in health status seen within and between countries (WHO, 2013). Recognizing that these determinants make adolescents vulnerable to unplanned pregnancy may contribute to the reduction in teen pregnancy through prudent policy measures instituted through research. Where adolescents live, learn, work, and play influences their sexual and reproductive health behaviors (Jennings, 2013; APCNC, 2012).

Among the many factors that affect adolescent pregnancy, education especially girls’ education, is key and the achievement of the Millennium Development Goals hinges on it. For example children in Africa born to mothers with just five years of education were 40 percent more likely to live to age 5 and the children of educated mothers are much more likely to be immunized against killer diseases, their mothers are much more likely to have received antenatal care, and they provide better nutrition to their children (Gartner, 2010). Thus education was one of the important factors considered in this study. As adolescents grow up the first persons they interact with are their parents or guardians. They serve as the first source of information in interacting with the other factors that influence adolescents sexual and reproductive behaviours. Typically, the parent is responding or reacting to developmental changes in the child. Culture, socioeconomic status, and societal expectations create pressures for parents to maintain rigid

control (Riesch, Anderson, Pridham, Lutz, & Becker, 2010). Therefore adolescents' relationship with their parents was one of the important objectives included in this study in the context where the adolescent is not married and hitherto not expected to be pregnant.

Another important social factor found in the adolescent's environment as she grows up into adulthood is the interaction with peers and peer groups. When an adolescent finds herself in a dysfunctional family situation and feels alienated, her connectedness to her peers and peer group is reinforced, and may cast a stronger influence on her behaviour than the family, as teens typically identify with their respective peer group much more than with their own families. And this may be productive or counter-productive (Porter & Holness, 2011). Thus adolescent peer relationship and its association with pregnancy in the unmarried adolescent was deemed important in this research. Not the least, all the other factors outlined above including religious, cultural and programmatic/health related factors are equally important and worth studying. In Costa Rica, Sintonen and his Colleagues (2012) found that factors such as migrant status (adjusted OR=1.88, 95%CI: 1.79-1.97), age (adjusted OR=2.20, 95%CI: 2.17-2.22), low educational attainment (adjusted OR=3.91, 95%CI 3.78-4.05), urban residence (adjusted OR=1.11, $p<0.001$), poverty (adjusted OR=1.22, $p<0.001$) and marital status (crude OR=37.5, 36.31-38.74) were significant predictors of adolescent pregnancy.

2.0.2.1 *Education*

Education is a powerful instrument for reducing poverty and inequality, improving health and social well-being, and laying the basis for sustained economic growth. In an increasingly complex, knowledge-dependent world, primary education, as the gateway to higher levels of education, is deemed the first priority. Goal 2 of the MDGs seeks to achieve universal primary

education with a target of ensuring that children everywhere, boys and girls alike, will be able to complete a full course of primary schooling as a minimum. And to further improve the sexual and reproductive health of girls and women MDG 3 is committed to closing the gender gap in all education levels and increasing female representation in the wage employment and national parliaments (World Bank, 2010; Gartner, 2010). In Ghana the minimum free education is up to the Junior High School termed Free Compulsory Universal Basic Education (FCUBE). Thus the adolescent girl in Nkwanta South District potentially benefits from the FCUBE which is a better minimum compared to MDG 2. There are about 122 basic schools in the district (GHS, 2011). However the free is relative, as parents are only exempted from tuition fee but have to bear the other expenses such as school registration fees, contribution to Parent-Teacher Association (PTA), school uniform, sportswear, books, school supplies and transportation to and from school (Houston, 2003).

Secondary education typically takes place between the ages of 12 and 18, a period during which young people are initiating their transition to adulthood in more than one way, but particularly with respect to sexuality and reproduction. This raises the possibility that events pertaining to the realm of sexuality and reproduction, and specifically unplanned pregnancy, may interfere in the educational process, so that adolescents, and particularly adolescent girls, may drop from the educational ladder prematurely. On the other hand, interventions from the education sector itself, in the form of comprehensive sexual and life skills education programmes, can contribute significantly to minimise the potential adverse effects of these problems [United Nations Population Fund (UNFPA), 2013]. Hence school attendance for girls, even if they are not in the expected grade for their age, has lower rates of reported sexual activity than out-of-school peers.

If sexually active, they are more likely to be able to negotiate for contraceptive protection and have lower rates of pregnancy (UNFPA & Population Council, 2010).

Ghana continues to record increasing primary school completion rate but at a slower rate. The rate increased from 85.5% in 2007/08 to 86.3% in 2008/09 and remained at that level in 2009/2010 creating some doubts about the ability of the country to reach the 100% target in 2015. The rate is marginally higher for boys than girls with gap gradually narrowing since 2005 with 2010 figures at 89.3% and 84.5% for boys and girls respectively. The rate for primary school completion for girls in the Volta Region where this study was conducted is one of the lowest, 76.2% in the country, thus adolescents in this region are exposed at higher risk of poor judgement and adolescent pregnancy. Poverty does not seem to have adverse effect on primary school completion rate because the two regions with lowest primary completion rates (Greater Accra and Eastern regions) have the lowest poverty incidence (NDPC, 2012). Nkwanta South District being rural will probably have markedly different trajectories for males and females school attendance compared to their urban and rural peers. Girls in rural areas typically have the lowest rates of school attendance and their dropout curves are often steeper and earlier than is the case for their male peers or urban females (UNFPA & Population Council, 2010).

At the high school levels the picture is different from that of the primary school. Ghana has seen a decrease in completion rates for girls at Junior High School, and a widening gap in the gender parity index moving from Primary, through Junior to Senior High School. These trends have been attributed to a range of factors, including uneven targeting of education investments, teacher absenteeism and poor supervision, corporal punishment, cultural factors including child labour and early marriage, and the limited employment opportunities for women once they complete their education. All of these indicators are more pronounced in the three Northern

Regions of Ghana and are not much different from other rural areas such as Nkwanta South District (Camfed, 2011).

Parenthood is a leading cause of school dropout among adolescent girls. The involvement of adolescents in schooling can modify their sexual behaviour hence pregnancy. A girl who feels well engaged and connected to school and as a result motivated by future social status and well-paying job is more likely to postpone pregnancy actively, to safeguard this bright future. Important aspects of school engagement include grades, test scores, class participation, homework completion, and a perception of support and connectedness with teachers. Because the relationship between academic failure and adolescent pregnancy is so strong, and because adolescent pregnancy affects the educational achievement of adolescents themselves as well as that of their children, those concerned about educating young people should also be concerned with preventing teen pregnancy. (Panday, Makwane, Ranchod, & Letsoalo, 2009; The National Campaign to Prevent Teen Pregnancy, 2010).

Middle and upper class adolescents generally receive financial and material support, thereby reducing the impact of teenage parenthood on their educational and professional future. Furthermore, while abortion is more common among middle and upper class teenagers, less privileged teenagers generally carry the pregnancy to term, often negatively affecting their education (Menezes, Aquino & Silva, 2006; Almeida & Aquino, 2011). It is clear that there is an inverse relationship between adolescent pregnancy and schooling likewise parent education has protective effect on adolescent pregnancy. Parental education serves to instill better sexual health education and benefits of formal education in their adolescent children which motivates them to postpone pregnancy (Dehlendorf, Marchi, Vttinghoff, & Braveman, 2009; Blunch, 2011). Nevertheless, Omar and his colleagues (2010) noted that poor academic performance and lack of

participation in extracurricular school activities de-motivate continuation of school which summarily ends up in adolescent pregnancy. There is a debate raging as to whether adolescent pregnancy is a cause of or results from school dropout. Studies have shown that both are preceded by poverty and poor school performance (Pandy et al., 2009).

2.0.2.2 Adolescent-parent relationship

Parents and parent figures—adults whom adolescents describe as being like a mother or father to them—play important roles in the lives of adolescents. Various studies have examined the influence that types of parenting have on the behaviors of young people, including risk-taking behavior (Blunch, 2011; WHO, 2007; Wight, Williamson & Henderson, 2006). Parents/guardians are expected to monitor their adolescents' activities, as well as identify, sift and package information and services for their adolescents. Because parents are in regular contact with their children, they help to shape both their behaviour and the social context in which they grow up (Biddlecom, Awusabo-Asare & Bankole, 2009).

Adolescent-parent/guardian relationship in terms of communication is important to the development of adolescents' sexual health and it is most effective when the parent is educated. For example, more educated parents are both a source of health/contraceptive knowledge and also more likely to instill in their children relatively stronger preferences for avoiding non-marital teenage pregnancies than are less educated parents (Blunch, 2011). Parents remain central throughout adolescence. Young people depend on their families and adult caregivers for affection, identity, values, and decision-making skills. Parents have more influence than peers on

whether or not adolescents smoke, use alcohol and other drugs, or initiate sexual intercourse (DeVore & Ginsburg, 2005).

Although the perception of parental monitoring wanes as adolescents reach young adulthood, the consistent positive effects of parental monitoring persist into late adolescence (Rai et al., 2003). A longitudinal study of urban adolescents showed that the protective effect of parental monitoring on unprotected sex, drug use, and drug trafficking continued as the cohort aged (Li, Stanton & Feigelman, 2000). In this same cohort, parental monitoring at a mean age of 11 years influenced adolescent sexual behaviour through 3 years of follow-up ([Stanton](#), [Li](#), Pack, [Cottrell](#), Harris, & [Burns](#), 2002).

In urban youths monitored from late childhood to early adolescence, increases in parental monitoring over time were associated with a decline in deviant peer association; conversely, a decrease in parental monitoring was associated with an increase in deviant peer association (Lloyd & Anthony, 2003). These findings lend further credence to the enduring and protective effect of good parental relationship with their adolescents, and practices like parental monitoring in very high-risk environments (DeVore & Ginsburg, 2005).

Teens also frequently seek out adult role models and advisors such as teachers, relatives, club leaders, or neighbours. Connections to teachers, for example, can be just as protective as connections to parents in delaying the initiation of sexual activity and use of drugs, alcohol, and tobacco. Some teenagers, however, trade the influence of parents and other adults for the influence of their peers, but this usually happens when family closeness and parental monitoring are missing. Youth need to learn independent-thinking, decision-making, and problem-solving

skills from their parents or guardians and other caring adults, so they can apply these skills within their peer network (Awusabo-Asare et al., 2004; McNeely & Blanchard, 2009).

For both parents and adolescents, talking about sex can be uncomfortable, especially in a rural environment such as Nkwanta South District where this research was done. Adolescents do not want to see their parents in a sexual light, and parents often do not want to see their children that way, either. That said, adolescents still report that their parents are the greatest influences on their sexual behaviour (McNeely & Blanchard, 2009). Guidelines for successful adolescent-parent conversation about sex include the following; Parents/guardians should:

- Engage children in open, honest discussions regarding appropriate dating behavior, emotional and sexual intimacy, sexual identity, and emotional commitment.
- Discuss responsibilities regarding commitment and intimacy in romantic relationships.
- Discuss responsibilities regarding avoiding pregnancy, STIs, and HIV.
- Teach adolescents not to exploit other people socially, emotionally, or sexually. This is impossible to teach if it is not also modeled.
- Similarly, teach adolescents how to recognize abusive and exploitative relationships.
- Set appropriate limits regarding dating, such as the age at which dating will be allowed, curfews, and the age of person your child may date.
- Try to provide access to other trusted adults such as church members, counselors and relatives, since adolescents may be embarrassed to talk with their parents about sex and relationships.
- Be open to questions and values expressed by the adolescent.

SOURCE: Beeler, N., Patrick, B., Pedon, S. Normal child sexual development and promoting healthy sexual development. *The Institute for Human Services for the Pennsylvania Child Welfare Training Program 203: Sexuality of Children Healthy Sexual Behaviors and Behaviors Which Cause Concern.*

Chen and Thompson (2007) documented that satisfaction with the parent–youth relationship did not directly influence risky sexual behaviour among adolescents, but those with a satisfying relationship were less likely to associate with deviant peers. In the absence of communication between adolescents and parents, adolescents may seek information from elsewhere such as their peers, friends and observation of other adults or the media (Nair et al., 2011). Though the presence of both parents does not ensure that a young person will have all of the presumed benefits, the absence of one or both parents may be cause for concern. Adolescents living apart from one or both parents may be socially isolated, may not have the economic resources needed to go to school, and may have to carry some income-generating burden both for themselves and for family members. Partial or total parental absence may reduce adolescents' access to health care and even the assurance of their safety; adolescents who are single or double orphans are exposed to higher risk of sexual intercourse hence unplanned pregnancy.

When young adolescents aged 10-14 are living with only one parent, they nearly always live with their mother and not their father. Thus the disadvantages of the mother (in income earning, protection, and social power, among others) may translate into special burdens and risks for the children, especially girls (UNFPA & Population Council, 2010). Adolescence often brings greater responsibility within the home and exposes girls, in particular, to societal pressures to enter marriage, sexual relations, and childbearing. When children in this period are neither living with their parents nor attending school, it is a great cause for concern. There is a good chance that they are not receiving the parental support to properly deal with the challenges they face and are not being given adequate opportunity to develop into productive members of society. (UNFPA & Population Council, 2010).

In some settings, young female adolescents are domestic workers, migrants from rural communities in search of work and an education, or are fleeing a forced marriage and thus are left without parental protection. Depending on the socio-cultural setting, others may already be child brides and are now living with their spouse and, possibly, his family (UNFPA & Population Council, 2010). Adolescents whose parents were victims of non-marital adolescent pregnancy are at a risk of adolescent pregnancy and this risk is increased substantially where there is father absence (Ellis et al., 2003). It is noteworthy that, Chen and Thompson (2007) documented that satisfaction with parent–youth relationship did not directly influence risky sexual behaviour among adolescents, but those with a satisfying relationship were less likely to associate with deviant peers.

Lloyd (2004) and Draucker (2005) studied families in which the adolescent developed conditions that had a potential to adversely affect the adolescent–parent relationship, namely, teen pregnancy and teen depression, respectively. Lloyd documented that pregnancy may contribute to a new and better relationship among young and middle adolescents and their parents. This idea was not found among late adolescents and their parents, where the pregnancy was a negative influence on the relationship (Lloyd, 2004).

Examining the interactions that influenced the course of the adolescent’s depression in a positive direction, Draucker (2005) showed that parents were often not the important adult in the life of depressed adolescents. Interactions that maintained a facade that the adolescent was doing well did not have a positive influence on the course of depression; however, interactions with parents or other adults that poked holes in and, ultimately, broke down that facade did (Draucker, 2005).

2.0.2.3 *Peer relationships*

Peer relations are central to adolescent life and, therefore, are crucial to understanding adolescents' engagement in various behaviours. Adolescent peer contexts consist of multiple, overlapping layers of social relations such as adolescent dyads, small cliques in which these dyads are clustered and romantic partners. These small, intimate relations are then embedded within larger, more diffused peer crowds that include collections of peers that share common interests (Crosnoe & McNeely, 2008). The influence of peer relations on developmental trajectories is much stronger during adolescence than during childhood or adulthood because of the desire to be independent from parents and also peer groups provide them with a source of information about the world outside their families and about themselves, and also serve as powerful reinforcers of popularity, status, prestige, and acceptance [Santrock, 2001; American Psychological Association (APA), 2002].

An adolescent typically enters into a peer group because he or she is attracted to the group's norms, values, and activities. On the other hand, peer group members, who serve as gatekeepers to the group, are attracted to the adolescent's own characteristics and qualities and invite or deny the adolescent's entry into the group. The subsequent healthful or otherwise behaviour of the adolescent, therefore, may be a manifestation of why he or she joined or was allowed to join the peer group in the first place. Peer group members model appropriate and desired behaviors for each other and coerce and cajole each other into following established, agreed-upon expectations. Thus, once an adolescent has entered a peer group, he or she is likely to be influenced by the members of that group, especially if the peer group members have strong emotional bonds or if the adolescent fears isolation (Afenyadu & Goparaju, 2003; Sieving, Eisenberg, Pettingell, & Skay, 2006).

Furthermore, peer relations are associated with many different aspects of adolescents' development, both positive and negative, but they appear to be especially salient to the kinds of adolescent behaviours that are prohibited by parents, school authorities, the police, and other adults as dangerous, inappropriate, or immoral. This general category of risky adolescent behaviour includes many health-related behaviours, such as drinking, smoking, drug use, reckless driving, delinquency, violence, and unprotected sex which in the context of this study may lead to unplanned pregnancy which may lead to unsafe abortion. In the face of strong legal and social constraints, peer relations are often the deciding factor in whether adolescents initiate or maintain such behaviours (McNeely & Blanchard, 2009; UNESCO, 2009).

Commonly viewed as a strong support system for its members, the family generally has a strong influence on adolescents. However, an adolescent at-risk of repeat pregnancy may be situated within a dysfunctional family and feel alienated, which reinforces her connectedness with the peer group which may cast a stronger influence on the behaviours of adolescents than the family, as adolescents typically identify with their respective peer groups much more than with their own families (Porter & Holness, 2011). However, if the peer group operates only within the present, without the benefit of historical context or foresight and planning, it could be of minimal support or even counterproductive for the at-risk adolescent faced with repeat pregnancy. Moreover, the at-risk adolescent may lose interest in school, leading to poor school performance or even dropout. She may also reject community-based health promotion and disease prevention programs, and engage in risky sexual behaviours that contribute to STIs and or additional repeat pregnancies with its complications such as unsafe abortion. Thus, the peer group may act as a double edged sword for the at-risk adolescent, simultaneously serving as a source of social support, but potentially reinforcing risks of maladaptive behaviours (Porter & Holness, 2011).

Nevertheless, understanding adolescent peer relations in the context of unmarried adolescent pregnancy will help practitioners and policy makers to more explicitly utilize the power of peers in interventions where peers are used to model desired behaviours (McNeely & Crosnoe, 2008).

2.0.3 Conceptual framework

Figure 2.1 presents the conceptual framework of the study. Some adolescents are placed at much higher risk than others to factors that determine sexual behaviour and associated pregnancy, STIs and HIV/AIDS. As the number of risk factors increases and that of protective factors decreases in the life of an adolescent, the chances of unprotected sexual intercourse and hence pregnancy increases (Pandy & Makiwane, 2009).

The social determinants of non-marital adolescent pregnancy include lack of guidance from parents/guardians, guardian's level of education, whether from relatively poor or rich home with respect to how the community perceives level of wealth in their setting, level of education, whether in school or not, peer misinformation and pressure, the kind of peer group the adolescent belong to, social events that provide the milieu of pre-marital sex, alcohol and substance abuse, and domestic and sexual violence. The adolescent is at the mercy of these social determinants of which three are of concern in this study as shown in the conceptual framework in Figure 2.1.

The adolescent girl therefore needs information and education from older persons such as parents, older family relations, teachers and health workers which will shape her personal attitude to sexual behaviours and pregnancy (Akers et al., 2011).

However these are mostly lacking especially in the rural areas because nowadays parents are busy making ends meet and this gap which should have been filled by family members and

community members is increasingly becoming impossible. This is due to the breakdown of the extended family structure being replaced by nuclear family and parents/ guardians not doing well in disciplining their children, encouraging them to marry with the hope of collecting bride price (Sekiwunga & Whyte, 2009). Single parenthood especially father absence is a risk factor for adolescent sexual risk taking behaviour and hence adolescent pregnancy (Ellis et al., 2003)

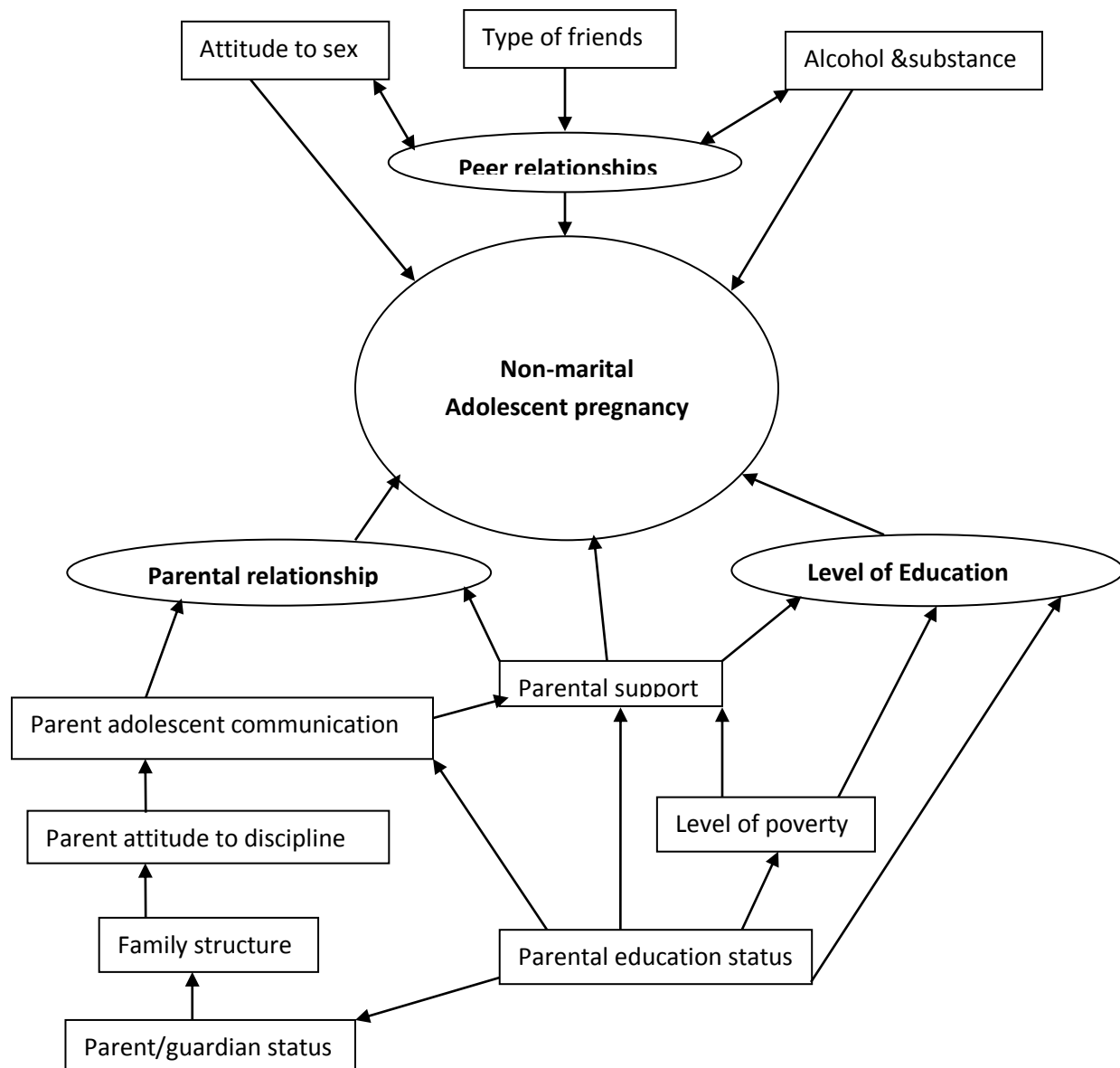


Figure 2.1. Diagram showing the conceptual framework of the research “Social determinants of non-marital adolescent pregnancy” according to the objectives of the study.

Adolescents in the absence of parental education rely mainly on peer information which, invariably inaccurate, exposes them to pregnancy. Also the desire to belong puts tremendous pressure on adolescents. (Awusabo-Asare et al., 2004).

Level of education can be seen in two ways where parents and adolescents are considered. Low levels or no education promotes adolescent pregnancy and vice versa; it is worse when both daughter and parent are not educated. Social events such as late night celebrations, lack of community recreational centres for the youth tends to promote non-marital adolescent pregnancy where parental control is lacking (Sekiwunga & Whyte, 2009).

CHAPTER THREE

3.0 METHODOLOGY

3.0.1 Study design

The study design was an analytical cross-sectional study.

3.0.2 Study area

3.0.2.1 *Study location*

The study was carried out in the Nkwanta South District in the Volta Region. Nkwanta South District is located in the north-eastern part of Ghana and the northern part of the Volta Region. It lies between latitudes 7 30° and 8 45° North and longitude 0 10° and 0 45° East. The district is bounded to the North by the Nkwanta North District, to the South by the Kadjebi District, to the East by the Republic of Togo and to the West by the Krachi East District.

Until 2008 the North and South Nkwanta Districts were together as one district, Nkwanta, which was itself carved out of Kete-Krachi District in 1989. The capital of the new Nkwanta South District is Nkwanta which was the capital of the old Nkwanta (GHS, 2011).

3.0.2.2 *Socio-demographic characteristics*

According to the Nkwanta South District Health Management Team (DHMT, 2012) mid-year report, the population of the district is about 111,971 estimated using the regional growth rate of 1.9%. There are four sub-districts with uneven population: Nkwanta (43,417), Bonakye (31,585), Tutukpene (21,567) and Brewaniase (15,402); with a total of 216 communities, and farming is their main occupation (GHS, 2011).

Rapid natural increase especially among the poor is a constraint on household incomes and access to basic services. The DHMT adopted a two-pronged approach to deal with fertility. They were decentralization of service delivery and instituting a major district campaign on fertility regulation. All these were done in conjunction with partners operating in the district (GHS, 2011).

Most villages in the District are inaccessible by road, and the district capital in Nkwanta is linked to the north and south by un-tarred roads that become impassable during the rainy season. Poverty in the district does not seem to be reducing. Even though figures are not available to support the claim, most communities still need facilities like roads, schools, clinic, potable drinking water, electricity which all have consequences for health delivery (GHS, 2011).

The Nkwanta District Health Service comprises of the Ghana Health Service, Mission, Private and Community Sectors. The few health facilities in the district include 2 Hospitals, 1 Health centre, 1 Government clinic, 15 Community-Based Health Planning Services (CHPS) zones, and 1 Mission clinic. Despite the fact that there are no youth friendly corners in the district, services are provided to all adolescents in the various health facilities. The district had a decrease of pregnancy among teenagers from 612 in the year 2009 to 310 in the year 2011. Services provided were health talk on family planning, STIs, Drug Abuse, HIV, Abortion and its complications, and personal hygiene (GHS, 2011). Upon personal discussion with the district director of health services, adolescent pregnancy is still a problem in the district.

3.0.2.3 *The District Health Management Team (DHMT)*

The health delivery system is managed by the District Health management Team (DHMT) which is headed by the District Director of Health Services. Among the services provided by the

DHMT are Health Administration, Health Promotion and Curative Services, Maternal and Child Health/Family Planning Services and Disease Control and Preventive Services. The Team is also responsible for the co-ordination of the activities of the various divisions and collaboration with other health related sectors for the promotion of health development and disease prevention (GHS, 2011).

The district has been zoned around its health facilities into sub-districts to facilitate health delivery. Each zone is managed by a Sub-District Health Team (SDHT) under the supervision of the DHMT. The District currently has four SDHTs at Tutukpene/Kecheibi, Brewaniase, Bonakye and Nkwanta (GHS, 2011).

3.0.3 Variables

The variables used in this study were one dependent variable and three major independent variables. The dependent variable was: non-marital adolescent pregnancy and the independent variables were: i. formal education,

ii. adolescent-parent relationship and

iii. peer relationship.

3.0.4. Study population

The study population was all unmarried adolescent girls in Nkwanta South District.

3.0.4.1. *Inclusion and Exclusion criteria*

Inclusion criteria:

- All adolescent girls who had never been married.

Exclusion criteria:

- All adolescent girls who were married or have been married before.
- Those adolescent girls who did not give consent or assent to be interviewed.
- Those adolescent girls whose guardians or persons in loco parentis did not give consent.

3.0.5. Sample size

The sample size was calculated using the formula: Sample size, $n = \frac{z^2 \times P(1-P)}{d^2}$

where n = the sample size

z = a value corresponding to 95% confidence level = 1.96

P = the proportion or the prevalence of adolescent pregnancy in rural areas in Ghana

= 16% (GSS, 2009)

d = margin of error I allowed around the true population value = 5%

Therefore $n = [(1.96)^2 \times 0.16(1-0.16)] / 0.05^2 = 0.5163/0.0025 = 206.52$

A 10% non-response rate and inconsistent responses/invalid data was added giving approximately 230 minimum sample size. However 250 questionnaires were sent to the field and 242 valid responses gotten. Thus a response rate of 96.8% was obtained.

3.0.6. Sampling method

The total adolescent girls' population in Nkwanta South District, 12,555, was obtained from the Nkwanta South District Health Administration (NSDHA). However the district does not have the statistic on the prevalence of adolescent girl marriage so the national figure of about 4% (GSS,

2009) was assumed to be the prevalence of adolescent girl marriage in the Nkwanta South District. Thus the adolescent girls' population, 12,555, was reduced by 4% to get a total of about 12,053 single adolescents who had never married before. Therefore the female adolescent population in Nkwanta South District, from which the sample size of this study was derived, was 12,053.

Two communities from each of the four sub-districts were randomly selected without replacement, resulting in eight communities: Nkwanta/Keri; Agoufie/Kabiti; Ofosu/Tutukpene and Abubruwa/Obanda, from the sub-districts Nkwanta, Bonakye, Tutukpene and Brewaniase respectively. The total number of questionnaires administered in each sub-district was according to the proportion of the total population of the district living in the sub-district. The disaggregated female adolescent population among the sub-districts and the communities was not available at the district office. However the total population in the district is distributed among the four sub-districts approximately in the following proportions: Nkwanta (40%); Bonakye (30%); Tutukpene (20%) and Brewaniase (15%). Accordingly about 40%, 30%, 20% and 15% of the pretested modified questionnaires were sent to each sub-district. Thus at least 92, 69, 46 and 35 questionnaires were sent to Nkwanta, Bonakye, Tutukpene and Brewaniase sub-districts respectively.

The population of each of the randomly chosen community was obtained from the Nkwanta South District Health Administration (NSDHA): Nkwanta(19,197)/Keri(2,824); Agoufie(450)/Kabiti(2071); Ofosu(1047)/Tutukpene(1472) and Abubruwa(779)/Obanda(853). Their respective approximate proportions to each other were then calculated with the following results: Nkwanta (85%)/Keri (15%); Agoufie (20%)/Kabiti (80%); Ofosu (40%)/Tutukpene (60%) and Abubruwa (50%)/ Obanda (50%). Thus the minimum number of questionnaires sent

to each of these communities was as follows: Nkwanta(79) /Keri (14); Agoufie (14)/Kabiti (56); Ofosu (19)/Tutukpene (28) and Abubruwa(18) /Obanda(18). These were calculated proportionately from the total number of questionnaires being sent to each of the four sub-districts as determined earlier: 92, 69, 46 and 35 questionnaires respectively.

The houses in the communities were not numbered and on entering each community a coin was tossed and if head showed the first house on the right was chosen or vice versa as the starting point and all adolescents in alternate houses, who met the inclusion criteria and signed or thumb printed the consent form, were administered a questionnaire each. Also for those below 16 years of age, assent was obtained from them after their guardians or the person in loco parentis gave consent on their behalf. In order to avoid any influence of guardian's presence on the answers the adolescent provided, guardians were asked to excuse us their wards or they will be excused during the interview. By excusing the guardians, the interviewer and the adolescent isolate themselves from public hearing but maintaining public view, to reassure the guardians and the community members.

Guardians were informed how this was necessary to obtaining a reliable results that would inform policy and programmes that would benefit the adolescent girls, the community and the nation as a whole. Indeed all guardians cooperated. Alternate houses were chosen because a cursory survey of the communities showed this interval would cover a wider proportion of each community for the data collected to be representative of the community. However instances where no eligible adolescent lived in the house or when consent was not given, the next house was chosen and the sequence continued from that house. Pre-testing of the questionnaires was done in Krontang, one of the farming communities in the district and therefore was not included in the final balloting.

3.0.7. Quality control

The reliability of the data was ensured by:

- i. Training those who assisted in the data collection, on how to administer the questionnaires.
- ii. Pre-testing the questionnaires
- iii. Verifying consistencies in the answers each day to ensure the research assistants were on track.
- iv. Doing two entries of the raw data into Statistical Analysis software version 11.0 (Stata11.0) by the researcher and one of the research assistants.
- v. By conducting the survey in the evenings and on weekends when most of the participants were at home from the farm or school.

3.0.8. Analysis

Data was analyzed using Stata11.0 (StataCorp., 2009). Frequencies of socio-demographic characteristics were performed where absolute numbers and their percentages were calculated. Adolescent age in years was categorised into Lower(10 – 13), Middle(14 – 16) and Upper(17 – 19) adolescent age groups. As some of the adolescents are yet to have their menarche, age at menarche was categorised as Pre-menarche, Lower(9 – 13), Middle(14 -16) and Upper(17 – 19) age groups. The Pre-menarche age category is made up of those adolescent girls who were yet to have their first monthly vaginal bleeding. Knowledge of family planning among the adolescent girls was categorized into either no knowledge (None) or Knowledge. There was knowledge when the adolescent was able to mention at least one method of family planning otherwise there

was no knowledge. The outcome variable, non-marital adolescent pregnancy was categorised into Ever pregnant and Never pregnant. As shown in Tables 3.1 and 3.2, the variables: Parental relationship and Peer relationship were categorized into Good and Poor using the responses to some of the questions in the questionnaire.

Table 3.1: Parental relationship categorisation:

Question	Good	Poor
QD3 Parental*attention to adolescent views.	Yes	No
QD4 Parental* advise on sex and pregnancy	Yes	No
QD4iTiming of advice in relation to menarche	Before menarche, at menarche or 1year after menarche, always	Any other choice
QD5 Other pieces of advice by parent.	Any other advice	None
QD6 Parent* acknowledge and encourage.	Yes	No
QD7 Confiding in parent*.	Yes	No

*biological parent or guardian

If any of the responses in Table 3.1 is in the negative then it was categorised as a poor parental relationship for that particular individual, otherwise a good parental relationship.

Table 3.2: Peer relationship categorisation:

Question	Good	Poor
QE1 Number of friends.	Two or more	One or less
QE2 Knowledge of use of family planning by friends.(Assessing closeness to friends).	Yes/No	Don't know
QE6 Reception from friends.	Cordial	Looked down upon
QF5 Involvement in recreational activities at home/school	Yes	No

Likewise in Table 3.2, if any of the responses is in the negative then it was categorised as a poor peer relationship for that particular individual, otherwise a good peer relationship. Tables of frequencies in raw figures and percentages of these categories were drawn as summaries of the raw data.

Logistic bivariate analyses were carried out to determine the associations and their strength between non-marital adolescent pregnancy and the explanatory variables:

- formal education,
- parental relationship,
- peer relationship, and
- background variables such as knowledge of family planning.

These bivariate analyses gave the various crude odds ratios and their significance. Adjusted odds ratios were then determined by running multiple logistic regression analyses to control for other

factors hence established whether the various factors at the bivariate level would remain significant in the presence other factors. Significance was set at a p-value of 0.05.

3.0.9. Ethical issues

The research was approved by the Ghana Health Service Ethics Committee and the Nkwanta South District Health Administration. Also approval was sought from the Chief and Opinion leaders in each community before the start of data collection. Even though the communities were informed by their respective Chiefs and Opinion leaders of our presence in the village and would be talking to some of their adolescents, I and my research assistants further introduced ourselves. This was to reassure them of our good intentions and to gain their cooperation.

For the adolescents who were interviewed, written consent was obtained. Two types of consent forms were sent to the field. One consent form was for those adolescents below age of consent (16 years) and the other for those who were 16 to 19 years of age. The adolescents below the age of consent had their parents/guardians gave consent on their behalves, whilst those who were 16 to 19 years gave their own consent. In both cases consent was obtained by reading the consent form and signing or thumb printing it. Those who could not read or preferred to be read to, were read to in to in a language they understood.

Verbal assent was obtained from the adolescents below 16 years of age, whose parents gave consent, by asking their permission to be interviewed. Parents/guardians were told their adolescents would need privacy in order to speak their minds which would help in drawing practical interventions that would benefit the adolescents, their parents, the community and the country at large. Thus interviews were conducted out of public or third party hearing but in public view to reassure their parents and the community of their safety.

CHAPTER FOUR

4.0. RESULTS

The total number of questionnaires sent to the field was 250 and the total valid response was 242.

Thus the response rate was 96.8%.

Table 4.1. Socio-demographic characteristics of unmarried adolescents in Nkwanta South District (N= 242).

Characteristics	Frequency	%	Characteristics	Frequency	%
Adolescent Age			Guardian⁴ occupation		
Lower (10-13)	47	19.4	Farmer	133	55.0
Middle (14-16)	87	36.0	Trader	65	26.9
Upper (17-19)	108	44.6	Civil Servant	27	11.2
			Other	17	10.0
Education			Age at menarche		
None	27	11.2	Pre-menarche	62	25.6
Primary	106	43.8	Lower (9-13)	55	22.7
JHS ¹	96	39.7	Middle (14-16)	121	50.0
SHS ²	13	5.4	Upper (17-19)	4	1.7
Occupation			Alcoholic beverage		
In-school	193	79.8	Drinks	123	50.8
Apprentice	26	10.7	Doesn't drink	119	49.2
Farmer	7	2.9			
Unemployed	14	5.8	Willingness of coitarche		
Self employed	2	0.8	(n=87)		
Guardian³			Willingly	74	85.1
Mother	46	19.0	Coerced	13	14.9
Father	18	7.4			
Both	131	54.1	Knowledge of family		
Relative	42	17.4	planning		
Other	5	2.1	None	118	48.8
Guardian⁴ level of			Knowledge	124	51.2
Education			Use of family planning		
None	111	45.9	Use	36	14.9
Basic	93	38.4	Does not use	206	85.1
SHS ³	28	11.6			
Tertiary	10	4.1			

¹Junior High School, ²Senior High School, ³person living with, ⁴the better of both guardian

The mean age of the 242 unmarried adolescents included in this study was 15.9 years (SD 2.5) with a minimum age of 10 years and a maximum age of 19 years.

Most of the adolescents interviewed (88.8%) have had some level of education with majority, 79.8%, still in school. About a tenth (11.2%) of the adolescents had had no education whilst about half of this number (5.4%) had attained Senior High School education. Majority of the adolescents, 43.8% (n=106), had Primary School level education. A little over 90% of the adolescents were either in school (n=193) or in vocational training (n=26). Few were into farming (n=7) as their occupation. More than half of the adolescents, (54.1%), stayed with both male and female guardian, majority of whom had some level of education (54.1%) with farming (55.0%) as their occupation.

Approximately 75% (n=180) of the adolescents had their menarche at a mean age of 14.1 years (SD 1.4) with minimum and maximum age of 9 and 18 years respectively. Those who were yet to have their menarche were few (n=62) as shown in Table 4.1. Over a third of the adolescents (n=87) have had their first sexually intercourse, all of whom have already had their menarche. Nearly half (48.3%) of those who had their menarche are sexually active with a mean age at first sexual intercourse being 15.7 years (SD 1.5). As shown in Table 4.1, 85.1% of the sexually active adolescents had their first sexual intercourse willingly. Just over half of the adolescents in this study (51.2%) had some knowledge about family planning. Even though 85.1% had their first sexual intercourse without coercion only approximately 15% (n=36) had ever use a family planning method.

Table 4.2 Non-marital adolescent pregnancy and the major Social determinants in Nkwanta South District (N= 242).

Characteristics	Frequency	Percentage
Non-Marital Adolescent Pregnancy		
Ever pregnant	43	17.8
Never pregnant	199	82.2
Education		
None	27	11.2
Some education	215	88.8
Guardian relationship		
Good	106	43.8
Poor	136	56.2
Peer relationship		
Good	103	42.6
Poor	139	57.4

When questioned on preference for school or home, learning a vocation/selling/farming, all the respondents (100%) preferred being in school. Some their reasons for preferring to be in school included: enlightenment, able speak English, be in decision making positions and prospects of well paid jobs. The socio-demographic characteristics of the adolescents (Table 4.1) showed, a little over half of the adolescents (50.8%) had ever drunk alcoholic beverage.

Table 4.2 shows the frequencies and percentages of non-marital adolescent pregnancy and the major social determinants looked at in this study: Education; Parent/Guardian relationship and Peer relationship as defined in Table 3.1 and 3.2. The proportion of the total adolescents studied, who were pregnant or had ever been pregnant at the time of the survey, was 17.8% (n=43). The adolescents seen in two categories with respect to education most had some level of education (215) whilst only 27 had no education at all. Over half of the adolescents, 56.2% (n=136), had poor relationship with their guardians compare to 43.8% who had good relationship with their guardian. Similarly majority of the adolescents studied, 57.4%, had poor relationship with their peers.

Table 4.3 shows the results of simple and multiple logistic regressions performed between non-marital adolescent pregnancy and its social determinants. An adolescent who had ever been to school is about 68% to 84% less likely than an adolescent who had never been to school to experience non-marital adolescent pregnancy. And after controlling for other determinants shown in Table 4.3, education was still a protective factor against adolescent pregnancy outside marriage. At the simple logistic regression level, an adolescent who has poor parental relationship is about 2.66 times more likely than an adolescent with good parental relationship to be a victim of non-marital adolescent pregnancy. When the other factors, in Table 4.3, were introduced into the logistic regression equation at the multivariate level, poor parental relationship remained significant ($p=0.023$) as a risk factor to non-marital adolescent pregnancy. The odds ratio of an adolescent with a poor peer relationship being a victim of non-marital adolescent pregnancy compared with one with a good peer relationship is 2.90 ($p=0.006$). This odds ratio (2.90) almost doubled (5.31) significantly ($p=0.004$) after adjusting for other factors.

The background determinants shown in Table 4.3 are significantly associated with non-marital adolescent pregnancy except alcohol consumption whose association may be due to chance ($p=0.347$). Thus an adolescent who drinks is about 66% more likely than one who does not drink to experience non-marital adolescent pregnancy after controlling for other determinants [adjusted OR: 1.66 (95% C.I.:0.58 – 4.75) $p=0.347$].

Table 4.3 Odds Ratios of the effect of social determinants on non-marital adolescent pregnancy in Nkwanta South District (N=242).

Major social determinants	Odds Ratios (95% C.I.) and P-values.			
	Crude	P-value	^a Adjusted	P-value
Education:				
No education	1.00			
Primary	0.16 (0.06 – 0.42)	<0.001	0.33 (0.09 – 1.24)	0.100
Junior secondary	0.17 (0.06 – 0.44)	<0.001	0.10 (0.02 – 0.38)	0.001
Senior secondary	0.32 (0.07 – 1.44)	0.138	0.11 (0.01 – 0.97)	0.047
Parental* relationship				
Good	1.00			
Poor	2.66 (1.27- 5.57)	0.010	3.20 (1.17-8.74)	0.023
Peer relationship				
Good	1.00			
Poor	2.90 (1.35-6.19)	0.006	5.31 (1.70-16.61)	0.004
Background determinants				
Age	1.80 (1.43-2.26)	<0.001	1.60 (1.17-2.20)	0.003
Knowledge of family planning				
None	1.00			
Knowledge	13.08(4.50-38.00)	<0.001	8.70 (2.15-35.24)	0.002
Family planning use				
Uses	1.00			
Does not use	0.07 (0.03-0.16)	<0.001	0.22 (0.07-0.64)	0.006
Alcoholic beverage				
Does not drink	1.00			
Drinks	4.67 (2.13-10.25)	<0.001	1.66 (0.58 -4.75)	0.347

^a variables present in the final model are all the determinants in the table.

* parent here refers to both biological and non-biological guardian;

95% C.I.: 95% confidence interval. $p<0.0001$ (over all p-value of the model);

$R^2 = 46.3\%$ (proportion of variations explained by the model)

Age of the adolescents is positively associated with non-marital adolescent pregnancy such that as an adolescent grows older she is about 80% more likely compared to younger adolescents to experience non-marital adolescent pregnancy. After controlling for other factors age is still a significant determinant of non-marital adolescent pregnancy (Adjusted OR: 1.60, $p=0.003$).

Knowledge of family planning method predisposes an adolescent to non-marital pregnancy. An adolescent who had knowledge of family planning is about 8.7 times likely, than an adolescent who had no knowledge of family planning, to experience non-marital adolescent pregnancy after controlling for all other factors ($p=0.002$). Similarly non use of family planning protects against non-marital adolescent pregnancy such that an adolescent who does not use a family planning method is about 78% less likely than an adolescent who uses a family planning method, to experience non-marital adolescent pregnancy, after controlling for all other factors [Adjusted OR: 0.22 , 95% C.I.:(0.07-0.64), $p= 0.006$].

CHAPTER FIVE

5.0. DISCUSSION

The aim of this study was to analyse the relationship between non-marital adolescent pregnancy, and the following social determinants: formal education, adolescent-parent relationship and adolescent-peer relationship among unmarried adolescents in Nkwanta South District. Out of the 242 adolescents included in the final data analysed 43 (17.8%) were pregnant or had ever been pregnant. This figure (17.8%) is about two percentage point higher than the regional (Volta Region) and the national rural averages of 15.9% and 15.7% respectively (GSS, 2009). However the 17.8% adolescent pregnancy found among unmarried adolescent in Nkwanta South District in this study shows that the rural average of 22% adolescent pregnancy (GSS, 2004) has declined. Nevertheless the 17.8% adolescent pregnancy in the district is still high.

It is worthy of note that the national average figures were computed for all adolescent girls, whether married or not (GSS, 2009). This implies the national figures should have been higher than what was found in this study. The explanation to this difference could be that the difference may not be statistically significant or could be the true prevailing situation at the time this study was conducted or could be due to interviewers' bias. Being a rural district, the high rate of unmarried adolescent pregnancy found in this study may be due to the following factors as noted by Slowinski (2001): socio-economic disadvantaged environment, earlier initiation of sexual intercourse, low contraceptive use, lack of resources to ensure sexual safety, lack of motivation to delay parenthood.

The lack of resources to ensure sexual safety includes lack of adolescent friendly reproductive health services (adolescent corners) such as family planning services, in Nkwanta South District.

Although these services are provided to all adolescents in the various health facilities, adolescents may be hesitant in assessing them, due to possible provider and cultural barriers.

Majority of the adolescents involved in this study (88.8%) had some formal education with a good proportion (79.8%) still in school. In contrast most (45.9%) of the adolescents' parents/guardians did not have formal education and very few (4.1%) had tertiary education. This contrast may probably be due to parents' awareness of the benefits and prospects of education and therefore decided to send their children to school. Another possible additional explanation could be the Free Compulsory and Universal Basic Education (FCUBE) instituted by the Government of Ghana (MOE, 1990). With the FCUBE programme parents need not pay tuition fee for their children to attend public schools even though other expenses such as school uniforms, Parent Teacher Association dues and examination fees are borne by parents [Ghana Health and Education Initiative (GHEI), 2013].

More than half of the adolescents have poor relationships with their parents and or peers, this could be responsible for the relatively high (17.8%) non-marital adolescent pregnancy observed in the Nkwanta South District. There was no significant direction of the association between the age groups and, adolescent parent relationship ($0.20 < p < 0.95$) and adolescent peer relationship ($0.20 < p < 0.70$). Thus the age of an adolescent girl does not determine type of relationship she has with her parents or peers. The contrary finding that pregnancy may contribute to a new and better relationship among lower (10-13 years) and middle (14-16 years) adolescents and their parents was reported by Lloyd (2004). But this trend was not found in this study. Of the 87 adolescents who were sexually active 85% had their first sexual intercourse willingly. This shows that the adolescent girls in the Nkwanta South District are sexually active and are not

using family planning methods (85.1%) Table 4.1, to protect against pregnancy and sexually transmitted infections.

5.0.1. Socio-demographic characteristics

The study covered a cross section of unmarried adolescent girls in the Nkwanta South District and the majority (Table 4.1) was in the upper adolescent age group. Most of the adolescents (54.1%) were staying with both biological parents. A similar finding (54.7%) was reported in Tanzania (Philemon, 2007). Philemon (2007) found that adolescents living with only one parent or with a guardian were at a higher risk of pregnancy compared to those living with both parents. In this study the association is confirmed but not significant: an adolescent not staying with both parents is 1.16 times more likely than an adolescent who was staying with both parents to experience non-married adolescent pregnancy (crude OR: 1.16, 95%CI: 0.60 – 2.24, $p=0.667$).

Of all the adolescents 74.4% have been menstruating with age at onset ranging from 9 to 18 years with a mean age of 14.1 ± 1.4 years whilst Aryeetey et al (2011) reported 12.7 ± 1.2 years in their urban counterparts in Madina, a suburb of Accra the capital city of Ghana. This difference, of about 2 percentage points, may probably be due to the better socio-economic status for urban adolescent girls than their rural counterparts. Better socio-economic status is associated with higher amount of fat in the diet or associated with balance diet. Thus there is a marked physical growth among adolescents that are well nourished resulting in an earlier age of menarche (Kaplowitz, 2006). In addition rural adolescents do a lot of walking every day to school and or farm. This put a lot of stress on their bodies resulting in their menarche being delayed (Zegeye, Megabiaw, & Mulu, 2009).

Another possible explanation, to the difference in mean age at menarche observed in this study and that documented by Aryeetey and his colleagues (2011), could be the difference in altitude. Effect of geographical location on menarche has been documented, that the mean age of menarche increases with altitude. (Ekele, Udoeyop, & Otubu, 1996; Carpenter, & Rock, 2000). The geographical location of this study is at higher mountainous region of Ghana whilst Madina is located in the low lying coastal plains. Therefore Nkwanta South District adolescent girls have a higher mean age at menarche than those of Madina (14.1 ± 1.4 versus 12.7 ± 1.2 years).

Sexual intercourse, a risk factor for non-marital adolescent pregnancy, was initiated within 2 years (15.7 ± 1.5) of menarche (14.1 ± 1.4). The median age of first sexual intercourse found in this study was 16 years. This is about 2 years earlier than the national average of about 18 years for rural women in Ghana (GSS, 2009). Majority of the first sexual intercourse among the adolescents (85.1%) was without coercion.

Many (75.2%) of the respondents were of the opinion that adolescents in their communities are having sexual intercourse because of lack of parental care to meet their basic needs and their parents not in the financial position to provide them with fashionable items such as fanciful dress and mobile phones. Only 10.3% think it is as a result of peer pressure. This agrees with the high percentage of adolescents who engage in sexual intercourse willingly (85.1%), Table 4.1. Afenyadu (2003) observed similar findings among Dodowa adolescents, where parents inability to provide the basic needs such as food, pocket money, school fees, apprenticeship fees, and clothing of their adolescents led to the practice of sexual intercourse for money. Also girls participate in transactional sexual intercourse as a means to obtain not only basic needs but luxury goods such as fanciful dress, mobile phones and laptops (Frost, & Bingenheimer, 2011).

Prevalence of consumption of alcoholic beverage among the adolescents was 59.8%. Alcohol has been found to be associated with unprotected and unplanned sex thus increased the risk for unintended pregnancy (Deardorff, Gonzales, Christopher, Roosa, & Millsap, 2005). This study found a positive association at the bivariate level, where an adolescent who consumes alcoholic beverage is about 5 times as likely to have been exposed to the risk of unmarried adolescent pregnancy as an adolescent who does not consume alcoholic beverage (crude OR: 4.67, 95%CI: 2.13 – 10.25, $p < 0.001$). The main alcoholic beverage taken in the district is the local wine called “pito” which is drunk by both young and old during community occasions such as naming ceremonies, marriage and funerals. The consumption of alcoholic beverages among the adolescents became insignificant explanatory variable, for non-marital adolescent pregnancy, after controlling for other factors. However the association with non-marital adolescent pregnancy remained a positive determinant (OR: 1.66, $p = 0.347$), Table 4.3.

The research shows that the prevalence of non-marital adolescent pregnancy in Nkwanta South District is 17.8%. This falls within two percentage points of the regional and national rural averages of 15.9% and 15.7% respectively.

5.0.2. Formal education

This study found that all the adolescents interviewed in Nkwanta South District would like to go to and remain in school for the prospects of enlightenment and better employment opportunities. This is deemed a positive finding as it would help the course of formal education in the Millennium Development Goals. Formal education is an integral part of the eight Millennium Development Goals (MDGs), specifically MDGs 2 and 3. MDG 2 seeks to achieve universal

primary education with a target of ensuring that children everywhere, boys and girls alike, will be able to complete a full course of primary schooling as a minimum (World Bank, 2010; Gartner, 2010).

And to further improve the sexual and reproductive health of girls and women MDG 3 is committed to closing the gender gap in all education levels and increasing female representation in the wage employment and national parliaments (World Bank, 2010; Gartner, 2010). For these reasons many of the adolescents were postponing first sexual intercourse and pregnancy. This finding agrees with those of Dehlendorf and his colleagues (2009), and Blunch (2011). On the contrary, Omar and his colleagues (2010) noted that poor academic performance and lack of participation in extracurricular school activities de-motivate continuation of school which summarily ends up in adolescent pregnancy. The protection of education against adolescent pregnancy in this study is high in the lower levels of education (crude OR: 0.16, $p < 0.001$) and decreases towards higher levels of education (crude OR: 0.32, $p = 0.138$).

However after adjusting for other factors, as shown in Table 4.3, the trend reverses to a less likely association of higher levels of education with pregnancy. The negative association between education level and adolescent pregnancy observed in this study is probably due to the gain in knowledge concerning safe sex practices including abstinence, use of condom and other family planning methods as one progresses along the education ladder.

5.0.3. Adolescent – parent relationship

This study shows majority of the adolescents have poor guardian/parent relationship, (Table 4.2). Parental relationship is important in the prevention of adolescent pregnancy through parental

interaction with the adolescent and advice. Chen and Thompson (2007) documented that satisfaction with the adolescent-parent relationship did not directly influence risky sexual behaviour among teens, but those with a satisfying relationship were less likely to associate with deviant peers.

Effective parent-adolescent communication and relationships are important to the development of adolescents' sexual health. When there is frank discussions and answers to questions about sexuality from parents, children feel confident about themselves and able to make sound reproductive health decisions (Huberman, 2002; Lagina, 2002). This relationship between Nkwanta South District Adolescents and their parents was poor with the odds of non-marital adolescent pregnancy significantly high, about three folds (adjusted OR: 3.20, 95% C.I.: 1.17-8.74), Table 4.3. The reason for this poor relationship as stated by some of the adolescents could be: unfriendliness of parents, fear of being reprimanded as spoiled child if topics of sexual nature are raised, parents were unprepared to listen to them and the few adolescents (19.5%) Table 4.1, who were not staying with their biological parents found it difficult to voice their concerns.

Chen and Thompson (2007) corroborated the concerns of these adolescents and that parents tended to underestimate the importance of their relationships and communication with their children. Also Sieving and her colleagues pointed out that as young people progress through adolescence, sexual intercourse becomes a normative behaviour. To foster overall development and reduce the risk of unhealthy sexual behaviours hence unplanned pregnancies, adolescents need sustained, high-quality relationships with parents, siblings, mentors and other adults (Sieving, Eisenberg, Pettingell & Skay, 2006). Within these relationships, both formal and informal, adolescents can learn skills of negotiating trust, seeking support, managing conflict and

expressing empathy. These skills are critical to the development of healthy social relationships (Sieving, Eisenberg, Pettingell & Skay, 2006).

In Ghana, evidence suggests that parental monitoring of adolescent behaviour does relate to sexual activity; a recent study found that adolescent girls who felt that their parents were not monitoring their behaviour were more likely to be sexually active in the previous year (Biddlecom, Awusabo-Asare & Bankole, 2009). Additionally, parent-child communication in Ghana improved condom use among adolescent girls (Biddlecom, Awusabo-Asare & Bankole, 2009). Probably one of the contributory factors to the low family planning use, among the adolescents in this study was the lack of parental education and communication with their adolescents.

5.0.4. Adolescent –Peer relationship

Adolescents tend to associate and identify with their peers than their parents, and these affect adolescent sexual behaviour and hence pregnancy either positively or negatively. The formation of strong peer attachments and graduated independence from the family is a normal part of adolescent development (DeVore & Ginsburg, 2005). Unfortunately, adolescents whose peers engage in high-risk behaviours such as early initiation of sexual intercourse, unprotected sex, unmarried adolescent pregnancy, drinking and smoking are at high risk for the development of similar behaviours (Rai et al., 2003).

Unsupervised peers who indulge in alcohol, substance abuse, sexual activities and other social vices influence their friends to join in, due to peer pressure or the need to belong (Afenyadu & Goparaju, 2003; Sieving, Eisenberg, Pettingell, & Skay, 2006). This study revealed over half of

the single adolescents in Nkwanta South district experienced poor peer relationship (Table 4.2). Good peer relationship, in terms of number of friends, closeness to friends, reception from friends and involvement in recreational activities, was a protective factor against non-marital adolescent pregnancy ($p=0.006$). After controlling for all other factors in Table 4.1 poor peer relationship has a significant odds of experiencing non-marital adolescent pregnancy relative to the odds of pregnancy among those with good peer relationship [adjusted OR: 5.31 (95% C.I: 1.70-16.61), $p=0.004$] (Table 5).

This finding may be due to sharing of information between peers about prevention of pregnancy and those who lack these peer information are more likely to experience pregnancy. Also the kind of friendship among these adolescents in Nkwanta South District was probably devoid of social vices and peers were unlikely to be involved in high risk behaviours as documented by Rai and his Colleagues (2003). Thus may be, there was diffusion of behaviours that did not promote unmarried adolescent pregnancy among the adolescents with good peer relationship.

5.0.5. Background determinants

The background determinants which were significant in the final multivariate analysis were age, knowledge of family planning and family planning use, but alcoholic beverage use was not significant, after adjusting for other factors, Table 4.3. Age was significant determinant of non-marital adolescent pregnancy. As an adolescent grows by one year in Nkwanta South District her susceptibility to non-marital adolescent pregnancy increases by 1.6 times ($p=0.003$), Table 4.3. This finding is not surprising because as the adolescent grows so her body undergoes sexual maturation biologically, physiologically, physically and psychologically (GHS, 2008). Similar to

the findings of other researchers such as Dittus (2000), Jaccard (2000), Ellis (2003), Miranda (2007), and Zeck (2007), who concluded that adolescents growing up in single parent homes are at elevated risk of adolescent pregnancy, the findings from Nkwanta South District showed that those who lived in single parent homes were about 1.16 times as likely to experience non-marital adolescent pregnancy as those living with both parents, albeit not significant at the bivariate level (crude OR: 1.16, 95%CI: 0.60 – 2.24, $p= 0.667$).

The strength of this association decreases when tested in the final logistic regression model (adjusted OR: 1.09; 95% C.I.: 0.72 – 1.65) and remained insignificant. This may be due to the Ghanaian way of raising children up where every relative and member of the community sees children as their own children and thus contribute towards their moral upbringing as such. This way of life is still seen in the rural areas of Ghana albeit on a lower scale probably due to wide spread modern methods of communication and information diffusion from the cities and towns to the country sides.

Knowledge of family planning in this study is associated with significantly increased relative odds of non-marital adolescent pregnancy [adjusted OR: 8.70, 95% C.I.: 2.15-35.24, $p= 0.002$], likewise non-use of family planning is inversely related to non-marital adolescent pregnancy. For the unmarried adolescent who does not use family planning, the odds of her getting pregnant decreases by 78% [adjusted OR: 0.22, 95% C.I.: 0.07-0.64, $p= 0.006$] Table 4.3. These findings in this study do not agree with the findings in rural South Africa where Garenne and his colleagues (2000) found a high pregnancy rate among adolescents with low incidence contraceptive use followed by a low prevalence of abortion and a high contraceptive prevalence thereafter. The difference might be due to the small sample size used and also that some of the

adolescent prefer to use traditional methods, while others started using it after their first pregnancies. Some did not use their method of choice correctly.

The knowledge of family planning and the use of family planning method being risk factors for unmarried adolescent pregnancy found in this study may probably be due to acquisition of the knowledge and the use of a method of family planning after the occurrence of the adolescent pregnancies. The use of family planning among the sexually active adolescents in Nkwanta South District is low (41.4%) compared to the national average (66.6%), (GSS, 2009). This might probably be due to the reasons documented for low rate of use of family planning in sub-Saharan Africa. These reasons are the unique and often overwhelming barriers that youth experience in accessing family planning services (Tavrow, Withers & McMullen, 2012).

Some of these barriers might be related to supply-side factors, such as cost, inconvenient locations or hours of operation, lack of privacy or confidentiality at clinics, and the dearth of outreach services for the adolescents (Wood & Jewkes 2006; Bearinger, Sieving, Ferguson & Sharmaet, 2007; Tylee, Haller, Graham, Churchill, & Sanci, 2007; Hindin & Fatusi, 2009; Singh, Sedgh & Hussain, 2010; Bankole & Malarcher 2010; Mkhwanazi, 2010). Provider-related factors, such as reluctance or unwillingness of providers to give unmarried adolescents contraceptives, provider's judgmental or insensitive attitudes towards adolescents seeking family planning services, and poor communication between adolescents and providers are also significant supply-related barriers to adolescent contraceptive use (Wood & Jewkes 2006; Tavrow 2010; Bankole & Malarcher 2010).

To overcome these barriers, efforts have focused on offering "youth-friendly" services (Boonstra, 2007; Tylee, Haller, Graham, Churchill, & Sanci, 2007; Shaw, 2009; Ringheim &

Gribble 2010). Youth-friendly services seek to address administrative barriers and improve the quality of family planning services for adolescents through various strategies, such as increasing privacy and confidentiality, improving provider attitudes and communication skills and using peer educators to encourage adolescents to seek services (Tavrow, Withers & McMullen, 2012). If adolescent “corners” – clinics established for only for adolescent reproductive health – were present in the Nkwanta South District probably a higher percentage of the sexually active adolescent (n=87) would have been on one form of family planning method or the other, Table 4.1.

5.0.6. Limitations

1. Out of the 256 communities only eight were sampled for the study and therefore the findings may not be representative of the whole Nkwanta South District.
2. There may be underreporting on sensitive and embarrassing issues such as sex, family planning, pregnancy and abortions.
3. There are no standard criteria on measuring good and poor adolescent parent and peer relationships.
4. Although trained, the interviewers could be biased in their questioning and reporting.
5. Those who had last menstrual periods more than four weeks at the time of the interview could not be classified as pregnant.
6. The kind of relationship the adolescents have with their parents/guardians was determined from the adolescents’ perspective. Their parents/guardians may have different view.

7. Family planning use among the adolescents in relation to pregnancy event was not determined. Whether family planning was adopted before or after a pregnancy episode or has no relation with pregnancy was not answered by this research.
8. The reasons why some of the sexually active adolescents were not using any method of family planning were not sought for. This would have informed policy and programmes to address any unmet need among these adolescents to prevent unplanned pregnancies.

CHAPTER SIX

6.0 CONCLUSION

Non-marital adolescent pregnancy is a major health concern in Nkwanta South District. The prevalence of non-marital adolescent pregnancy in the district was higher than the Volta Regional and the national average figures. This study has agreed with other studies such as Dehlendorf and his colleagues (2009), and Blunch (2011) that formal education is protective against adolescent pregnancy. An adolescent in the district who had never been to school before is about 5.77 times more likely than the one who had been to school before to fall victim to adolescent pregnancy outside marriage ($p=0.006$).

This study has found that poor parent relationship with their adolescents predisposed them to unmarried adolescent pregnancy such that an adolescent who had poor parental relationship was about 3.20 times more likely than the one with good parental relationship to experience non-marital adolescent pregnancy ($p=0.023$). Similar to poor parent relationship, this study also found that adolescents who had poor relationship with their peers in Nkwanta South District were exposed significantly to the risk of adolescent pregnancy whilst not married such that an adolescent who had poor peer relationship was 5.31 times more likely than one with good peer relationship to fall victim to unintended pregnancy ($p=0.004$). Thus no or lower levels of education, poor parent relationship and poor peer relationship are strong promoters of adolescent pregnancy outside marriage.

The study in addition found that most adolescents were willingly sexually active, and only 14.9% were coerced. About half of the adolescents (50.8%) had ever drunk alcoholic beverage with positive association with pregnancy though not significant ($p=0.347$) and over 70% gave

material reasons for their decision to be in sexual relationship. Also knowledge and use of family planning significantly expose the adolescents to pregnancy. This might probably be due to non-use or incorrect use of the family planning methods, or probably the knowledge and use of family planning were acquired post exposure to a pregnancy event.

All adolescents (100%) sampled were aware of the prospects of education and wish to go to and remain in school. With this wish the Millennium Development Goal 3 has an increase potential of acceleration. This would help protect girls against unplanned pregnancy with its attendant social, psychological and biological complications hence reduce our maternal mortality rate in the country.

6.1 RECOMMENDATIONS

- The Ministry of Information in collaboration with Ministration of Health (MOH) should organize a periodic mass education for parents/guardians on the need to develop personal relationship with their children below 20 years of age.
- Through identified groups/associations, such as churches, farmers, market women, men and women's groups in all districts, the MOH in collaboration with Ministry of Education (MOE) should educated all parents about the benefits of formal education to enable them contribute their quota as stakeholders in the free compulsory universal basic education in Ghana.
- The MOH, MOE, Ministry of Youth and Sports, and the District Assembly should encourage peer interaction in schools, through sports and games and by creating recreational grounds in all communities to enable diffusion of knowledge that helps promote reproductive and sexual health.

- Ministry of Health through district health services should organize refresher course for all nurses, pharmacists and teachers in all districts on the reasons to counsel all adolescents on the use and correct use of family planning methods by all adolescents.
- Ministry of Health through the School of Public Health should conduct future quantitative and qualitative studies on parental and opinion leaders' perspectives about non-marital adolescent pregnancy and their preferred solutions.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE.

QUESTIONNAIRE

Serial No: _____

School of Public Health, University of Ghana

Title: **Social Determinants of non-marital Adolescent Pregnancy in Nkwanta South District.**

Name of Research Assistant: _____

Tel. no: _____

Sampled Community: _____

Participants Tel: _____

Section A: Socio-demographic Background Information

A.1. House Number (if any) _____

A.2. Date of visit _____

A.3. Age of respondent _____ (years)

A.4. Which religion do you belong to?

1. Christian 2. Moslem 3. Traditionalist 5. Other (specify) _____

A.5. What is your highest level of education?

1. No education 2 Basic education 3.Senior High School

A.6. What ethnic group do you belong to?

1. Guan 2. Ewe 3. Konkonba 4. Other (specify) _____

A.7. What is your occupation?

1. In-School 2. Apprentice 3.Farmer 4.Unemployed 5.Self-employed

A.8. Who are you living with?

1. Mother 2. Father 3.Both parents 4.Relative (specify) _____
5. Other (specify)_____

A.8i. If not staying with both parents why? _____

A.9. What is your mother's or female guardian's highest level of education?

1. No education 2 Basic education 3.Senior High Secondary 4.Tertiary education

A.10. What is your father's or male guardian's highest level of education?

1. No education 2 Basic education 3.Senior High Secondary 4.Tertiary education

A.11. What is your mother's or female guardian's occupation?

1. Trader (specify) _____ 2. Farmer 3.Civil/public servant (Specify) _____
4. Unemployed 5. Other (specify) _____

A.12. What is your father's or male guardian's occupation?

1. Trader (specify) _____ 2. Farmer 3.Civil/public servant (Specify) _____
4. Unemployed 5. Other (specify)_____

Section B: Adolescent sexuality

B.1. At what age have you started your menses? 1. _____ 2. Not yet (tick if applied)

B.2. Mention the family planning methods you know _____

B.3. Which family planning methods have you used before? _____

B.4. Are you in a relationship? 1. Yes 2. No

B.4i. If No, have you been in a relationship before? 1. Yes 2. No

B.5. Have you had sex before? 1. Yes 2. No

B.5i. If Yes, how old were you when you had your first sexual intercourse? _____

B.5ii. If Yes, were you coerced or you willingly took part? 1. Coerced 2. Willingly

B.5iii. If No why? Choose by ticking the ones that apply:

- | | |
|--|------------------------------|
| 1. I am in school/learning a trade | 3. I am too young |
| 2. I want to marry first | 4. I am afraid of my parents |
| 5. I don't like it | 6. I don't have a boy friend |
| 7. I don't know how to prevent pregnancy | |

B.6. In your opinion why do un-married adolescents have sex in this community?

- Because 1. Of curiosity 2. They are forced by men 3. Of money/lack of parental care
4. Other girls are doing it too 5. Other (specify) _____

Section C: Adolescent pregnancy

C.1. Have you been pregnant before? 1. Yes 2. No 3. Currently pregnant

C.1i. If Yes, how many times? 1. Once 2. Twice 3. Thrice 4. Other (specify number) _____

C.2. How long ago was your last pregnancy? _____

C.3. How long ago was your last period? 1. Still flowing 2. <1week 3. 1-3 week
4. 4weeks or more

C.4. Were your pregnanc(y)ies planned? 1. Yes 2. No

C.4i. If Yes why? _____

C.4ii. If No why? _____

C.5. Have you had an abortion before? 1. Yes 2. No

C.6. In your opinion is there anything wrong with an adolescent getting pregnant? 1. Yes 2. No

C.6i. If Yes why? 1. She is in school/learning trade 2. She is not working

Section E: Adolescent peer relationship

E.1. How many friends do you have? None One Two Three Four Five or more than

E.2. Does any of your friends use family planning method? 1. Yes 2. No. 3. I don't know.

E.2i If yes which type? (specify) _____

E.3. How many of your friends have been pregnant before and presently? _____

E.4. How many of your friends have children? _____

E.5. How many children do you have? _____

E.6. How do your friends treat/ see you? 1. Look down on me 2. Poor girl 3. I am not intelligent.

4. Other (specify) _____

E.7. How many of your friends have boy friends? _____

E.8. Have you taken alcohol before (any local alcoholic beverage: pito, akpeteshie; beer)?

1. Yes 2. No.

E.8i. If Yes who gave it to you? 1. My friends 2. Parent/ guardian 3. Other (specify) _____

Section F: Education

F.1. Going to school and staying at home to learn a trade, which would you prefer? Choose one:

1. School 2. Home. Why? _____

For those who have been to or are still attending school: F2 to F4i

F.2. Do your mates tease you in school such that you wish you stayed at home? 1. Yes 2. No

F.3. In your opinion do you think your teacher(s) like you? 1. Yes 2. No

F.4. Does your teacher think you answer questions well in class or perform well in class tests?

1. Yes 2. No

F.4i. If no, why? (Choose as many as apply) Because

1. I get low marks 2. He/she doesn't like me. 3. Other (specify) _____

F.5. Do you take part in any sports/games in school/at home?

1. Yes 2. No

THANK YOU FOR ANSWERING THESE QUESTIONS.

APPENDIX 2: CONSENT FORMS AND ETHICAL CLEARANCE.

CONSENT FORM (A) 16 to 19 YEARS**RESEARCH TOPIC: SOCIAL DETERMINANTS OF NON-MARITAL ADOLESCENT
PREGNANCY IN NKWANTA SOUTH DISTRICT****INTRODUCTION**

I am a student from the University of Ghana, School of Public Health. My assistants and I are carrying out a study in this district to identify the factors in adolescents' (girls aged 10 to 19years') environment that make them vulnerable to or protect them against getting pregnant outside marriage.

STUDY PROCEDURE, ADVANTAGES AND DISCOMFORTS

The questions are basically about you, your experiences regarding prevention of pregnancy and or getting pregnant. Your responses will provide useful information for the eventual development of an effective framework for the establishment of culturally acceptable, affordable and friendly programmes for female adolescents in this community and beyond. The information will also be used for academic purposes.

VOLUNTARINESS AND CONFIDENTIALITY

Your participation in this study is voluntary. Though we would be very happy if you take part, we are assuring you that neither you nor the study will be affected or suffer if you decide not to take part in this study. If you decide to take part, you are not obliged to answer every question and you may also withdraw whenever you so wish.

Your name, identity are not needed for the study. However, the information you would provide, is going to be identified by a special code number and would be treated strictly as confidential. This study has been reviewed and approved by Ghana Health Service Ethical Review Committee (GH-ERC) whose tasks are to make sure that research participants are protected from harm and their rights respected.

You may contact the principal investigator, Stephen Selasi Corshi Akakpo at the School of Public Health, University of Ghana, Legon.

(Tel. 0206300924/0287290377); email: selasii@yahoo.com

Do you voluntarily agree to participate in this study?

I consent voluntarily to participate in this study.

Name of participant: _____ Signature/thumbprint: _____

Name of Interviewer: _____ Tel: _____

Signature of Interviewer: _____ Date: _____

CONSENT FORM (B) BELOW 16 YEARS (PARENTS/GUARDIANS OF RESPONDENT)**RESEARCH TOPIC: SOCIAL DETERMINANTS OF NON-MARITAL ADOLESCENT PREGNANCY IN NKWANTA SOUTH DISTRICT****INTRODUCTION**

I am a student from the University of Ghana, School of Public Health. My assistants and I are carrying out a study in this district to identify the factors in adolescents' (girls aged 10 to 19years') environment that make them vulnerable to or protect them against getting pregnant outside marriage.

We shall be grateful if you will allow your daughter to be one of the participants. We would be very grateful if you could kindly read this information below or let someone read it to you so that you can take a decision to allow your daughter to participate in the study or not.

STUDY PROCEDURE, ADVANTAGES AND DISCOMFORTS

The questions are basically about her, her experiences regarding prevention of pregnancy and or getting pregnant. Her responses will provide useful information for the eventual development of an effective framework for the establishment of culturally acceptable, affordable and friendly programmes for female adolescents in this community and beyond. The information will also be used for academic purposes.

VOLUNTARINESS AND CONFIDENTIALITY

Her participation in this study is voluntary. If you decide she should take part, we also assure you that she is not obliged to answer every question and she may also withdraw whenever she so wishes.

However, the information she would provide is going to be identified by a special code number and would be treated strictly as confidential. This study has been reviewed and approved by Ghana Health Service Ethical Review Committee (GH-ERC) whose tasks are to make sure that research participants are protected from harm and their rights respected.

You may contact the principal investigator, Stephen Selasi Corshi Akakpo at the School of Public Health, University of Ghana, Legon.

(Tel. 0206300924/0287290377); email: selasii@yahoo.com

Do you voluntarily agree that your daughter should participate in this study if she also agrees?

I consent voluntarily for my daughter to participate in this study.

Name of Parent/Guardian: _____ Signature/thumbprint: _____

Name of Interviewer: _____ Tel: _____

Signature of interviewer: _____ Date: _____

Ethical Clearance

GHANA HEALTH SERVICE ETHICAL REVIEW COMMITTEE

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

*My Ref. :GHS-ERC: 3
Your Ref. No.*



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21 June, 2012

STEPHEN SELASI CORSHI AKAKPO, Principal Investigator
College of Health Science
School of Public Health
University of Ghana

ETHICAL CLEARANCE - ID NO: GHS-ERC: 20/03/12

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

“Social Determinants of Non-Marital Adolescent Pregnancy in Nkwanta South District”

This approval requires that you submit periodic review of the protocol to the Committee and a final full review to the Ethical Review Committee (ERC) on completion of the study. The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

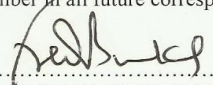
Please note that any modification of the project must be submitted to the ERC for review and approval before its implementation.

You are also required to report all serious adverse events related to this study to the ERC within seven days verbally and fourteen days in writing.

You are requested to submit a final report on the study to assure the ERC that the project was implemented as per approved protocol. You are also to inform the ERC and your mother organization before any publication of the research findings.

Please always quote the protocol identification number in all future correspondence in relation to this protocol

SIGNED.....


PROFESSOR FRED BINKA
(GHS-ERC CHAIRMAN)

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