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RESEARCH METHODOLOGY GROUP

MME-HEALTH AND SOCIETY SPECIALISATION

RESEARCH REPORT

PROJECT TITLE:

MANAGING SUPPORTIVE SEXUAL HEALTH RESOURCES BY IN-SCHOOL YOUNG PEOPLE IN THE KASSENA-NANKANA DISTRICT OF RURAL GHANA

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Research report submitted to the Research Methodology group, of Wageningen University and Research Centre in partial fulfilment of the requirement for the degree of Master's in Health and Society Specialization

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Declaration

I, Justina Agula declare that this research report is my own work. It is being submitted for the degree of Master of Science in MME- Health and Society Specialisation in Wageningen University and Research Centre. It has not being submitted before for any degree or examination at this or any University.

Justina Agula

Wageningen University and Research Centre

Dedication

Dedicated to my lovely family

Especially to my mother Miss Beatrice Nyabase and my late father Mr. Awongoge A. Bawah

Daddy rest in prefect peace in the bosom of the almighty God

Abstract

Communication between sexual health resources (parents, teachers, health workers and religious leaders) and young people is an important strategy to help young people adopt informed and responsible sexual behaviour. However, existing research in Ghana demonstrates that resources are ill prepared to openly communicate about sex with young people and young people would also avoid the communication about of sex with resources. The study aims to explore what determines the harnessing of available supportive sexual health resources to create healthy sexual behaviour by young, in-school people in the Kassena-Nankana District (KND) of rural Ghana, using a salutogenic approach to health promotion. Specifically, the study investigates young people's understanding of sexuality, perceptions of resource accessibility, motivation to use resources, and quality assurance criteria. The study also seeks to understand more about the effect of data collection choices (sex of interviewer and data collection mode) on sexual related issues in this population group. The study employed a cross-sectional analytic design with a second contact within the short term, involving both qualitative and quantitative methods. Participants are a quota sample of senior high school student volunteers for the quantitative study (N=125) and a stratified random sample of these drawn for the qualitative study (N=20), following study protocol. Results of the quantitative and qualitative studies show that study participants are aware of the existence of sexual health resources in the KND and the role the sources can play in their sexual life. However, respondents often lack the ability to utilise resource support due to factors such as perceptions of confidentiality of information and hostility, ill preparedness of resources to assist young people, social expectations, outcome of seeking support, young people's self-confidence, and their perceptions about seeking sexual health support.

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List of abbreviations

ABC	A – abstinence, B – be faithful to one sex partner, C – consistent use of condom. An acronym defining safer sexual practices.
AIDS	Acquired immunodeficiency syndrome. It is a condition in humans in which progressive failure of the immune system allows opportunistic diseases to thrive
ATLAS.ti	Software for qualitative data analysis.
GHSERC	Ghana Health Service Ethical Review Committee
GTV	Ghana television
HIV	Human immunodeficiency virus. it is a lentivirus that causes the acquired immunodeficiency syndrome
KND	Kassena-Nankana District
NHRC	Navrongo Health Research Centre. it is one of the Ghana Health Service research institutions located in the Upper East Region of Ghana, Navrongo
MSc	Masters of Science
RQ	Research Question
STIs	Sexually transmitted infections. They are infections transmitted through sexual intercourse
URA	Upper Regional Authority
WHO	World Health Organization

Introduction

Literature has shown that young people who have access to supportive and encouraging resources like parents and teachers are more likely to delay sexual initiation (Lloyd, 2005), adopt responsible and safe behaviour and less likely to experience unplanned pregnancies and STIs (Ingwersen, 2001). It is therefore a better idea to influence open and honest forms of sexual health communication between these knowledgeable and experienced resources and young people, than the avoidance of sex communication which leaves many young people with no choice than to seek support from friends who usually do not in fact possess the appropriate and informed sexual health advice (Rondini, 2009).

This report is the result of a field survey and face-to-face interviews among in-school young people in the Kassena-Nankana District collected in January – February, 2012. It helps to understand what motivates young people to engage or not engage resources in their sexual decision making process and whether observations differ between respondents characterised by an overall healthy sexual lifestyle and those characterised by an overall unhealthy sexual lifestyle. The study aims to highlight research implications to inform future research on what to explore regarding promoting sexual health communication/decisions between resources and young people.

Through the careful analysis of survey data and transcribed interviews, I hope to shed light on the motivating factors that encourage young people to open up and engage in honest communication with existing resources about their sexual life. Literature has shown that sexual debut of young people in contemporary society takes place earlier than in the past (Balmer et al 1997, Bankole et al., 2007). There is therefore the need to assist young people in making informed and responsible sexual health decisions. Furthermore, I hope that by using the health promotion approach, I can better understand how some young people are able to engage the support of resources while others are not, enabling me to make conclusions as to how young people who are not in the position of using sources in sexual decision process can be empowered and supported to engage the support of resource.

In this report, I begin with a chapter to give the reader a background of sexual health of young people in Africa. Here I will give a brief rationale of the study. I will also outline the research questions and objectives. Lastly, I will give a justification of the choice of study area and study population.

The next chapter of the report outlines the theory which guided the formulation of the research questions, method. Literature is then reviewed to show the link of the study and what has already been done in the field of sexual and reproductive health of young people. I will also introduce the methodological research component of the study in this chapter.

The following chapter gives the detailed description of the study area and methodology – data collection, fulfilling ethical requirement by the Ghana Health Service in conducting studies on human beings – and data analysis.

The chapter thereafter gives the results from the quantitative data, which will examine factors including demographic characteristics of study respondents (broken down by sub-groups), available resources in the district, preferred sources by respondents, and reported resources used by respondents in sexual decision making. Furthermore, I present the results from semi-structured interviews that aimed to gather perspectives on the use and non-use of sexual health resources. The

last section will describe the results of the methodological research component that examines the effect of the sex of the interviewer and effect of the mode of data collection on responses.

Lastly, the final chapters will be the discussion and conclusion from the findings. Here I will give a reflection of the findings – looking at whether they confirm (or conflict) propositions made by earlier researchers. I will also highlight the contribution of the study to science, its implication to future studies and the real world.

CHAPTER ONE

1.0 Background

Sexuality and sexual experience are part of everyone's life, and involve different needs and implications at different stages of life (WHO regional site for Europe, 2011). According to the World Health Organization (WHO), there has been a general improvement in the sexual health of young people in recent times (Colin et al., 2009). Improvements in sexual health are usually seen in aggregate figures, but inequities exist between and within countries and population sub-strata. Young people between 15–24 years represent the next generation of adults who are at the threshold of decision making regarding preferences related to sexuality and sexual health. The consequences of these choices impact these young people not only within that age but usually also later life. Thapa (2010) suggested that poor sexual health among this age group in Africa is attributable to lack of courage and confidence to seek accurate services on responsible, satisfying and safe sex from supportive resources. This however does not deny the fact that young people in some areas may be confronted with unavailability or inaccessibility of preferred material (or non-material) resources and services to create sexual health.

Sexual and reproductive health of young people in Sub-Saharan African countries over the past decade has become an essential and programmatic issue (Awusabo-Asare, 2006), and the question is where have we gotten to by way of progress? The African continent carries one of the largest global burdens of morbidity – of which the HIV/AIDS epidemic has taken hold in many countries (Bankole et al., 2007) – and poor sexual health (Colin et al., 2009). African countries have the highest maternal mortality rates (Ronsmans, 2006), and a substantial proportion of maternal deaths are due to illicit abortions from unplanned pregnancies among young people (de Bruyn, 2004). Estimates suggest that 1.5% of men and 4.3% of women aged 15–24 years in Sub-Saharan Africa were living with HIV at the end of 2005 (Joint United Nations Programme, 2006). One in ten young women had experienced an unwanted pregnancy by age 20 (Awusabo-Asare, 2006; Michielsena et al., 2010), and 9–13% of young women had given birth by age 16 at the end of 2005 (Lloyd, 2005).

The situation in Ghana gives cause for worry. The Ghana medium term objectives for vision 2020 (a goal to attain a middle income status) includes, among its priorities, to promote the well-being and potential of its young people as a human resource platform for development (Adolescents Reproductive Health Policy, 2000). However, many of the young people within the age group 15–24 are already at risk or battling the adverse effects of unplanned pregnancy or sexually transmitted infections (Croce-Galis, 2004). Poor sexual health in Ghana has been attributed to lack of access, for this age group, to the needed services such as education, information, and skills from both material and non-material resources needed to enhance sexual health choices (Odoi-Agyarko, 2003), most specifically in communities where it is a societal taboo to discuss issues of sexuality with young people (Panford, 2001; Rondini, 2009). This leaves young people with no choice other than face the HIV endemic, the risk of STIs, and unwanted pregnancy alone, or in some cases with advice from peers (Rwenge, 2000; Mellanby et al., 2001; Neema et al., 2004; Rondini, 2009).

In Ghana, estimates of HIV/AIDS prevalence among 15–25 year-olds suggest an increase from 2.3% in 2000 to 3.6% in 2003 with a small decline in 2004 (3.1%) (Rondini, 2009). This potential downward trend did not reflect the situation of some parts of the country where prevalence was at a peak four

years later (Ghana Statistical Service et al., 2004; Agyei-Mensah, 2006; Rondini, 2009). The mean age of sexual initiation among young people in Ghana is 17.5 years (i.e. sexual activity begins at middle to late teenage years) (Glover et al., 2003; Borzekowski et al., 2006), and according to the 2008 Ghana Demographic and Health Survey (GDHS), about 8% of women and 5% of men reported having sexual intercourse by age 15. By age 18, about 44% of women (more than two-fifths) and 26% of men had sexual intercourse (GDHS, 2008) either with or without protection. At age 15, most young people have not had their sexual debut. The age group (15–24) provide a "window of opportunity" to equip young adolescents with services needed to shape their choices and decision making around sexuality and sexual health, since young people may have enhanced their adoption and maintenance of healthy sexual lifestyles thereby reducing the risk of contracting STIs and experiencing unwanted pregnancies (Bankole et al., 2007). Earlier studies observed that in HIV/AIDS infections, the lowest rates are in those 9–14 years old, rising rapidly at 15 years (Biddlecom, 2007; Lawoyin, 2010). However, resources of sexual health that might play an important role in providing young people with the needed services in practice do not do it. The resources see the task to be daunting and are mostly ill prepared for it (Bankole, 2007; Key, 2008).

Resources are defined in this study to mean parents, teachers, health personal, religious leaders or members and the social media, i.e. all forms of material and non-material resources within the physical and social environment that are capable of assisting young people with issues relating to their sexual and reproductive health. The evidence suggests that availability of resources will not automatically transform into healthy sexual practices; these resources have to be used, and their use can be more or less efficient depending on how the young people perceive and interpret the resources and how the services provided by the sources interact with their sexual health needs and desires (Rosenthal, 1999; Lundberg, 2011). The challenge in this regard is to determine what kinds of services are preferred by young people, from what resources and what will encourage or hamper the use of the resources. One of the steps in addressing these issues is to comprehend the current sexual behaviour and sexual health needs of young people.

Previous studies have focused on knowledge, attitudes, and practices regarding STIs and unwanted pregnancy prevention among young people (Karim et al., 2003; Awusabo-Asare, 2006). Some of these studies have explored resources needed to enhance healthy sexual practices (Mellanby, 2001; Somers, 2004; Bankole, 2007). However, most of these studies do not look at how and to what extent these resources are engaged by young people to create a healthy sexual lifestyle.

Given the fact that the use or non-use of existing sexual health resources and services depend on how young people perceive and interpret the resources and the services they provide, the Ghana Health Service and other stakeholders involved in sexuality and sexual health issues of young people need to comprehend the sexual behaviour of young people, what they know and do not know about sexual issues, what experience they have with resource use and what is the motivation for the use or non use of the resources. This thesis fills in some of these information gaps by presenting information from a field survey and semi-structured interviews with in-school young people in rural Ghana on their experience with resource use, and preferred sources of sexual health information. The report discloses the motivators for engagement (or non-engagement) of existing sexual health resources.

1.1 Problem statement

Sex is an important component in sexual and reproductive health. Worldwide, many young people are engaging in sexual intercourse and are at risk of STIs and unwanted pregnancies (Commonwealth Medical Association, 2000; Adadevoh, 2005). Evidence shows that young people who receive support and encouragement from existing supportive environments are more likely than others to make informed and responsible decisions about their sexual lives thereby avoiding exposure to risk outcomes (Lloyd, 2005). Conversely, lack of supportive environments puts young people at the risk of contracting sexually transmitted infections and experiencing unwanted pregnancies (Hock-Long et al., 2003; Panford et al., 2001). This suggests that prevention strategies should take into account the provision of environments supportive of sexual health (Adolescents Reproductive Health Policy, 2000; Odoi-Agyarko, 2003). Despite this recommendation, at present, supportive environments are concentrated in urban areas to the neglect of rural dwellers (Temin et al., 1999; Buor, 2008). Also, where supportive environments are existence, survey data show that their result is limited to only high awareness creation among people aged 15–49 years, not change in practice (GDHS, 2008). Earlier studies observed that young people are interested in learning more about sexuality and are more likely to receive support from resources they perceive knowledgeable (Alarcon, 1996; Rich et al., 1996; Brown, 2001). The question therefore is: why are young people in areas where there are supportive environments and high awareness levels not engaging the resources to create healthy sexual practices? One reason may be that while young people are aware of what needs to be done, they do not quite know how to do it, or the resources we term supportive may not really be supportive in the views of young people.

Previous studies have focused, however, on knowledge, attitudes, and practices regarding STIs and unwanted pregnancy prevention among young people (Karim et al., 2003; Awusabo-Asare, 2006; Rondini, 2009). Some of these studies have explored resources needed to enhance healthy practices (Somers, 2004; Bankole et al., 2007; keys et al., 2008) but most do not look at how and to what extent these resources are engaged by young people to create healthy sexual lifestyles. An insight into how young people in the same study setting differ in the engagement of resources to create and live healthy sexual lifestyles will provide a better understanding of how resources can best influence young people to engage them in their sexual decision process, thereby promoting healthy sexual practices among young people, especially among rural, deprived or marginalised communities or groups. This is very important, as previous work has also revealed that resources of the capacity to support young people with their sexual health needs also grapple with how best to assist young people to make informed and responsible sexual health decisions (Bankole, 2007).

This study examines how young people (aged 15–24 years) in the Kassena-Nankana District engage resource to create healthy sexual lifestyles. The Kassena-Nankana District is one of the districts in Northern Ghana endowed with environments like schools, healthcare units, media, and family that can be (or are) supportive of healthy sexual lifestyles. However, it is a fact that many of the young people in this district are faced with unmet sexual health needs. Evidence of unmet sexual health needs was revealed in a survey among Junior High School Pupils that confirmed that pupils lack detailed knowledge on sexual health issues such as pregnancy and sexually transmitted diseases (unpublished data – NHRC ASRH Annual Report, 2006). It is also evident that young people in this district suffer the same consequences as a result of poor sexual practices as experienced by young people in other parts of the country (Mensch et al, 1999). A second annual report on reproductive health by the NHRC (2004) indicates that a study carried out in 2003 observed prevalence of

HIV/AIDS, syphilis, and herpes simplex virus 2 (HSV-2) among young people aged 10–24 years in the district to be about 1.1%, 0.9%, and 10.5%, respectively. It is therefore important to determine whether existing resources are actually perceived as supportive, available and trustworthy by young people, since there are multiple factors at play at the individual, family, community and societal levels that may hinder the use of these resources by young people to make informed and responsible decisions with regard to their sexual life.

Research also confirms that young people in this district would prefer to receive sexual health information from their parents; however, there is seemingly low communication of sexual related issues between young people and their parents (NHRC ASRH Annual Report, 2004). Understanding the motivators and barriers to sexual communication between young people and the existing supportive environment will increase overall knowledge of what influences young people to engage sources in open and honest forms of communication on sexual health.

1.2 Research questions

What determines the harnessing of available supportive sexual health resources to create healthy sexual behaviour by young, in-school people in the Kassena-Nankana District of rural Ghana?

The main research question can be split into the following sub-research questions:

1. How do young people understand sexuality?
2. What do young people perceive as resources supportive of sexual health?
3. How available and accessible are these supportive sexual health resources for young people?
4. What motivates young people's desire and demand for supportive sexual health resources?
5. How do healthy respondents differ from unhealthy respondents given motivations for the use (or non use) of resources and the quality criterion for resources?

It is also useful to conduct methodological research to understand more about data collection on sexual related issues in this population group, so the secondary purpose of this study was to answer the following methodological questions

6. Does the sex of interviewer affect the interviewee's response to questions about personal sexual issues among adolescents in rural Ghana?
7. What is the effect of the change in the mode of interview (self-administered vs. face-to-face) in this research and geographic context?

1.3 Research objectives

1.3.1 Goal

To explore the determinants of how young, in-school people in rural Ghana harness available supportive sexual health resources to create healthy sexual behaviour.

1.3.2 Objectives

1. To assess young people's understanding of sexuality

2. To determine what resources young people in rural Ghana associate with healthy sexual lifestyles

3. To describe sexual health resources available to young people in rural Ghana, and their perception of the accessibility of these resources

4. To determine what motivates young people in rural Ghana to manage available resources to make decision around the use

5. To determine if observations differ between healthy and unhealthy respondents and the quality assurance young people look for in resources supportive of sexual health

6. To explore the existence of sex-of-interviewer effect on interviewee response to questions relating to personal sexual related issues

7. To examine the effect of change in the mode of interviews in this research and geographic context

CHAPTER TWO

2.0 Theoretical framework

2.1 Health promotion

Internationally, Health promotion over the past decades has witnessed a paradigm shift from the focus on what causes diseases (pathogenic) to what creates health (salutogenesis). Health promotion according to the WHO aims at empowering people with the means to influence what determines their health (WHO 1986; Lindstrom, 2010:2).

The concept of "empowerment" in health promotion aims at building positive health behaviours of people through the provision of supportive environments like impacting knowledge, understanding, and skills; providing the needed physical resources (supportive settings), and influencing young people's ability with regards to health related issues (MOH, 2007).

In the field of sexual and reproductive health of young people, intervention policies and programmes are geared at making accessible information and other sexual health services needed by young people to embark on safe and responsible sexual lives. These initiatives can be, or are, provided by existing agencies or settings responsible in assisting young people

But employment of empowerment as a concept in health promotion lacks a sound theoretical framework to improve the work done in practice (Lindstrom, 2010). The term "Salutogenic" approach to health promotion focuses on exploring factors that promote health and wellbeing (Kousheda, 2009). It seeks to promote supportive environments to influence healthy behaviour among people. This approach coined by Aaron Antonovsky is supported by interrelated concepts that can guide a study by determining what should be measured (Pallant, 2001; Antonovsky, 1979; Lundberg, 2011). Though this approach may play an important role in developing young people's understanding of health and also facilitate the improvement of health resources to meet young people's needs (Bronikowski, 2009), the approach has rarely been used in sexual and reproductive health research.

2.2 Salutogenesis approach to health promotion

Sense of coherence (SOC) is a framework that relates to the importance of resources in health promotion. It is the ability of a person to comprehend the whole of a stressful situation and their capacity to use the resources available (Lindstrom, 2010:2). SOC reflects a person's view of life and capacity to respond to stressors (Lindstrom, 2006; 2010:2). It is a personal way of thinking, being, and acting, with an inner trust, which leads people to identify, benefit, use, and re-use the resources at their disposal. SOC consists of three components: comprehensibility, manageability, and meaningfulness (Antonovasky, 1996; Lindstrom, 2006; Wainwright et al., 2007).

Comprehensibility is the cognitive component, in that a person recognizes stressors or stimuli as information that is rational and clear. Manageability refers to the behavioural component, in that it is the extent a person recognizes resources to address the stressors and stimuli. And meaningfulness speaks to a person's motivation, or the extent that a person feels that life makes sense (Bergman et al., 2011; Koelen, 2005; Lindstrom, 2006).

2.2.2 The Generalized Resistance Resources

The other key mechanisms are the resources available to make a movement towards health possible. A Generalized Resistance Resource (GRR) can be physical, biochemical, artifactual-material, cognitive, emotional, valued attitudinal, interpersonal-relations, or macro socio cultural characteristics of an individual, primary group, subculture, or society that is effectual in avoiding and/or combating stressors. The GRRs can be found within people as resources bound in them (e.g. confidence, intension, perceptions, beliefs) and capacity but also in their immediate and distant environment as of both material and non-material (e.g. institutional support, money among others) (Antonovsky, 1996; Lindstrom, 2006). What is key in this component is that the resources are not just available for people, but that people identify the resources and are able to use them (and consequently re-use them) for their intended purpose (Lindstrom, 2006).

2.3 Adaptation of theory to study

The salutogenic concept of what create health instead of what create diseases is adapted in this research by exploring whether young people with a healthy sexual behaviour and those with an unhealthy sexual behaviour differ in engaging sexual health resources in sexual decision making process. The GRRs are adapted as material and non material resources of sexual health effectual in empowering young people adopt healthy lifestyle. They include family support, social support, religious support, peer support and socio-economic support. SOC is considered by looking at whether young people feel these resources are available to help them with the sexual issues.

2.4 Literature Review

To establish a link between what the research seeks to explore and what has already been done in this field of study, and also to show the scientific relevance of the approach adopted in this study, a literature review was done on a number of thematic areas pertinent to the research focus.

2.4.1 Prevention of STIs and unwanted pregnancy among young people

Sexually transmitted infections are disorders with a spread correlated strongly with sexual intercourse (Ponte, 2000; Ainbinder et al., 2007). Sexually transmitted infections are not only acute in nature but can lead to severe complications such as infertility, still birth (in pregnancy), cervical cancer, ectopic pregnancy, miscarriage, and death when left untreated (McCormack, 1994; Low et al., 2001; WHO and Horizons program, 2007; Kumar, 2009). Similarly, unwanted pregnancies, which many times are illicitly aborted (especially in countries where access to safe abortion is lacking), can result in future complications such as infertility, miscarriage, maternal mortality and morbidity (de Bruyn, 2004; Campbell, 2006). These adverse effects pose continuing challenges for the individual, the society and healthcare providers (Handsfield, 2001).

Many STIs are curable, when diagnosed and correctly treated on time (Kumar, 2009). However, there is no known cure for sexually transmitted infections such as HIV. Unwanted pregnancies are also irreversible unless aborted. ABC (abstinence, being faithful to partner and correct and consistent use of condom) methods of prevention are denoted the most effective and efficient ways to prevent sexual infections and unwanted pregnancies among young people (Wilson, 2004).

Worldwide, about 100 million STIs occur each year in people under the age of 25 years (WHO, 1997; Sales, 2010). This age group (under 25 years) constitutes half of the world's population (Bearinger, 2007), and of the 100 million people infected yearly, 15–25 year-olds constitute the largest age group

(Duoug, 2007). The rates of HIV/AIDS pandemic are devastating among young people, with an estimated 11.8 million young people (15–24 years) living with the epidemic by middle of 2002 (UNAID, 2002 cited in Sales, 2004). The burden is even more alarming in Sub-Saharan African regions, where about 63% of young people living with the disease reside (UNAIDS, 2004; HIV sentinel report, 2007). By the end of 2005, about 4.6% of females and 1.7% of males aged 15–24 in Sub-Saharan Africa were estimated to be living with HIV (HIV sentinel report, 2007).

In Ghana, 312,020 people were estimated to be infected by HIV/AIDS as of 2007 (HIV sentinel report, 2007). In 2009 the number dropped to 240,802 (Ghana Aids Commission, 2009). Although HIV prevalence in Ghana is described as low compared to other regions in Sub-Saharan Africa, supportive environments are needed to influence healthy sexual lifestyles among all age groups, especially young people (Ghana Aids Commission, 2009)

2.4.2 Factors associated with sexual behaviour

Adverse sexual lifestyles such as early initiation of sex, multiple partners and inconsistent use or non-use of protection among young people in Ghana as well as in Sub-Saharan Africa as a whole can be attributed to a number of factors such as economic, social and cultural practices especially among rural people in Ghana (Karim et al., 2003; Borzekowski et al., 2006; Kanku, 2010). Karim and colleagues (2003) clustered these factors under four levels in Ghana: the individual, the family, the community and the societal level. Below is a brief summary of ideas on the levels.

2.4.2.1 The individual level

Low self-efficacy of a person leads to lack of confidence in being able to resist sexual advances or pressures, and the inability to negotiate or initiate condom use with partner (Karim et al., 2003; Kanku, 2010). A study by Brafford (1991, cited in Asante 2010) among college students in South Africa confirmed this by attributing inconsistent use of condom to low self-efficacy.

Studies indicate that substance use and sexual risk-taking behaviours co-occur among young people in African countries (Palen et al., 2009). In a study by Palen and colleagues (2006) among high school students in Cape Town, South Africa, the use of alcohol or marijuana was associated with higher odds of lifetime sexual intercourse. A similar study conducted in Ethiopia among adolescents and young people also discovered that the use of alcohol and other substances was associated with ever having sexual intercourse (Kebede et al., 2005). This may indicate that when people get intoxicated, they lose their sense of inhibition and tend to engage in activities that would not have occurred otherwise (Kanku, 2010).

Knowledge, perception, and attitude towards sexuality are important determinants of a person's sexual lifestyle (Greene et al., 1995). An individual's risk of HIV infection, according to the Ghana AIDS Commission (2009), can be affected by the co-existence of knowledge, positive attitude and willingness to practice the acquired knowledge. A direct example in the case of Ghana is that the country achieved its fertility target (4.0 children per woman) two years before the target year (2010) due to knowledge creation, change in attitude and practice (KAP) of preventive measures introduced to reduce family size. (GDHS, 2008, GSS, GHS and ICF Macro, 2009).

Studies have shown that religious beliefs play an important role in the sexual behaviour of a person. On the one hand, Dunne and colleagues (1994) in their study on religiosity, sexual intercourse and

condom use among university students in Brisbane, Australia showed that young people who perceived religion to be more important in their lives were less likely to engage in sexual intercourse than those who did not believe in religion. On the other hand, studies by Addia (1999), Agha et al., (2006) and Dunne et al., (1994) in Ghana, Zambia and Australia respectively have also shown that young people affiliated with religion are more likely not to use condoms and other contraceptives. This may be accounted for by the fact that religious affiliated young people do not want their engagement in sexual intercourse to seem planned (Agha, 2006). However, it may also be that their religion is opposed to the use of contraceptives.

2.4.2.2 The family/relationship level

A comparative study by Madkour and colleagues (2010) of the United States, Scotland, France, Poland and Finland revealed that important familial considerations associated with sexual behaviour include family structure (two biological parents vs. single parent in the household). Bakken (2002) affirms that black men in the United States raised by a single parent were more likely to engage in early onset of sexual intercourse. In the case of Ghana, Karim and colleagues (2003) found that youth raised by a single parent were more likely to initiate sexual intercourse than youth raised by both parents. The reason probably is that parents with busy schedules are unable to spend much time at home to supervise their growing children; as a result the child can easily pick up unhealthy behaviours from outside the home (Bakken, 2002).

Aside from family structure of biological parents, which is likely to influence the sexual behaviour of young people, the parental attitude towards discussing sexual matters is another important factor. A study in the United Kingdom showed that the conservative attitude of most families towards communicating sexuality with young people leaves them with no choice than to seek sexual advice from peers (Aggleton, 2000). In addition to this, a study conducted among youth in Ghana observed that parents are conservative when it comes to parent-child sex communication (Karim et al., 2003; Bankole, 20078). Notwithstanding this, the incapability of many families to support young people in terms of meeting their material and financial needs can be related to young peoples' engagement in sexual activity as a means to meeting their material needs (Karim et al., 2003).

2.4.2.3 The community level

It is usually not enough to talk about factors that influence the sexual behaviour of young people without looking at the community as a whole (Lawoyin, 2010). Community support for contraceptive use and the open interaction of sexuality is lacking in most Ghanaian communities as a result of cultural and traditional beliefs (Aggleton, 2000).

2.4.2.4 The societal level

Gender, power and inequalities in society can determine a person's ability to create and live a healthy sexual life, especially for young women. In many African countries, most especially in rural Africa, women are being relegated to the background in the decision making process regarding safe sex. A study in Namibia shows that social institutions like the church, family and school define gaps between men and women by conferring power on men as commanders and women as subordinates. This status leaves most young women with little or no negotiating power on healthy sexual practice (Lawoyin, 2010). That is to say, the culture in which they have been educated and lived positions

them as subordinates to men. This status quo has denied many women the control of their sexuality including the use of condoms and other forms of protection (Maureen, 2006; Gita et al., 2007).

2.4.3 Supportive sexual health resources

In attempts to create an acceptable atmosphere for young people as future leaders to enable them to transition into adulthood with healthy sexual lifestyles, a good number of resources supportive of sexual health are provided to augment young people at their early stage of life to build healthy lives free of sexual infections and unwanted pregnancies. This section discusses the current situation of sexual health resources in Ghana looking at available resources, the providers, the extent of use, and the gaps in the provision of the resources in the country.

2.4.3.1 Available resources

Sexual education of young people in Ghana is carried out through a number of channels to promote healthy sexual behaviour. This includes folk media at the community level (Panford et al., 2001). Folk media is an endogenous communication method that takes into consideration the culture of its audience. It is done in most cases through story-telling, drama, concert, and role play, among others. A scenario is the case of the Centre for Development of People in Kumasi, the southern part of Ghana, which uses live shows to educate people on pertinent issues such as HIV/AIDS (Panford et al., 2001).

Social media (radio, TV, internet, daily graphics, and magazines) is another means of reaching young people with healthy sexual messages in Ghana (HIV Sentinel Survey Report, 2007). In addition, health education in the country is carried out at the health facility level by trained health professionals in the form of counselling and education for young people (GHS, 2007). Furthermore literature also shows that condoms are readily available and accessible through occasional free distribution and at the pharmaceutical shops for sale throughout the country (Smith et al., 2005 cited by Asante, 2010). Ghana Education Service (GES) has also introduced health promotion education into the basic school curriculum (ARHP, 2000). Religious bodies in Ghana are also engaged in the education of young people with regards to healthy sexual behaviour – mostly preaching chastity. They preach abstinence from sex till marriage (Takyi, 2003).

2.4.3.2 Gaps in existing resources

Though the above mentioned resources may be available in the Ghanaian context, many questions are unanswered: to what extent are the resources perceived to be of good quality; do the resources or existing programmes involve young people (participation); are the resources or services user friendly; are the resources really accessible and equitable to all; who are health promoters reaching with their messages (age, gender and education status, area of residence); how are the programmes moving through the communities (Wolf, 2002). These are all gaps in knowledge that need to be investigated and readdressed in the provision of resources supportive of sexual health.

Literature shows that most young people do not have access to some sexual health resources though the resources may be in existence in the country. According to Biddlecom et al. (2007), health services (e.g. condoms) cost and where to seek health services are challenges young people in Ghana face with respect to their sexuality. In addition, sexual counselling services that are intended to be provided by health professionals for young people according to evidence-based guidelines are mostly

not incorporated into the daily routine practice of practitioners because of their attitudes and beliefs. Furthermore, family support for young people in terms of family connectedness about sex and sexual behaviour of young people is considered low in Ghana (Kumi-Kyereme et al., 2007). This can partly be attributed to myths surrounding sex education (Ingwersen, 2001).

2.4.3.3 The providers of the resources

The provision of resources supportive of sexual health is facilitated by a good number of institutions in Ghana which can be categorized into three sectors. The government or public sector incorporates the Ghana Health Service (GHS), family planning healthcare unit under the GHS, teaching hospitals, Ghana Education service (GES), and the social media. The private sector comprises the non-governmental organizations (NGOs) and the donor agencies. The third sector is the traditional sector consisting of the parents, community, friends, and religion (ARHP, 2000; MOH, 2007)

2.4.3.4 The extent of use of the resources

The focus of this section will be limited to condom use, the use of social media like the internet, and the use of parents as a source of sexual health information, the reason being that these three aspects are the most investigated in existing literature regarding sexual behaviour of young people.

2.4.3.4.1 Condom use

According to Parsons et al., (2000: p378), "a single act of unprotected sex has the potential to result in pregnancy, and infection with a sexually transmitted disease". The modification of human behaviour towards the consistent and correct use of condoms according to Asante (2010) remains the best and cheapest means to economically and effectively prevent or avoid unwanted pregnancy and sexually transmitted disease worldwide. However, the greatest challenge in this preventive approach is how to make people adhere to the consistent use of condoms, especially in HIV epidemic regions (Smith et al., 2005 cited by Asante, 2010). According to the GDHS (2008), there is low and inconsistent use of condoms by young people. According to the background characteristics collected in the 2008 survey, condom use at first sexual intercourse among women and men aged 15–24 was 18.2% (of 546) for never married women and for never married men 22.7% (of 127). For those with no formal education, condom use at first sex was 5.2% (of 155) for women and 11.4% (of 54) for men.

2.4.3.4.2 Use of mass media

The internet is one aspect of the social technological media in Ghana that serves as a health information source (Awusabo-Asare, 2006). Nonetheless, relatively few Ghanaians aged 15–24 years have ever gone online (63%, compared to 90% of US young people of the same age group), although 53% of the total who have ever used the internet sought online health information from it (Rideout, 2001; Borzekowski, 2006). Both users and non-users of the internet in Ghana have a positive attitude to it as a site for health information. Young people find the internet useful, easy to read and a trustworthy source of health information (Borzekowski, 2006).

2.4.3.4.3 Sourcing information from parents

Parents, especially educated parents, are a greatly significant source of sexual health information for young people in Ghana (Borzekowski, 2006). However, most young people are less likely to source information from parents than they would from teachers and friends (Awusabo-Asare, 2006). Studies reported that young people avoid talking to their parents about sexual matters for fear that showing a curiosity about sex could arouse suspicion and or the fear of being condemned or stigmatised. The subject is considered distasteful and embarrassing. Most parents also find it difficult talking to their young ones about issues relating to sexuality (Rosenthal, 1999).

2.4.4 Research gaps

The above summary of key findings from existing literature on supportive environments for sexual and reproductive health of young people has brought forth a number of challenges which are important to note in this study. From the core issues reviewed, little information exists on the maximization of the potential of supportive resources by young people to make informed choices with regard to their sexual behaviour. According to the available evidence, there are quite a number of existing environments for sexual health promotion, yet many young people do not make the effort to harness these resources to make healthy sexual decisions. It therefore remains a challenge to explain why there is a gap between existence of supportive resources for sexual and reproductive health and the actual utilization.

Very little information exists about the age at which the majority of children growing up in Ghana gain access to these supportive environments. It is quite a challenge to modify human behaviour. Allowing young people to gain experience in risky sexual behaviour before introducing them to supportive environments might therefore not be very useful a strategy in addressing sexual and reproductive health. Firm answers that address questions regarding the right age to expose young people to sexual health supportive environments are critical for designing and implementing sexual health programmes in Ghana.

This study will attempt to address the first research gap by practically engaging young people in the same study setting in discussions to explore their comprehensive view of environments they consider supportive, how accessible those environments are to them and what factors encourage (or discourage) them from accessing support from existing sources. This will give a general over view of how young people can be influenced to engage resources in their sexual decision making process.

2.4.5 Methodological considerations on data quality: sex of interviewer and mode effects

Research methodological tools, techniques and procedures employed in both quantitative and qualitative studies vary within and across studies. These variations can have different implications for research outcomes (Kumar, 2011).

Existing empirical literature on methodological topics has revealed that modes of data collection and sex of interviewer can have different effects on the quality of data generated from empirical studies. According to Bowling (2005), there can be a biasing effect from the modes of data collection which have consequences for the validity of findings and the soundness of public policies developed from such evidence-based findings.

According to McCombie and colleagues (2002), many researchers have assumed that interviewees are most likely to give accurate information on their sexual behaviour to interviewers who are of the same sex as them. Johnson (1976) indicated that female respondents being interviewed by females

about sexual behaviour find it more comfortable and interesting, and felt freer to disclose more information than males, although the actual interviewer effect were rather small among males. This is because male respondents also find cross-sex interviews more interesting (Grimes 1984; Lueptow 1990). This statement implies that the sex of the interviewer have a greater effect on female respondents compared to male respondent.

This study attempted to address potential methodological issues or effects that can be raised from employing different data collection tools and methods in the study. Methodological factors such as the mode of data collection (self-administered survey questions asked face-to-face in the in-depth interview phase) and the effect of sex of interviewer on interviewees' response (crossing male interviewees to female interviewer in the in-depth interview phase) were investigated.

CHAPTER THREE

3.0 Methodology

3.1 Study area

Ghana is located in Sub-Saharan Africa on the West Coast with a total land area of 238,537 square kilometres. It has 10 administrative regions, which are sub-divided into 170 districts (in 2008) with the aim of ensuring equitable resource allocation. There is, however, wide inequity in availability of resources, with the southern sector described as "rich" and the northern sector "poor". It has a population of about 24 million people. The three main climatic regions are the Coastal Savannah, the equatorial climate in the middle zone and the Guinea- Sahelian Savannah in the north.

This study was conducted in the Kassena-Nankana District[1] in the Upper East Region, one of the 3 northern regions in Ghana. This district, covering an area of 1,674 km^2, shares a border with neighbouring Burkina Faso. Navrongo is the capital of this predominantly poor rural district. The population of the district for 2010 was 180,611. People of Kassena ethnicity constitute about 54% of the district population, those of the Nankani ethnicity form about 42%, and 4% of the population are Builsa or members of other ethnic groups. There are more women than men (52.5% compared with 47.5%) (Wak et al., 2005). Animism is the main religious faith of the people traditionally but at present Christianity is gradually becoming predominant, most especially among women (Debpuur et al., 2000). Christians make up about 33% of the people; Muslims constitute about 5% and the rest practice indigenous religion. Religious faith is a strong influence on health behaviour, belief, attitude and practice in the district (Ndiath, 2010). According to Debpuur et al. (2002), the dependence on traditional medicine hinders the use of medical health services of which seeking sexual health advice can be part. As a people guided by religious belief, pre-marital sex is socially prohibited in the district and open discussions of sexuality are frowned upon by many due to cultural norms (Ndiath, 2010).

Mud houses with straw roofs are very common, and modern amenities such as electricity is scarce in most parts except in the relatively urban capital. Access to mass media such as television, internet, and newspapers is poor for a vast population of the district. Lack of access to the social media adversely impacts the health of the people as they lack access to information provided by such sources (Ndiath, 2010). Subsistence farming is the main occupation.

Most people live in compounds. Basic education is free of charge under a government arrangement. This has contributed to the rapid rise in primary school attendance in this district. Presently, educational facilities in the district include 134 primary schools, 50 junior high schools, and 8 senior high schools. There are 5 tertiary institutions in the district (2 Vocational Training Centres, 1 Teacher Training College, 1 Community Nursing Training College, and a faculty of the University for Development Studies (Ndiath, 2010). The district has an illiteracy rate of about 45% (Wak, 2006).

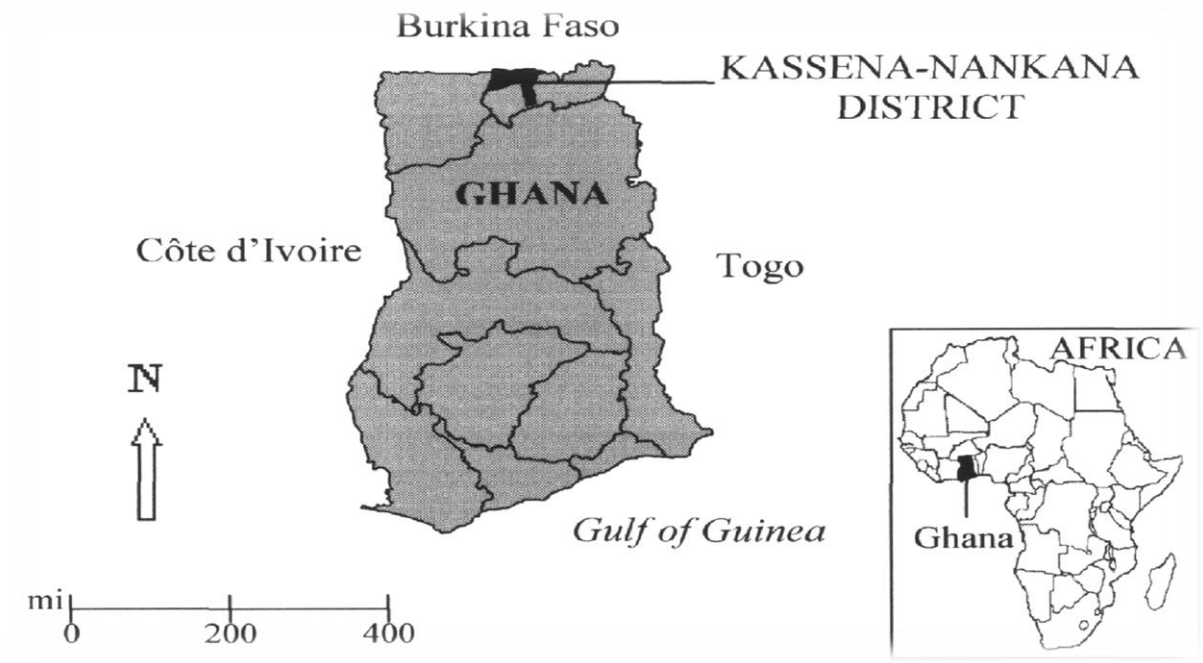
The Ghana Health Service (GHS) is represented in the district by the District Health Management Team (DHMT). The DHMT administers health services to the population. It has a district hospital, health centres, a private clinic, and community-based health planning and service centres (CHPS

[1] Presently the district is split into Kasena-Nankana East and Kasena-Nankana West but for the purpose of this study it remains Kasena-Nankana District

compounds). A Health Research Centre (Navrongo Health Research Centre – NHRC – one of the three Ghana Health Service research institutions that conduct research around major health issues in the country) is also located in the district.

The Navrongo Health Research Centre of Ghana Health Service in one of its research activities encouraged and supported sexual health education in some junior high schools in the district to promote healthy sexual behaviour among adolescents (personal interaction, 2011). Currently, sexual health education is part of the basic school curriculum, taught under the course "religious and moral education". Sex education is also carried out by the community health nurses in their outreach programmes. However, the questions of how effective these sources are in their education programmes, and what will encourage young people to communicate about sexuality with the sources, are important

Map 1: Map of Ghana showing Kassena-Nankana District



Source: emeraldinsight.com (Google search)

3.2 Study design

This study employed a cross-sectional analytic design with a second contact within the short term, involving both qualitative and quantitative methods. Using multiple methods in this study enables me to: (1) give a detailed description about the sexual behaviour of my respondents (2) score respondents into two groups and to ascertain the diverse in-depth insights about the motivations for the use or non use of supportive sexual health resources (3) create a component of methodological research for the study. The fieldwork spanned a period of 6 weeks. The contact periods were from 2nd January – 8th February, 2012. Second contact was made with selected participants following the first contact. Participation in both contacts was voluntary.

3.3 Study population

The study population consists of students from four regular senior high schools situated in Navrongo, aged 15 – 24 years, whose parental home is in the district. An additional private school participated,

but only in the first stage of research (the survey). The four regular schools represented different profiles: boys–only, girls–only, and mixed sex schools. The study population was limited to students whose parental home is in the Kassena-Nankana District (KND) to enable the researcher to obtain parental consent for eligible participants under 18 years (required by the Ministry of Health Ethical Review Committee). In addition to their different profiles, the target schools were chosen for their proximity to the researcher

3.4 Inclusion and exclusion criteria

Only respondents who met the following inclusion criteria where included in the study:

1. Students residing in the Kassena-Nankana District, with a parental home in the Kassena-Nankana District

2. Students from the selected senior high schools

3. Students of the age 15-24 years as on 19th January, 2012

4. Students who gave written informed consent to participate with parent approval for the participation of respondents below 18 years

3.5 Data source

The data for this study were obtained from a field survey and face-to-face in-depth interviews with senior high school students (both described in detail below). The data comprise information on individual student characteristics such as age, sex, religion, ethnicity, highest educational level attained and type of residence. Respondents' knowledge about HIV/AIDS and unwanted pregnancy prevention, supportive sexual health resources and the services provided in the KND was also measured. Finally, the survey and in-depth interview collected data on sexual practices of respondents and their reasons for their engagement or non-engagement of the resources in the district in their sexual health decision making process.

3.6 Sampling procedures and sample size

3.6.1 Quantitative study

Four regular schools and one private school were purposively selected for this study. In three of the regular schools (Notre Dame, Awe, and Navasco), students living in the Kassena-Nankana District were assembled by school authorities (at the suggestion of the school authorities). However, given the sensitive nature of the topic, school authorities were excused. The researcher and the three team members (made up of male and female former fieldworkers of NHRC and a male graduate student from the faculty of Integrated Development Studies of University for Development Studies, Wa compus) introduced themselves, the study and its relevance to young people in the district, and solicited for the 30 voluntary participants. Students were given the chance to ask questions after the introduction of the topic. A good rapport was built with students in the introductory phase and attempts were made to dispel any potential misconception that participants in this study are "bad". The number of students who volunteered to participate were more than the required 30 students targeted in each of these three regular schools.

From all volunteeers, a quota sample based on gender was drawn for Awe and Navasco. However, Notre Dame being male – only school, subjects (30 boys) were selected from all students

volunteering. At the other regular school (O.L.L), a female – only school, the researcher and the other female team member were given permission by the headmistress of the school to visit various forms during free lessons period to introduce the study and seek voluntary participants. Again the number who volunteered to participate was more than the number required. Using stratified random sampling, 7 girls in form one, 5 girls in form two, 10 girls in form three and 8 girls in form four were chosen. At the private school, the team had the chance to address some students. However, it soon became clear that majority of the student population were living outside the KND. 5 eligible students volunteered for interview.

The quantitative dataset contains information on 125 students: 60 females and 65 males. Of the 60 females, 40 respondents fall in the age group 15–19 years and 20 are in the age group 20–24 years. 42 of the males are in the age group 15–19 years and remaining 23 fall in the 20–24 years group.

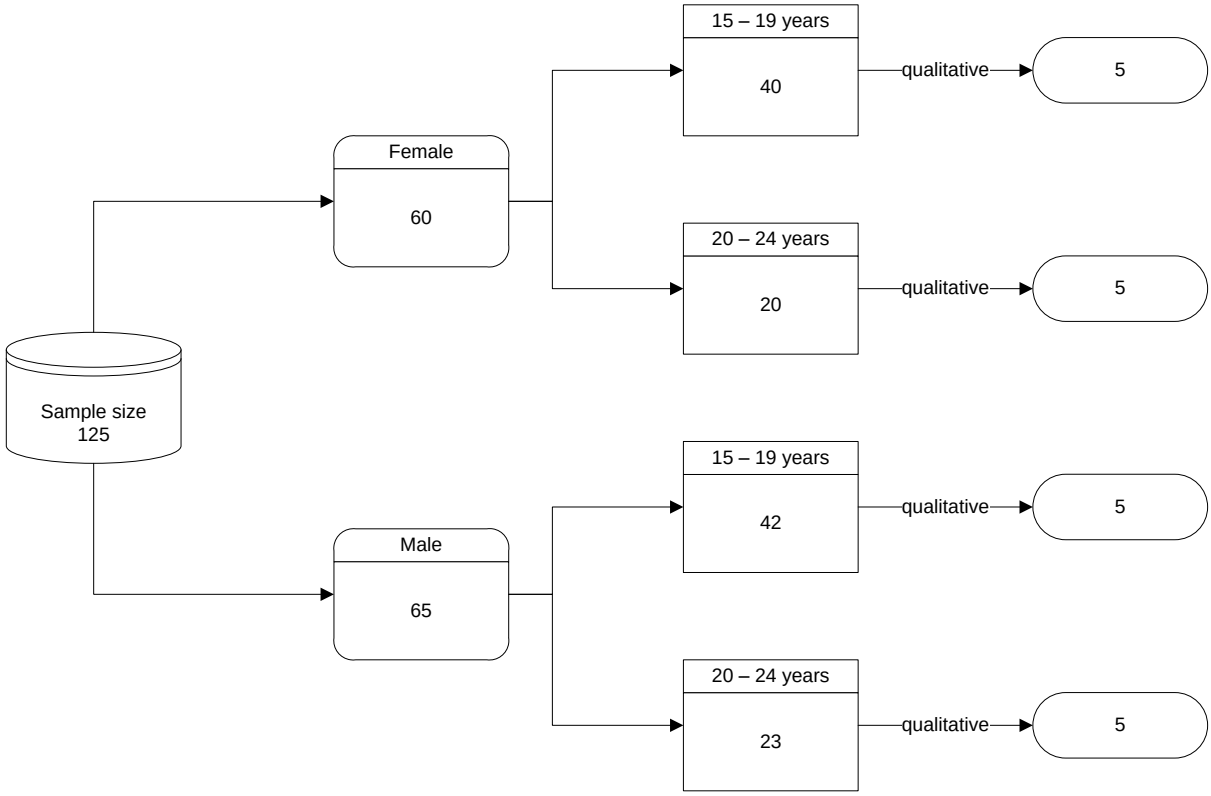


Figure 1: Flow chart of sample variation

The targeted sample size for the study was 125

3.6.2 Qualitative study

Based on responses to the survey, 10 students with a healthy sexual lifestyle and 10 students with a poor sexual lifestyle were randomly selected using selection criteria explained in the rest of this section. The idea is to avoid systematic bias in selecting respondents for the qualitative interviews. To distinguish students with healthy and unhealthy sexual lifestyles, a preliminary analysis was run in the field by a statistician working with the NHRC, using Stata version 12 (StataCorp, 2011). The 125 respondents were scored into two categories: healthy sexual behaviour and poor sexual behaviour scoring their responses to nine items extracted from the completed questionnaire taking into account questions for measuring sexual knowledge, experience, and practice. Three of the items defined knowledge (what sexual health practices are considered healthy, what are the benefits of

practicing them and where can sexual health support be sourced from); three items defined experience (experience in sourcing support from resources, what specific resources, and frequency) and the other three questions defined practice (ever had sex, use of condom, and number of lifetime sexual partners).

For a respondent to score high in knowledge, he/she should be able to mention three of the main methods (ABC) of STIs and unwanted pregnancy prevention, mention two primary benefits of practicing ABC and list parents, teachers and health professionals as sources of sexual health support. For experience, a respondent should have experience in seeking support from parents, teachers or health professionals, and at least on monthly basis. About practice, a respondent is scored high if he/she had never had sex or has had sex but used condom always and had one lifetime sexual partner. For a respondent to score moderate in Knowledge, he/she should be able to answer two of the questions about knowledge. For experience, a respondent should have experience in seeking support from resources at least on yearly basis. No moderate score for practice. For a respondent to score low in knowledge, he/she should fail to answer to any of the questions scoring knowledge or only answer to one of the questions. For experience, a respondent should report no experience with resource use. About practice, a respondent should report ever had sex and no condom use or inconsistent condom use.

Respondent scoring high in each component were defined with a 2, those scoring moderate defined with a 1 and low defined with a 0. All respondents who scored 0 in practice were scored unhealthy irrespective of what scores they had for knowledge and experience. Respondents who scored 2 for practice and 0 for knowledge and experience were also considered unhealthy overall. Respondents scored 0 in all three components were scored unhealthy overall. The combination of all other mutually exclusive scores for the three components were scored healthy overall. For sampling purposes, respondents scoring high (1) were categorised as overall healthy and respondents scoring low (0) were considered as overall unhealthy.

Unprompted responses to the items were considered in scoring the sexual behaviour of respondents because it was observed during the data collection that prompted responses could be leading questions. 45% of the respondents were scored healthy and 55% scored unhealthy. This categorical set of data was extracted to an Excel file as two different sets of data. In Excel, the data sets were sorted based on gender. Data could not be sorted by school because there was no specific variable representing schools. By hand, schools were sorted but still maintained data sets in the order of gender and scores. From the overall healthy sexual lifestyle group and unhealthy sexual lifestyle group, a total of 5 young people were randomly selected from each school. The quotas were defined differently for the different school profile. In each single sex school, 3 respondents were randomly selected from the category (healthy or unhealthy) with the most respondents and 2 respondents from the category with the least respondents. For the mixed schools, the same approach as the single sex schools was used but this time within the categories (healthy or unhealthy), sex of respondents was factored in. Within the category with the most respondents, 2 respondents are drawn from the highest sex group and 1 from the least sex group. Within the category with the least respondents, 1 respondent each was drawn from each sex group. See sample variation by sex and age in figure 1.

It is important to note here that this was a strategy adopted to ensure that the two categories and sex were equally represented given that the 5 is an uneven number.

3.7 Study procedure

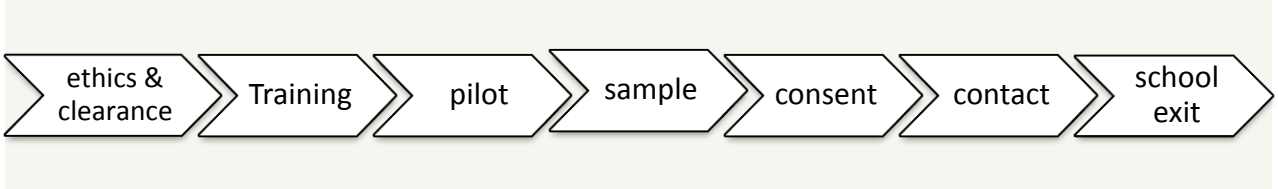


Figure 2: A flow diagram of study procedure

3.7.1 Clearance from selected schools

Formal letters were personally delivered by the researcher on the 06th January, 2012 to school authorities in each selected school, seeking permission for the participation of the schools in the study (Appendix G). Permission was granted by the heads of all the schools involved. In the full boarding schools, the team of interviewers was allowed entrance into school premises between 4:00 PM and 6:00 PM on weekdays, and on Saturdays from 10 AM to 5 PM. For schools that were both boarding and day schools, the interviewers were allowed in the schools during school break hours and after closing. The schools had two break sessions, the first break at 10:15 AM to 10:30 AM and the second at 12:30 PM to 1: 00 PM. The schools closed at 2:30 PM.

3.7.2 Training

Two former fieldworkers (male and female) of the Navrongo Health Research Centre and a graduate student (male) from the faculty of Integrated Development Studies of UDS, who have in-depth knowledge and experience in questionnaire administration, were trained to assist in the survey. Half day training was offered trainees, briefing them on study background, aim, and procedure of study, how to fill in the questionnaire, and ethical issues concerning the study. Training was organized and discussions led by the study researcher facilitated by a prepared brief training guide. The male former fieldworker was also trained and assisted by a statistician at the NHRS to design the data entry screen in an EpiData programme, and conducted the subsequent data entry.

3.7.3 Survey guide and interview guide pre-test

The survey and the interview guide were piloted with no major modifications, by the researcher and the three assisting persons on 8 (6 – survey, 2 – interview) senior high school people living in the Kassena-Nankana District but attending school outside Navrongo Central. Accidental sampling was used to draw these pilot participants. Pilot participants were drawn close to hand.

A major concern in the study prior to the fieldwork was the respondents' ability to understand questions in the tools. This was assessed by rating respondents' understanding of the guide during the pilot by asking respondents what they understood by the questions. This exercise helped in modifying the tool to ensure clarity, consistency, and internal validity of the guide.

3.7.4 Consent

For respondents 15-17 years consent (see Appendix B) from parents or guardians as well as individual consent of the respondent (see Appendix A) were obtained before interview. Respondents above 17 years were contacted and consented independently for participation in the study (See Appendix A).

3.8 Data collection

3.8.1 Quantitative data

All consented young people who met the inclusion criteria were interviewed by either the researcher or a trained assisting person using a structured questionnaire (see Appendix C). The questionnaires are written in the English language, which is the language of instruction in the Ghanaian school system. But outside school, most students speak local languages (Kasem or Nankam). As a result, to facilitate a better understanding of the study and questions, the appropriate spoken local languages (mostly Kasem) were used where necessary for explanation. The questionnaire explored socio-demographic information, knowledge on healthy sexual lifestyle and its benefits, knowledge about available sexual resources in the Kassena Nankana District, use of resources in the sexual decision making process, and sexual activity of respondents. Questions about sexual practices formed the fourth part of the questionnaire, and given the sensitiveness of such questions that part of the guide was self-administered. The rest of the guide was administered face-to-face. Topics addressing knowledge of respondents had multiple response options with provision made for both unprompted and prompted response categories.

The guide constituted exclusively closed-ended questions. This made for less interviewer interpretation and bias, and for easier data capture and analysis. Structured interviews lasted an average of 30 minutes and were designed in such a way that the male interviewer interviewed male respondents and a female interviewer interviewed female respondents. Venues for interviews were mostly school assembly halls, classrooms and outdoors on school grounds.

3.8.2 Qualitative data

Face-to-face in-depth interviews were conducted using a semi-structured interview guide (see Appendix D). The tool was written in the English language. The interview guide explored understanding of sexuality, knowledge about available sexual health resources, resources associated with healthy sexual lifestyle, motivations to manage resources, impact of understanding, ability and access to resources on sexual lifestyle (desire and demand), and challenges.

Semi-structured interviews with survey respondents lasted an average of 45 minutes and were conducted by the researcher who is a female – following a protocol of crossing-over male respondents to female interviewer. Issues like: do you have a boy/girlfriend, have you ever had a boy/girlfriend, have you ever had sex, when you have sex do you use a condom, do you engage supportive sexual resources in sexual decision making process, which resources specifically, how often do you use them, in the standardized questionnaire were repeated in the semi-structured interview guide. The idea behind this protocol approach was to investigate the effect of the sex of the interviewer on the interviewees' response, and the effect of mode of data collection (self-administered questionnaire vs. face-to-face interview), adding a component of methodological research to this study.

The interviews were conducted in the English language and tape recorded with consent from the interviewees. Interviews were mostly held at school premises during school closing hours since the interview duration was longer than school break hours. Notes were taken by the interviewer on the setting and other non-verbal communication and gestures that provide context to the response. Tape recordings will be kept for a maximum of 1 year and then erased.

3.8.3 Methodological considerations on data quality: sex of interviewer and mode effects

Different categories of questions were repeated in the interviews to assess the effect of the two mechanisms adopted in the study. The first category of questions (3 items exploring resource use) were asked by interviewers to interviewees in the structured interview and also repeated in the semi-structured interview to enable a direct comparison of what males said to a male interviewer (in structured interview context) to what they say to a female interviewer (in semi-structured interview context). The second category of questions (4 items exploring sexual activity) were self-administered in the survey due their sensitive nature, but in the semi-structured interview, the questions were openly asked to respondents by the interviewer. This approach was adopted from McCombie and Bowling to explore whether this group of respondents would be indifferent in responses to sensitive questions irrespective of whether the same questions are self-administered or asked face-to-face (Bowling, 2005; McCombie, 2002).

To ensure that respondents understood the questions the same way as in the structured interview, the wording of questions in the questionnaire were maintained in the face-to-face interview (Harris, 2010). Time gap was also minimized (three weeks in between the data collection points) to ensure that respondents could reasonably remember their responses in the survey (Brewer et al., 2004).

3.9 Outcome of interest

The outcome of interest in this study is the sexual behaviour of in-school, young people in the Kassena-Nankana District given available sexual health resources. From the two groups generated from the structured interviews, how supportive sexual health resources are managed was explored.

3.10 Data Management

3.10.1 Quantitative data

Completed questionnaires were cross-checked for completeness, accuracy, and consistency in the field before submission to the data entry clerk for entering. Data were single entered and stored in a database package (EpiData version 3.1). At random, 40 forms were selected and cross-checked with entered data to ensure correctness of data. 10 duplicated forms were discovered and typo errors identified, all of which were corrected in EpiData version 3.1. The data were later exported from EpiData to Stata version 11 for analysis. Range and consistency checks were conducted, and data cleaning done using STATA version 11. Data cleaning included investigating missing values coded as ".", typing mistakes, digits transposed and internal consistency.

3.10.2 Qualitative data

Recorded interviews were transcribed by the student researcher into Microsoft Word keeping transcribed files anonymous as possible. However, a log sheet was created containing numbers that can be used to link each transcribed file to a respondent. This provision is made for the case where a respondent opts for withdrawal from the study. The log sheet is kept confidential. Transcribed files were corrected by reading over files and listening to recordings. The transcribed data files were later saved in Rich Text Format (rtf) and assigned to a project (Hermeneutic Unit) created in ATLAS.ti version 5.0 for analysis. The data (text) were defined into quotations by response to questions and codes assigned.

3.10.3 Methodological considerations on data quality: sex of interviewer and mode effects

After the analysis of the quantitative and qualitative data sets, interviewees' responses to the repeated questions in the semi-structured interviews were aggregated into the survey data set by generating new variables for each question. Consistency rating of responses was done by mathematically comparing and converting identical responses by a respondent to an item as 1 and un-identical responses to an item as 0.

3.11 Independent variables measured in study

The following independent variables were measured in the survey:
Sex of respondent: A dummy variable "male" was created, with male (1) or female (0).
Age of respondent: Exact age of the respondent at last birthday was recorded. In order to make meaningful comparisons, age was collapsed into a dummy variable, with 15–19 years (0) or 20–24 years (1). Religion: Religious affiliation and denomination of respondents was asked. Based on that, religion as a nominal variable was created, with values Catholic, Presbyterian/Methodist, Seventh Day Adventist (S.D.A), Pentecostal, Moslem and other. Area of residence: Details were collected about those who resided in a surrounding rural community and those living in town. Based on that, residence as a nominal variable was created, with in surrounding rural community (0) or in town (1). Ethnicity: Details about which ethnic group respondents belong were collected. Based on that, ethnicity as a nominal variable was created, Kassena (0) or Nankana (1) or other (2). Highest grade attained in school: respondent's highest grade attained in school was asked. Based on this, highest grade as an ordinal variable was generated and examined with a series of dummy variables.

Background characteristics of respondents which are of interest in analysing the in-depth interviews are also described below:

Sex of respondents: Transcribed files contained sex of respondent. Families of documents were created with this variable, male or female. Sexual behaviour: Healthy or unhealthy sexual lifestyle group was listed in transcribed files.

Families-of-documents were created with this variable, health or unhealthy. The two families of document were later merged to generate a total of four families of document – male healthy, male unhealthy, female healthy and female unhealthy.

3.12 Strengths and limitations of the study

The first potential limitation is the pragmatic approach to selection of respondents employed in this study. Only senior high schools situated in the Navrongo central were involved in this study. This presents a challenge in the generalizability of the findings to the district. Additionally, the study sample was not randomly selected from the population of senior high school students in Navrongo, which also undermines the external validity of the study. Second, under-reporting or over-reporting of sexual activity can also be an issue in this study (social desirability bias). Respondents may under-report their sexual activities due to stigma or over-report sexual activities to give an impression about themselves. However, building of rapport, assurance of confidentiality and appealing for respondents honesty were methods adopted to minimize this potential bias.

A strength of the data is that it provides on the ground information of what prevents or encourages open forms of sexual communication with resources. The study also has a diverse type of data on what is probably an understudied population in the district.

3.13 Data analyses

3.13.1 Quantitative analysis

I analysed data from the field survey to: 1) describe perceptions of the sexual health resources available in the Kassena-Nankana District. This helps to answer the research question how available are supportive sexual health resources for young people and what these resources are "RQ3". 2) Outline the sources used in the decision making process. This topic helps to understand if respondents differed in what they reported as preferred resources and the resources they reported used in their sexual decision making. This paved way to explore in detail the research question regarding what motivates young people's desire and demand for supportive sexual health resources "RQ4". 3) Describe the characteristics of respondents who have ever had sex (vs. not). This will help to understand whether certain characteristics are associated with young people initiating sexual intercourse. 4) Define sources perceived as supportive (or trusted) sources and characteristics of the survey respondents**.** This also answers the research question what do young people perceive as resources supportive of sexual health "RQ2".

3.13.1.1 Data

Based on interviewers feedback during the data collection phase, it was concluded that the prompted questions could be leading questions. Given that, only the unprompted response categories in the close ended interview were considered in the quantitative data analysis. All statistics presented in this report were calculated using Stata version 11 (StataCorp 2009). .

3.13.1.2 Characteristics of respondents having had sex

An outcome model (dichotomous) was fitted to test the relationship between the likelihood that a respondent ever had sex and age, gender, level attained at school, school housing status and area of residence, controlling for all other factors by conducting binary logistic regression.

3.13.1.3 Trusted resources

To answer the research question what young people perceive as resources supportive of sexual health, self-reported sources perceived as resources that can really provide sexual health services for young people in the KND are computed for age and gender. Difference in the reported trusted sources and the reported existing resources are highlighted to make an indication whether is there is a gap between existing sources and sources trusted by the survey sample.

3.13.1.4 Resources engaged by respondents in sexual decision making

Self-reported supportive sexual health resources used for decision making are collapsed and coded into three resource categories for multinomial logistic regression analysis: 1) no sources, 2) media, peers, youth club, religion, and/or parents exclusively (without school or healthcare professionals), 3) school (without healthcare professionals, with or without sources listed in categories two), and 4) healthcare professionals, with or without sources listed in categories two or three. Media as a resource refers to sexual health education or support given on the radio, television, internet, folk media, and newspaper. Peers or youth club as resources refer to discussing sexual health issues with friends either at school or at home, or receiving peer education at student youth association to make sexual health decisions. Religious teachings or discussions about sex and abstinence with religious

leaders are identified as a religious sexual health resource. Healthcare as a sexual health resource refers to health professionals reaching young people with sexual health education, information, skills, free distributions of condoms, and counselling. Parents as resources refer to mother, father or guardian opening up to discussing sexual health issues.

Using a similar approach to Buckley et al., (2004), the hierarchical scheme used in constructing the outcome variables for a multinomial model is based on best/most accurate knowledge resources. In the analysis, respondents who did not report using any resources are the base category. The base category is compared with a) those reporting media, peers, youth club, religious institutions, or parents as sources, b) those reporting school (with or without parents/religion/peers/youth club/media) and c) those reporting healthcare (with or without school/parents/religion/peers /youth club/media).[i]

3.13.2 Qualitative analysis

I analysed data from 20 face-to-face interviews to: 1) describe in-depth young people's understanding about sexuality which answers the "RQ1". 2) Describe the perceived accessibility of sexual health sources, motivations for the use or non-use of the sources which helps to address the "RQ4". 3) Outline the qualities or behaviours young people expect to see in a resource to access support, answering "RQ5". Relevant information or text from the transcribed files needed to determine the outcome variable were coded using free codes created from a top-down code scheme (theory approach) and open coding (bottom-up or intuitive approach). Motivations (or barriers) for the use of sources were determined by conducting a thematic content analysis on data, identifying key themes.

Consideration in generating qualitative data codes

- I considered concepts emphasised in my research questions. I.e. understanding of sexuality, motivation for use or non-use of existing sources. These concepts were derived from the study adapted theory.

- I considered the type of information relevant in answering my research questions (based on theory); a top-down code scheme (see Appendix E) was made during proposal phase and refined after data collection. However, during assigning pre-defined codes to quotations more codes were made as the emerged in the transcribed documents and seemed relevant (i.e. bottom-up coding or intuitive).

3.14 Methodological considerations on data quality: sex of interviewer and mode effects

Data was analysed comparing responses of the 20 respondents in the qualitative study to the nine questions repeated in both the quantitative and qualitative study to: 1) Understand if the sex of interviewer affects the interviewee's response to questions about personal sexual issues among adolescents in rural Ghana "RQ6". 2) Understand the effect of change in the mode of interviews in this research and geographic context "RQ7".

3.15 Ethical Approval

Ethical approval was obtained from the Social Sciences Ethical Committee of Wageningen University and Research Centre and the Ghana Health Service Ethical Review Committee (Protocol ID Number: GHS-ERC 15/01/2012, see APPENDIX F). Clearance was given by heads of schools for the participation of students.

3.16 Confidentiality of Data

All forms of media containing information given by participants are secured with access limited to the researcher, the local supervisor, and the main study supervisor for the purpose of the study. Completed forms are kept safe under key and lock; audio recordings are stored in the student researcher's personal laptop under lock with a password. All recordings for the purpose of the study will be erased one year after analysis. The presentation of results will contain no information that can be associated with a particular respondent or linked to a specific participating school.

CHAPTER FOUR

4.0 Results

The results of the study are divided into three sections. Quantitative results from the survey are discussed first, followed by qualitative results from the in-depth interviews. The third part of this chapter presents both quantitative and qualitative results. This part of the analysis evaluates the methods applied in this study – the effect of cross – matching the sex of the interviewer on the interviewee response and the variation in mode of data collection.

4.1 Quantitative

This part of the chapter presents the quantitative results. The analyses are presented in five parts: The first part of the quantitative analysis describes the demographic characteristics of the survey sample. The second part examines the characteristics of respondents who have ever had sex (vs. not). The third part describes respondents' perceptions of sexual health sources available in the district. Resources reported as perceived trusted sources are also investigated in the fourth part. The fifth part explores resources used in practice by the survey respondents in sexual decisions making process.

4.1.1 Characteristics of respondents

Table 1 shows percentage distribution of the survey sample of 125 students by demographic characteristics. The proportion male (.52) is slightly higher than the proportion female (.48). Regarding the distribution of respondents by age group, the majority of the sample consisted of those within the ages 15–19. The percentage of respondents living in the surrounding rural communities is much higher (66.4%) compared to the percentage living in town, which can be expected because the majority of the population in this district reside in the surrounding rural communities. In terms of religion, the proportion of respondents reporting Catholic affiliation (.65) constitutes the majority in the study sample. Almost all respondents were single at the time of the survey.

The proportion of Kassenas (.66) included in the study was larger than the other ethnic groups; 20.8% Nankanas, and 12.8% of other ethnic groups residing in the district. However, for the distribution of ethnicity by gender, Kassenas make up 85.0% of the female sample and only 49.0% of the male sample, perhaps suggesting that more Kassena females are in school compared to Nankana and other ethnic females. On the other hand it may indicate that Nankana and other ethnic females were less eager to participate in this voluntary study.

The distribution of the sample according to highest level attained at school indicates that 41.6% of the respondents were in form three while the rest of the sample were in form one (12.80%), form two (19.20%) and form four (26.40%) at the time of the survey.

Table 1. **Percentage distribution of In-school young people ages 15–24 years by demographic characteristics, 2012 (N=125)**

Characteristic	Frequency	%	Mean	Std. Dev.*
Sex of respondent				
Male	65	52.0		
Female	60	48.0		
Age of respondent				
15 – 19 years	82	65.6		
20 – 24 years	43	34.4		
Age as a continuous variable			19.0	1.853
Marital status of respondent				
Single	124	99.2		
Living with partner (not married)	1	0.8		
Area of residence				
Surrounding rural community	82	66.4		
In town	42	33.6		
Religion				
Catholic	81	64.8		
Presbyterian/Methodist	3	2.4		
S.D.A	1	0.8		
Pentecostal	24	19.2		
Moslem	7	5.6		
Other	9	7.2		
Ethnicity				
Kassena	83	66.4		
Nankani	26	20.8		
Other[a]	16	12.8		
Highest level attained at school				
Form 1	16	12.8		
Form 2	24	19.2		
Form 3	52	41.6		
Form 4	33	26.4		

Source: January – February, 2012 Field survey among senior high school students in the Kassena-Nankana District. * = Standard deviation shows how much variations exist around the means reported. Standard deviation of 1.853 for the mean age of 19.0 shows 1.853 variation of the mean age. [a]= Bulsa, Frafra, Dagaati, Talensi, Kusasi, Mole Dargwani ethnic groups settled in the district.

4.1.2.1 Binary logistic regression

Table 2 represents outcome of a logistic regression predicting ever had sex among study respondents. For a male, the odds of ever having had sex are 9% lower than the odds for a female of ever having had sex, holding all other variables constant. The odds of ever had sex is 5.72 times higher for older age than for younger age. This indicates that 20–24 year-old respondents are more likely to have had sex compared to respondents aged 15–19 years. Compared to boarding students

the odds of having had sex is smaller (9%) for day students. In terms of highest level attained at school, the odds of having had sex are higher for those who have attained levels three and four compared to those who attained level one. For a respondents living in town, the odds of ever had sex are 27% lower than the odds for those living in rural area.

The results are indicative that gender and school housing status have a modest effect on the odds of ever had sex among the respondents. Age and to a lesser degree area of residence of parents, have a substantive effect on ever had sex relative to never had sex for this sample.

Table 2. **Logistic regression predicting ever had sex among in-school young people ages 15–24 years, 2012 (N=125)**

	Ever had sex	
	Odds Ratio	SE (OR)
Gender:		
Male	0.907	0.325
Age:		
20 – 24	5.72	2.446
School housing status:		
Day	0.910	0.339
Highest level attained at school:		
Two	1.087	0.707
Three	1.621	0.934
Four	1.210	0.741
Area of residence:		
In town	0.732	0.278

Source: January – February, 2012 Field survey among senior high school students in the Kassena-Nankana District. The regression results are displayed in terms of odds ratio (OR). Outcome variable (ever had sex) coded as 1 for ever had and 0 for never had sex. Predicting variables: (Gender) coded female as 0 and male coded as 1; (Age) 15–19 coded as 0 and 20–24 coded as 1; (Highest level attained at school) coded form one as 0, form two as 1, form three as 2 and form four as 3; (School housing status) coded boarding as 0 and day as 1; (Area of residence) coded living in rural communities as 0 and in town coded as 1.

4.1.3 Available sources of sexual health service to young people

Table 3 presents data on sources where young people reported sexual health services can be accessed in the KND. School, parents and health professionals are the key reported sources of sexual health services, with more than 70% of males and females in all age groups listing schools and parents, and more than 60% listing health professionals. Youth clubs, newspaper, folk media, and internet are the least frequently reported sources among all groups. This is an indication that these public sources may either not be accessible to this group of people or the sources are underutilized sources in sexual and reproductive health education of young people. There were no differences between younger male and older male respondents reporting religion as a source of sexual health services in the district. However, among the female sample, 32.5% of female ages 15–19 years reported religion as a source compared to 55.0% of female ages 20–24 years. Schools, parents and health professionals were constantly measured more often by older students. Approximately 60–

65% of females in this sample reported peers as a source. However, 78% of older males mentioned peers as a source compared to less than 55% of younger males. This may indicate that friends are an important source of sexual health information, especially among older males.

The results suggest that schools, parents, healthcare unit/professionals, television, radio and peers are the major perceived sources existing in the district where sexual health services can be received by young people. Additionally, the results show that each of these sources is widely known by more than half of all sub-groups of the survey sample except for sources like radio and television.

Table 3. **Percentages of respondents reporting existing sources of sexual health services in the KND by age and gender among in-school young people ages 15–24, 2012 (N=125)**

	Male		Female	
	15 – 19 (42)	20 – 24 (23)	15 – 19 (40)	20 – 24 (20)
Schools	73.8	100.0	72.5	95.0
Parents	69.1	82.6	75.0	85.0
Peers	54.8	78.3	65.0	60.0
Health professionals	61.9	91.3	72.5	75.0
Internet	38.1	39.1	27.5	25.0
Television	52.3	56.5	47.5	50.0
Radio	57.1	65.2	62.5	30.0
Folk media	28.6	21.7	12.5	10.0
News paper	40.5	39.1	20.0	10.0
Religion	40.5	43.5	32.5	55.0
Youth club	7.1	21.7	15.0	20.0

Source: January – February, 2012 Field survey among senior high school students in the Kassena-Nankana District.

4.1.3.1 Number of sources self-reported

From the wide range of sources reported by young people, I examined whether the number of sources reported differed by selected demographic characteristics. The details of this analysis are presented in table 4.

The results show that all survey respondents were able to report at least one source of sexual health services existing in the Kassena-Nankana District.

More than 90% of respondents aged 20–24 years were able to report four or more sources of sexual health services existing in the district, while less than 80% of respondents aged 15 – 19 years reported four or more sources. More females reported 4 or more sources with a difference of 11.5 percentage points compared to males. More Nankana (88.5%) reported 4 or more sources, followed closely by the Kassena (84.3%), then the other ethnic groups (75.0%). For highest level attained at school, the proportion of respondents reporting 4 or more sources is highest among the form four levels, and lowest in form one. The results are indicative that the selected demographic characteristics are associated with the number of sources a respondent reported, although the majority of students across categories were able to report 4 or more sources.

Table 4. **Percentages of respondents reporting 1, 2, 3, or 4 existing sources of sexual health services in the KND by selected demographic characteristics, among in-school young people ages 15–24, 2012 (N=125)**

	1 Source Reported	2 Sources Reported	3 Sources Reported	4 or More Sources Reported	N
Age:					
15 – 19	2.4	4.9	13.4	79.3	82
20 – 24	0.0	2.3	4.7	93.0	43
Gender:					
Male	3.1	4.6	13.9	78.5	65
Female	0.0	3.3	6.7	90.0	60
Ethnicity:					
Kassena	1.2	3.6	10.8	84.3	83
Nankana	0.0	3.9	7.7	88.5	26
Other ethnicity	6.3	6.3	12.5	75.0	16
Highest level attained at school:					
1	6.3	12.5	25.0	56.3	16
2	0.0	4.2	8.3	83.3	24
3	0.0	1.9	9.6	88.5	52
4	0.0	3.0	6.1	90.9	33
Religion:					
Catholic	2.5	4.9	12.5	80.3	81
Pentecostal	0.0	4.2	4.2	91.7	24
Presby/Methodist[a]	0.0	0.0	20.0	80.0	5
Moslem	0.0	0.0	12.5	87.5	8

Source: January – February, 2012 Field survey among senior high school students in the Kassena-Nankana District. [a]= a combination of Presbyterian/Methodist, Seventh Day Adventist, and traditionalist due to low frequencies.

4.1.4 Trusted sources by young people

It can be said that for young people to engage the existing sources in the district to make voluntary, informed and responsible sexual health decisions, how the resources are perceived and interpreted, and the services provided by these sources play a key role. To investigate if respondents trust different sources of sexual health services for support, Table 5 presents sources of sexual health services reported as trusted sources to young people in the KND by age and gender. From the results, the most frequently listed trusted source by males and females of all age groups is school (above 78% for all groups), followed very closely by parents (above 73%), then health professionals (above 62%). However, among these three most frequently listed trusted sources, males and females aged 15–19 years listed parents more often, compared to males and females ages 20–24 years. The health professional is more frequently mentioned as trusted source by males and females aged 20–24 years compared to males and, especially, females aged 15–19 years. Religion is mentioned as a trusted resource by more than 60% of males and females aged 20–24 while it is trusted as a source by less than 50% of males and females aged 15–19. Internet and other media are less commonly mentioned as trusted less by females of both age groups. However, the least commonly trusted source by most groups (aside from older females) is youth club.

The results indicate that trust of the sources varies by age and gender. However, for the majority of the survey respondents irrespective of age and gender, the school, parents, and the health professional were the most frequently listed trusted sources of sexual health support for young people.

In comparing table 4 to table 6, the results suggest that the key sources reported to exist in the district are also the most frequently listed trusted sources young people would want to seek sexual health support from. The next step is to assess whether young people, given the existence of the sources and the trust they have in them, do engage these resources in interpersonal communication about their sexual lives or if there are other possible inherent obstacles that prevent them from doing so.

Table 5. **Percentages of respondents reporting trusted sources by age and gender among in-school young people ages 15–24, 2012 (N=125)**

	Male		Female	
	15 – 19 (42)	20 – 24 (23)	15 – 19 (40)	20 – 24 (20)
School	78.6	78.3	82.5	80.0
Parents	78.6	73.9	82.5	75.0
Peers	52.4	56.5	60.0	55.0
Health professional	73.8	87.0	62.5	80.0
Internet	54.8	52.2	22.5	20.0
Television	64.3	69.6	50.0	45.0
Radio	69.1	73.9	60.0	35.0
Newspaper	59.5	52.7	32.5	30.0
Religion	45.2	60.9	47.5	65.0
Youth club	42.9	43.5	17.5	45.0

Source: January – February, 2012 Field survey among senior high school students in the Kassena-Nankana District.

4.1.5 Sources accessed in sexual health decision making

Table 6 presents descriptive statistics of use of sexual health resources, using the hierarchical categories described previously. This section is referring to those hierarchical categories, but for readability they are referred to by using the shorthand "school", "health professionals" and "parents". The results show that the proportion of respondents aged 15–19 years who do not use any sources is 9.1% percentage points higher than respondents aged 20–24 who reported no use. However, healthcare professional as a source is reported used by 34.2% of respondents aged 15–19 years compared to 32.6% of respondents aged 20–24 years (although earlier results show that the proportion of respondents aged 20–24 reporting health professional as a trusted source is more than the proportion of respondents aged 15–19 who reported health professional as a trusted source). The results also show little difference between the proportions of younger respondents who used parents compared to older respondents. However, there is a difference between respondents aged 15–19 years (34.2%) who used school and those aged 20–24 years (46.5%). A greater percentage of males (24.6%) report no use of the sources compared to females (10.0%). However, for both males

and females, school is the dominant source used. More females reported the use of parents or religion or peers or media (only) (11.7%), health professionals (35.0%) and school (43.3%) compared to males. Young people living in the surrounding rural community were less likely (14.5%) to report no source use compared to respondents living in town (23.8%), in this sample. Respondents living in the rural community use support from the school (41.0%), followed by the health professional (34.9%) with a substantial minority receiving support from parents or religion or peers or media (P/R/P/M) only.

The results indicate that schools, with or without P/R/P/M, is the major source of sexual health support for most sub-groups. It is clear from the table that not all young people access sexual health support from the existing sources, though the previous table indicate that all young people can list at least one trusted source.

Table 6. **Percentages of respondents reporting hierarchically coded sources used by selected demographic variables among in school young people ages 15–24 years, 2012 (N=125)**

	No reported source use	Parents /Religion/ Peers/ Media only (P/R/P/M)	School (without HP, with or without P/R/P/M)	Health Professional (with or without P/R/P/M/S)	
Ag e:					
15 – 19	20.7	10.9	34.2	34.2	
20 – 24	11.6	9.3	46.5	32.6	
Gender:					
Male	24.6	9.2	33.9	32.3	
Female	10.0	11.7	43.3	35.0	
Ethnicity:					
Kassena	18.1	9.6	37.4	34.9	
Nankana	15.4	11.5	46.2	26.9	
Other	18.8	12.5	31.3	37.5	
Area of residence:					
In town	23.8	11.9	33.3	31.0	
In surrounding rural Community	14.5	9.6	41.0	34.9	
N					125

Source: January – February, 2012 Field survey among senior high school students in the Kassena-Nankana District.

To investigate how survey respondents' characteristics (gender, age, ethnicity, and area of residence) are associated with the variation in the kinds of resources engaged for decision making about their sexual life, a multinomial logistic regression was used to model the hierarchical coded outcome variables – kinds of sources engaged – in which the relative odds of the outcome variable are modelled as a linear combination of the predictor variables. Results from these models are presented in Table 7.

The relative odds of senior high school students using parents/religion/peers/media (P/R/P/M) only, school without health professional (with or without P/R/P/M), and healthcare personnel (with or without P/R/P/M/S) are compared with no reported source used.

Parents or religion or peers or media

Controlling for other variables in the model, young men faced over 20% lower odds than young women for parents, religion, peers or media-only reliance for sexual health support, relative to the odds of using nothing. Students of older age faced over 14% lower odds than younger age for parents, religion, peers or media, relative to the odds of using no source. Rural surrounding community young people faced lower odds for reporting parents or religion or peers or media compared with in-town residence, relative to no source used. Nankanas and other ethnicities faced higher odds than Kassenas for Parents or religion or peers or media, relative to no sources used.

School (with or without parents or religion or peer or media)

Again controlling for other variables in the model, men faced over 21% lower odds than women for using school (with or without parents, religion, peers or media), relative to the odds of using no source. Older people faced approximately 1.4 times higher odds than younger people of using school support for sexual health decision making, relative to no source used. Compared to Kassenas, Nankanas faced increased odds of using school (with or without P/R/P/M) relative to no source use. However, other ethnicities faced lower odds of using school and parents or religion or peer or media, relative to no source used. Living in the rural surrounding community increased the odds of using school support by 1.2 times the same odds for those living in town, relative to using nothing.

Health professionals

Net of controls, those in the older age group and males had only small reductions in odds of seeking health support relative to no use. Compared to Kassena ethnicity, Nankana ethnicity was associated with decreased odds of using health professional support, while those with other ethnicities had increased odds of using health professional support, relative to no use of support. Living in surrounding rural communities faced increased odds of using health professionals.

Table 7. **Multinomial logistic regression predicting sources of sexual health services among in-school young people aged 15–24, 2012 (base category = no source used) [b] (N=125)**

	Parents /Religion/ Peers/ Media	School	Health Professional	
Age:				
20 – 24	0.853	1.360	0.953	
	(0.359)	(0.433)	(0.214)	
Gender:				
Male	0.786	0.783	0.923	
	(0.201)	(0.172)	(0.225)	
Ethnicity:				
Nankana	1.198	1.235	0.771	
	(0.880)	(0.954)	(0.636)	
Other[d]	1.302	0.837	1.394	
	(0.266)	(0.641)	(0.802)	
Area of residence:				
In rural surrounding Community	0.807	1.231	1.126	
	(0.951)	(0.079)	(0.009)	
N				125

Source: January – February, 2012 Field survey among senior high school students in the Kassena-Nankana District. [b]Respondents reporting media or peers or religion or Parents only (combined due to low frequencies), School without health professional (with or without with parents or religion or peer or media), and Health professional (with or without school, parents or religion or peers or media) as sources used for sexual decision making are compared with those reporting no source used. The regression results are displayed in terms of relative risk ratio (rrr) and standard error in parenthesis. [d]= Bulsa, Frafra, Dagaati, Talensi, Kusasi, Mole Dargwani settled in the district. Predicting variables: (Gender) coded female as 0 and male coded as 1; (Age) 15–19 coded as 0 and 20–24 coded as 1; (Area of residence) coded living in town as 0 and in rural surrounding community coded as 1; (Ethnicity) coded Kassena as 0, Nankana as 1 and other as 2.

4.2 Qualitative

The second part of this chapter presents qualitative results. The first part of the analysis outlines respondents' understanding of sexuality, the second part reveals respondents' perception of accessibility of resources and the third part tells the story about what young people perceive as motivational factors or challenges in using existing supportive sexual health resources.

The respondents selected for face-to-face interview constituted 16% (20) of the survey sample, 10 with overall healthy sexual behaviour and 10 with overall unhealthy sexual behaviour. In each category, there were 5 males and 5 females respondents.

4.2.1 Understanding of sexuality

For the vast majority (19 out of the 20 respondents) of the respondents, understanding of sexuality is skewed towards sexual intercourse, which was often referred to as "sex". Other words commonly associated with sexuality were "sleep" and "bed". The orientation of sexual intercourse by this group

of respondents was also limited to heterosexual intercourse, which is not surprising given the context where traditional norms, values and beliefs of a people governs the construction of sexual intercourse. Typical comments made to the question "what is sexuality" by the different types of respondents – healthy male and female vs. unhealthy male and female – include:

> *"I think about someone's feeling or anxiety to have sex or about someone sexual life".* [Female respondent, unhealthy group]
> *"The qualities for a man being able to have sexual relations like sex with the opposite sex".* [Male respondent, unhealthy group]
> *"It as an act where a male and female go to bed"* [Male respondent, healthy group]
> *"The relationship between a boy and a girl, that is having sexual intercourse with the opposite sex".* [Female respondent, healthy group]

One male respondent characterised by an overall unhealthy sexual lifestyle delineated that sexuality is not limited to sexual intercourse between married people but also means to have sex with someone you are not married to.

Additionally, respondents characterised by an overall healthy sexual lifestyle – both males and females – rarely understood sexuality to mean other forms of sexual activity. These respondents reported that sexuality included being very intimate with other parts of the body, not just having sex. This component was, however, missing in the statements made by respondents with overall unhealthy sexual lifestyle.

Satisfaction of sexual feelings, safer sex and adverse sexual outcomes were also common issues raised by the two groups of respondents in explaining what sexuality means in their opinion. Respondents characterised by an overall healthy and unhealthy sexual lifestyle reported sex as an act engaged in to satisfy sexual desires. None of the respondents characterised by an overall unhealthy sexual life style recognised adverse sexual outcomes as part of sexuality. However, respondents characterised by an overall healthy sexual lifestyle acknowledged that sexual intercourse comes with adverse sexual outcomes such as HIV/AIDS and unwanted pregnancy; therefore, they reported the utilisation of protective measures such as condoms and other contraceptives during sex as sexuality. Reproduction was also related to sexuality when it comes to married people. Respondents reported that married couples have sex not just for the fun of it but for procreation purposes. Statements made by respondents revealed that:

> *"Sexuality is an affair between a man and a woman to satisfy their feelings".* [Female respondent, unhealthy group]
> *"It has consequences like getting diseases, pregnancies and those effects".* [Male respondent, healthy group]

The data show that the word "sexuality" is understood by the majority of the respondents irrespective of their sexual lifestyle group and gender (healthy male and female, unhealthy male and female) to mean no more than engaging in heterosexual intercourse to satisfy sexual desires. Healthy respondents are more aware and conscious of the fact that sex involves adverse risk outcomes and therefore consider it important to use prevention methods during the sex. It can be said that the orientation of sexuality of this group of people in a way constructs their sexual behaviour.

On the other hand, none of the respondents related sexuality to physical maturation nor to the need and right to seek sexual health support from supportive resources in their decision making process – like information, advice, counselling.

4.2.2 Accessibility of sexual health resources

To an open question probing how accessible sexual supportive sources are to respondents in the district, healthy and unhealthy males and females mentioned inaccessibility of health professionals as sources of sexual health. One respondent characterised by an overall unhealthy sexual lifestyle reported it this way:

> *"because you can go to a village, my own for instance and there is only one health centre there and the village is very large such that you can even go there and meet a crowd that you will not have the chance to talk to them. And they cannot have enough time to talk to individuals".* [Male respondent, unhealthy group]

This is an indication that health facilities are limited in communities of some of these respondents. Moreover, health professionals available in the existing health facilities may not be enough to serve clientele, especially people needing advice and not medical treatment. As such, these issues pose challenges in accessing healthcare support from health professionals in the district.

Additionally, some healthy and unhealthy males and females were of the view that the health professionals do not recognise their sexual health needs or give much importance to them. They reported infrequent and un-intensive sexual health campaign programmes were being organised in the district for young people. Effective and frequent door-to-door sex education by health professionals to give education, advice, counselling or even distribute condoms was however viewed an important strategy of not only educating young people but making it easy and comfortable for young people to seek support from them. One respondent characterised by an overall healthy sexual lifestyle revealed that:

> "*It is once in a while that they organise programmes and is not like constant and when the organise programmes is not like everybody that gets to attend".* [Female respondent, healthy group]

About parents as a sexual health resource, provision of information or education about sex through parents was reported lacking or rare. Parents are usually seen as ill prepared to discuss sexual issues with their children due to beliefs that to teach children about sexuality is to encourage sexual activity. Both healthy and unhealthy males and females had something to say about parents' unwillingness to discuss sexual health issues. Such parents were reported to only play the rebuking role when they found out their children are involved in sexual activity. Comments made include:

> *"Parents education is not formal because sometimes some people have the intention that when you speak to the child about sex the more the child gets into it especially this place"*. [Female respondents, healthy group]
>
> *"Some parents are reluctant to talk about issues like these to their children because they think you will spoil*". [Male respondent, healthy group]

"*As for the parents, it is 50 50*[2]*. As for my parents they have never talked about something like that with me*". [Female respondent, unhealthy group]

Notwithstanding this, a small minority of the respondents were also of the view that some parents do make time to interact with their children to know about their sexual life. An overall healthy female put it like this:

"For my mother she always sits me down to talk to me about how I am growing up and need to take care of myself because boys will come and try to deceive me". [Female respondent, healthy group]

The distinction between healthy and unhealthy males and females with respect to accessibility of parents is that, whereas some of the healthy males and females reported to have had parents who opened up to discuss sex with them (mostly their mothers), the unhealthy lifestyle respondents do not enjoy that privilege, but they admitted that some parents discuss sexuality with their children. It is therefore important to recognise these variations in accessibility of parents as a source of sexual health support and how this can affect sexual behaviour of the respondents.

The school as a source of sexual and reproductive health education and communication was reported the most active source in the district by respondents. All respondents agreed that sexual health related issues are incorporated into school curriculum and taught in the classroom. Efforts are also made by school authorities in organising sexual health talks for students and provisions are made for guardians and counsellors to assist young people with their sexual health needs. More than half of the respondents were of the view that, comparatively, teachers are more comfortable and prepared to teach topics relating to sexuality than parents. Comments made to describe how accessible schools are as a resource of sexual health includes:

"The school helps a lot because most schools in the KND educate people on sexual immorality and we also have programs in the school syllabus which also help people to know their sexual rights so I think the schools in the KND have done a lot. We have guidance and counselling in the schools which when a guy or a girl is facing problems in such a situation can consult for advice". [Male respondent, healthy group]
"*Teacher (s) do not feel shy when they are teaching about reproduction because they want to share with us the knowledge they have acquired".* [Female respondent, unhealthy group]

Religious beliefs surrounding sexual education of young people remains a challenge in the district. According to the respondents (healthy and unhealthy groups) sexual education is not given much attention by religious leaders. Where efforts are made in teaching them, the message is limited to morality in terms of abstinence. However, some of the respondents characterised by an overall healthy sexual lifestyle considered this model (teaching abstinence) the best way to teach young people to avoid adverse sexual outcomes. On the other hand, others (healthy and unhealthy) thought limiting sexual education to abstinence greatly underestimated the complexities of sexual behaviour, and the challenges they face when eventually they are not able to abstain. This prevents

[2] 50 50 is an expression meaning an equal chance of parents opening up or not to discuss issues of sexual and reproductive health with their children

religion from being an appropriate source for some respondents in terms of seeking sexual health support. Common statements made about religion as a sexual health resource include:

> *"It is once in a while they preach about morality and with that it is only those who go for mass who hear it".* [Male respondent, unhealthy group]
> *"And the religious institutions, they are the least because there is no pastor, or reverend father or Imam who will just start talking about sex they consider it to be profane" .* [Female respondent, healthy group]
> "*The religious institutions insist on abstaining from sex but because we can't, we don't use there*". [Female respondent, unhealthy group]

The social media like the internet, television, radio, and the folk media were sources young people perceived can be relied upon for information and guidance about sex and sexual relationships. However, respondents believed that those sources were mostly out of their reach, especially respondents in the boarding house. Respondents reported of the existence of two radio stations (Nabina and URA radio stations), and a television station (GTV) in the district. However, they mentioned that these channels were not vibrant in sexual health education. The internet cafes were also out of reach to respondents due to cost of access according to them. Comments made about the social media include:

> "*We don't have access to those things at school".* [Female respondent, unhealthy group]
> "We don't have these things here; I don't know whether it is because they consider we those here[3] as poor". [Female Respondent, healthy group]
> *"We only have Nabina radio here and they don't normally talk of those things".* [Male respondent, unhealthy group]

Friends as a source of sexual and reproductive health information was a controversial issue for respondents (healthy and unhealthy). Some respondents, especially males characterised by an overall unhealthy sexual lifestyle, found friends as an informal source of sexual health information. They reported feeling more comfortable and freer discussing sexual issues with friends. However, females characterised by an overall unhealthy sexual lifestyle reported not being comfortable opening up to friends about certain issues for the fear of being stigmatised. For the respondents with healthy sexual life style, friends were largely a bad influence on sexual lifestyle, though some of them believed their friends were good in terms of behaviour and would give good advice. Common statements made by respondents include:

> "*I am comfortable discussing issues like this with peers; they listen to me because we do the same thing".* [Male respondent, unhealthy group]
> "*Friends will stigmatize you as if they themselves are not into it*". [Female respondent, unhealthy group]
> "*Some of the peers will encourage you to go in for wrong".* [Young female respondent, healthy group]

From the statements made by the respondents, it is clear that some of the existing resources of sexual health are not easily accessible to some respondents irrespective of their sexual lifestyle due

[3] The Kassena-Nankana district

to a range of barriers. However, parents were more accessible to respondents characterised by an overall healthy sexual lifestyle compared to those characterised by an overall unhealthy sexual lifestyle. It is important therefore to recognise these barriers in accessibility of existing sources by respondents, and how this can affect them in engaging the resources in their sexual decision making process, and its consequences on their sexual behaviour.

4.2.3 Motivators for engaging (vs barriers for not engaging) sources in sexual decision making process

The quantitative data show a high level of awareness among the survey sample about sources that can empower them to take control over their sexual lifestyle in a responsible way. The reported resources perceived as trusted resources are also available, though they vary in terms of accessibility for respondents. The question of what other factors will encourage or hinder young people in engaging these resources in their sexual decision making process in addition to accessibility is important. In this section, I explore the data on other factors aside from accessibility that motivate or hinder respondents characterised by an overall healthy and unhealthy sexual lifestyle to seek support from four of the most frequently listed trusted resources, namely health personnel, teachers, parents, and religion.

4.2.3.1 Self confidence

Self-confidence of respondents to act in the domain of seeking sexual health support from existing resources was reported an influential factor for the engagement or non-engagement of resources in the sexual decision making process by both healthy and unhealthy males and females. Self-confidence was reported to be affected by other realms of respondents' personal life like timidity and courage. Respondents with perceived courage or respondents who do not feel shy to approach the resources on issues relating to sexuality sought support from the resources, compared to those who lack courage or feel shy. Respondents characterised by an overall healthy sexual lifestyle were mostly those who reported self confidence in confiding in parents. However, some of them also reported not being able to engage parents in honest communication about their sexuality. For the school, two male respondents characterised by an overall unhealthy behaviour reported confiding in school teachers, but the rest did not have courage to seek support. Healthy lifestyle respondents mainly reported lack of confidence to seek support from school. Two unhealthy respondents (a male and female) reported self confidence in seeking support from a health professional. However, they noted that they had confidence to confront health professionals when they were faced with an adverse sexual outcome. Respondents attributed shyness or the lack of courage to access sexual health support to the fear of being judged by the sources or arousing suspicion or being stigmatised or embarrassed (i.e. the outcome result of opening up). Respondents also perceived that their upbringing has an influence on their ability to engage resources in sexual discussions. Some of them stated that they have been brought up to believe that sexual issues are in the personal domain and therefore inappropriate to share with other people. Comments made by respondents include:

> "*Some people normally feel shy to go to their parents but I do not feel shy to go to them so sometimes when my friends say things that I am not sure of I will come to my parents to discuss it since they may have some form of knowledge about that*". [Young female, healthy group]
>
> "*Some time like that I was thinking of doing something and I wanted someone to advise me so I said no I have to go to our madam for advice I master courage and I*

went to tell her, she advise me not to do it because it is bad" [Male respondent, unhealthy group]

"Why *I would not use the resources is that, the school for instance I do not have the courage to confront my teacher personally because I know them*". [Male respondents, unhealthy group]

"*I don't have the courage to tell my mother I have a boy friend because she will not trust me again if I tell her*". [Female respondent, healthy group]

4.2.3.2 Personal relationship with sources

The resource-young person relationship can be a motivating factor or a barrier for the use of resources, depending on how positive or negative the relationship between the resources and young people is. The establishment of cordial relationships or socialisation with young people by sexual health resources is central for young people to seek support from sources. Close relationships with parents was associated with positive outcomes for young people to be able to confide in parents, while perceiving parents as harsh in communication with respondents deters respondents from wanting to seek support from them. Respondents characterised by an overall healthy sexual lifestyle report closer relationships with parents and parents who share ideas with them more often, compared to the unhealthy respondents. Positive teacher-student relationships are also important. Unhealthy male respondents reported that teachers who demonstrate respect towards them are those they will trust and confide in for sexual health support. However, healthy respondents would rather avoid communicating sex with teachers they are close with for the fear of giving a wrong impression about themselves. It can therefore be said that teachers perceived as offensive and abusive would scare unhealthy students away from wanting to seek support from them. The same is the case for the health professional. Health professionals maintaining professional rapport, and respecting their clients without being judgmental is fundamental to motivate young people seek support from them. Comments revealing the types of personal relationships mentioned by respondents include:

"*My mother for instance I am free with her so if something should happen about my sexual life I don't feel shy to approach her but my father we are not that close".* [Young female respondent, healthy group]

"*The health professionals are* just *not friendly if you go there it is just like you are a bad girl*". [Young female respondent, healthy group]

"*Because some of the teachers are not friendly and like to insult students".* [Young female respondent, unhealthy group]

4.2.3.3 Perception of seeking support

For respondents to discuss sexuality with the resources also depends on the importance or meaning they give to discussion of sexuality. The belief that seeking support is an effective action for one to take to avoid the risk of sexual outcomes encourages respondents who engage in sexual activities to seek support from the resources. However, respondents tend to avoid communication of sex with resources if they perceive to have sufficient knowledge and information about those things already. Respondents who reported no longer engaging in sexual activity also showed no interest in discussing sexuality. Comments made include:

"*Because I am particular about my life and thinks I need advice to avoid those things I will go there".* [Male respondent, healthy group]
"*I think I am not doing any of those things though I know it will help me but for now I want to forget about those things so that after my school I can think about it".* [Female respondent, unhealthy group]

4.2.4 Qualities of existing resources

4.2.4.1. Knowledge and confidentiality of sources

In analyzing responses to the open question on what qualities respondents look out for in the existing resources, knowledge and level of confidentiality of resources determine whether a respondent would trust a resources or not. The most commonly reported reason had to do with respecting confidentiality of respondents. Both healthy and unhealthy lifestyle respondents are more likely to discuss their sexual issues with resources they perceived to respect confidentiality. Respondents opened up to their parents because of the belief that they will not disclose their information to other people. For the teacher, respondents were of the view that they will seek support from them because teachers are trained to have knowledge and to impact on them and also to respect students' information entrusted in them. For the health professionals, respondents sought support from them because they perceived them to be the people with the best knowledge on sexual health. Common statements made about reasons why respondents seek support from the resources:

"Guidance and counselling coordinator is experienced, and trained to be confidential". [Young female respondent, unhealthy group]
"The health professionals are trained and the best people who can give such education". [Young female respondent, healthy group]

Respondents who perceived that a resource will not respect the confidentiality of their information when they engage them in sexual communication, reported the non-engagement of the support of such resource(s). Both healthy and unhealthy respondents had the same reason for not seeking support from some sources. Comments made include:

"*Sometimes when you confide in the teachers they go to discuss it in the stuff common room and some students hear and leak the information. At our school one of the ladies got pregnant, the students did not know about it but the teachers brought the information out so sometimes it difficult to want to seek support from the teachers".* [Young female respondent, unhealthy group]

To complement this statement, a healthy sexual lifestyle respondent stated that:

"The female staff you will tell them something and the next time you are passing and they are putting fingers at you and some of the male staff. I remember sometime like this we were in class and one of the masters came and was like who is girl A (name kept confidential) and the girl raised her hand and that I have heard about you in the staff common room. She actually did something and they sent it there and were talking about her. That way I can't even go closer and talk to them". [Female respondent, healthy group]

"They will mention what you say to them when preaching in the church". [Female respondent, unhealthy group]

"*If you go to them they (nurses) will brand you as a bad person and the next day your information is in the market*[4]". [Female respondent, healthy group]

From the comments made by respondents, confidentiality and knowledge are important characteristics respondents look out for in existing sources to be able to trust and access support from them in their sexual decision making process.

To sum up this section, it is evident that respondents perceived the existing sexual resources as channels that can play a vital role in their sexual decision making process. However, factors such as ill preparedness of resources to first open up to young people, social expectations, judgment from seeking support or outcome of seeking support, self-confidence of young people, young people's attitude towards seeking sexual health support, confidentiality of information and hostility impact negatively on respondents' ability to utilise resource support.

4.3 Methodological considerations on data quality: sex of interviewer and mode effects

The third part of this chapter presents both quantitative and qualitative results. This part of the analysis investigates the role of the sex of the interviewer and changing mode of data collection on interviewee response.

4.3.1 Effect of sex of the interviewer on interviewee responses

In this experiment, males were the intervention group and females the control group. Males were exposed to a change in gender of interviewer (from male to female) while the females were not exposed to a change in gender of interviewer (consistent female gender) during the interview. However, the experiment is weak because there was no random assignment of subjects to intervention or control group, as there was only one (in-depth) interviewer, a female. Males automatically became the intervention group and females controls. Aside from this the interview context was different – questions asked in the middle of the in-depth interview – although the mode of administration of questions was technically the same.

Consistency of the responses by male and female respondents to a subset of items (three items) addressing sexual health resource related issues is presented in the table 8. These three closed questions were purposively repeated from the survey as part of the semi-structured interview. To determine the magnitude of effect of the sex of the interviewer on the male respondents' responses, responses to the three questions both in the survey and interview were compared and consistency coded as a dummy variable. A value of 1 indicates consistency in responses to all three questions posed in the survey and in-depth interviews and 0 indicates that a respondent did not gave same answers to either one or two or all three questions. The number of males who gave consistent responses to each item was subtracted from the number of females who gave consistent response of the same item. A mean difference of 0 means both male and female respondents gave equally consistent responses. Positive scores mean females were more consistent in their response than males and negative means males (all of whom experienced a change in the gender of the interviewer) were more consistent in their responses than females.

[4] Information in the market means information is being disclosed to other people

As shown in Table 8, sex of the interviewer did not appear to have an effect on the response of the male interviewees. Male respondents were very likely to give the same responses to the female interviewer (in the in-depth interview) as they gave to the male interviewer (in the survey) on items relating to sexual health sources; 9 out of 10 gave consistent responses. Although women were also likely to give consistent responses to these questions at both contact moments, in this sample, 2 of the 10 female respondents to both study phases gave inconsistent responses. For responses to the questions, one male reported "no" in the survey and responded "yes" in the interview to the question "do you have experience with resource use". For the females, one reported "yes" in the survey questions and "no" in the interview to the same question; however, the reverse is true for the other female. The result shows a difference score of -0.1 indicating that 9 out of 10 male respondents were consistent in their responses compared to 8 out of 10 females. During the interviews, male respondents showed signs of boldness, freeness, and interest in discussing topics around sexuality. Comments like:

> *"I would not lie to you I have a girl friend and we have been having sex, sometimes we use condom but when the condom is finished we don't use it. Once in a while we seek advice from the health professional*". [Male respondent, unhealthy group]

Table 8. **Proposition of respondents consistent in responses to items investigating effect of sex of the interviewer on interviewees responses by gender among in school young people ages 15 – 19 years, 2012 (N=20)**

	Male (N=10)	Female (N=10)	difference
Issues relating to SHS[a]	0.9	0.8	-0.1

Source: January – February, 2012 Field survey among senior high school students in the Kassena-Nankana District. [a] responses to closed questions on sexual health sources like do you have experience in accessing support from source, which resources do you access support from and how often do you access support from them were asked in the survey and face-to-face interview. Proportion of respondents consistent in responses to these questions was same, so all three questions merged. Differences are calculated by subtracting the mean score obtained for males respondents from the mean scores obtained for female respondents. Negative difference scores indicate the tendency that males give consistent responses more often than females.

4.3.2 Effect of data collection mode

The effect of the mode of data collection was assessed in interviewee responses to questions relating to their sexual activity. Items under this category were self-administered in the survey, but asked by the interviewer in the face-to-face semi-structured interview. Table 9 presents a difference of -0.2 for the item have a boyfriend indicating that all 10 males interviewed were consistent in their responses irrespective of the mode of data collection, while 8 of the 10 female respondents were consistent. The two female inconsistent in response reported they had boy friend in the survey, but in the face-to-face interview they responded no to the same question. A mean difference of -0.3 was observed between males and females in how consistent they were in their responses to questions on sexual intercourse and condom use. This means that all 10 males were consistent in their responses while 7 females were consistent in their responses. The 3 females with inconsistent responses reported in the survey to have ever had sex and used condom, but in the one-on-one interview, they reported never had sex. It was also observed during the interviews that females felt uncomfortable engaging

in open discussion of sensitive topics about their sexuality – visual signs like avoiding eye contact, bowing down of heads when questions were raised, sighing and laughing were noted – which was quite different from the behaviour of males. It is important to note that the age of the female respondents could be a confounder in the response variation, but the small sample size did not allow for control of this variable in the study design.

Though the results were largely consistent, the data give insight that males and females may differ in responses to same questions depending on how, when, under what conditions and by whom questions are asked. The implication of the difference in inconsistent responses shows that, at least in this sample, females are more likely to admit that they have boyfriend and have ever had sex when they are not openly reporting to an interviewer, compared to when they openly respond to an interviewer.

Table 9. **Proposition of respondents consistent in responses to items investigating effect of mode of data collection on interviewees responses by gender among in school young people ages 15 – 19 years, 2012 (N=20)**

	Male (N=10)	Female (N=10)	Mean difference
Sexual activity[a]:			
Have boyfriend/girlfriend	1	0.8	-0.2
Ever had boyfriend/girlfriend	1	1	0
Ever had sex	1	0.7	-0.3
Used condom	1	0.7	-0.3

Source: January – February, 2012 Field survey among senior high school students in the Kassena-Nankana District. [a]Sexual activity of respondents was originally assessed through a self-administered section of the survey and then repeated in the face-to-face interview to access effect of mode of the data collection. Differences are calculated by subtracting the mean score obtained for males respondents from the mean scores obtained for female respondents. Negative difference scores indicate the tendency that males give consistent responses more often than females.

CHAPTER FIVE

5.0 Discussion

The findings of the study, although they cannot be generalised to the total student population in the district, gives an understanding of preferred sources by young people and some factors that are likely to encourage young people to engage sexual health resources in their sexual health decision making process. Some of the findings affirm what earlier studies observed, however, new findings were yielded as well.

Results answering "RQ1" showed that "sexuality" is understood by the majority of the respondents irrespective of their sexual lifestyle group and gender (healthy male and female, unhealthy male and female) to mean no more than engaging in heterosexual intercourse to satisfy sexual desires. Healthy respondents were more aware and conscious of the fact that sex involves adverse risk outcomes and therefore consider it important to use prevention methods during the sex. About "RQ2", respondents frequently mentioned parents, school teachers, health professionals and religious leaders as their trusted sources of sexual health. However, preference for trusted sources did vary by gender and age. Data on availability and accessibility of supportive sexual health resources for young people (RQ3) showed that existing resources of sexual health are available but not easily accessible to some respondents irrespective of their sexual lifestyle due to some perceived barriers. However, parents were more accessible to respondents characterised by an overall healthy sexual lifestyle compared to those characterised by an overall unhealthy sexual lifestyle. Factors such as ill preparedness of resources to first open up to young people, self confidence of young people, personal relationship with resources, young people's perception about seeking sexual health support determines respondents ability irrespective of the sexual lifestyle to access or not access support from existing resources (RQ4). On quality criteria of resources "RQ5", confidentiality of information was key to this group of respondents.

Young people in the Kassena-Nankana District have the right and a need to information, advice, counselling and other forms of sexual support. Experienced and knowledgeable resources like parents, teachers, health professionals and religious leaders have a responsibility to take on the role to engage young people in honest sexual communication. This statement is warranted by the observations made in the study. The findings show that study participants are not naive when it comes to sex, not even respondents in the lower age group (15 – 19). Out of 82 respondents within that lower age bracket, 36.6% have initiated sexual intercourse with the possibility of the others beginning sex soon. However, 76.7% of the respondents who were within the age group 20 – 24 years had initiated sexual intercourse. It was also observed that not only did these young people engage in sex but practiced unhealthy sexual life style (55%) increasing their exposure to adverse sexual health outcomes. Studies report that sexual experience increases with age with many 20 – 24 year olds turning to have initiated sex compared to 15 – 19 years olds (Pettifor, 2004). As a result, there is the need to empower young people to be able to access sexual health support from existing supportive environment.

The analysis of availability of supportive sexual health resources in the Kassena-Nankana District shows that respondents are not naive of channels of sexual health support but rather they are quite aware of the existence of sexual health sources in the district. Some of the sources mentioned were

parents, school teachers, health professionals, religious leaders, peers, social media and the internet. However, on the issue of trusted or preferred sources, respondents frequently mentioned trusted sources were parents, school teachers, health professionals and religious leaders. Preference for the sources did vary by gender and age. Respondents perceived these sources as sources that can best influence them in their sexual decisions making process and subsequent health outcomes. In a study by Rich et al., (1999), it was noted that students are more likely to believe information from health professionals, parents and teachers because they perceived them as knowledgeable sources of sexual health.

School teachers were the most frequently mentioned trusted source by males and females in the two age groups (15 – 19 & 20 – 24). In practice, school teachers are the dominant proactive sources in the district giving sexual and reproductive health education in the classroom. However, one may be interested in how adequate, effective and efficient teachers are in giving lessons on sexual topics. Evidence says that sex education provided by school teachers is usually inadequate; teachers are described to focus their teachings on discouraging sexual activity without giving in-depth explanation or teaching safe sex (Brown, 2001). This gives an understanding that, though teachers might be proactive resources in sexual health education, what is the direction of their teaching. Future research might investigate further on this issue.

The second frequently mentioned trusted source is parents. Young male and female frequently mentioned parents as trusted sources compared to older males and females. The health professionals were the third most frequently mentioned trusted source. Older males and females (especially female) frequently mentioned health professionals compared to younger males and females. These findings conflict with what was observed in Kampala by Mathias, (1999). In terms of order of preference, Mathias observed that a large majority of secondary school students preferred information on sexuality from health professionals rather than teachers and parents. Religion was the fourth most frequently mentioned trusted source. Again religion as a source was frequently mentioned by older males and females compared to young males and females.

The variation in the preference for resource by age might be attributed to the level of attachment and the feeling of independence of young people. Young males and females may tend to prefer parents more than any other source because at their age, there is usually that closeness between parent and child which leads to respect for parent (Bengsten, 1991). As a result, young male and female are more likely to trust parents and prefer their support. However, as they get older, young people tend to struggle between these attachments and the feeling of independence and would rather want to deal with professionals about their sexual health issue instead of parents (Baxter, 1996; Anderson et al, 2000). Future research is needed to examine these possibilities among young people in Ghanaian context.

In analysing how respondents manage their preferred resource(s) to create health, factors found to motivate or discourage respondents from seeking support from sources were dynamically overlapping. Accessibility of sources is one important issue that determined if respondents sought support or will seek support from resources. Societal myths and social expectations can influence accessibility of sources, and can also influence self confidence of a young person to obtain support. Conversely, personal relationship with resources influences young people's self confidence in sourcing support.

Accessibility of parents as a source differed between respondents characterised by an overall healthy sexual lifestyle and those characterised by an overall unhealthy sexual lifestyle. Previous studies revealed that parents do feel ill-prepared to take on the role, preferring to leave the task to other sources like teachers (Aggleton, 2000; Bankole 2007; Rondini, 2009) though, parents are identified as an important source of sexual support by children (Balding, 1996). In this study, respondents characterised by an overall healthy sexual lifestyle reported to have parents (mostly mothers) who are prepared to openly discuss sexuality with them, and as a result some of these people reported being able to confront parents to ask questions about their sexuality. However, other healthy respondents reported their inability to honestly discuss their sexual activity with parents for the fear of incurring their wrath. The connotation of indulging in sexual activity is a breach of trust to these respondents and as a result they are not able to openly discuss personal sexual activity with parents.

Respondents characterised by an overall unhealthy sexual lifestyle did not report to have parents who openly discussed sex with them. They reported that parents are neither interested in discussing such issues nor prepared to talk about their sexual needs because of societal myths. The idea to confront parents for advice, counselling or anything regarding sexuality was therefore perceived impossible to these people. The result suggests that parents in this district vary in attitude towards sexuality of young people. It therefore calls for further research to investigate the drivers for the variation in parent's attitude towards sex communication. According to Walker (2001) parents' perception of sex education and their experience of sex education clearly influence their provision of sex education to children.

For both the healthy and unhealthy respondents, teachers were accessible – they reported that their teachers were generally not shy to give sex education during class lessons, an observation that conflicted with other findings about teachers. According to Short, (1998), teachers are often embarrassed to broach topics on sex with their classes. Preparedness of teachers in the district to teach sexual health is a plus for teachers in the district. However, is the teaching enough support for young people? About the health professionals and religious leaders as sexual health resources, respondents perceived them as inaccessible when it comes to sexual and reproductive health of young people. This means that a lot more effort is needed from these sources in supporting young people with their sexual health issues. However, it is worth noting, especially with issues relating to sexual health, that the importance or value a young person attaches to sexual health issues will determine how much effort will be made in search of support from the health care unit.

Other major factors that determined whether respondents would seek support from resources had to do with confidentiality of their information. Literature revealed that for the fear of disclosure of information, young people refuse to seek appropriate and timely care for sexual and reproductive health needs (Brown 2001). Both sexually healthy and sexually unhealthy respondents reported they would trust parents more with confidentiality of their information. However, for teachers and health professionals, some respondents felt they could not confide in them for the fear of disclosure of the information. This finding is contrasts with prior findings that young people would learn the facts of life from peers because of lack of trust in parents to keep information confidential (Short, 1998). This is therefore surprising as one might expect respondents to trust teachers and health professionals who are trained to respect the confidentiality of their students and clientele respectively.

Is this perceived attitude about teachers and health professional true? If so, what drives this behaviour? If not, how do students develop such a negative opinion of teachers? Exploring these issues is important in order to inspire trust in this group of young people about the resources and to train the source to respect the confidentiality of young people.

To sum up the discussions on this part, it is worth remarking that these findings are solely perceptions of young people and it would therefore be interesting for future researchers to explore what the resources think can best help young people rely on them for sexual support.

It was observed from the findings of the effect of sex of the interviewer on male interviewee responses (RQ6) that male respondents response to sexual health matters are systemically not related to the sex of the interviewer. This finding is not the first of its kind; Johnson in his study, observed little evidence of the effect of gender of interviewer on interviewee response (Johnson, 1993). However, it is also important to note that this result could be an artefact of other factors like the individual interviewer's attitude (Groves, 1985), and the personal rapport developed with interviewees from the very beginning of the study

For results on the mode of data collection "RQ7" – i.e. changing from self-administration to face-to-face interview on the same sample – little evidence of effect was observed. Note that useful statistical difference could not be established for both experiments given the non-random nature of the sample/assignment. Males (10) were found consistent in response to questions across modes while 7 out 10 females were consistent in responses. It would be premature to conclude that the modes of data collection had an effect on female respondents' responses because of small sample size and design limitations, as well as the fact that, in the experiment on the effect of gender of the interviewer, where female served the controlled group, 8 out of 10 females where consistent in response. It is therefore possible that females are more sensitive to changing responses due to rapport that was built over time between interviewer and interviewees. The findings call on future research to investigate the effect of rapport on interviewees responses to sexual and reproductive health topics.

5.1 Conclusion

The data presented in this report highlight that sexual health preferred resources by young people exist in the Kassena-Nankana District but young people differ in their ability to engage these sources in their sexual decision making process due to inaccessibility of sources discussed above. Young people who are able to create healthy sexual behaviour are more likely to have accessible supportive sources, especially parents who are open minded about issues of sexual and reproductive health of young people. However, some parents are perceived ill prepared to discuss sexuality with their children. Religious leaders are perceived not actively involved in the topic due to religious beliefs. Health professionals in the district are perceived inaccessible and teachers perceived accessible by the majority of the respondents.

The upbringing of a young person informs where she/he will seek sexual health support. A young person is likely to confide in friends because of the relation they share (Short, 1999). The importance of personal relations also applies to parents, teachers, religious leaders and health professionals who in this study are perceived as experienced and preferred sources of this group of people. Resources' ability to look beyond societal myths and beliefs and to take up the task of introducing young people

to honest and open sexual health discussion – not limiting the scope to abstinence – will motivate young people to openly discuss sex.

In summary, the study has helped confirm proposition made in earlier studies, but have also conflicted some earlier findings. This means that scientist must relook into exiting theories about sexual and reproductive health issues of young people. The case of these respondents can also be an example of how resources responsible of assisting young people adopt healthy sexual lifestyle fall short of encouraging sexual communication.

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APPENDIX A

1. Informed Consent Form

Respondent's code: [_] [_]/ [_] [_]/[_][_]/[_][_][_]

Student Researcher: Justina Agula, Bawah's House, CAL 56, Namolo, Navrongo. Mobile - 0242 287 998

Study Title: Managing supportive sexual health resources by in-school young people in the Kassena-Nankana District of rural Ghana

I am asking for your voluntary participation in my thesis project. I hope to learn about decisions around young people's sexual life. You were selected as a potential participant in this study because: you are in the senior high school level; live in the Kassena-Nankana District and fall within the age group 15-24 years.

Please read the following information about the project. If you would like to participate, please sign in the appropriate box below.

Purpose of the project: The study aims to explore the things that will make it easy or difficult for young people in the Kassena-Nankana District to put to use existing supportive sexual health resources.

Fieldwork duration: the study will start on the 2nd of January to the 8th of February 2012.

Study procedure: If you participate, you will be asked to complete a questionnaire with questions on socio-demographic characteristics (i.e. age, sex, ethnicity, religion, name of school, place of residence and parent occupation) and your sexual knowledge, experience and practice. If you agree, you may also be contacted a second time within three weeks for a face-to-face interview for more in-depth information on what supportive sexual health resources can best support you and the factors that determine maximising the potentials of these resources to create healthy sexual behaviour. Each interview will last about 45 minutes or less, and interviews will be tape recorded. The reason is that, it makes easy for us to capture all information you give. Recordings will be stored on my personal laptop under-lock and a password known to me alone. However, recordings will be erased after interviews have been transcribed and coded.

Potential risk of the study: It is possible that certain topics discussed may cause you a bit of discomfort but likely no more than is possible in everyday conversions.

Benefits: I cannot guarantee you will receive any direct benefits from this study; however the information that will be gathered from you will help us make recommendations to the Ghana health service to restructure services tailored for you and other young people your age.

Confidentiality: Any information that will be obtained in connection with this study and that can be identified with you will remain confidential. If you give me your permission by signing this document, findings of the study will be shared with the Ghana Health Service, the chair group of the research methodology and health and society students of Wageningen University and Research Centre, but you will not be identifiable in these findings.

If you have any questions about this study, feel free to ask me or contact:

Local Supervisor	Email Address
Dr. Cornelius Debpuur	CDebpuur@navrongo.mimcom.org
Study Supervisor	Email Address
Dr. Jennifer Barrett	jennifer.barrer@wur.nl

Voluntary Participation:
Participation in this study is completely voluntary. If you decide not to participate there will not be any negative consequences. If you decide to participate, you may stop participating at any time and you may decide not to answer any specific question.

By signing this form I am agreeing that I have read and understood the information above, I have the opportunity to ask questions and questions asked have been answered to my satisfaction. I freely give my consent to participate in this study.

_____ _____

Participant Name: Date and signature:

_____

Participant contact details

_____ _____

Student researcher's Name: Date and signature:

APPENDIX B

1. Parental consent form

Student Researcher: Justina Agula, Bawah's House, CAL 56, Namolo, Navrongo. Mobile - 0242 287 998

Study Title: Managing supportive sexual health resources by in-school young people in the Kassena-Nankana District of rural Ghana

Your son/daughter is invited to participate in a study of what determines how young people in the Kassena-Nankana District put to use existing supportive health resources to create health, especially sexual health.

My name is Justina Agula and I am a second year master's student at Wageningen University and Research Centre in the Netherlands, Department of Health and Society.

This study is to identify supportive environments that young people within the age 15-24 years associate to healthy sexual life style, and to deepen understanding of how health promoters can better influence young people to maximise the potentials of these resources to make positive decisions around their sexual life.

I am asking for permission to include your son/daughter in this study because he/she is in one of the five selected schools in the Kassena-Nankana District participating in this study, and falls within the age group 15-24 years.

I expect to talk with 120 student participants from the five selected schools in the study.

If you allow your child to participate, I or my colleague will contact your child during school break hours- that is, after he/she has given his/her assent to take part in the study- to ask him/her questions on socio-demographic characteristics (i.e. age, sex, religion, ethnicity, parent occupation, and place of residence) and sexual health knowledge, beliefs and practice. Your child may also be contacted a second time within three weeks for a face-to-face interview for information on what he/she consider supportive sexual health resources and what things will make him/her access these resource to make decisions around the sexual lifestyle.

Any information that is obtained in connection with this study and that can be identified with your son/daughter will remain confidential. His or her responses will not be linked to his or her name or your name in any written or verbal report of this research study.

Your decision to allow your son/daughter to participate will not affect your or your child's present or future relationship with your child's school, the Ghana Health Service or Wageningen University. If you have any questions about the study, please ask me. If you have any questions later, please call me at 024 228 7998 or Dr. Cornelius Debpuur at 024 420 4848

If you have any questions or concerns about your (son/daughter)'s participation in this study, please call Dr. Cornelius Debpuur at 024 420 4848

If you agree for your son/daughter to participate in this study, I would like to ask you to kindly sign/thumbprint this form. Your signature/thumbprint below indicates that you have understood what I said to you about the study and you have willingly decided to allow your child to participate in the study. If you later decide at anytime that you wish to withdraw your permission for your son/daughter to participate in the study, simply tell me and I will withdraw him/her from the study.

You may keep a copy of this consent form.

_____
Printed Name of (son/daughter)

_____ _____
Signature/thumbprint of Parent(s) or Legal Guardian Date

_____ _____
Signature of student researcher Date

APPENDIX C

1. Survey guide

Healthy Sexual Behaviour Scoring Tool

Date of Interview: [ ] [ ]/[ ] [ ]/[ ] [ ] **Respondent's code: [_] [_]/[_] [_]/[_][_]/[_][_][_]**

Navasco – NA, Notre Dame – NO, Awe – AW, OLL – OL

Inclusion criteria

A. Is interviewee living in KND? 1. Yes [_] 2. No [_]
B. Is interviewee in a senior high school? 1. Yes [_] 2. No [_]
C. Is interviewee within 15-24 years? 1. Yes [_] 2. No [_]
(DO NOT CONTINUE THE INTERVIEW IF RESPONDENT ANSWERS NO TO ANY OF THE QUESTIONS ABOVE)

1.0 Socio-demographic/Background Information of Student Ent. Code			**Data**
1.1 Sex	1.M 2.F	[_]	SEX
1.2 How old were you at your last birthday?	Code exact age	[_][_]	AGE
1.3 What is your marital Status?	1. Single 2. Married 3. Divorced (**and not remarried or living with partner**) 4. Separated 5.Widow 6. Living with partner (**not married**)	[_]	MAST
1.4 Are you a boarding house student or day student? (***Do not ask this question when recruiting in a day school, it's obvious,***	1. Boarder 2. Day	[_]	

provide answer)			
1.5 What level/form are you in school?	1. Form one 2. Form two 3. Form three 4. Form four	[_]	EDU
1.6 What is your religious denomination?	1. Catholic 2. Presby/Methodist 3. S.D.A 4. Pentecostal 5. Moslem 6. Other: please specify [_____	[_]	REL
1.7 To which ethnic group do you belong?	1. Kassena 2. Nankana 3.Other: please specify [_____	[_]	ETH
1.8 Where is your family house located?	1. In Town 2. In surrounding rural community	[_]	RES
1.9 What is the current occupation of your parent/guardian?	1. None 2. Sales in market 3. Farmer 4. Hairdresser 5. Government employee 6. Other: please specify [_____	[_]	POCU
Additional notes where necessary			

2.0 Knowledge and perception of healthy sexual life style

Questions	**categories**	**Unprompted**	**Prompt for categorise not mentioned by respondent**
2.1 What behaviours do you consider to be a part of a healthy sexual lifestyle? ***For prompting ask: How about? And then mention categories not mentioned by respondent.***	1. To practice safe sex 2. Withdrawal method 3. To have one sex partner 4. Use condom whenever having sex 5. Use other contraceptives when having sex 6. To abstain from sex until marriage 7. Is there anything else: please specify [_____ [_____ [_____ 7. I don't know (**do not ask, allow respondent to mention**) (multiple responses allowed)	[_] [_] [_] [_] [_] [_] [_] [_] [_]	[_] [_] [_] [_] [_] [_] [_] [_] [_]
2.2 What are some of the benefits of practicing a healthy	1. Avoid pregnancies 2. Avoid STDs	[_] [_]	[_] [_]

sexual life style? ***For prompting ask: How about? And then mention categories not mentioned by respondent.***	Please specify [_____ a. HIV/AIDS b. Gonorrhoea c. Syphilis e. other [_____ 3. Avoid abortion 4. avoid mental health problems 5. Is there any other (do not ask for 5 let respondent say): please specify [_____ [_____ 6. I don't know (**do not ask, allow respondent to** mention) (multiple responses allowed)	[_] [_] [_] [_] [_] [_] [_] [_] [_]	[_] [_] [_] [_] [_] [_] [_]
Additional notes where necessary			
3.0 Knowledge and use of available sexual resources			
3.1 Where can someone your age access or receive sexual health services in the KND? **For prompting ask: How about? And then**	1. In-school 2. From parents 3. From Peers 4. From a healthcare facility 5. From the internet 6. From the Television 7. From the Radio 8. From the Folk media (concert)	[_] [_] [_] [_] [_] [_]	[_] [_] [_] [_] [_]

mention categories not mentioned by respondent.	9. from the news paper 10. from religion organizations 11. From youth clubs or groups 12. From the community 13. Is there any other: please specify [_____ [_____ 13. Nowhere (do not ask, allow respondent to mention) 14. I don't know (**do not ask, allow respondent to mention)** (multiple responses allowed)	[_] [_] [_] [_]	[_] [_] [_] [_]
3.2 What services are provided by those sources? ***For prompting ask: How about? And then mention categories not mentioned by respondent.***	1. information 2. knowledge 3. skills 4. contraceptive 5. self confidence 6. advice/counselling 7. Is there any other: Please specify [_____ 8. I don't know (**do not ask, allow respondent to mention**) (multiple responses allowed)	[_] [_] [_] [_] [_] [_] [_]	[_] [_] [_] [_] [_] [_] [_]
3.3 How are the services provided by those sources?	1. organising community forum 2. counselling in consulting room 3. parents call and counsel me 4. talk shows on TV, radio	[_] [_] [_] [_]	[_] [_] [_] [_]

	5. during class lessons 6. Remodelling by friend or sibling 7. public distribution of flyers 8. public distribution of condoms 7. Is there any other: Please specify [_____ [_____	[_] [_] [_]	[_] [_] [_]
3.4 Which resources do you think can really provide sexual health services for young people your age in the KND? ***For prompting ask: How about? And then mention categories not mentioned by respondent.***	1. School education 2. Parental support 3. Peer support 4. Health professional education 5. Information on the Internet 6. Information on Television 7. information on the Radio 8. Information on the Newspaper 9.Counselling in youth associations/clubs 10. Preaching from religion affiliation 11. Is there any other: Please specify [_____ [_____ 12. I don't know (**do not ask, allow respondent to mention)** (multiple responses allowed)	[_] [_] [_] [_] [_] [_] [_] [_] [_] [_]	[_] [_] [_] [_] [_] [_] [_] [_] [_] [_]

3.5 Do you have any experience with the use of any of the things you said promote sexual health?	1. Yes 2. No (If, yes go to Q. 3.5, if no, skip to 4.1)	[_]	
3.6 Which of these things do you use for making decisions about your sexual life? **(*For prompting only, mention options to respondent)***	1. In-school support 2. Parents support 3. Peers support 4. Health care unit 5. Internet 6. Other media 7. Youth association 8. Is there any other: Please specify [_____ (multiple responses allowed) 9. Nothing (**do not ask this, if none of these, skip to 4.1**)	[_] [_] [_] [_] [_] [_] [_] [_]	
3.7 How often do you make use of any of these things?	1. Daily 2. Weekly 3. Monthly 5. Yearly 6. Less Please specify [_____		[_]
3.8 When was the last time you made use of any of these things?	1. Less than a month ago 2. Less than three month ago 3. More than three weeks ago 4. More than a year ago		[_]
4.0 Sexual Practices: self administered question-allow respondent to fill out this section			
4.1 Have you ever had sex?	1. Yes 2. No	[_]	

	(if Yes go to Q.4.2, if No go to Q.4.6)		
4.2. At what age did you first have sexual intercourse?	(**please list the number**)	[_][_]	
4.3 How many lifetime sexual partners have you had?	(**please list the number**)	[_][_]	
4.4 When you have had sex did you use a condom?	1. Yes always 2. Yes sometimes 3. Never	[_]	
4.5 When you have had sex did you use another contraceptive?	1. Always 2. sometimes Please specify which contraceptives [_____ 3. Never	[_]	
4.6 Do you have a boyfriend/girlfriend?	1. Yes 2. No (if Yes skip to Q.4.8, if No go to Q.4.7)	[_]	
4.7. Have you ever had a boyfriend/girl friend?	1. Yes 2. No (If yes go to Q.4.8, If No go to 4.22)	[_]	
4.8 At what age did you start your first boyfriend/girlfriend relationship?	(**please list the exact age**)	[_]	
4.9. Have you ever had sex with your boy/girl friend or a former boy/girl friend?	1. Yes 2. No (If yes go to Q.4.10, if No skip to Q.4.12)	[_]	
4.10 When you have	1. Always	[_]	

had sex with a boy/girlfriend did you use a condom?	2. Sometimes 3. Never		
B4.11 When you have had sex with a boy/girlfriend did you use another contraceptive?	1. Always 2. sometimes **Please specify which contraceptives** [_____ 3. Never	[_]	
4.12 Have you ever had sex with someone who was not your boyfriend/girl friend?	1. Yes 2. No (If yes, go to Q 4.13, If no, skip to Q. 4.15)	[_]	OTHER
4.13 When you have had sex with someone who was not your boy/girlfriend did you use a condom?	1. Always 2. Sometimes 3. Never	[_]	
4.14 When you have had sex with someone who was not your boy/girlfriend did you use another contraceptive?	1. Always 2. Sometimes **Please specify which contraceptives** [_____ [_____ 3. Never	[_]	
4.15 Have you had sex within the last three months?	1. Yes 2. No (If yes, go to 4.16. If no, skip to 4. 18)	[_]	
4.16 Did you use a condom when you had sex within the last three months?	1. Always 2. Sometimes 3. Never	[_]	

4.17. Did you use any other contraceptives when you had sex within the last three months?	1. Always 2. Sometimes **Please specify which contraceptives** [_____ [_____ 3. Never	[_]	
4.18 Have you ever been pregnant/ how you ever impregnated a girl?	1. Yes 2. No (If yes, go to 4.19. If no, skip to 4.22)	[_]	
4.19 How many times have you been pregnant/ how many times have you impregnated a girl?	1. Once 2. Twice 3. More than twice	[_]	
4.20 How did the pregnancy (ies) end?	1. Gave birth 2. Aborted it 3. Had a miscarriage 4. other: **please specify below** [_____	1st pregnancy [_] 2ndpregnancy [_] 3rdpregnancy [_]	
4.21 When was the last pregnancy?	(**Please state the exact year**)	[_][_][_][_]	
4.22 What do you think is the right age for a boy to start having sex?	(**Please list the exact age**)	[_][_]	
4.23 What do you think is the right age for a girl to start having sex?	(**Please list the exact age**)	[_][_]	

Interviewer code: [_] [_]

APPENDIX D

1. Interview guide

1. Tell me about your sexual experience.

- Do you have a boy/girl friend?
- Have you ever had a boy/girl friend?
- Have you ever had sex?
- Did you use a condom whenever you had sex?
- Do you have an experience with use of any sexual health resource?

2. What comes to mind when you hear the word sexuality? (Or what does sexuality mean to you)?

(Open codes for follow-up questions)

How about:

- Sexual satisfaction
- STIs
- Unwanted pregnancies
- Reproduction
- Sexual desires

Available sexual health resources:

(*Sexual health resources are supportive environments that might influence the sexual behaviour of young people positively*)

3. What resources are within the KND that helps you and your peers with issues relating to sexual life?

(Open codes for follow-up questions)

How about:

- Social media (internet, radio, Television)
- Health care units
- School support
- Parents support
- Friends support
- Religious support
- Social support (other family members and community members)

4. What kind of services or support is provided by the resources (probe for each resource) to help you in your sexual life?

(Open codes)

- Provide you with information
- Provide you with skills
- Provide you with self confidence
- Provide condoms
- Provide other contraceptives
- Provide family planning services

5. What will influence you to use (and not use) these resources in your decision making about your sexual life?

(Open codes for follow-up questions)

- They are opened and easy to approach
- They are trustworthy
- Have good communication skills
- Have good human relations/ customer care
- They are available and accessible to me

- Self attitude
- Social acceptability (subjective norms or cultural beliefs)
- Parents encouragement/approval
- Religious approval
- They introduce me to issues of sexuality before I am sexually experienced
- They give me the needed information
- They provide me with the needed skills
- They empower me
- They provide condoms
- The provide other contraceptives
- Perception (perceived benefits)
- Intention
- Perceived control (power, ability, skill, experience)
- Cost
- Time
- Distance
- Lack of fear

6. What resources would you say can best support you make decisions about your sexual life?
7. Are those resources available in the district?
8. What services would you prefer those resources to provide you which you do not get in the KND?
9. How do you think the services can be provided or how would you prefer the services to be provided? (Take resources one after the other and probe for how)
10. At what point in terms of age do you or your peer start to receive sexual health support from existing resources (probe for all resources mentioned)?

(Open codes for follow-up questions)

- Before sexual experience
- After sexual experience

11. What qualities are possessed by these resources (or should be possessed) to make you trust and demand their use?

(Open codes for follow-up questions)

- Confidentiality assurance
- Authenticity of support
- Durability of service provided
- Experience of resource

APPENDIX E

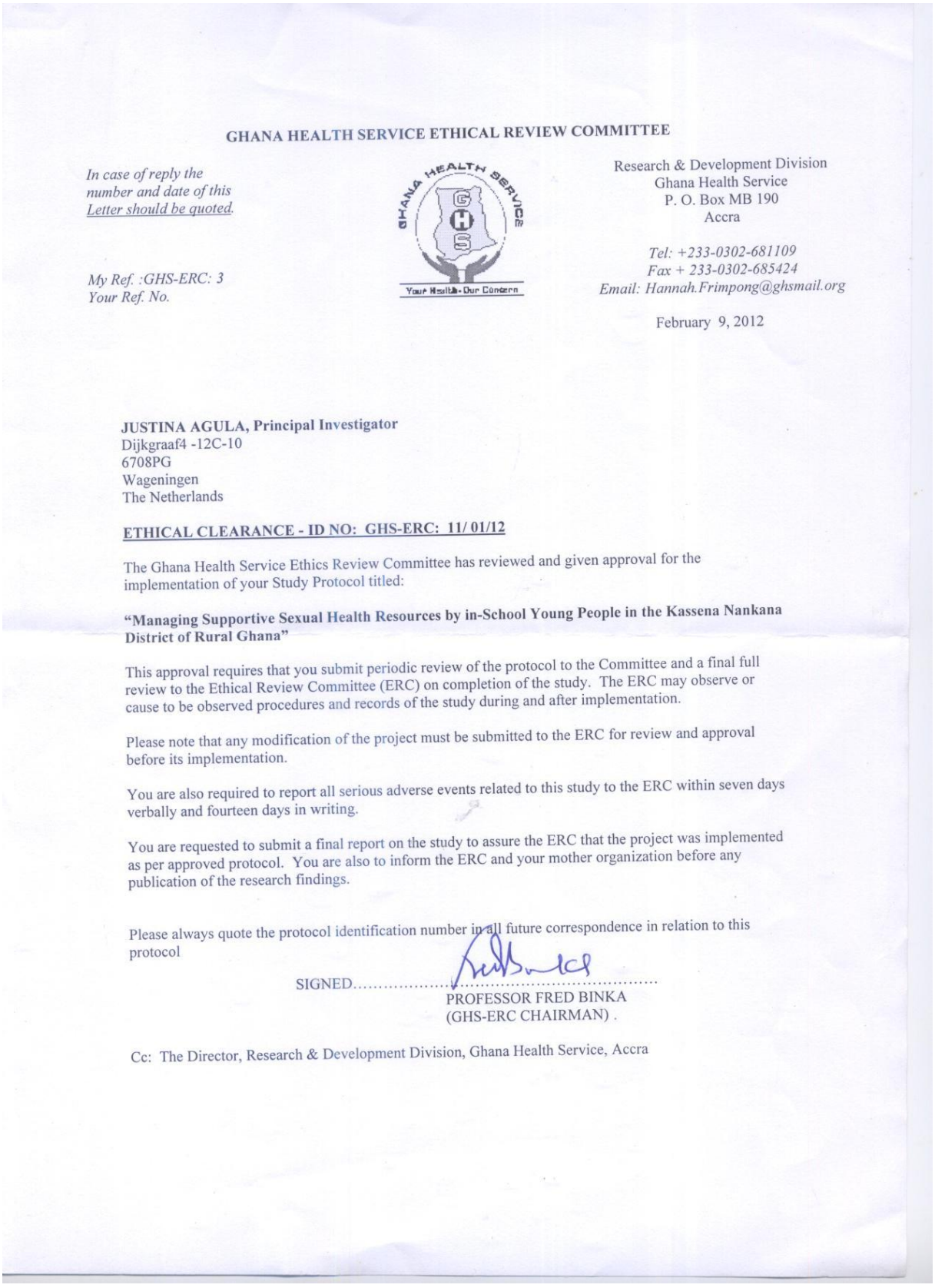
1. Top down code scheme

Part of research question	Codes	Search items
Understanding of sexuality	Sexual activity	Sex, sexual intercourse, sexual satisfaction, boy girl friendship,

		enjoy, boy lay on girl, kissing, fondling, fingering
	STIs	STIs, HIV, AIDS, gonorrhoea, syphilis, herpes, pelvic inflammatory diseases, hepatitis B
	Pregnancy	Pregnancy, unwanted pregnancy, unplanned pregnancy, abortion
	Safer sex	Use condom, abstinence, being faithful, seek support, advice, counselling
Available sexual health resources and trusted sources	Family support	Father, mother, brother, sister, uncle, auntie, cousin
	Social support	Social support, youth clubs, youth associations, rallies,
	Friends support	Friends support, friends at school, friends at home, religious friends, clubs, peers
	Religious support	Religious support, elders, pastors, reverend fathers, leaders, imams, fellowships, camps, service
	Institutional support	Institutional support, Schools, media, social media, folk media,
	Health professional support	Health professional support, doctor, nurse, community health nurse, community volunteers, health centre, health facility, hospital, clinic
Motivation for resource usage	comprehensibility	Understanding , comprehend, knowledge
	manageability	Availability, Accessibility, affordability, ability, confidence, support, help
	meaningfulness	Perceptions, values, thoughts, ideas, attitude, experience
	Social environment	Cultural norms and taboos
Quality assurance of resources	Resource quality	Confidentiality and knowledge

APPENDIX F

1. Ethical approval from GHS Ethical Review Committee



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.

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra

Tel: +233-0302-681109
Fax + 233-0302-685424
Email: Hannah.Frimpong@ghsmail.org

February 9, 2012

JUSTINA AGULA, Principal Investigator
Dijkgraaf4 -12C-10
6708PG
Wageningen
The Netherlands

ETHICAL CLEARANCE - ID NO: GHS-ERC: 11/ 01/12

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

"Managing Supportive Sexual Health Resources by in-School Young People in the Kassena Nankana District of Rural Ghana"

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

APPENDIX G

1. Copy of clearance letter to participating schools

Dijkgraaf4 12B-10
6708PG
Wageningen
The Netherlands
Email: justina.agula@wur.nl
Phone: 0031619796666

The Headmaster

Dear Sir,

SEEKING CLEARANCE FOR THE PARTICIPATION OF YOUR SCHOOL IN A RESEARCH STUDY IN THE KASSENA-NANKANA DISTRICT OF RURAL GHANA

My name is Justina Agula Bawah, a second year Masters' student in Health and Society at Wageningen University and Research Centre in the Netherlands. I am a Ghanaian by citizenship and hail from the Navrongo District of Ghana. As part of the fulfilment for a master's degree at Wageningen University, students are required to carry out research studies (MSc thesis) on real life issues relating to their field of study. Currently, I am in the process of conducting my research study. The study has been thoroughly reviewed and approved by Wageningen University and Research Centre and pending approval by the Ghana Health Service ethics committee.

The aim of the study is to explore the determinants of how in-school young people age 15-24 years in the Kassena-Nankana District of rural Ghana harness availably supportive health resources to create healthy behaviour. Because this is a recognised topic of importance in Ghana currently, my interest is especially in issues linked to sexual health.

Four regular schools and one private school in the Navrongo central have been selected to participate in this study and I am pleased to inform that your noble institution is one of those selected schools. I would therefore like to seek your pre-consent to allow your students, if they choose, to participate in this study during the months of January – February, 2012.

Students will be approached, screened and consent for voluntary participation during school break hours. Consenting participants who will voluntarily agree to participate in the study but fall below 18 years, parental consent will be sought also. 24 students per school will be sample for an interview using a sexual health scoring tool. 4 out of the 24 students will later be contacted for a face-to-face in-depth interview. A maximum of 45 minutes will be spent during each interview session. Students will also be free to withdraw from the study at any time.

No harm shall be caused your school or your students. Volunteer student participants might feel uncomfortable discussing sensitive topics, but no students will be forced to discuss any issue, if they do feel uncomfortable. Confidentiality of information that will be obtained is highly assured.

I would also like to declare that the summary findings will be shared with you at the end of this study through the Ghana Health Service.

I would like to add that if you have any questions or concerns about the content of this letter, you are free to contact either the local supervisor, Dr. Cornelius Debpuur (email: CDebpuur@navrongo.mimcom.org; phone number: 024 420 4848), study supervisor, Dr. Jennifer

Barrett (email: jennifer.barrett@wur.nl; Phone number: 0031317482071) or student researcher (email: justina.agula@wur.nl; phone number: 0242287998).

I have asked that this letter be hand delivered by my brother (Caesar Agula), and at the time your phone number will be asked for a follow up by a phone call.

I think this project is very important, and I very much hope you will give clearance for the study to be contacted in you renowned school. I hope to hear from you.

Thank you

Yours faithfully

Justina Bawah Agula.