

**Factors influencing condom use
among women in rural Ghana:
A cross-sectional survey**

**Martha Ali Abdulai
Ghana**

48th International Course in Health Development
September 19, 2011-September 7, 2012
KIT (Royal Tropical Institute)
Development Policy & Practice/
Vrije Universiteit Amsterdam

Factors influencing condom use among women in rural Ghana: A cross-sectional survey

A thesis submitted in partial fulfilment of the requirement for the degree of Master of Public Health

By

Martha Ali Abdulai
Ghana

Declaration:

Where other people's work has been used (either from a printed source, internet or any other source) this has been carefully acknowledged and referenced in accordance with departmental requirements.

The thesis "Factors influencing condom use among women in rural Ghana: A cross-sectional survey" is my own work.

Signature



48th International Course in Health Development
September 19, 2011-September 7, 2012
KIT (Royal Tropical Institute)
Development Policy & Practice/
Vrije Universiteit. Amsterdam, The Netherlands

September 2012

Organised by:

KIT (Royal Tropical Institute), Development Policy & Practice
Amsterdam. The Netherlands

In co-operation with:

Vrije Universiteit Amsterdam/Free University of Amsterdam (VU),
Amsterdam. The Netherlands

Table of Contents

List of tables	v
List of figures	v
List of appendices	v
List of abbreviations	vi
Acknowledgement	viii
Abstract	ix
Introduction	x
CHAPTER 1: BACKGROUND INFORMATION ON KINTAMPO	1
1.1 Background of Kintampo	1
1.1.1 <i>Geography and Demography</i>	1
1.1.2 <i>Economy</i>	1
1.1.3 <i>Education/Literacy</i>	1
1.1.4 <i>Culture, ethnicity and religion</i>	1
1.1.5 <i>Political situation</i>	2
1.2 HEALTH SYSTEMS	2
1.2.1 <i>Health services delivery</i>	2
1.3 HIV AND AIDS SITUATION IN GHANA	2
1.3.1 <i>HIV Epidemic status</i>	2
1.3.2 <i>Determinants of HIV epidemic</i>	3
1.3.3 <i>National response to HIV AND AIDS</i>	3
1.3.4 <i>National HIV/AIDS and STI Policy</i>	3
1.3.5 <i>Condom distribution strategies in Ghana</i>	4
CHAPTER 2: PROBLEM STATEMENT AND JUSTIFICATION	6
2.1 Problem Statement & Justification	6
2.2 Objectives	6
2.2.1 <i>Overall Objective</i>	6
2.2.2 <i>Specific objectives</i>	7
2.3 Methodology	7
2.3.1 <i>Study population</i>	7
2.3.2 <i>Study Design</i>	7
2.3.3 <i>Sampling method</i>	7
2.3.4 <i>Sample size</i>	8
2.3.5 <i>Ethical consideration</i>	8
2.3.6 <i>Data collection tools</i>	8
2.4 Study limitations	9
2.5 Search strategy	10
2.6 Data analysis	10
2.7 Dissemination	10
CHAPTER 3: LITERATURE REVIEW	11
3.1 Individual factors	11
3.2 Partner related factors	12
3.3 Provider related factors	13
3.4 Environmental factors	13

CHAPTER 4: STUDY RESULTS	17
4.1 Socio-demographic characteristics of women	17
4.2 Quantitative analysis	21
4.3 Qualitative analysis	32
CHAPTER 5: DISCUSSION	40
5.1 Individual factors	40
5.2 Partner-related factors	42
5.3 Provider-related factors.....	43
CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS	45
6.1 Conclusion.....	45
6.2 Recommendations.....	46
REFERENCES.....	49
APPENDIX	53

List of tables

Table 1 A table showing the association of condom use and individual factors.....	23
Table 2 A table showing the association of condom use and partners approval	26
Table 3a Percentage of provider related factors influencing access and use of condoms.....	28
Table 3b A table showing the association of condom use and the socio-demographic characteristics of providers.....	30
Table 4 Table showing association of condom use and all factors that remained in the various multivariate models.....	31

List of figures

Figure1. Condom supply chain in Ghana.....	5
Figure2. Conceptual framework.....	15
Figure3. Pie chart showing distribution of women educational level.....	18
Figure4. Histogram showing the age distribution of women.....	18
Figure5. Pie chart showing distribution of women marital status women	19
Figure6. Pie chart showing religious affiliation of women.....	19
Figure7. Histogram showing the age distribution of women.....	20

List of appendices

Appendix1. Map of Ghana indicating the strategic location of Kintampo	53
Appendix2. Structure of the health sector in Ghana.....	54
Appendix3. Questionnaire.....	55
Appendix4. Focus Group Discussion Guide.....	64
Appendix5. The Profile of women who attend Antenatal clinic at Kintampo.....	65

List of abbreviations

AIDS	Acquired Immune Deficiency Syndrome
AM	Alternate Medicine
ANC	Antenatal clinic
CHPS	Community Health Planning Services
CI	Confidence Interval
DHS	Demographic and Health Survey
DTAM	Department of Traditional & alternate medicine
FGD	Focus group discussion
FH	Faith healers
FSW	Female Sex Worker
GAC	Ghana AIDS Commission
GDHS	Ghana Demographic and Health Survey
GHS	Ghana Health Service
GHSP	Government Hospitals
GRMA	Ghana Registered Midwives Association
GSMF	Ghana Social Marketing Fund
HBM	Health Belief Model
HC	Health centres
HIV	Human Immunodeficiency Virus
HRU	Health Research Unit
IEC	Information Education Communication
KHRC	Kintampo Health Research Centre
KIT	Royal Tropical Institute
MARP	Most At Risk Population
MBP	Mission Based Providers
MCE	Municipal Chief Executive
MDA'S	Ministry Department & Agencies
MOH	Ministry of Health
MSM	Men who have Sex with Men
NACA	National Agency for Control of AIDS
NGO	Non-Governmental Organization
NPP	Non-paying partners
NSF	National Strategic Framework
OR	Odds ratio
PC	Polyclinics
PH	Public Health
PHMHB	Private Hospital & Maternity homes Board
PMDP	Private Medical and Dental Practitioners
PPAG	Planned Parenthood Association Ghana
QGH	Quasi Government Hospital
QSR Nvivo	A data analysis software
STI	Sexually Transmitted Infection
THOSP	Teaching Hospital

TMP	Traditional Medical Providers
UDS	University for Development Studies
UNFPA	United Nations Fund for Population Activities
UNGASS	United Nations General Assembly Special Session

Acknowledgement

My foremost gratitude goes to the Lord almighty for successfully seeing me through the course.

I would like to extend my heartfelt appreciation to my thesis advisor and back stopper who immensely supported me through this undertaking.

To the entire ICHD course management especially course coordinators, I say a big thank you for their massive support.

My profound gratitude goes to NUFFIC for their financial assistance to undertake this course.

I would also like to extend my appreciation to my colleagues of the 48th ICHD from whom I have learnt a lot.

I am deeply indebted to Dr. Frank Baiden who mentored me to undertake this research at the Kintampo health research centre.

My sincere gratitude goes to the director and staff of KHRC for their enormous support of funding my research and also granting me a study leave to undertake this course

My earnest appreciation goes to my family especially my Dad and Mum, Mr and Mrs Nkrumah, friends and loved ones who encouraged me through it all

Lastly, my appreciation goes to the Wesley church of Amsterdam with whom I found a family. God bless us all.

Abstract

Introduction

Correct and consistent condom use remains the most effective way to reduce Sexually Transmitted Infection including HIV. Understanding the predictors of condom use among women and the perceived willingness of their partners to consider condom use, can contribute to the uptake of condoms as an important public health strategy for HIV prevention in rural Ghana.

Methods

This was an exploratory cross-sectional study on condom use among pregnant women in Kintampo of rural Ghana. The study explored the relationship between condom use and individual, partner and provider-related factors using both qualitative and quantitative methods.

Results

An increase in the level of education increased with the increasing odds of condom use. Number of children (More than one child (OR=0.1, 95% CI 0.07-0.30), partners approval (OR=0.3, 95% CI 0.01-0.05), ability to ask partner for HIV testing (OR=0.5, 95% CI 0.27-0.79), religion (Christians OR=2.1, 95% CI 1.22-3.69), occupation, perceived threat to get another wife (OR=11, 95% CI 1.13-105), type of provider (chemical shop/pharmacy OR=0.2, 95%CI 0.006-0.47, provision shop OR=1.1, 95%CI 0.03-0.47) and provider characteristics (age OR=0.1 95%CI 0.07-0.28, sex OR=2.6, 95%CI1.73-4.03) were associated with condom use. Qualitative results indicated unwillingness to use condoms was associated with sexual pleasure, mistrust and provider characteristics.

Conclusion

This study emphasises the need to empower women through education to increase their self-assertiveness to view condom use as a shared responsibility of both partners.

Recommendation

Condom promotion programs should target women and their partners in rural areas since their partners exert great influence on the decision to use condoms.

Keywords: Condom use , women, partner, rural, Ghana.

Word count: 12,693

Introduction

After my first degree at the University for Development Studies (UDS), Tamale, in 2007, I was posted to the Kintampo Health Research Centre (KHRC); one of three research centres under the Health Research Unit (HRU) of the Ghana Health Service (GHS) as a national service personnel working as a research assistant. A year after service, I was employed as a research officer at KHRC where I have been working till date. As part of the centre's objective of harnessing young scientist to initiate and commission research the KHRC launched a call for proposals dubbed 'Directors small grants Initiative'. I submitted a proposal on microbicide acceptability among pregnant women in line with my research interest on HIV and AIDS which was selected among a few others.

As part of the microbicide studies data was collected on the use of condoms which by far is the most effective method in HIV prevention. Condom use and factors that influence its use is very important due to a marked difference in urban and rural areas. As such, it became very important that existing HIV prevention strategies that sought to promote safer sex, studies the factors that fuel this disparity. The lessons learned from this study could enhance the promotion and social marketing of condoms in rural settings. Against this backdrop this study sought to determine factors influencing condom use among women attending antenatal clinic at Kintampo in order to provide recommendations to address issues related to condom use in rural Ghana. Having had the opportunity to study at the Royal Tropical Institute (KIT) I have been endowed with a better understanding of the principles of Public Health (PH) which puts me in a better position to contribute to HIV research in Ghana to inform policy. This thesis contains six chapters. Chapter one presents the background information on Kintampo municipality, chapter two looks at the problem statement and justification, objectives and methodology. Chapter three presents the literature on condom use in Ghana and elsewhere.

In chapter four the findings of the study would be presented, chapter five gives a clear discussion of the study results upon which conclusions are drawn and appropriate recommendations made in chapter six.

CHAPTER 1: BACKGROUND INFORMATION ON KINTAMPO

This chapter gives a brief background of Kintampo, HIV and AIDS situation and the health system of Ghana.

1.1 Background of Kintampo

1.1.1 Geography and Demography

Ghana is a West African country that is bounded by Togo, Burkina Faso, and Coted'Ivoire to the east, north and west respectively and the Gulf of Guinea to the south. Ghana's population is about twenty four million with 62.6% living in rural areas¹. Situated in the centre of the country is Kintampo, the administrative capital of the Kintampo North Municipality in the Brong Ahafo region. Geographically Kintampo is best referred to as the middle of Ghana. This is because the geographical mid-point of the country can be located within Kintampo as illustrated in **appendix 1**.^{1, 2} This makes the municipality a hub of various activities since it is a transitory stop over for commercial haulage travelling to neighbouring countries. Kintampo Municipal has a population of about 96,358; 73.1% of whom live in rural areas and 26.9% live in a Kintampo, the only urban part of the municipality. It covers a land area of 5,108 square kilometres.³

1.1.2 Economy

Most of the municipality is rural, with farming being the major occupation. A substantial proportion of the population in Kintampo are migrants from different parts of the country. About 5% of the population live below poverty line compared to a national average of 7.4%.¹

1.1.3 Education/Literacy

The municipality has a low standard of education owing to the fact that, about 47 percent of the school-age population stopped schooling after primary and 45 percent after junior secondary/middle school. Overall the literacy rate in Kintampo is about 58.4 percent compared to the national rate of 67 percent.¹

1.1.4 Culture, ethnicity and religion

The main ethnic groups in Kintampo are the Mo's and Bono's from the south. Other tribes that are fairly well-represented are the Dagombas and the Frafras from the north, and other Akan tribes from the south of the country.⁴ The religion that is predominantly followed is Christianity; Christians represent sixty percent (60%) of the general population, about thirty percent (30%) Muslims and close to 8% of the population follow the traditional religion. Religion and ethnicity are closely related. People from the South are predominantly Christians, whilst those from the North are mainly Muslims. The society within

Kintampo is male-dominated and considered highly patriarchal especially among the northern tribes. The man is heralded as the head of the household upon whom almost all decision depends.^{1, 5}

1.1.5 Political situation

Kintampo is governed by the municipal assembly, a decentralised structure of the Ministry of local government under the leadership of the Municipal Chief Executive (MCE). There are a number of chiefs representing the various ethnic groups in Kintampo.

1.2 HEALTH SYSTEMS

1.2.1 Health services delivery

Ghana Health Service (GHS) is the execution arm under the ministry of health (MOH), administratively it is classified in three levels (national, regional and district) but at five levels functionally; national, regional and district, sub-district and community levels. GHS has facilities across all 170 districts and municipalities in Ghana and delivers most of the health care needs of the population. It is worth mentioning that in addition to GHS, other Mission based providers (MBP), private, traditional and quasi institutions also provide care to the populace. A quasi institution provides health services but is not under the MOH. Examples of these quasi institutions are university, military and police hospitals etc. Kintampo municipal has one hospital, a number of clinics, health centres, Community-based Health Planning Services (CHPS) compounds and maternity homes. These facilities are strategically located to serve the entire municipality.¹ The structure of the health sector in Ghana is demonstrated in **appendix 2**.⁶

Common diseases in the district are malaria, Tuberculosis (TB) and HIV.^{1, 7}

1.3 HIV AND AIDS SITUATION IN GHANA

1.3.1 HIV Epidemic status

Ghana has multiple epidemic of HIV i.e. the occurrence of infections in one or more concentrated epidemics (rapid spread of HIV with over 5% prevalence in one or more sub-populations and less than 1% in the general population) within a generalised epidemic (HIV prevalence of over 1% among pregnant women).⁸ Example Ghana experiences high incidence among Female Sex Workers (FSW), Men who have Sex with Men (MSM) and the general population.⁹ The prevalence of Human Immune Virus (HIV) in Ghana is 1.5% in the general population, experiencing a 25% reduction in 2010.¹⁰ Most At Risk Populations (MARPs) contribute about 38% of new HIV infections. Non-paying partners (NPP), clients of sex workers and the primary sex partners of clients also contribute significantly to the epidemic.⁶ The

prevalence of HIV in Kintampo also stands at 1.5% according to 2010 sentinel report.¹¹

1.3.2 Determinants of HIV epidemic

The determinants of the HIV epidemic include low condom use; only 25% of females and 45% of males reported using condoms during high risk sex behaviour. Multiple concurrent partnerships tend to be high among men than women.¹² In 2003, 1.1% women compared to 9.9% men reported having more than 2 partners in the last 12 months whereas 1% of women and 11.4% men reported having more than 2 partners in the last 12 months in 2008.^{12,13} Widespread stigma and discrimination entrenched in socio-cultural norm against People Living With HIV (PLWHIV) and key populations (those at higher risk of exposure and transmission of HIV)⁸ is high in Ghana. HIV stigma and discrimination can be a hindrance to access HIV prevention services. Only 32% of women and 43% of men were willing to buy fresh food from a person living with HIV.^{9, 12}

1.3.3 National response to HIV AND AIDS

Efforts by the Ghana AIDS Commission, the National AIDS Control Program and other partners have partly resulted in the sustained reduction in the prevalence of the disease in the country over the past five years. The national prevalence of 1.9% compares with a prevalence of 3.2% in Togo and 3.4% in Cote d'Ivoire in 2009 and a prevalence of 1.5% in Ghana, 1.2% in Burkina Faso and 3.2% in Togo in 2010.¹⁴ This makes Ghana, among countries with consistently low HIV prevalence in the sub-region. HIV prevention and control in Ghana is guided by the National Strategic Frameworks I, II & III. These strategies have met with significant successes. These includes increase in the number of sites providing Anti-Retroviral Therapy from 138 as at December 2009 to 155 in June 2011, increased in the number of PLWHIV who have been put on ART from 33745 to 59745 over the same period.^{15, 16} Again the use of peer educators to reach out to schools and communities has worked very well especially in tertiary institutions such as universities and polytechnics. The use of non-traditional distributors like hairdressers, barbers to distribute condoms has minimised stigma associated with buying condoms from clinics and pharmacy shops.⁹

1.3.4 National HIV/AIDS and STI Policy

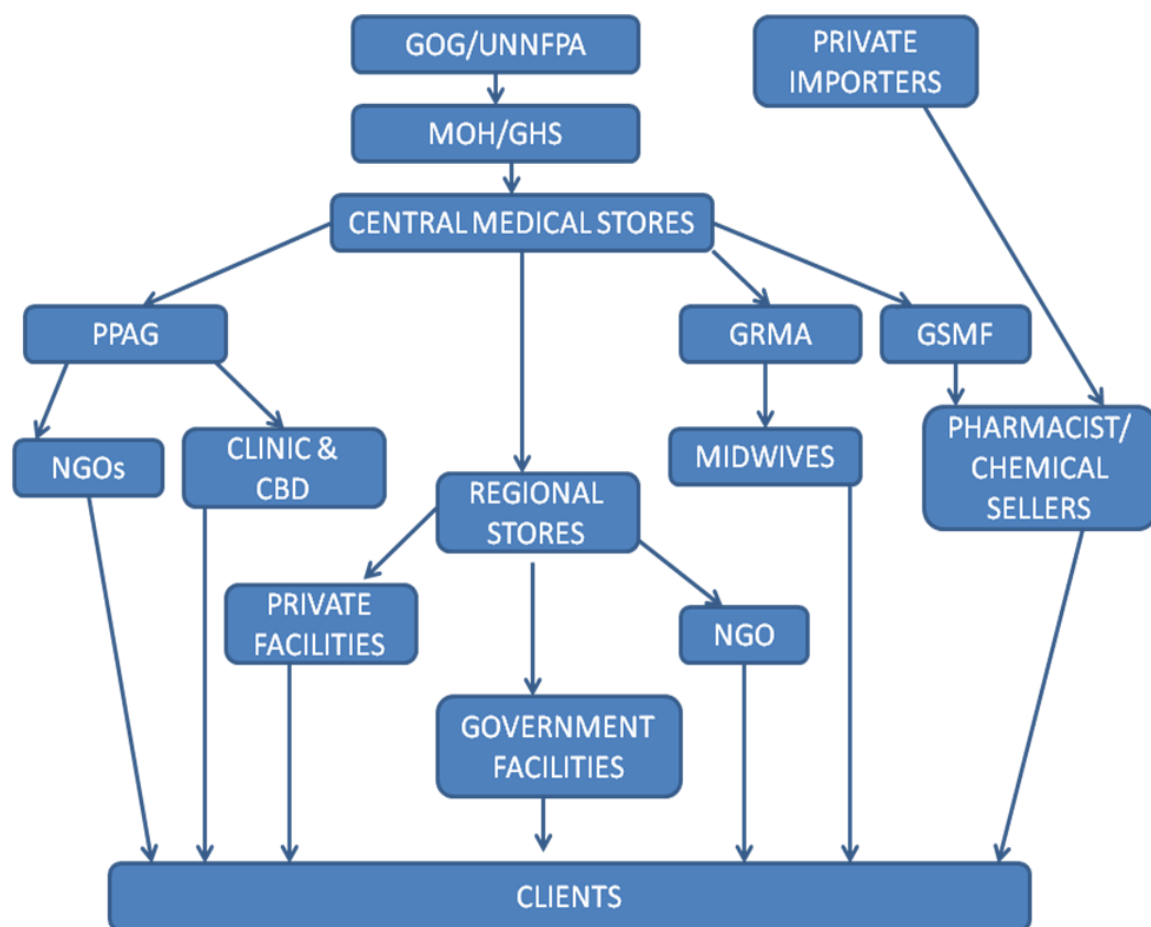
The policy stipulates the need to create an enabling environment through advocacy, sustained political commitment and support to effectively combat HIV/AIDS/STI. Behavioral change, Information Education and Communication (IEC) targeting the general population with special emphasis on women and youth are place to ensure the availability of information. Safer sexual practices through social marketing of condoms are promoted to ensure availability and

affordability of condoms. It also pursues collaboration with various institutions to make this possible.^{17, 18}

1.3.5 Condom distribution strategies in Ghana

Contraceptives distribution including condoms in Ghana is mainly by the government of Ghana with United Nations Fund for Population Activities (UNFPA) being responsible for procurement. The Ministry of Health (MOH)/GHS dispense these condoms through the central medical stores to the regional stores, Planned Parenthood Association Ghana. (PPAG), Ghana Registered Midwives Association (GRMA) and Ghana Social Marketing Fund (GSMF). These associations and institutions in turn distribute to the clients through NGOs, private or public facilities. Apart from the government, some private importers procure condoms and distribute directly to pharmacies/chemical sellers as detailed in **figure 1** below.¹⁹

Figure1. Condom supply chain in Ghana



Source: Adapted from: The Female Condom in Ghana: Exploring the current state of affairs and gauging potential for enhancing promotion. Population Council Population council, September 2008

CHAPTER 2: PROBLEM STATEMENT AND JUSTIFICATION

This chapter discusses at the problem statement, objectives, methods, study design and the study limitations.

2.1 Problem Statement & Justification

In Ghana, 260,000 are estimated to be PLWHIV; over fifty percent of whom are women.¹⁴ According to Ghana Demographic and Health Survey 2008 (GDHS) knowledge on condoms as an HIV/STI preventive method is almost universal. Ninety nine (99) and ninety eight (98) percent of men and women respectively have ever heard of condoms. Again, eighty two percent (82%) of men and seventy six percent (76%) of women know correct and consistent use of condoms as a method of preventing STI including HIV. This knowledge notwithstanding, has not yet transformed into use.¹² Only 25% of females and 45% of males reported using condoms during high risk sex behaviour in 2008. This can contribute to the differentials in the HIV prevalence among men (1.5%) and women (2.7%).¹² Masculine behaviour in Ghanaian culture is associated with maintenance of multiple sexual partners, non-use of condoms and poor health seeking behaviour for Sexually Transmitted Infections (STI) increases the sexual transmission of HIV and other STI.¹² Equally, femininity which is associated with docility and economic dependence on men due to low economic positions does not allow women to fully explore or even negotiate options for safer sex.^{12, 20, 21} Condoms have been proven to be the most effective HIV preventive tool in the absence of an HIV vaccine and microbicide.²² It is further heralded for its dual protection i.e. protection against STI and as a contraceptive. In spite of this, as per 2008 GDHS report, only fifteen percent and ten percent of women in urban and rural areas respectively reported to have used condoms in their last sexual intercourse in Ghana.^{12, 23, 24} As such it is important to understand the predictors of condom use among rural women and how the perceived willingness of their partners to use condom influences their ability to negotiate safe sexual practices. This explains the conduct of our study which aims to determine factors that influence the use of condoms among women in rural Ghana.

2.2 Objectives

2.2.1 Overall Objective

To determine factors influencing condom use among women attending antenatal clinic at Kintampo in order to provide recommendations to Ghana health Service to address issues related to condom use in rural Ghana.

2.2.2 Specific objectives

1. To explore individual factors influencing condom use.
2. To determine the association between condom use and partner related attitudes.
3. To describe provider related factors influencing access and use of condoms.
4. To provide recommendations to Ghana Health Service using the lessons learnt for social marketing and informing policy on condom use in rural Ghana.

2.3 Methodology

2.3.1 Study population

The participants for the questionnaire interviews were (N= 504) pregnant women between the ages 18-40 attended antenatal clinic of the Kintampo Municipal hospital and the Prince of Peace maternity home from August-October 2010. The Focus Group Discussion (FGD) participants (N= 54) were 22 pregnant women and 32 men. With age as the guiding criteria both men and women groups were divided into three; 18-25, 26-32, 33-40.

2.3.2 Study Design

This was an exploratory cross-sectional study on condom use among pregnant women in Kintampo. The study explored the relationship between condom use and individual, partner-related and provider-related factors that are likely to predict condom use.

2.3.3 Sampling method

Prince of Peace maternity home (private clinic) and Kintampo Municipal hospital (public hospital) were purposively chosen. In purposive sampling, a particular group of people are targeted. As such the two facilities were chosen because inhabitants of Kintampo municipality including pregnant women mainly access healthcare there. Pregnant women who attended these facilities were consented and interviewed as and when they attended antenatal Clinic.

2.3.4 Sample size

The target number of respondents was 500 pregnant women attending antenatal clinic in Kintampo municipality. This sample affords the estimation of the level of acceptance of condoms within 95% confidence limits of 5%, assuming that condoms are acceptable to 50% of respondents.

2.3.5 Ethical consideration

Ethical approval for the conduct of the study was sought from the Institutional Ethics Committee (IEC) of the Kintampo Health Research Center, board of the Kintampo Municipal Hospital and the administration of Prince of peace maternity home. Written Informed consent was sought from respondents after the aim, objectives and procedures of the study were explained. Confidentiality of subjects was protected at all times and women were free to decline to participate at all times or to withdraw from the study. Modalities for the dissemination of the outcome of the study were also explained.

2.3.6 Data collection tools

Quantitative and qualitative methods were used in this cross-sectional study among pregnant women attending antenatal clinic at the Kintampo Municipal Hospital and the Prince of Peace maternity home.

2.3.6.1 Quantitative methods

Questionnaire interviews

All consented pregnant women, aged 18-40 years who attended antenatal clinic in the two facilities in the Kintampo municipality were interviewed by one of four trained research assistants, using a questionnaire finalised after pre-testing and appropriate modification. Respondents were enrolled and interviewed in the order in which they attended the facility. The questionnaire explored topics reflecting the objectives of the study as detailed above. As much as possible closed-ended questions were used to make for less interviewee interpretation and bias, easier data capture and analysis. Data from the questionnaires were double entered, verified and cleaned using Microsoft Access. Draft findings from analysis of the questionnaire survey were used to generate thematic areas that were explored in the qualitative methods. For questionnaire used for survey refer to **appendix 3**

2.3.6.2 Qualitative methods

Focus group discussion (FGD)

In the FGD people from similar background or experiences were brought together to discuss a specific topic of interest. Groups were constituted to be as homogenous as possible. The guiding criteria in this regard were age group. Six focus group discussions (FGDs) were held with groups of 8-12 men and pregnant women, aged between 18 and 40 years. They were categorised into three age groups; 18-25, 26-32, 33-40 years. The moderator and the note taker sought the consent of participants to record and take notes on all discussions and assure participants of confidentiality, set ground rules with participants to respect anonymity and privacy of other participants. The discussions were facilitated by a moderator who used a topic guide derived from common themes from the Semi structured Interview (SSI) with open ended questions. In addition to the moderator, a note taker took notes on all the discussions and observed the body and facial expressions of participants. All interviews were conducted in the language spoken by all of the participants within one to two hours. See **appendix 4** for FGD guide. All interviews were recorded, transcribed, translated from the local language into English and typed with appropriate quality control checks. Guided by the objectives of the study a coding list was generated based on common themes that arose in the interviews.

2.4 Study limitations

- Recall bias of pregnant women about condom use within the past three years
- Interviewer bias. This is because there was no back translation of the questionnaire into the local language to ensure that research assistants interpreted questions in the same way.
- Selection bias because women were selected from Antenatal Clinic. (ANC)
- The use of rural women not representative of high risk urban women
- Socially desirable answers due to sensitivities around sexual issues
- The relativity of "affordability" of condoms that can influence condom use, but not within the capacity of the study to look at socio-economic predictors of condom use.

These limitations of choosing women at ANC would not be representative of the general population. Again, the biases presented by the interviewer would influence the response of women in the study. This would affect the external validity of our study.

2.5 Search strategy

A literature review was conducted in order to collect evidence to support the development of a conceptual framework for data analysis and discussion. Databases such as PubMed and Google scholar were used to search the internet. Some keywords used were condom use, condom use among women, condom use and socio-demographic characteristics, predictors of condom use, policy and political factors etc. No delimiters were used in this search but literature from the global context was applied to condom use in Ghana.

2.6 Data analysis

STATA version 10 was used for analysis. Analysis was performed to describe the socio-demographic characteristics of study respondents. Using logistic regression, both univariate and multivariate analysis were performed to find out factors that were related to condom use among women in rural Ghana. Statistical significance was accepted when P-value <0.05. QSR Nvivo qualitative analysis software was used to highlight common themes. The findings were presented using quotes from interviews to illustrate the major themes.

2.7 Dissemination

The findings of the study would be disseminated to the communities and health authorities within the Kintampo municipality and the Brong Ahafo Region. Applicable material would be used in health education campaigns within health facilities within the municipality. Publication in an open-access journal would be pursued.

CHAPTER 3: LITERATURE REVIEW

Condom use among various populations has been studied mostly in urban areas as an HIV/STI preventive strategy in Ghana. It has been commended for its contribution to contraception. Despite this effort, very little is known about the differentials in the use of condoms in urban and rural areas of Ghana. In order to analyse the predictors of condom use among women in rural Ghana, this thesis will review literature to understand the global context of predictors of condom use in order to use the literature review to develop a conceptual framework to guide the analysis.

Global literature demonstrating conceptual framework

The literature discusses broadly four factors; individual, partner-related, provider-related and environmental factors which influences condom use. It is not within the scope of the this thesis to do a complete literature review as such only factors that cuts across the four broad themes would be reviewed.

3.1 Individual factors

Literature suggests a strong association between socio-demographic characteristics and condom use. Research from Bankole and colleagues using data from the 2004 National adolescent Survey among 12-19 year old male and females in Burkina Faso, Ghana, Malawi and Uganda, show that being exposed to condom use exhibition, age, sex education, exposure to mass media and education were found to be important in the decision to use condoms.²² This study employed a multi stage sampling as such its findings are generalizable.

Similarly, Sunmola conducted a study among 710 sexually active men and women working in a brewery in Nigeria to examine the consistency of condom use. The study demonstrates an association between condom use and marital status and the number of years of education. Men who had had 12-18 years of education were associated with more condom use and 7-12 years of education among women was related to condom use. The main reason for non- use of condoms in this population was reported to be due to the well documented reason of reducing sexual pleasure and intimacy.²⁵

Again, in response to the trends of HIV epidemic in Thailand, a 100% programme that promoted condom use among sex workers achieved great behavioural change strides; increasing condom use among sex workers. The programme enjoyed strong political commitment and support from various public and private institutions. Whilst promoting condoms which is pivotal to the success story, the programme also

focused on education which raised awareness on personal risk, control of STI and provision of clinical care to diseases germane to HIV.^{26, 27}

In addition, Akarro examined the reasons for which barmaids; an identified key population in Tanzania use condoms, He launched an anthropological study using data from a survey carried out between 2004 and 2005. The analysis focused on socio-economic and socio-demographic characteristics of the barmaids such as age, marital status, education and fertility. The study showed positive association between condom use and age, marital status, education and number of children.²⁸

Moreover, Hounton et al in their study among 250 men and women in Benin sought to identify predictors of condom use based on the Health Belief Model (HBM). The study concluded that strategies for HIV incidence reduction based on the perception of risk and severity of HIV is less likely to induce condom use.²⁹

Agha and colleagues investigated the effects of religious affiliation on sexual debut and how it influences the risk of young Zambian women to HIV infection. The study indicated that, religious affiliation had both positive and negative effects on determining the sexual behaviour of women. The study suggested that positively, age at first sex was delayed which served as a protective factor, however, due to limited information on safe sex, the woman's vulnerability increases since they are unlikely to negotiate the use of condoms once they start having sex. As such the positive and negative influence of religious affiliation neutralises each other. They concluded that religious affiliation is not likely to provide protection overall against HIV infection because its protection is only short-term.³⁰

3.2 Partner related factors

According to Do et al in his study among married women in Vietnam, women who reported the ability to negotiate safe sex at last sex with their husbands were more likely to have consistently used condoms in one year compared to those who reported low self-efficacy. The study found an association between women's education, self-efficacy and condom use.³¹

Zubia et al explored the effect of gender dynamics among couples and the influence it exerts on the overall access to property and condom use. Using DHS surveys of Uganda and Zimbabwe, the study indicated that, women were mostly employed in the informal sector characterised by low wages compared to men. As such, even though women from both Zimbabwe and Uganda were employed, it did not influence their capacity to make decisions concerning safe sexual practices. This was because they still economically depended on their partners which largely influence their assertiveness. This finding challenged the extent to which a

woman's employment status signifying income levels increases their assertiveness for safe sexual practices. The study found a correlation between education and condom use among married women in both countries.³²

Agha et al points out in their multi-country study in eight countries in sub-Saharan Africa that, trusting among partners influenced the decision to use condoms during sexual intercourse. The study stressed the need to incorporate behaviour change campaigns encouraging sexually active men and women to adequately access their personal risk of acquiring HIV.³³

In addition, a research using data from the National sexual and behaviour survey among heterosexual Thai males aimed to determine factors associated with condom use and sex with both regular and casual partners. The findings of the study revealed an association of low condom use among non-skilled jobs like labourers, married couples and a shorter duration of relationship/marriage. The study emphasized the importance of risk perception and the need to consider these in partner related approach in HIV interventions.³⁴

3.3 Provider related factors

Some attitudes of providers that are rooted in their socio-cultural and personal religious belief could overshadow their sense of professionalism. From my experience these biases and prejudices tend to make them judgemental which hinder women accessibility of condoms. Even though provider related factors are recognised as an important determinant of condom use presently there is insufficient evidence in literature that supports this as far as we know.

3.4 Environmental factors

Gender and power dynamics is entrenched in socio-cultural norms which defines the roles of both men and women. Gender and power dynamics influences and rewards female passivity and male conquest which put both sexes at risk. For example, this may hinder a woman's ability to freely communicate and negotiate condom use.³² This could serve as an enabler or otherwise to condom use.

Molla and colleagues, in their study among the youth in rural Ethiopia, assessed the traditional significance of virginity in shaping the sexual behaviour of the youth before and after marriage. Using univariate analysis, the study revealed that, delaying sexual debut is essential; especially in rural areas where information on safe sexual practices is inadequate, but it increases the woman's vulnerability once they initiate sex not using condoms assuming marriage as an assurance for protection against HIV and other STI's.³⁵ Considering that, multiple concurrent

partnerships are comparatively high in sub-Saharan Africa; this increases the vulnerability of women if they assume such an assurance.³⁶

The policy and political environment within which condom distribution intervention takes place influences its uptake. Literature shows that strong political commitment influences the accessibility (financial and geographical), acceptability and availability of condoms.^{26, 27, 37} The National Agency for Control of AIDS (NACA) of the federal republic of Nigeria has a political commitment ensuring universal access to the general population. It has sale outlets at established locations to be easily accessed by the general population especially the key populations (people who are key to exposure and response).⁵ and distribute condoms with education on how to correctly use and dispose condoms.³⁷

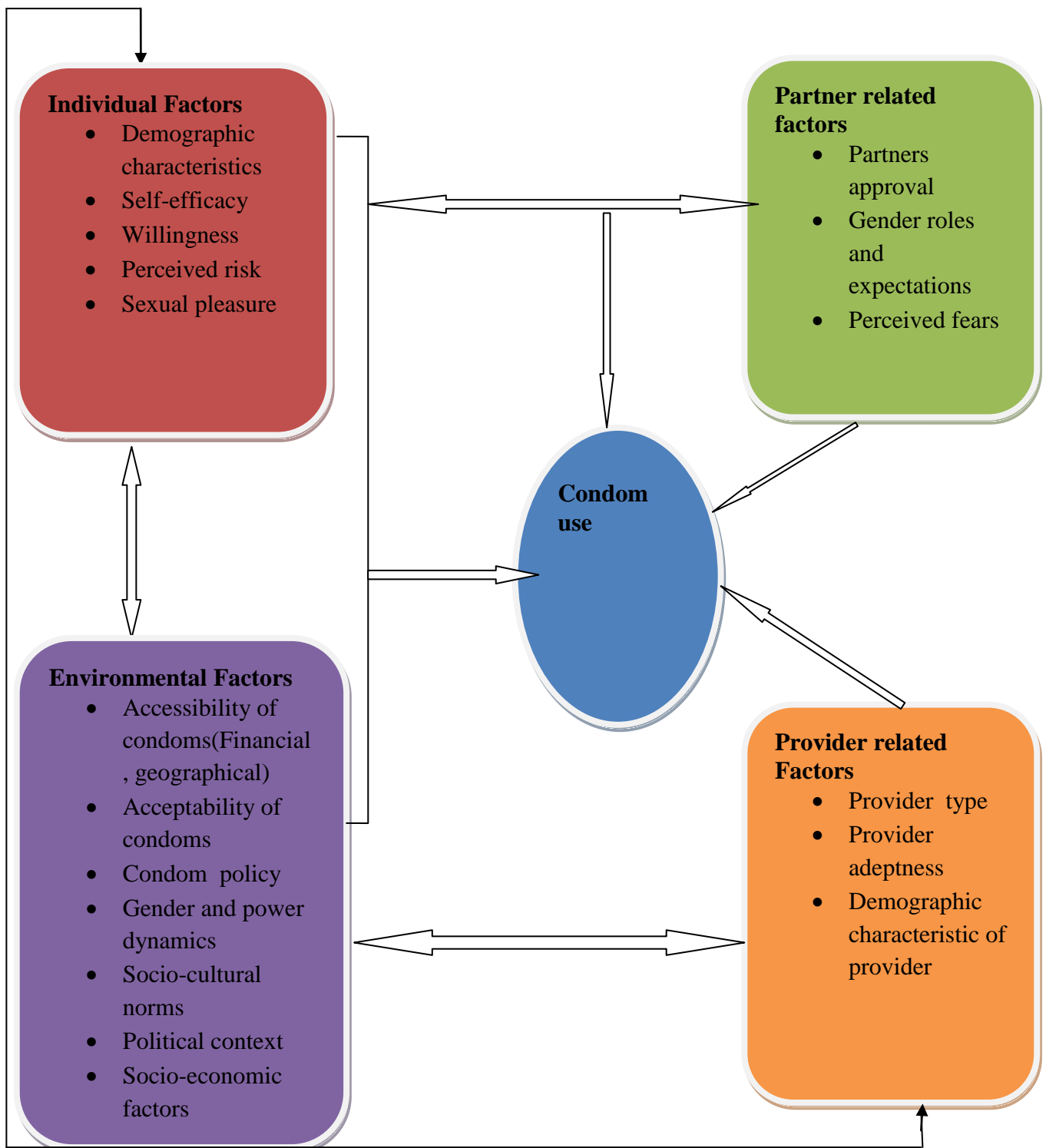
Socio-economically, women's uneven representation in poverty, education and property rights increases their economic and infection vulnerability; where they are overly reliant on their partners to satisfy their basic needs.³⁸

Environmental factors were not collected as part of the available dataset as they are not individual factors. Statistical analysis of environmental factors was therefore not done. However, environmental factors are important, and the findings of this study must be considered in light of the environmental factors outlined in this literature review

Based on the available evidence, the determinants of condom use can be outlined using the following conceptual framework in **Figure 2**

The framework recognizes the interplay of individual, partner, provider and environmental factors.

Figure2. Conceptual framework for discussing factors influencing condom use among women



ICHD 2011-2012

The individual factors represent the socio-demographic characteristics of women which may influence their decision on condom use. It identifies age, education, religion, occupation, number of children and self-assertiveness of women to use condoms.

Partner related factors also discuss partners influence on condoms use. It identifies partner's approval, gender and power imbalance, gender roles expectations and perceived fears associated with women communicating condom use. The framework demonstrates that condom use during sex is not the individual decision of the woman but influenced by the husband/partner and other factors.

Provider related factors discuss the type of condom provider, their demographic characteristics, provider adeptness and attitudes that encourages women to access and use condoms.

Although individual, partner and provider related factors influence the decision to use condoms, environmental factors which represent the macro context influences condom use. The framework recognizes policy, accessibility (financial and geographical), acceptability of condoms, gender and power dynamics.

The framework would be used as a guide for data analysis and discussion of factors that predicts condoms use among women in rural Ghana. Unlike other frameworks, this framework cuts across several issues that are likely to influence women's uptake of condoms. It recognises factors beyond the ability of individuals that shapes their decision to use condoms and allows for the incorporation of multiple factors and contexts that influence condom use.

In the following chapters, the data analysis and discussion will focus on three of the four domains of the conceptual framework. The fourth domain (environmental factors) is too broad and cannot be addressed within the scope of this thesis.

CHAPTER 4: STUDY RESULTS

This chapter presents findings of both quantitative and qualitative analysis. Using logistic regression, univariate and multivariate analysis were carried out on the individual, partner and provider related factors. It also gives a description of the profile of respondents.

4.1 Socio-demographic characteristics of women

The socio-demographic characteristics of respondents (pregnant women who attended antenatal clinic) are summarized as follows. The mean age of women interviewed was 26 years, majority (29.1%) of the women were between ages 25-29 and the minority (9.4%) were over 35 years. Over thirty-seven percent (37.5%) of the women had no education, 15.1% had primary education and 30.1% with middle school/Junior secondary school education. Over half (70.5%) of the women were Christians with 28.1% being Moslems. Other religions were in the minority constituting 1.4%. Women were predominantly petty traders (40.0%). Whilst 40.6% of the women had more than one child, 33.5% had no children at all. Over half (59.6%) of the women were married with nearly a quarter (24%) were engaged. The minority (16.4%) were those who were cohabitating with their partners. The number of women and their percentage of representation in the socio-demographic characteristics are detailed in **appendix 5**.

Below is a graphical presentation of some individual characteristics of women.

Figure3. Pie chart showing distribution of women educational level

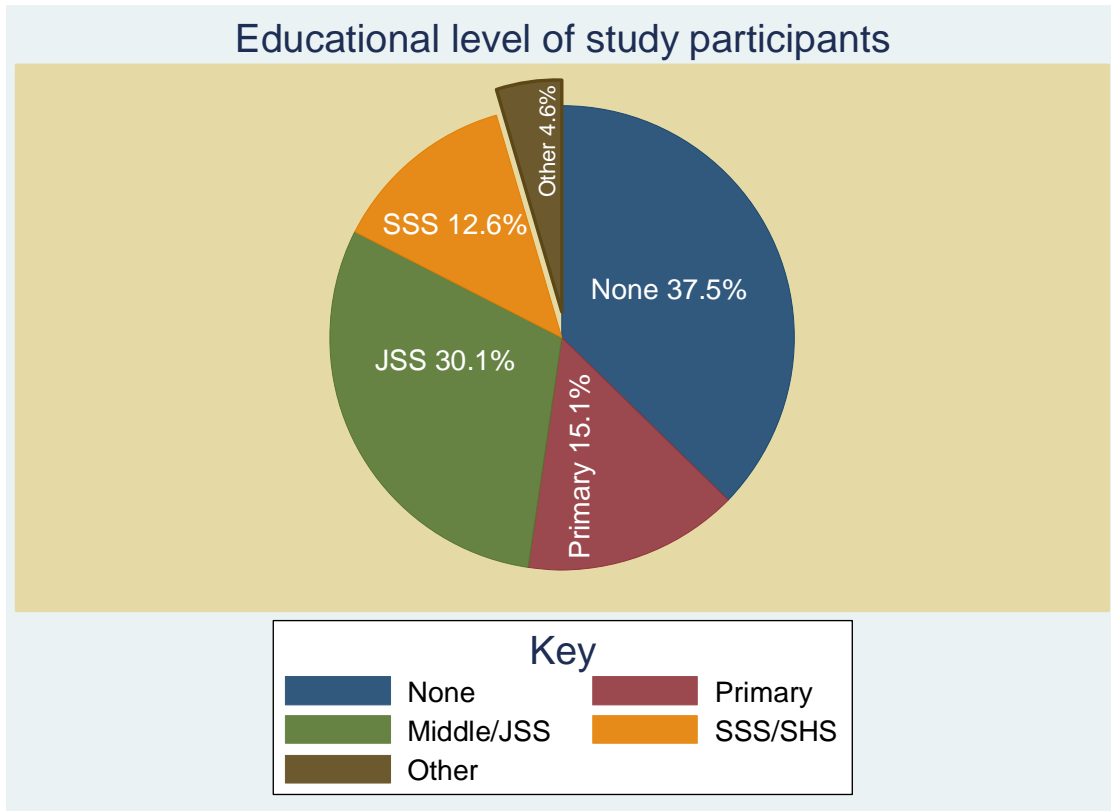


Figure4. Histogram showing the age distribution of women

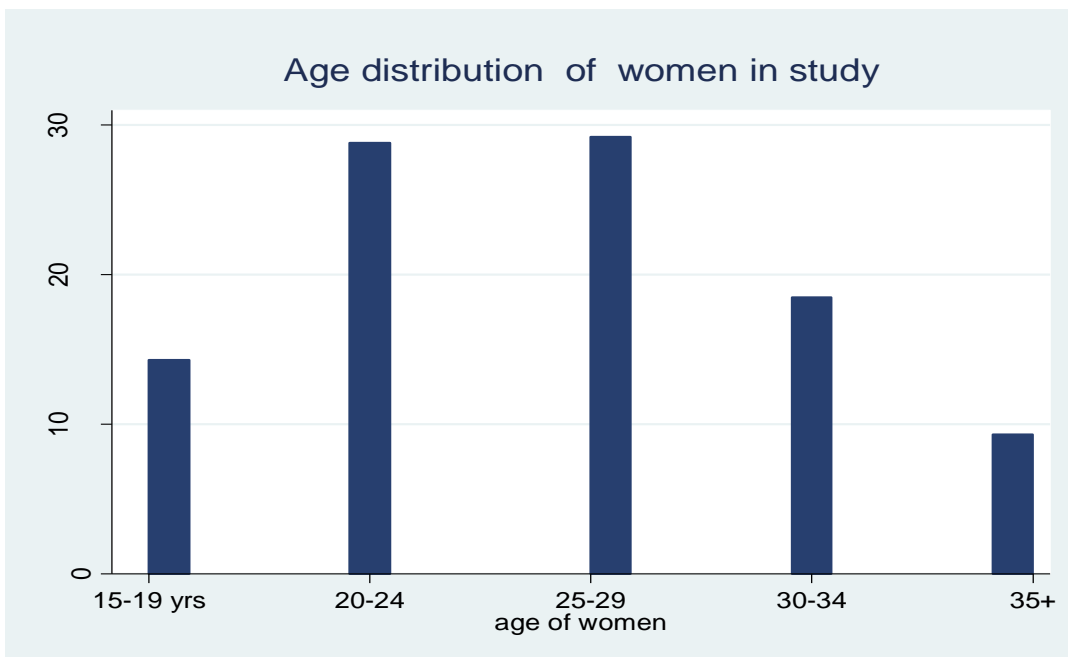


Figure5. Pie chart showing distribution of marital status of women

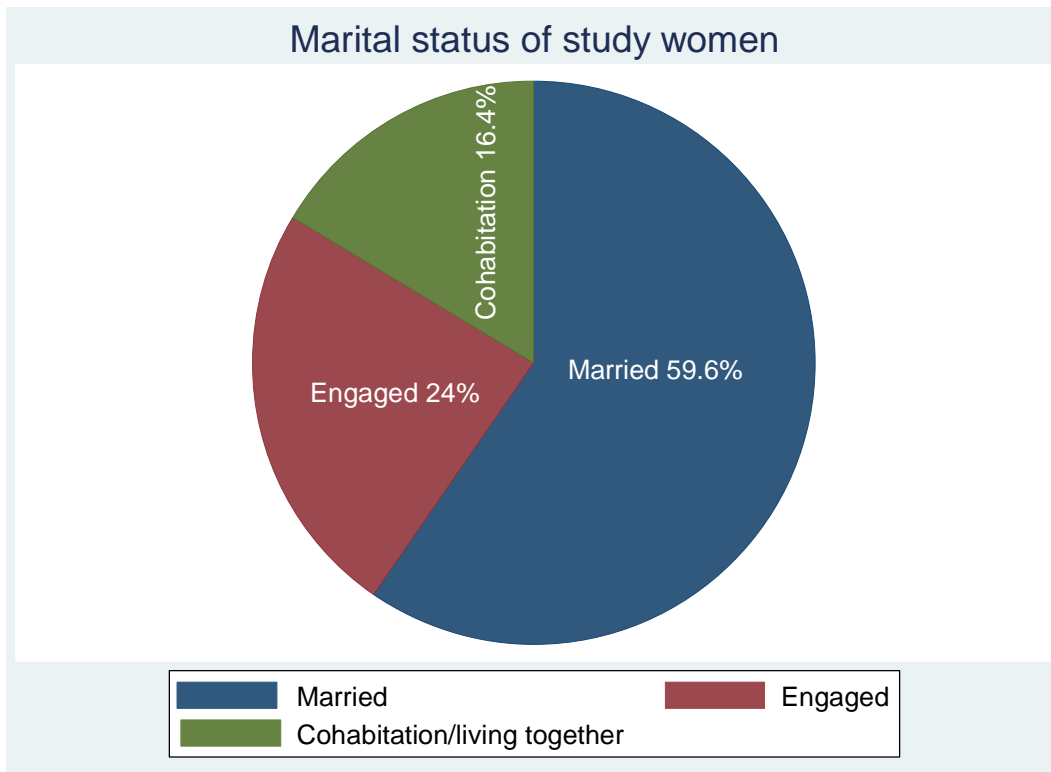


Figure6. Pie chart showing religious affiliation of women

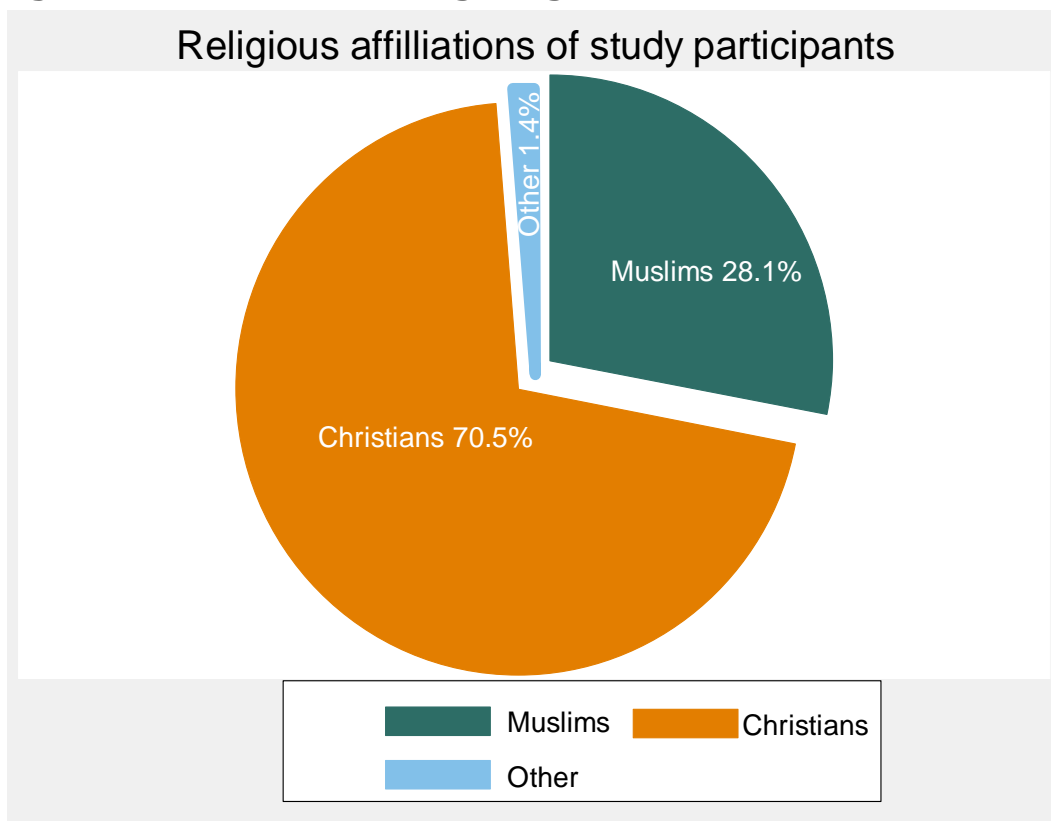
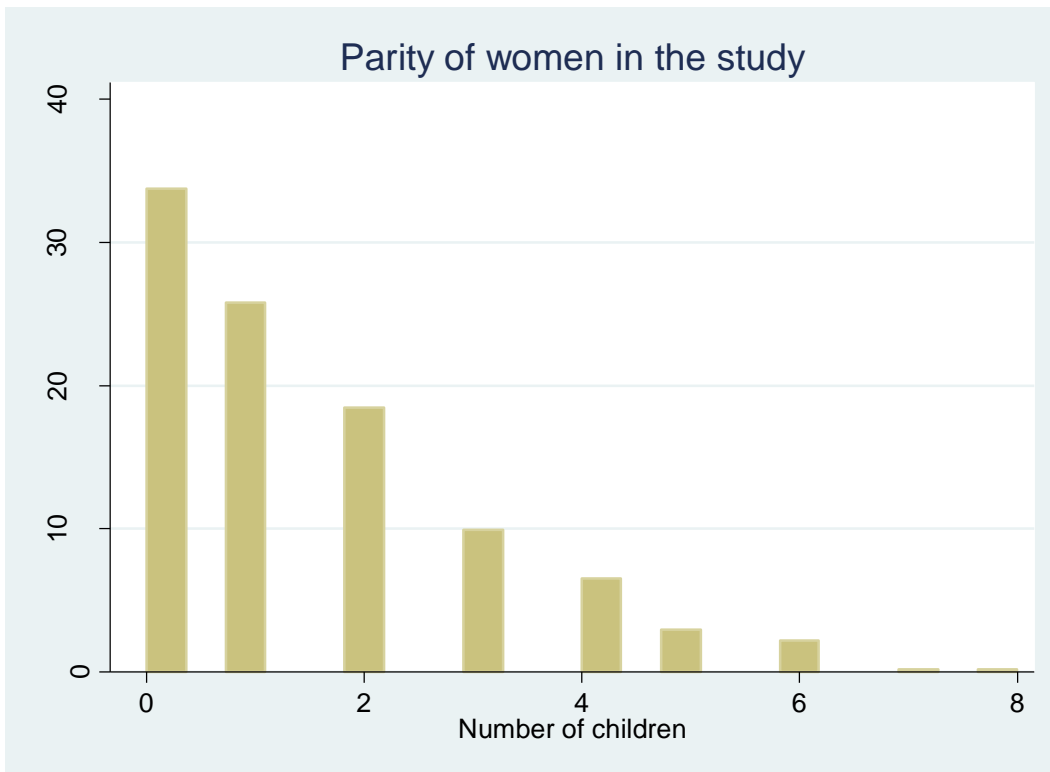


Figure7. Histogram showing the parity distribution of women



4.2 Quantitative analysis

4.2.1 Individual factors

This shows the univariate and multivariate logistic regression results that examined the association between condom use in the past three years and individual factors. Hence, condom use in the past three years will be referred to as condom use. The findings of the individual factors are detailed in **Table 1**.

Univariate Regression

In the univariate regression, women within the ages 20-24 years were 0.3 times as likely to have used condoms compared to 15-19 year olds (OR=0.3, 95%CI [0.19-0.63], $p<0.001$). In addition, women in the age groups 25-29, 30-34 and 35+ were 0.2 (OR=0.2, 95% CI[0.10-0.33], $p<0.001$), 0.8 (OR=0.8, 95% CI [0.10-0.33], $p<0.001$) and 0.8 (OR=0.8, 95% CI [0.32-0.21], $p<0.001$) times as likely to have used condoms respectively compared to women between 15-19 years of age.

The increase in the level of education increased with the increasing odds of condoms use [middle school/Junior secondary school (OR=3.6, 95% CI [2.16-5.82], $p<0.001$), Senior High School (OR=5.7, 95%CI [3.05-10.53], $p<0.001$). These associations were statistically significant.

Moreover, Christians were 2.4 times as likely to have used condoms as Muslims (OR=2.4, 95%CI [1.53-3.82], $p<0.001$). On the other hand, other religions were 0.6 times as likely to have used condoms as Muslims. This association was not statistically significant (OR=0.6, 95% CI [0.71-5.32], $p=0.660$). Women's occupation was positively associated with condom use in the univariate regression as Civil servants/students (OR=4.1, 95% CI [2.23-7.43], $p<0.001$) and other occupation (OR=1.8, 95% CI [1.16-2.75], $p=0.008$) were 4.1 and 1.8 times as likely to have used condom respectively as petty traders.

Number of children was associated with condom use as women with one child were 0.3 (OR=0.3, 95% CI [0.16-0.43], $p<0.001$) times as likely to have used condoms as women with no child. Women with more than one child (OR=0.1, 95% CI [0.60-0.16], $p<0.001$) were 0.1 times as likely as those with no children to have used condoms.

Women who were engaged were 2.4 (OR=2.4, 95% CI [1.29-4.39], $p=0.006$) times as likely to have used condoms compared to married women. There was no difference in condom use among women cohabiting (OR=1.0, 95% CI [0.51-1.99], $p=0.994$) with their partners compared to those who were married. This association was not statistically significant.

Multivariate Regression

The factors that remained in the multivariate regression after adjusting for other covariates at significant level of 0.1 were education, number of children, religion, occupation, and marital status. In the multivariate

model, level of education increased with increased odds of condom use among the women. The odds ratios for primary, middle/Junior secondary, senior secondary were 1.7 (OR=1.7, 95% CI [0.82-3.41], p=0.154), 2.5 (OR=2.5, 95% CI [1.36-4.43], p=0.003) and 2.7 (OR=2.7, 95% CI [1.24-6.07], p=0.012) respectively.

Christians were 2.1 (OR=2.1, 95% CI [1.22-3.69], p=0.007) times as likely to have used condoms as Muslims. Other religions were 2.6 (OR=2.6, 95% CI [0.26-26.6], p=0.413) times as likely to have used condoms as Muslims. Both Christianity and other religions were nonetheless not statistically significant. Civil servants, farmers/labourers and other occupations were 0.9 (OR=0.9, 95% CI [0.35-2.11], p=0.731), 0.2 (OR=0.2, 95% CI [0.07-0.65], p=0.007) and 0.3 (OR=0.7, 95% CI [0.39-1.19], p=0.178) times as likely to have used condoms compared to petty traders.

Women who had one child were 0.3 times as likely (OR=0.3, 95% CI [0.15-0.50], p<0.001) whilst those with more than one child were 0.1 times as likely (OR=0.1, 95% CI [0.07-0.30, p<0.001] to have used condoms compared to those with no children.

The factors that remained in the logistic model were obtained as a result of putting all variables with p-values of 0.1 in the univariate regression into the multivariate model and eliminating them one after the other using a significance level of 0.1.

In summary, education, religion, occupation and number of children were positively associated with condom use in both univariate and multivariate regression analysis. Age of women however appeared to be significant in univariate regression but did not persist in the multivariate regression analysis.

Table1. A table showing the association of condom use and individual factors

Variable	Univariate		Multivariate	
	OR(95% CI)	P-value	OR(95% CI)	P-value
Age				
15-19	1			
20-24	0.3(0.19-0.63)	<0.001		
25-29	0.2(0.10-0.33)	<0.001		
30-34	0.8(0.04-0.18)	<0.001		
35+	0.8(0.03-0.21)	<0.001		
Education				
None	1			
Primary	2.3(1.25-4.23)	0.007	1.7(0.82-3.41)	0.154
Middle/JSS	3.6(2.16-5.82)	<0.001	2.5(1.36-4.43)	0.003
SSS/SHS	5.7(3.05-10.53)	<0.001	2.7(1.24-6.07)	0.012
Other	6.1(2.47-15.10)	<0.001	6.0(1.70-21.0)	0.005
Religion				
Moslem	1			
Christians	2.4(1.53-3.82)	<0.001	2.1(1.22-3.69)	0.007
Other	0.6(0.71-5.32)	0.660	2.6(0.26-26.6)	0.413
Occupation				
Petty traders	1			
Civil Servants	4.1(2.23-7.43)	<0.001	0.9(0.35-2.11)	0.731
Farmers/labourers	0.2(0.51-0.42)	<0.001	0.2(0.07-0.65)	0.007
Others	1.8(1.16-2.75)	0.008	0.7(0.39-1.19)	0.178
Number of children				
None	1			
One	0.3(0.16-0.43)	<0.001	0.3(0.15-0.50)	<0.001
More than one	0.1(0.06-0.16)	<0.001	0.1(0.07-0.30)	<0.001
Marital status				
Married	1			
Engaged	6.1(3.85-9.74)	<0.001	2.4(1.29-439)	0.006
Cohabitation	2.0(1.20-3.48)	0.009	1.0(0.51-1.99)	0.994
Other	1.8(0.44-7.38)	0.416	0.5(0.10-2.21)	0.334

4.2.2 Partner related factors

This shows the results of the univariate and multivariate logistic regression that analyses the association between condom use and partners/husbands approval of condom use as detailed in **Table 2a**.

Univariate Regression

In the univariate model, women who did not perceive their husbands/partners to threaten to get a girlfriend (OR=4.2, 95% CI [1.6-10.8], $p=0.003$), threaten to get another wife (OR=19, 95% CI [2.56-139], $p=0.003$), threaten divorce (OR=4.3, 95% CI [1.66-11.6], $p=0.003$), physical abuse (OR=2.8, 95% CI [1.41-5.46], $p=0.003$), mistrust (OR=3.3, 95% CI [2.10-5.05], $p<0.001$), refuse sex (OR=3.6, 95% CI [1.73-7.45], $p=0.001$) and report to in-laws (OR=6.3, 95% CI [1.47-27.1], $p=0.013$) were 4.2, 19, 4.3, 2.8, 3.3, 3.6, 6.3 times as likely to have used condoms respectively compared to those who perceived that fear. These associations were statistically significant. Even though neglect of children and household responsibility (OR=3.0, 95% CI [0.88-10.5], $p=0.080$) as well as other possible consequences (OR=1.2, 95% CI [0.52-2.61], $p=0.717$) were 3.0 and 1.2 times as likely to have used condoms compared to those who did not perceive that fear. These associations were not statistically significant.

In addition, women whose partners do not approve the use of condoms were 0.2 times as likely (OR=0.2, 95% CI [0.009-0.29], $p<0.001$) to have used condoms compared to those whose partners approved. This association was statistically significant. Women who were not able to ask their partners to use condoms during sex were 0.1 times as likely (OR=0.1 CI [0.057-0.16], $p<0.001$) to have used condoms compared to those who could ask. The women who were not able to ask their husbands or partners to get tested for HIV were 0.3 times as likely (OR=0.3, 95% CI [0.199-0.53], $p<0.001$) to have used condoms compared to those who could ask. This association was statistically significant.

Multivariate Regression

In multivariate logistic regression, after adjusting for other variables at a significance level of 0.1, partners approval (OR=0.3, 95% CI [0.01-0.05], $p<0.001$), women who were able to ask their partners to use condom during sex (OR=0.3, 95% CI [0.16-0.64], $p=0.001$) and the perceived threat of partner getting another wife (OR=11, 95% CI [1.13-105], $p=0.039$) were the factors that remained. The associations were statistically significant. Those who were not able to ask their partner to go for HIV testing (OR=0.5, 95% CI [0.27-0.79], $p=0.004$) were 0.5 times as likely to have used condoms compared to those who could ask. The association was statistically significant.

The factors that remained in the logistic model were obtained as a result of putting all variables with p -values of 0.1 in the univariate regression into the multivariate model and eliminating them one after the other using a significance level of 0.1.

In summing up, partners approval, ability to ask for condom use, some perceived consequences for asking partner to use condom such as threaten to get a girlfriend, threaten to get another wife, threaten divorce, physical abuse, mistrust, refuse sex, ability to ask partner to go for HIV testing and report to in-laws appeared to be associated with condom use in univariate regression but only partners approval, ability to ask for condoms to be used, ability to ask partner to go for HIV testing and threaten to get another wife remained in the multivariate analysis.

Table2. A table showing the association of condom use and partners approval

Variable	Univariate		Multivariate	
	OR(95%CI)	P value	OR(95%CI)	P value
Partners approval				
Yes	1			
No	0.2(0.00-0.29)	<0.001	0.3(0.01-0.05)	<0.001
Able to ask partners to use condom during sex				
Yes	1			
No	0.1(.057-0.16)	<0.001	0.3(0.16-0.64)	0.001
Able to ask partners to test for HIV				
Yes	1			
No	0.3(0.20-0.53)	<0.001	0.5(0.27-0.79)	0.004
Perceived consequences for asking for use of condoms				
Threaten to get a girlfriend				
Yes	1			
No	4.2(1.6-10.8)	0.003		
Threaten to get another wife				
Yes	1			
No	19(2.56-139)	0.004	11(1.13-105)	0.039
Threaten divorce				
Yes	1			
No	4.3(1.66-11.6)	0.003		
Physical abuse				
Yes	1			
No	2.8(1.41-5.46)	0.003		
Mistrust				
Yes	1			
No	3.3(2.10-5.05)	<0.001		
Neglect children/household responsibility				
Yes	1			
No	3.0(0.88-10.5)	0.080		
Refuse sex				
Yes	1			
No	3.6(1.73-7.45)	0.001		
Report to in laws				
Yes	1			
No	6.3(1.47-27.1)	0.013		
Other				
Yes	1			
No	1.2(0.52-2.61)	0.717		

4.2.3 Provider related factors

Type of provider

Table 3a shows univariate and multivariate logistic regression analysis of the association between condom uses and places where women felt comfortable purchasing or getting free condoms.

Univariate regression

In the univariate model, chemical shop/pharmacy, chop bars and fried rice/yam seller appeared to be associated with condom use. These associations were statistically significant. Those who were not comfortable to purchase condoms from chemical shop/pharmacy were 0.2 (OR=0.2 CI [0.06-0.51], $p=0.001$) times as likely to have used condoms compared to those who considered it a comfortable place to purchase /access free condoms. Women who were not comfortable buying condoms from chop bars were 3.9 (OR=3.9 CI [1.16-13.3], $p=0.028$) times as likely to have used condoms compared to those who consider chop bars comfortable places to purchase or get free condoms.

In addition, those who were not comfortable to purchase condoms from the hospital were 0.1 (OR=0.1 CI [0.60-1.47], $p=0.784$) times as likely to have used condoms compared to those who considered it a comfortable place to purchase /access free condoms.

Multivariate regression

In the multivariate model, the factors that remained after adjusting for other covariates were chemical shop/pharmacy, provision shop, chop bars and fried rice/yam seller. Those who were not comfortable to purchase condoms from chemical shop/pharmacy were 0.2 (OR=0.2 CI [0.06-0.47], $p=0.001$) times likely to have used condoms compared to those who considered it a comfortable place to purchase /access free condoms. Women who were not sure they will purchase condoms from provision shops were 0.1 (OR=0.1 CI [0.03-0.58], $p=0.008$) times as likely to have used condoms compared to those who were comfortable to buy from the provision shop.

The factors that remained in the logistic model were obtained as a result of putting all variables with p -values of 0.1 in the univariate regression into the multivariate model and eliminating them one after the other using a significance level of 0.1.

Table3a. Table showing the association between condom use and comfortable places to buy condoms

Variable	Univariate		Multivariate	
	OR 95% CI	P value	OR 95% CI	P value
Type of provider				
Chemical shop/pharmacy shop				
Very fine	1			
Not sure	0.6 (0.24-1.36)	0.642	0.7 (0.07-7.73)	0.794
No, not comfortable	0.2 (0.06-0.51)	0.001	0.2 (0.06-0.47)	0.001
Filling station				
Very fine	1			
Not sure	0.6 (0.24-1.36)	0.208		
No, not comfortable	0.9 (0.51-1.45)	0.578		
Provision shop				
Very fine	1			
Not sure	0.3 (0.08-1.15)	0.08	0.1 (0.03-0.58)	0.008
No, not comfortable	1.2 (0.67-2.09)	0.560	1.1 (0.51-2.28)	0.831
Chop bar				
Very fine	1			
Not sure	5.1 (1.09-24.1)	0.038	7.3 (0.26-201)	0.241
No, not comfortable	3.9 (1.16-13.3)	0.028	6.7 (0.48-94.5)	0.159
Hotel/guest house				
Very fine	1			
Not sure	0.8 (0.29-2.28)	0.712		
No, not comfortable	0.9 (0.53-1.51)	0.686		
Fried rice/Yam seller				
Very fine	1			
Not sure	5.8 (1.29-25.5)	0.022	2.8 (0.12-69.2)	0.519
No, not comfortable	3.0 (1.03-8.93)	0.044	0.6 (0.05-7.18)	0.707
Cosmetic store				
Very fine	1			
Not sure	0.5 (0.12-1.74)	0.255		
No, not comfortable	1.2 (0.69-1.93)	0.559		
Music shop				
Very fine	1			
Not sure	2 (0.54-7.4)	0.301		
No, not comfortable	2.3 (0.94-5.82)	0.066		
Kintampo hospital				
Very fine	1			
Not sure	1.2 (0.39-3.76)	0.747		
No, not comfortable	0.9 (0.60-1.47)	0.784		
Other health facility				
Very fine	1			
Not sure	0.6 (0.29-1.06)	0.075		
No, not comfortable	0.7 (0.60-1.06)	0.085		

4.2.4 Provider characteristics

Table 3b shows univariate and multivariate logistic regression analysis of the association between condom use and some socio-demographic characteristics of providers that influenced condom use among women.

Univariate regression

In the univariate model, sex, age of provider and familiarity with provider were factors that were associated with condom use among women.

Women who preferred buying condoms from different sex were 0.2(OR=0.2 CI [0.007-0.29], $p<0.001$) times as likely to have used condoms compared to those who preferred same sex.

Women who were comfortable to buy condoms from someone they did not know were 3.5(OR=3.5 CI [1.18-6.92], $p<0.001$) times as likely to have used condoms compared to those who had a preference for someone they were familiar with. Those who preferred older providers were 2.7 (OR=2.7 CI [1.78-3.96], $p<0.001$) times as likely to have used condoms compared to those who were younger/same age as them.

Multivariate Regression

In the multivariate model, after adjusting for covariates, sex, age of provider and familiarity with provider were factors remained. All these factors were highly statistically significant.

Women who preferred buying condoms from different sex were 0.1(OR=0.1 CI [0.007-0.28], $p<0.001$) times as likely to have used condoms compared to those who preferred buying from the same sex.

Women who were comfortable to buy condoms from someone they did not know were 3.2 (OR=3.2 CI [1.58-6.36], 0.001) times as likely to have used condoms compared to those who had preference for some they were familiar with. Those who preferred providers who were older than them were 2.6(OR=2.6 CI [1.73-4.03], $p<0.001$) times as likely to have used condoms compared to those who were younger/same age as they were.

Table3b. A table showing the association of condom use and the socio-demographic characteristics of providers

Variable	Univariate		Multivariate	
	OR 95% CI	P value	OR 95% CI	P value
Sex of provider				
Same sex	1			
Different sex	0.2 (0.07-0.29)	<0.001	0.1 (0.07-0.28)	<0.001
Age of provider				
Younger/Same age	1			
Older	2.7 (1.78-3.96)	<0.001	2.6 (1.73-4.03)	<0.001
Familiarity with Provider				
Someone I know	1			
Some I do not know	3.5 (1.81-6.92)	<0.001	3.2 (1.58-6.36)	0.001

Table 4 summarises the composite multivariate logistic regression analysis of the association between condom use and all variables that remained in the multivariate analysis of individual, partner and provider related factors. The factors that remained in the logistic model were obtained as a result of putting all variables with p-values of 0.1 in the individual multivariate regression into a multivariate model and eliminating them one after the other using a significance level of 0.1.

Multivariate Regression

In the multivariate model, after adjusting for covariates, number of children, partner's approval, ability to ask partner to use condoms during sex, perceived threat of getting another wife and familiarity with provider were factors that remained. Partner related factors emerged as the greatest predictors of condom use. Women whose husband/partner did not approve the use of condoms were 0.2 (OR=0.2 CI [0.01-0.05], $p<0.001$) times as likely to have used condoms compared to those whose partners approved condom use. In addition, those who were not able to ask for condoms to be used during sex were 0.4 (OR=0.4, CI [0.15-0.82], $p=0.015$) times as likely to have used condoms as those who could ask. Moreover, women who feared their partners/husbands getting another wife were 14 (OR=14 CI [1.15-183], $p=0.038$) times as likely to use have used condoms as those who did not perceive this fear.

A detailed result of this analysis is shown in Table 4.

Table 4 Table showing association of condom use and all factors that remained in the various multivariate models

Variable	OR 95% CI	P value
Individual factors		
<i>Number of children</i>		
None	1	
One	0.3 (0.12-0.70)	0.006
More than one	0.1 (0.04-0.33)	<0.001
<i>Marital status</i>		
Married	1	
Engaged	1.4 (0.52-3.60)	0.510
Cohabitation	2.4 (0.89-6.59)	0.080
Other	0.5 (0.51-5.02)	0.562
Partner factors		
<i>Partners approval</i>		
Yes	1	
No	0.2 (0.01-0.05)	<0.001
<i>Able to ask partners to use condom during sex</i>		
Yes	1	
No	0.4 (0.15-0.82)	0.015
<i>Perceived threat to get another wife</i>		
Yes	1	
No	14 (1.15-183)	0.038
Provider characteristics		
<i>Sex of provider</i>		
Same sex	1	
Different sex	0.4 (1.27-1.06)	0.064
<i>Familiarity with Provider</i>		
Someone I know		
Some I do not know	3.1 (1.03-9.47)	0.044

4.3 Qualitative analysis

Individual factors

4.3.1 Perceived risk

Both men and women were asked, what was of outmost importance to them when using condoms. Some respondents said they use condoms to protect themselves from disease when they perceive a risk with their partners. This was illustrated by a quote from a male and female participant in an FGD:

"You might not really know everything about the girl you are going to sleep with, for all you know she might have another boy somewhere else so you have to protect yourself from diseases that she might be carrying." (Male participant)

"If your husband is a womanizer it's important to protect yourself from disease." (Female participant)

Secondly, both men and women pointed to the need to protect themselves from unintended pregnancy especially if they were in an unstable relationship:

"If the man is not married to you, it is important to prevent unwanted pregnancy." (Female participant)

"..... if you are with someone who is in school you need to protect her from pregnancy." (Male participant)

Trusting was very important to both male and female respondents. Very few respondents associated asking for condoms to mistrusting partner. This is illustrated by the following quotes:

"You see, when there are some ladies who tell their boyfriends to wear condom, if it happens to me, I'll have to get angry. It means you don't trust me." (Male participant)

"I think most women know that their partners do not like condoms. They sometimes feel if they ask their partners might suspect them about something they have done." (Female participant)

Very few respondents linked asking partners/husbands to use condoms with fear of suffering other consequences. As stated by one female FGD participant.

"I think part of it is fear because sometimes you are scared to ask because of possible consequences."

4.3.2 Religion and condom use

Many respondents tied communicating condom use to religious tenets of being submissive and procreation. Others also equated condom use to being sinful which is not right in the sight of God. This is illustrated by the following quote by some female *participant*.

"As a Christian who is supposed to submit to your husband you cannot deny him." (Female participant)

"Some religions do not allow us to use condoms; some pastor's wives advise that doing that is a sin." (Female participant)

"Based on Christianity, Bible says if we should multiply and fill the earth." (Male participant)

"I think yes because we are instructed by Christianity to procreate so if we use condoms we are preventing this." (Female participant)

"For some of them they say they don't have many children so they won't allow you to use the condoms to prevent them from having any children." (Female participant)

"When a man and a woman are together sometimes even though the man like it they can agree to stop using it and have children after that they can come to it." (Female participant)

4.3.3 Willingness and sexual pleasure

When asked how commonly condoms are used in Kintampo, many of respondents expressed their dislike for condoms. The women emphasized how their partners disliked condoms. Sexual pleasure and intimacy was primal to reasons for non-use of condoms among majority of respondents. As illustrated by the following quotes:

"For me pleasure comes before you think about diseases. Some may have a condom but the pleasure means so much to them that, they only remember after the act and they usually regret." (Male participant)

"They do not like it; some men will also tell you that if you use condoms during sexual intercourse it is like having sex with the condom rather than the woman."

"... some of them want to go raw so they can feel the woman's body (honam nka honam)." (Female participant)

"They don't like it. Some of them say they are not the type of men who like condoms, besides they were born before condoms came in existence." (Female participant)

Some respondents emphasized that sometimes condoms were not used because the women do not like it. As illustrated by the following quotes:

"Because of this issue of women using condoms I lost a girlfriend because she did not want me to use a condom. But I wanted to use it and she thought I did not love her." (Male participant)

"Some of the women do not like the condoms. Someone ever told me that if I use a condom she does no enjoy sex and that I cheat her." (Male participant)

Few respondents mentioned that sometimes sex was unplanned so one does not usually have the luxury of looking for condoms because if you delay you might "miss the opportunity of having a good time." Typically stated as:

"Sometimes, time is not on your side that is why one does not use a condom. For some women by the time you wear a condom she will get up and leave so you can't wear a condom." (Male participant)

"Sometimes you want to use condoms but, it happens that you have been chasing a lady for some time, once she agrees. At that material moment you don't have to waste the opportunity." (Male participant)

Some respondents mentioned shyness as some of the reasons why they do not use condoms. Others also related it to gossip and been seen as promiscuous. Typically this was put as:

"Because people can gossip, they can say that this lady seems to be promiscuous because of the rate at which she buys condoms." (Female participant)

"Condom usage is a very 'shy' issue. Let's take it that you have a girlfriend and you go and take another girl to sleep with. Since you want to protect yourself, you will use a condom. There's a high possibility that you will forget about the condom and when another girl comes, she will conclude that this is something you do and you are not well behaved." (Male participant)

4.3.4 Literacy and condom use

Very few respondents said that condom use was germane to education and age. This is illustrated by the following quote:

"If you see a man who likes it then he is a bit enlightened and knows how things are moving in the world but for the uneducated ones they will say 'twea me mfa saa ade wei nhye me kote ho, he will never agree.'" (Female respondent)

4.3.5 Experience with Female condoms

When asked their experience with the female condoms, majority of the respondents said they had heard about it but very few had used it before. One respondent mentioned the suspicion around a woman using female condoms and thought that was a man's job. As stated by one female participant:

"Some women don't like to wear the condoms, so the men should wear it because a man is a man, it all boils down to men. If a woman does it means she is hiding from the man."

Others also related the unpopularity of female condoms to the difficulty with use, less advertisement compared, high cost compared to male condoms, biological make up of women makes it difficult unlike men who can easily wear it on an erect penis. As illustrated by the following quotes:

"The male condoms are greatly advertised than the female." (Female participant)

"It is easier to get access to the male ones compared to the female." (Male participant)

"It is not everyone who knows how to use the female condoms. A person may get access to it but cannot wear it." (Male participant)

"The female condom costs more than the male." (Male participant)

"Wearing it is difficult because of the way God created the woman's vagina. It's not erect as compared to that of a guy which is quite erect and makes wearing of a condom easier." (Male participant)

Certain misconceptions of female condom were typically presented as:

"I learnt that the woman will have to hold it whilst having sex with the hand. And we all know that the hand has other duties to perform so I think it's a waste of time." (Female participant)

"It is difficult to use, that you need to hold it if you don't hold it, it will enter the woman's vagina." (Female participant)

"What I know is that, women will have to insert it in their vagina but for some of them when they insert it the penis of the man will be longer than the length of the condoms so they don't feel comfortable using it." (Male participant)

Partner related factors

4.3.6 Self-efficacy

Respondents were asked why most women find it difficult to ask their partners/husbands to use condom. Both men and women agreed that women are expected to come under the authority of the man; as such asking for condoms is like questioning the man's authority. This is illustrated by the following quotes:

"It is very true because she thinks the man has authority over her, that's why. So she is afraid to ask the man to use a condom." (Male participant)

"I think that once the man says he will sleep with you he will. There is nothing you can do about it." (Female participant)

"I married her and not the other way round so she has no right to tell me any such thing" (Male participant)

"It is not possible to tell you husband to use a condom. Unless he wants to use it as a family planning method" (Female participant)

4.3.7 Masculinity

Very few respondents attached their use of condoms to their masculine self-esteem. They associated use of condoms to woman admitting ever having sex with you since condom use have been equated with sleeping with the condom and not the woman. This is illustrated using the following quote:

"Some women when you sleep with them and you later break up with them, they later say things like, your skin has not touched them so you have not slept with them. But if you sleep 'raw' without a condom, whatever she does you have slept with her." (Male participant)

"Some women don't like to wear condoms, because a man is a man and it all boils down to men." (Male participant)

4.3.8 Provider related factors

Provider characteristics such as age, sex and familiarity were issues that were germane to condom access and uptake. Majority of the male respondents were comfortable purchasing/accessing free condoms from providers who were of same age. As stated by male FGD:

"I will feel comfortable because if it someone who is older, I will feel shy but there's no shyness involved if I am buying from my own mate." (Male FGD participant)

"The reason why I like buying from my age mates is that, the people older than you can sometimes embarrass you. They can look at you and ask you a question like, 'who sent you?' because they think you look young. It is quiet embarrassing." (Male FGD participant)

Familiarity with provider was one of the factors respondents considered before purchasing condoms. Some respondents contemplated the confidentiality of providers and feared future ridicule. Certain perceived attitudes and inadequate skills of providers served as barriers to condoms access. As stated by FGD participants:

"If you buy from someone you know, the person might say things to others behind your back. They can tell people that you like sex a lot because you buy condoms virtually every day." (Male participant)

"As for me it will be very difficult for me to buy condoms from someone I know because the next thing you know he will sell you to the whole world that you are always buying condoms. But for someone you don't know she is in business so you just go and buy and go." (Female participant)

Contrary to this opinion very few said buying condoms from someone you know has an added advantage. They were optimistic that familiarity with the provider, can afford one the opportunity to access condoms at any point in time when there is need to have sex and also when they do not have money to pay. Again it was related to ability to complain about the product if you do not find it satisfactory. Typically put as:

"I think it's better with someone you know because you can conveniently go to them at any time to buy, if you don't know the person you cannot call on them at any ungodly hour." (Male participant)

".....because if I go there and there is nothing on me (money) he will still give me something." (Male participant)

"I think that its better you buy from someone you know so that if you have problems with it in relation to it expiring or inferior you can always tell them but if you buy from someone you don't know what you will do in such circumstance." (Female participant)

Some respondents were assertive about buying condoms from anyone irrespective of their age, sex and familiarity with the provider because to him it portrays a sign of responsibility and could possibly entice a lady. Again getting a girl was described as spur-of-the-moment as such choosing who/who not to buy condoms from was practically impossible. This is illustrated by the following quote:

"The reason why I am not shy of buying a condom is that I can buy condoms in the midst of people. For all I know, a lady I like will see me and notice that I protect myself." (Male respondent)

"I can buy it anywhere because as for getting a girl to sleep with, it can happen impromptu and you should be able to buy the condom anywhere" (Male participant)

"Because if the person should ask me why I am buying the condom, I will like to explain to the person why and tell the person that it is because of the numerous sexually related diseases." (Male participant)

"I don't think it is a thing to feel shy abt. Whether it's your father or mother or pastor you should not feel shy. I once went to buy condoms and met my church elder when I said I wanted condoms he was looking at my face but I was not bothered because we are unclean before God; I bought it anyway because if I get an infection I will be mocked." (Male participant)

"As for me because protection is primary I don't think one should be shy buying condoms." (Female participant)

Synopsis of FGD results

Individual factors

The FGD results points to the fact that, both men and women see the need to use condoms when they perceive risk of an infection or pregnancy especially in an unstable relationship. The perceived unfaithfulness of their partners encourages them to use condoms to protect themselves. Even though participants felt the need to ask for condoms on suspecting promiscuity/risk, asking was equated to not trusting one's partner, hiding something/being unfaithful and also fear of certain consequences. Again, compromised sexual pleasure and intimacy were reasons that came out strongly as a reason for non-use of condoms. Both men and women agreed that, men mostly disliked condoms due to its effect on sexual pleasure and it was compared to having sex with the condom rather than the woman. This finding is very important in condom promotion especially because a woman as per social norm is responsible to sexually satisfy men during intercourse. Considering that men are not mostly in favour of condom, its use means not satisfying this obligation thereby pushing their husbands into the hands of other women. This sense of obligation increases the vulnerability of women. It is important to note that, even

though men were agreed to mostly dislike condoms, some women do not also like to use it for the oft documented reason of reducing sexual pleasure, not loving them and not satisfying them.

Partner related factors

Socio-cultural and religious norms subjects women to the authority of men in various aspects including sexual relations in Ghana. Societal norm influences the self-efficacy of women to either negotiate or ask for condoms to be used during sex. Results from FGD confirm this social construct and both men and women agreed to the fact that, the use of condoms during sex is the lone decision of men as such women are subservient to this decision. Some male participant's tied decision making on condom use to the payment of bride price which to them affords them the authority over their partners. Again, societal and religious canons that expect couples to have children further worsen the non-use of condoms. These expectations hinder the success of HIV prevention programs.

Moreover, because condom use is not a social norm in Ghana, insistence of use can invite certain dire consequences. Our findings indicate that male conquest influences non use of condoms and is tied to the self-esteem of some men in rural Ghana. This attitude also poses a risk to both men and women and increases their vulnerability to infections.

Provider related factors

Condoms are widely available and considerably affordable in Ghana. Notwithstanding its availability, uptake is still low as discussed elsewhere in this thesis. Our FGD results show that, women were interested in factors beyond geographic and financial accessibility. Some characteristics of providers such as age, sex and familiarity with provider were important to accessing condoms by women. Issues around these characteristics were mostly related to provider skills, confidentiality and being labelled as promiscuous by the provider. This finding is unique to our study in any rural population in Ghana as far as we know.

CHAPTER 5: DISCUSSION

Guided by the objectives and conceptual framework of our study, the discussion was divided into three parts; individual, partner and provider related factors that would possibly influence condom use in rural Kintampo. The framework used in our study was helpful in the discussion of the predictors of condom use because it does not limit the discussion to only individual factors but other factors that would probably influence the individual decisions of women.

5.1 Individual factors

As evidenced by quantitative results, after adjusting for age, religion, occupation, number of children and marital status, women who had middle/JSS, SSS/SHS and other education were 2.5%, 2.7%, 6.0 times respectively as likely to have used condoms compared to those who had no education. This trend signifies that, increasing education increased with increasing odds of condom use. The FGD supports the finding that condom use was associated with literacy. The evidence suggests that, women who were educated were likely to have used condoms. Education increases the ability of women to be able to access information from diverse sources. Educated people are well placed to talk about issues related to HIV/AIDS, its transmission and prevention. This decreases their vulnerability to myths and misconceptions about condoms. As such the finding of this study was expected. The study yielded consistent results with the Ghana DHS in 2008, Sunmola in Nigeria and in four sub-Saharan African countries. ^{11, 23, 26}

Contrary to several studies that found a correlation between age and condom use, ^{22, 35} surprisingly, even though age is believed to influence the assertiveness to use condom, our study did not find an association after adjusting for other variables. This could probably mean that age is influenced by other factors such as education; diminishing the effect of age on condom use.

Christians were 2.1 times as likely to have used condoms as Muslims. Other religions were 2.6 times as likely to have used condoms as Muslims after adjusting for age, education, occupation, number of children and marital status as evidenced by quantitative analysis. The qualitative results support the pivotal role religion plays in condom use among women. It influences various aspects of human behaviour including sexual relations. Christians were mostly educated and tend to live comparatively closer to urban areas than Muslims. This exposes them to information on HIV in print, radio and television. The differences could relate to some religious tenets that encourage female submission and male superiority which is predominant among Muslims in Kintampo. These tenets militate

against HIV prevention efforts hence exacerbating transmission. Example, a woman who devotes all authority to the man will not feel a right to ask for condoms to be used during sexual intercourse in the name of being submissive; a religious requirement of "good women". In the event that, the husband is infected, the woman can also be infected subsequently if they have unprotected sex. In this regard, some religions can serve as an unprotective factor for HIV transmission. On the other hand, since some religions discourage premarital sexual indulgence and polygamy, it could be protecting in that regard. This position of religion being protective have however been challenged by Agha et al in a study among young Zambia women. He points out that, even though religious tenets promote abstinence that protects young women, its effect is cancelled out once they start having sex. As such religious protection is only brief since these young women are not well informed to make assertive decisions on safe sexual practices.²⁵ There is therefore the need to further explore the influence religion exert on condom use especially among Muslim women in rural Ghana to inform social marketing of condoms and other emerging approaches that are supposedly female controlled like microbicide.

As evidenced by the quantitative analysis after adjusting for age, education, religion, number of children and marital status, civil servants and other occupations were 0.9 and 0.7 respectively as likely to have used condoms compared to petty traders. Farmers/labourers were 0.2 times as likely to have used condoms compared to petty traders. Occupation is closely linked with the level of education. This increases one's knowledge on preventive methods. Our results suggest that farmers/labourers who are mostly not educated are the least to use condoms. This finding is worrying considering the mobility of farmers in search of arable lands to cultivate in these parts of Ghana. This corroborates the finding of a previous research among Thai men.³⁴

Evidence gathered from our quantitative analysis, after adjusting for age, education, religion, occupation and marital status, women who had one child were 0.3 times as likely to have used condoms compared to women with no children. Those who had more than one child were 0.1 times as likely to have used condoms as compared to women with no children. Qualitative analysis supports this evidence; partners who had few children may not be interested in using condoms considering its contraceptive effect as a result of their intention to have more children. Women, who have more than one child, tend to be more trusting because they have been in the relationship for a long time and tend to perceive low risk of contracting infections from their partners. Our study suggests that, women who have more than one child were likely to be in the relationship for a long time and tend to trust their partners. They also probably have low perception of risk as such they do not feel the need to use condoms. This low risk perception increases their vulnerability to HIV and other

infections. Our study yielded consistent result with a Tanzanian study among barmaids.⁷

As evidenced by quantitative analysis women who were engaged were 2.4 times as likely to have used condoms as married women. There was no difference in the use of condoms among women who were cohabiting compared to married women. As supported by FGD results, being in stable relationships can also present some hindrances to condom use such as stigma around buying condom, false sense of security from infections and trust. Marriage is a rite of passage in Ghana that is considered very important and closely linked to child bearing in Ghana. A woman's social status and value is closely related to their marital status. Considering the importance associated with marriage, women who are married are considerably seen to be in stable relationship. Inasmuch as stability in this relationship provides the opportunity for women to be able to some extent express their views on certain issues and the likelihood of having one partner, our study shows that women who were engaged were likely to have used condoms in the past three years compared to married women. This can be as a result of the fact that within the past three years women who are engaged were likely to have changed sexual partners. This demonstrates that, women who are not married or in unstable relationship may use condoms due to their fear of any unintended pregnancies or infections. It also confirms study by Sunmola in Nigeria and Do et al in Vietnam who found low use of condoms among married men and women.^{25, 31} Literature indicates that, marriage creates a false sense of security from infections which has its basis on trusting partners. Women admit to trust their partners as such asking for condoms was equated to questioning that trust.^{26, 31}

5.2 Partner-related factors

As evidenced by quantitative analysis, women whose partners did not approve the use of condoms were 0.3 times as likely to have used condoms compared to those whose partners approved condom use. Women who were unable to ask their partners to use condoms were 0.3 times as likely to have used condoms. The greatest fear women perceived for asking for condom use was a threat of husband/partner getting another wife. All these factors were statistically significant after adjusting for other covariates. Qualitative analysis supports the significant role husbands/partners play in the decision to use condoms. This evidence is very important considering the complexity associated with female condoms as detailed in the FGD and in the absence of other female controlled HIV preventive methods like microbicide. Evidence from our study suggests that, women place a lot of credence on their partner's approval of condom use and possible perceived dire consequences of asking for condoms to be used. From FGD results it was evident that,

women divulge the responsibility of using condoms to men due to low perception of risk which is rooted in trust. This increases their vulnerability especially in sub-Saharan Africa where multiple concurrencies is almost a norm amidst polygamy.³⁶ It also emphasizes the superiority of men to women which translates in all aspects including sexual relations. This finding confirms a study in four countries in sub-Saharan countries who found that condom use was the individual decision of the male partner.³² This display of masculinity influences the self-efficacy of women to negotiate condom use during sex thereby increasing their vulnerability to HIV/STI and unintended pregnancies. It underscores the influence societal constructs that define gender roles exert on decision making even in sexual relations.

Also, as evidenced by FGD, the often documented reasons of not using condoms such as reducing sexual pleasure, promiscuity, and mistrust militate its use. This finding is corroborated by Sunmola and Agha et al.^{26, 35}

5.3 Provider-related factors

After adjusting for other covariates women were more inclined to buy condoms from chemical shop/pharmacy, provision shop and fried rice/yam seller. Women who were not comfortable to purchase condoms from chemical shop/pharmacy were 0.2 times as likely to have used condoms compared to those who considered it a comfortable place to purchase /access free condoms. Women who were not sure they will purchase condoms from provision shops were 0.1 times as likely to have used condoms compared to those who were comfortable to buy from the provision shop. Women who purchased or accessed free condoms from someone they did not know were 3.5 times as likely to use condoms compared to those who felt comfortable to buy from someone they knew. Age and sex of the provider were also significantly associated with condom access and uptake.

As supported by FGD results, women preferred getting condoms from people they did not know. This is not surprising considering the stigma associated with buying condoms such as being labelled "loose" or promiscuous. This makes women shy away from buying condoms especially with providers who know them and can easily associate them with these labels. This suggests that, providers have not been able to build trust with women to freely access condoms. This finding emphasises the need for providers of services in such sensitive areas to respect the confidentiality of women who access these services. Our study suggests that in addition to the type of provider, women were interested in other characteristics of the service provider. This is an important finding which unique to our study as far as we know in any rural population in Ghana. It highlights some underlying reasons for non-use of condoms among women. It is important that, providers are adequately trained with ample skills to deal with their prejudices and biases and be professional in the delivery of services which influences the uptake of condoms. These

concerns could influence the openness of women on issues of sexuality and STI for prompt attention thereby increasing their risk to HIV and other STI. Our study emphasizes the need to take these issues into consideration when promoting condoms in rural Ghana.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusion

In summary, this study represents one of the few studies that looked at factors influencing use of condom among women in this rural setting of Ghana. GAC through its efforts have contributed to the stability of the HIV epidemic. In its response of preventing new cases it has effectively promoted condom use as a useful preventive method; it has also increased points of sale of condoms to non-traditional sale points like barbering and hairdresser's salon to make it widely available to the general population. Despite these efforts our study show that condoms use is determined by a number of factors. The study shows that, the predictors of condom use cut across individual, partner and provider related factors.

It identified education, religion, occupation, number of children, marital status, partner's approval, ability to ask for condoms during sex, perceived threat of partner getting another wife, chemical/pharmacy shops, sex of providers, age of provider and familiarity with provider as factors that were associated with condom use.

Education is an important determinant of condom use. It was demonstrated to increase with increasing odds of condom use. Education places women in positions where they are able to talk about HIV transmissibility, prevention and treatment which lessened their vulnerability to misconceptions about the use of condoms.

In addition, the number of children a woman and her partner/husband had influenced the use of condoms considering the importance women attached to trust in their relationship. Women who have more than one child may perceive low risk. As such they probably do not consider condom use necessary in view of the long duration of their relationship. This increases their risk in a region like sub-Saharan Africa where multiple concurrencies is almost a norm. Women in stable relationship/married were unlikely to consistently use condoms especially if they intend to start a family, as a result, it is important to educate women in rural areas who are disadvantaged in terms of education with skills that enable them to negotiate if they feel the need to use condoms. They should be trained to understand that condom use among couples and non-couples is a collective decision of both partners and not devoted to one partner.

Again, religion was demonstrated to influence HIV prevention strategies such as condom promotion. It is believed to be a hindrance to condom promotion and sexual health education and discussions due to some of its tenets. As suggested by our study the religious affiliations of women influenced their use of condoms. It therefore emphasizes the need to recognise religious leaders as relevant stakeholders in HIV preventive strategies.

Our study shows that though Ghana operates in a free political and policy environment that makes condoms easily accessible, certain socio-demographic characteristics of providers such as age, sex and familiarity with providers may serve as barriers to the accessibility of condoms.

Moreover, the role of husbands or partners in the decision to use condoms cannot be overemphasised. Our study stresses the credence women placed on the partners/husbands approval of condoms use in the light of social and religious constructs that herald male dominance, female passivity and the expectation to procreate which influences the assertiveness of women towards condom use.

In a composite multivariate analysis partner related factors emerged strongly. Partner related factors emerged the primary determinant of condom use after adjusting for all factors that remained in the multivariate analysis. Partner's approval, the self-efficacy of the woman to ask their partner to use condoms and the perceived threat of the husband /partner getting another wife greatly influenced condom use.

Despite these limitations, our study provides insight into the factors that may predict condom use in rural Ghana. It is suggestive of the fact that, interventions that aim to promote safe sexual practices should be tailored to the needs of both men and women.

In conclusion, our study suggests that, HIV/STI prevention strategies and interventions that seek to promote condom use should consider the likely influence these factors will have on the woman's assertiveness to use condoms in rural Ghana. Also, it should consider these identified factors in program development and operation. An effective promotion of condoms does not only increase the prevention of HIV/STIs but also as a contraceptive. It underlines the high influence partners/husbands exert on condom use especially among women with less or no education in most rural communities in Ghana. Finally it accentuates the importance of education in building the self-efficacy of women towards condom use.

6.2 Recommendations

Involvement of men

The GAC and National AIDS Control Programme (NACP) should target both men and women in promoting safe sexual practices considering the high influence they exert on condom use especially among women with little or no education. This will enable them to better understand their risk and that a healthy sexual life and decision making around sexual issues is a collective decision of both partners. This could be through training men as peer educators in condom promotion.

Women empowerment

The NACP should empower women through information, education and communication (IEC) programs to increase their knowledge on their personal risk in order to build their self-assertiveness to negotiate condom use.

The government through the Ministry of Education should target more women in education to improve their employment prospects and social status thereby reducing their economic dependence on men in order to build their assertiveness thus minimising their vulnerability to HIV and other STI.

Coordination with religious institution

GAC should coordinate with religious leaders considering the pivotal role they play in the socialisation of both men and women as well supporting PLWHIV in Ghana. This can create a forum such as meetings/workshops to stimulate discussions on some religious tenets that aggravate HIV transmission bearing in mind the religious and cultural sensitiveness of this discussion.

NACP can liaise with religious leaders to create a forum to educate both man and women on sexual and reproductive health including condom use.

Promotion of best practices

Ghana AIDS commission through NACP should document and review programs/interventions in similar rural settings to learn from best practices in order to put out programs that will encourage the best use of condoms for HIV prevention in rural Ghana.

Strengthening capacity of providers

NACP should organise training workshops for providers to share and learn each other's experiences and coping skills to improve their service delivery to diverse clients.

NACP should improve the capacity of providers to provide practical education, which demonstrates the use of condoms to ensure correct use of condoms among women.

Enforcement of disciplinary measures

The MOH should institutionalise supervisory and disciplinary programs that frequently supervise the activities of providers and also create forums that encourage respect for clients and their confidentiality. This can be done by creating a complaints desk for unsatisfied clients to report their grievances.

Research

GAC and NACP should launch a cross-sectional survey to explore the factors that influence the low uptake of condoms among

Muslims and other religious affiliates in order to better address their need in condom programming and social marketing. In this study men should also be interviewed.

REFERENCES

1. Ghana districts. [Internet] 2006 [Cited on 2012 Mar 31st] Available on: http://www.ghanadistricts.com/districts/?news&r=10&_id=37
2. Ghana 2008, nation's cup diary [Internet] 2006 [Cited on 2012 Mar 31st] Available on: <http://news.bbc.co.uk/2/hi/africa/7197030.stm>
3. Ministry of Food and Agriculture. Kintampo North Municipal [Internet]. 2011 [cited 2012 Aug 11]. Available from: http://mofa.gov.gh/site/?page_id=1365
4. INDEPTH Network. Kintampo Health Demographic Surveillance Systems Ghana [Internet]. 2012 [cited 2012 Aug 11]. Available from: http://www.indepthnetwork.org/index.php?option=com_content&task=view&id=775&Itemid=666
5. Read U, Adiibokah E, Nyame S. Local suffering and the global discourse of mental health and human rights: an ethnographic study of responses to mental illness in rural Ghana. *Global Health*. 2009 Oct 14; 5:13.
6. Abor PA, Abekah-Nkrumah G, Abor J. An examination of hospital governance in Ghana. Bradford: Emerald group publishing Ltd; 2008. P. 47 – 60. (Leadership in Health Services; Vol 21).
7. Kintampo North: 40% of residents living with TB. Ghana News Agency [Internet]. 2009 Aug 19 [cited 2012 Aug 11]. Available from: <http://kintamponorth.ghanadistricts.gov.gh/?arrow=nws&read=28103>
8. UNAIDS. Terminology Guidelines [Internet] 2010 Jan [updated 2010 October; cited 2010 Mar 22].
9. National Strategic Plan for MARPs 2011- 2015; Leveraging a public Health approach for universal access [Internet] 2011 Aug [cited 2012 Mar 18].
10. Ghana's progress report on the United Nations General Assembly Special Session (UNGASS) declaration of commitment on HIV and AIDS. Ghana: GAC publisher; 2012 Mar. 116p.
11. NACP. 2008 Report on HIV national Sentinel survey, Ghana Health Service. [Internet] 2010 Jan [updated 2010 October; cited 2010 Mar 22]

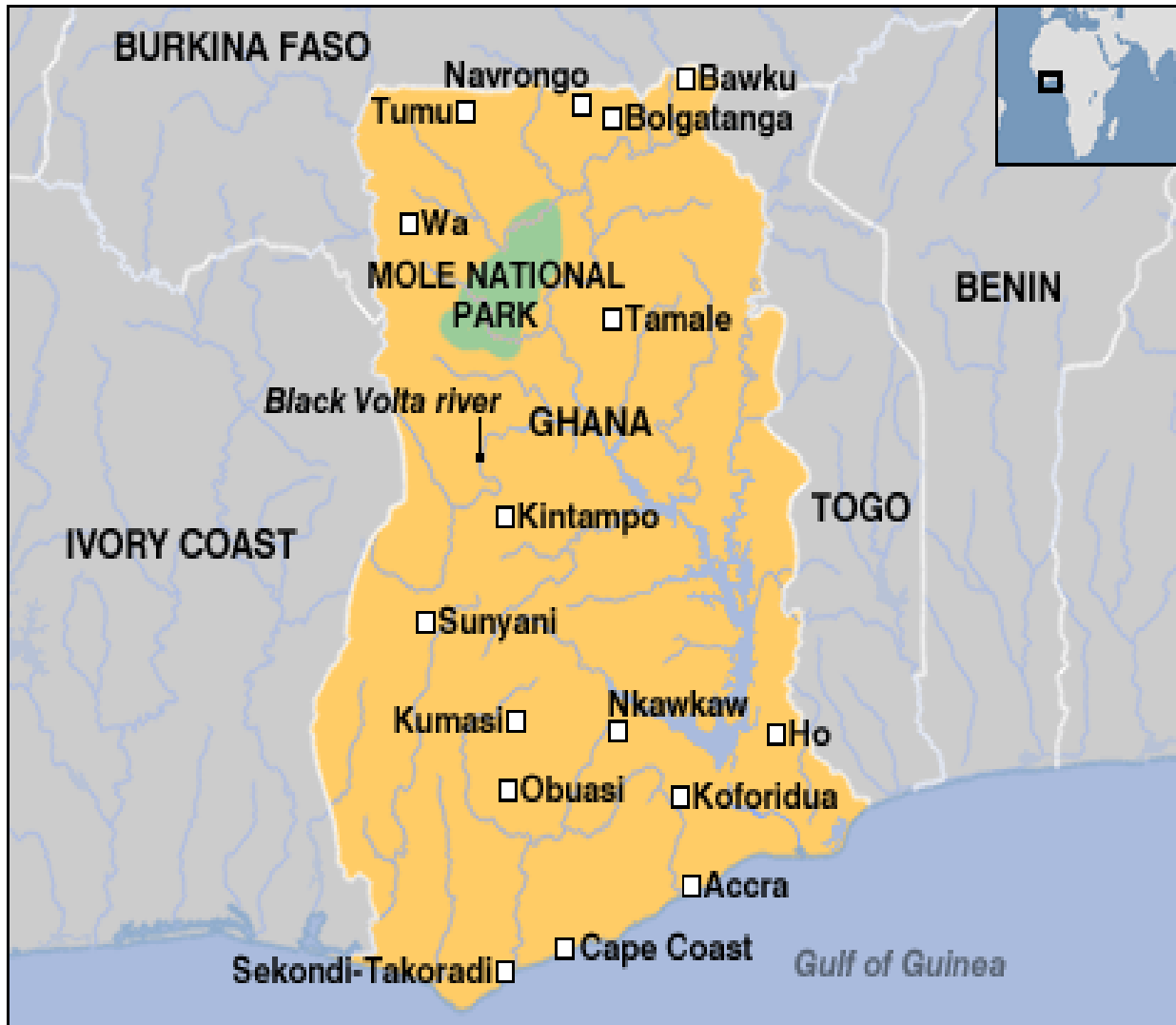
12. Ghana Demographic and Health Survey 2008. Ghana: GSS publishers; 2009. 512p
13. Ghana Demographic and Health Survey 2003. Ghana: GSS publishers; 2009. 512p
14. UNAIDS. Country Reports. [Internet] 2010 Jan [updated 2012 Mar 31; cited 2010 Oct. 13]. Available from: <http://www.unaids.org/en/regionscountries/countries/>
15. Guidelines for antiretroviral therapy in Ghana: National HIV/AIDS/ STI Control Programme Ministry of Health / Ghana Health Service August 2010.
16. USAID. TB care 1 [Internet]. 2012 [cited 2012 Aug 11]. Available from: <http://www.tbcare1.org/countries/africa/gha/>
17. Ghana's progress report on the United Nations General Assembly Special Session (UNGASS) declaration of commitment on HIV and AIDS. Ghana: GAC publisher; 2010 Mar. 116p.
18. Ghana AIDS Commission. National HIV/AIDS and STI policy. Ghana. GAC publishers; 2004 Aug. 33p.
19. Odoi-Agyarko H. Profile of reproductive health situation in Ghana for World Health Organization, Ghana; 2003 Nov. 54p.
20. Naik R, Brady M. The Female Condom in Ghana: Exploring the current state of affairs and gauging potential for enhancing promotion. Population Council [Internet]. 2008[cited 2012 Mar 31]; p 24.
21. Domanska CA, Teitelman AM. Factors that affect acceptance of HIV microbicides among women. *Collegian*. 2012, 19:1, 23-32.
22. Bankole A, Ahmed FH, Neema S, Ouedraogo C, Konyani S. Knowledge of correct condom use and consistency of use among adolescents in four countries in sub-Saharan Africa. *Afr J Reprod Health*. 2007 Dec; 11 (3):197-220.
23. Lagarde E, Caraël M, Glynn JR, Kanhonou L, Abega SC, Kahindo M, Musonda R, Auvert B, Buvé A. Educational level is associated with condom use within non-spousal partnerships in four cities of sub-Saharan Africa. *AIDS* 2001, volume 15 (Issue 11): pp 1399-1408.

24. Baiden P, Rajulton F. Factors influencing condom use among women in Ghana: an HIV/AIDS perspective. SAHARA J 2011 Jun; 8(2):46-54.
25. Sunmola AM. Factors associated with consistent condom use by employees in the brewery industry in Nigeria. SAHARA J 2004, volume 1: pp 27-34.
26. Making condoms work for HIV prevention: UNAIDS best practice collection cutting edge perspective. [Internet] 2004 June [cited 2012 Jul 08].
27. Evaluation of the 100% Condom Programme in Thailand [Internet] 2000 Jul [cited 2012 Aug 04]. Available from: <http://www.comminit.com/hiv-aids/node/71882>
28. Akarro RR. Some factors associated with condom use among bar maids in Tanzania. J Biosoc Sci. 2009 Jan; 41(1):125-37. Epub 2008 Apr 28.
29. Hounton SH, Carabin H, Henderson NJ. Towards an understanding of barriers to condom use in rural Benin using the Health Belief Model: A cross sectional survey. BMC Public Health 2005; 5:8.
30. Agha S, Hutchinson P, Kusanthan T. The effects of religious affiliation on sexual initiation and condom use in Zambia. J Adolesc Health. 2006 May; 38(5):550-5. Doi: 10.1016/j.jadohealth.2005.04.012
31. Do M, Hongyun F. Is women's self-efficacy in negotiating sexual decision making associated with condom use in marital relationship in Vietnam? Stud Fam Plann. 2011 Dec; 42(4):273-82.
32. Mumtaz Z, Slaymaker E, Salway S. A Focus on Gender Collected Papers on Gender Using DHS Data: Condom use in Uganda and Zimbabwe: exploring the influence of gendered access to resources and couple-level dynamics.
33. Agha S, Kusanthan T, Longfield K, Klein M, Berman J. Reasons for Non-use of Condoms in Eight Countries in sub-Saharan Africa. POPline [Internet].2002 [cited 2012 Mar 31]; p 22.
34. Chamrathirong A, Kaiser P. The dynamics of condom use with regular and casual partners: analysis of the 2006 national sexual behaviour survey of Thailand. PLoS one 2012; 7(7):e42009. Epub 2012 Jul 30.

35. Molla M, Yemane B, Lindtjorn B. Traditional values of virginity and sexual behaviour in rural Ethiopian youth: results from a cross-sectional study. *BMC public health* 2008 Jan; 8:9. Doi: 10.1186/147-2458-8-9.
36. Epstein H, Morris M. Concurrent partnerships and HIV: an inconvenient truth. *J Int AIDS Soc.* 2011 Mar 15; 14:13.
37. National Agency for Control of AIDS policy. National policy on HIV/AIDS. Federal Government of Nigeria. NACA publishers; 2009 Oct. 54p.
38. Ammann AJ. Governments as facilitators or obstacles in the HIV epidemic. *BMJ* 2002; 324:184. Doi: 10.1136/bmj.324.7331.184

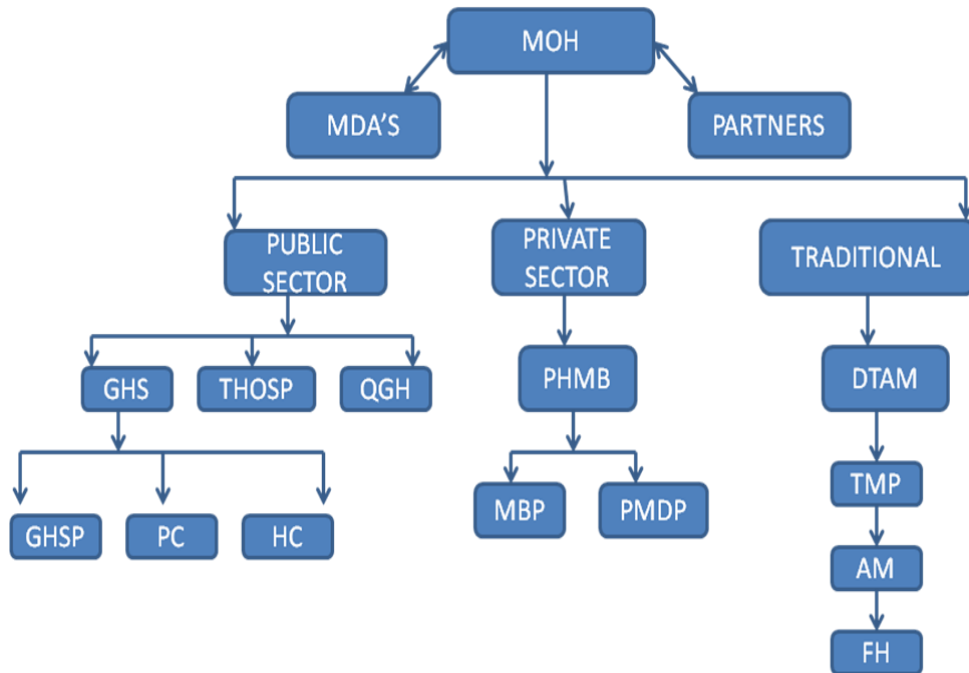
APPENDIX

Appendix1. Map of Ghana indicating the strategic location of Kintampo



Source: BBC news 2008

Appendix2. Structure of the Health sector of Ghana



Source: An examination of hospital governance in Ghana, 2008

AM Alternate Medicine
 DTAM Department of Traditional Medicine
 FH Faith healers
 GHS Ghana Health Services
 GHSP Government Hospital
 HC Health Centre
 MBP Mission
 MDA Ministry Department & Agencies
 MOH Ministry of Health
 PC Polyclinic
 PHMB Private Maternity Homes Board
 PMDP Private Medical & Dental Practitioners
 QGH Quasi Government Hospital
 THOSP Teaching Hospital
 TMP Traditional Medical Providers

Appendix 3

Survey Questionnaire

Kintampo Health Research Centre	Form No.	
Risk of sexually-transmitted infections and the acceptability of microbicides among Pregnant women in the Kintampo Municipality		FORMNO

Study ID Number..... SIDNUM

SECTION A: GENERAL AND DEMOGRAPHIC CHARACTERISTICS

Date of Visit..... DVIS

Staff Code..... SCD

SECTION B: RESPONDENT INFORMATION

1. How old are you? AGE

2. Highest completed educational level

1. None	2. Primary	3. Middle/JSS
4. SSS/SHS	5. Other	

EDU

3. Ethnicity

1. Akan	2. Dagomba/Mamprusi	3. Frafra/Nankana
4. Mo	5. Grushie/Kasena	6. Banda/Pantra
7. Other.....		

ETHI

4. Religion

1. Moslem	2. Christian
3. Traditional	4. Other

RELI

5. Occupation

1. Petty trader	2. Civil servant/Student
3. Farmer/labourer	4. Other

OCCU

6. Number of children..... CHIL

7. Area of residence

1. Kintampo Town	2. Within but outside of Kintampo	3. Out of Kintampo
------------------	-----------------------------------	--------------------

RESI

SECTION C: PARTNER INFORMATION

1. How old is your partner?

--	--

 PAGE

2. Highest completed educational level

1. None	2. Primary	3. Middle/JSS
4. SSS/SHS	5. Other	

 PEDU

3. Ethnicity

1. Akan	2. Dagomba/Mamprusi	3. Frafra/Nankana
4. Mo	5. Grushie/Kasena	6. Banda/Pantra
7. Other.....		

 PETHI

4. Religion

1. Moslem	2. Christian
3. Traditional	4. Other

 PRELI

5. Occupation

1. Petty trader	2. Civil servant
3. Student	4. Farmer/Labourer
5. Driver	6. Other

 POCCU

6. Previously married before present relationship?

1. Yes	2. No	3. May be/Don't know
--------	-------	----------------------

 PREVM

7. Partner has any children beside those with you?

1. Yes	2. No	3. May be/Don't know
--------	-------	----------------------

 PCHIL

SECTION D: RELATIONSHIP ISSUES

1. Year of marriage or relationship with present partner

--	--	--	--

 YMAR

2. Marital(relationship) status

1. Married	2. Engaged
3. Cohabitation (Living together)	
4. Divorced/Separated/Widowed	5. Other

 MAST

3. If married, nature of marriage

1. Married through church/mosque wedding	2. Married only by traditional ceremony	9. N/A
--	---	--------

 NATM

4. Does your partner stay in the same house as you?

1. Yes	2. No
--------	-------

 STAYU

5. Area of residence

1. Kintampo Town	2. Within but outside of Kintampo	3. Out of Kintampo
------------------	-----------------------------------	--------------------

 PRESI

SECTION E: SPOUSAL ATTITUDE TOWARDS CONDOM USE

1. Does your husband/partner approve of the use of condom?

1. Yes	2. No
--------	-------

 HUAP

2. Would you be able to ask your husband/partner to use a condom when having sex with you?

1. Yes	2. No
--------	-------

 ASKH

3. Do you foresee the following as possible consequences if you asked your husband/partner to use a condom during sex with you or other partner(s)

3.1 Threaten to get a girlfriend.....	1. Yes	2. No	CCNS1
3.2 Threaten to get another wife.....	1. Yes	2. No	CCNS2
3.3 Threaten divorce.....	1. Yes	2. No	CCNS3
3.4 Physical abuse (Fight/beating).....	1. Yes	2. No	CCNS4
3.5 Mistrust in the marriage.....	1. Yes	2. No	CCNS5
3.6 Not care for children or household.....	1. Yes	2. No	CCNS6
3.7 Refuse sex with you.....	1. Yes	2. No	CCNS7
3.8 Report you to in-laws.....	1. Yes	2. No	CCNS8
3.9 Other.....	1. Yes	2. No	CCNS9

SECTION F: SPOUSAL ATTITUDE TOWARDS HIV TESTING

1. Has your husband/partner tested for HIV within the past three years?

1. Yes	2. No	8. Don't know
--------	-------	---------------

 HTES

2. Would you be able to ask your husband/partner to get tested for HIV?

1. Yes	2. No
--------	-------

 ASKT

3. Do you foresee the following as possible consequences if you asked your husband/partner to go and get tested for HIV?

3.1 Threaten to get a girlfriend.....	1. Yes	2. No	TCONS1
3.2 Threaten to get another wife.....	1. Yes	2. No	TCONS2
3.3 Threaten divorce.....	1. Yes	2. No	TCONS3
3.4 Physical abuse (Fight/beating).....	1. Yes	2. No	TCONS4
3.5 Mistrust in the marriage.....	1. Yes	2. No	TCONS5
3.6 Not care for children or household.....	1. Yes	2. No	TCONS6
3.7 Refuse sex with you.....	1. Yes	2. No	TCONS7
3.8 Report you to in-laws.....	1. Yes	2. No	TCONS8
3.9 Other.....	1. Yes	2. No	TCONS9

SECTION G: HIV AWARENESS AND RISK

1. Do you consider condom use a good method to prevent HIV infection?

1. Yes	2. No
--------	-------

 CDGD
2. Have you used a condom during sex in the past three years?

1. Yes	2. No
--------	-------

 CDUSE
3. Have you had an occasional partner within the past three years?

1. Yes	2. No
--------	-------

 OCCPN
4. Number of partners within past three years

--	--

 NPRT
5. Do you think condom use should be promoted even for married couples?

1. Yes	2. No
--------	-------

 NUP
6. Have you been tested for HIV within the past three years?

1. Yes	2. No
--------	-------

 UTES
7. If yes, where

1. This health facility	2. Other health facility
3. At home	4. Community
5. Other	9. N/A

 POCCU
8. Within the past three years, have you experienced any of the following symptoms?
- 8.1 Whitish vaginal discharge.....

1. Yes	2. No
--------	-------

 EXWD
- 8.2 Yellowish/green vaginal discharge

1. Yes	2. No
--------	-------

 EXGD
- 8.3 Offensive vaginal discharge.....

1. Yes	2. No
--------	-------

 EXOD
- 8.4 Genital ulcer.....

1. Yes	2. No
--------	-------

 EXGU
- 8.5 Genital warts.....

1. Yes	2. No
--------	-------

 EXGW
- 8.6 Lower abdominal pain.....

1. Yes	2. No
--------	-------

 EXLP
- 8.7 Painful, itchy vagina.....

1. Yes	2. No
--------	-------

 EXPV
9. Which of the three HIV/STI prevention messages do you consider most applies to you?

1. Abstinence	2. Being faithful	3. Using a condom
---------------	-------------------	-------------------

 HIVM
10. Are you aware there are condoms designed for use by women?

1. Yes	2. No
--------	-------

 AWCD
11. Have you seen one before?

1. Yes	2. No
--------	-------

 SECD
12. Do you know someone who has used a female condom before ?

1. Yes	2. No
--------	-------

 USCD1
13. Do you have a relation/friend who is infected with HIV?

1. Yes	2. No
--------	-------

 RINF

SECTION H: SPOUSAL RELATIONSHIP ISSUES

1. Does your husband/partner have another wife apart from you?

1. Yes	2. No
--------	-------

 HWIF
2. Within the past two years have you had reason to think your husband/partner may be sleeping with another woman?

1. Yes	2. No
--------	-------

 HUSLP
- 2.1 If yes, were you able to ask him about?

1. Yes	2. No	9. N/A
--------	-------	--------

 ASKH
3. Would you fear hostility if you asked your husband/partner about other affairs?

1. Yes	2. No
--------	-------

 HUSLP
4. Within the past three years, has your husband/partner complained of any of the following symptoms ?
- | | | | | |
|--------------------------------------|--------|-------|-------|------|
| 4.1 Penile discharge..... | 1. Yes | 2. No | 8. DK | EXWD |
| 4.2 Yellowish/green penile discharge | 1. Yes | 2. No | 8. DK | EXGD |
| 4.3 Offensive penile discharge..... | 1. Yes | 2. No | 8. DK | EXOD |
| 4.4 Genital ulcer..... | 1. Yes | 2. No | 8. DK | EXGU |
| 4.5 Genital warts..... | 1. Yes | 2. No | 8. DK | EXGW |
| 4.6 Lower abdominal pain..... | 1. Yes | 2. No | 8. DK | EXLP |
| 4.7 Painful, itchy vagina..... | 1. Yes | 2. No | 8. DK | EXPV |
5. Would you wish that your husband/partner agreed to get tested for HIV?

1. Yes	2. No	3. May be
--------	-------	-----------

 HUST

SECTION I: HEPATITIS B AWARENESS AND RISK

1. Are you aware of a disease called Hepatitis B?

1. Yes	2. No
--------	-------

 HEPB

If “No” skip to Section J

2. Where did you first get to know about Hepatitis B

1. Radio	2. TV
3. Friends	4. Church/Mosque
5. Other	8. Don't know

 KNOW

3. From what you know of hepatitis B, can it be gotten through the following?

3.1 Airborne(Through breathing in the germs)	1. Yes	2. No	8. DK	BAIR
3.2 Through sex with infected persons	1. Yes	2. No	8. DK	BSEX
3.3 Eating contaminated food	1. Yes	2. No	8. DK	BEAT
3.4 From mother to child, during pregnancy and childbirth	1. Yes	2. No	8. DK	BMTC
3.5 Through bite of infected an mosquito	1. Yes	2. No	8. DK	BMOQ

4. Which of the two diseases (HIV and Hepatitis B) would you consider more infectious?	1.HIV/AIDS	2. Hepatitis	8. DK	TRAS
--	------------	--------------	-------	------

5. Have you ever been tested for Hepatitis B?	1. Yes	2. No	BTES
---	--------	-------	------

SECTION J: ACCESS TO AND EXPERIENCE WITH CONDOM USE

1. Recalling your sexual experience in the past three years, were there occasions where you had condoms on you just in case your partner did not have any ?	1. Yes	2. No	CDRE
---	--------	-------	------

2. Recalling your sexual experience in the past three years, how often did you or partner use condom?	1. Very often	2. Sometimes	3. Never	CDFQ
---	---------------	--------------	----------	------

3. Recalling your sexual experience in the past three years, which of these two has been more important to you?	0. Avoiding HIV/STIs	CDIM
	1. Preventing pregnancy	
	2. Both of equal important	

4. Have you ever bought a condom in any part of this district before?	1. Yes	2. No	CDBY
---	--------	-------	------

4.1 If yes, when was it?.....					CDWN
-------------------------------	--	--	--	--	------

4.2 If yes, where was it (USE BLOCK LETTERS)		CDWH
--	--	------

5. How comfortable/relaxed would you feel buying or getting free condoms at the following places?

5.1 Chemical shop/Pharmacy	1. Very fine	2. Not sure	3. No, not comfortable	CD1
5.2 Filling station	1. Very fine	2. Not sure	3. No, not comfortable	CD2
5.3 Provision shop	1. Very fine	2. Not sure	3. No, not comfortable	CD3
5.4 Chop bar	1. Very fine	2. Not sure	3. No, not comfortable	CD4
5.5 Hotel/Guest house	1. Very fine	2. Not sure	3. No, not comfortable	CD5
5.6 Fried rice/Yam Seller	1. Very fine	2. Not sure	3. No, not comfortable	CD6
5.7 Cosmetic store	1. Very fine	2. Not sure	3. No, not comfortable	CD7
5.8 Music shop	1. Very fine	2. Not sure	3. No, not comfortable	CD8
5.9 Kintampo Hospital	1. Very fine	2. Not sure	3. No, not comfortable	CD9
5.10 Other health facility	1. Very fine	2. Not sure	3. No, not comfortable	CD10

6. How much should a pack of three condoms be sold for you to consider affordable (GHC)?

		.	
--	--	---	--

CDCT

7. If you had to buy a condom, what character of the vendor would make you comfortable?

7.1	1. Same sex	2. Different sex		CDGD
7.2	1. Younger than me	2. Same age	3. Older than me	CDAG
7.3	1. Someone I know	2. Someone I do not know		CDKN

8. From your experience or discussions with friends, how readily do men in your community agree to use condoms during sex?

1. Readily
2. Reluctantly
8. DK

CDRD

1. Have you had any teaching on the correct way to open, wear and dispose of condom?

1. Yes	2. No
--------	-------

CDCR

SECTION K: ACCEPTABILITY OF MICROBICIDES

Microbicides are compounds that can be applied inside the vagina /rectum to protect against Sexually Transmitted Diseases (STDs) including HIV. They can greatly empower women to protect themselves especially where men are reluctant to use the condom.

1. Have you heard about microbicides before?

1. Yes	2. No
--------	-------

 MC

2. Have you used any of these surrogate products before?

2.1 Spermicides	1. Yes	2. No	MSCP
2.2 Lubricant to wet the vagina before sex	1. Yes	2. No	MCLU
2.3 Anything put in the vagina to enhance sexual pleasure	1. Yes	2. No	UVS

3. Is there taboo in your culture against inserting fingers into the vagina?

1. Yes	2. No
--------	-------

 MCTB

3.1 If yes, please describe

	MCTEXT
--	--------

4. If a microbicide became available, would you consider using it?

1. Yes	2. No
--------	-------

 MCUS

5. How comfortable will you be buying or getting free microbicide from the following places?

5.1 Chemical shop/Pharmacy	1. Yes	2. Not sure	3. No	9. NA	MCPH
5.2 Hospital, Health Centre/ Health Post	1. Yes	2. Not sure	3. No	9. NA	MCHT
5.3 Provision shop	1. Yes	2. Not sure	3. No	9. NA	MCPS
5.4 Chop bar	1. Yes	2. Not sure	3. No	9. NA	MCCB
5.5 Hotel/Guest house	1. Yes	2. Not sure	3. No	9. NA	MCHO
5.6 Fried Rice Seller	1. Yes	2. Not sure	3. No	9. NA	MCFR
5.7 Fried Yam Seller	1. Yes	2. Not sure	3. No	9. NA	MCYS
5.8 Cosmetic store	1. Yes	2. Not sure	3. No	9. NA	MCCS
5.9 Music Shop	1. Yes	2. Not sure	3. No	9. NA	MCMS
5.10 Fuel Filling Station	1. Yes	2. Not sure	3. No	9. NA	MCFS

6. For how much should a microbicide that can be used in one sexual act be sold for you to consider affordable (GHC) ?

			•		
--	--	--	---	--	--

 MCCP

7. If you had to buy a microbicide, what character of the vendor would make you comfortable?

- 7.1

1. Same sex	2. Different sex	
-------------	------------------	--

 MCGN
- 7.2

1. Younger than me	2. Same age	3. Older than me
--------------------	-------------	------------------

 MCAG
- 7.3

1. Someone I know	2. Someone I do not know	
-------------------	--------------------------	--

 MCKN
8. If you had used a microbicide, do you think your partner will find it acceptable ?

1. Yes	2. No	3. DK
--------	-------	-------

 MCAC
9. If you had to apply the microbicide before sex with your husband , do you think you will be able to use it secretly without your partner finding out?

1. Yes	2. No
--------	-------

 MCSE
10. How will you [best] prefer to have a microbicide packaged ?

1. Tablet form	2. Gel/Cream	3. Other
----------------	--------------	----------

 MCPK
11. Would you prefer that a microbicide is perfumed?

1. Yes	2. No
--------	-------

 MCPF
12. Would you prefer that a microbicide is coloured?

1. Yes	2. No
--------	-------

 MCCO
- 12.1 If yes, what colour would you best prefer?

1. White	2. Cream	3. Red
4. Other	9. NA	

 MCC1
13. Between effect on sexual pleasure and protection from HIV which will be your bigger concern about microbicide?

1. Effect on sexual pleasure
2. Protection from HIV infection
3. Both

 MSCP

END OF MICROBICIDE ACCEPTABILITY FORM.CHECK FORM AND THANK THE RESPONDENT

Appendix 4

Focus Group Discussion guide

CONDOM USE

1. What do you know about the use of contraceptives particularly condom. Who can or cannot use condom
 - 1a. why do you think someone will feel reluctant to use condoms? Probe for reasons
2. Where will one feel comfortable to buy condoms?
 - 2a. Apart from places mentioned above where else will one feel comfortable buying condoms?
 - 3a. Who will someone prefer buying condoms from. Is it someone they know or do not know?
 - 3b. Why will someone prefer buying condoms from people they do not know
3. Why it that female condom use is not common?
4. What will you consider most important when using condoms?
5. Is it true that women are afraid to ask their partners to use condom?
6. Why are most women often afraid to ask their men to use condom. Probe why most Moslems are the victims of this situation. Is it to do with the religion?
7. Why will men refuse to use condoms during intercourse?

MICROBICIDE USE

1. What form of microbicide will you prefer, probe for the reasons for the choice?
2. Why will people prefer to buy microbicides from people they do not know?
3. Is there a taboo in our culture that prevents us from inserting our fingers in our vagina?

HIV TESTING

1. Why is it that women find it difficult to ask their men to test for HIV?
2. Why do you think that some women are afraid to test for HIV even though others willingly do so?

Why do you think people consider condom a good method of HIV prevention yet are reluctant to use it. Give reasons?

Appendix5. The Profile of women who attend Antenatal clinic at Kintampo

Variable	Number of women(N)	Percent (%)
Age		
15-19	72	14.3
20-24	144	28.7
25-29	146	29.1
30-34	93	18.5
35+	47	9.4
Highest level of education		
None	188	37.5
Primary	76	15.1
Middle school/JSS	151	30.1
SSS/SHS	64	12.6
Other	23	4.6
Religion		
Moslems	141	28.1
Christian	354	70.5
Other	7	1.4
Occupation		
Petty trader	201	40.0
Civil servant	61	12.2
Farmer/Labourers	71	14.1
Other	169	33.5
Marital Status		
Married	295	59.6
Engaged	119	24.4
Cohabitation/living together	81	16.4
Number of children		
None	168	33.5
One child	130	25.9
More than one child	204	40.6