

Risk Factors of Adolescent Pregnancy in Kabale District - Uganda

Kyokwijuka Besigiroha Gad Moses

2004/HD15/1008U

Bsc[QE], PGD[CS]

**A Dissertation Submitted in Partial Fulfillment of the Requirements
for the award of the Degree of Master of Science
in Population and Reproductive Health
of Makerere University**

December 2009

Declaration

I Kyokwijuka Besigiroha, hereby declare that the work presented here is original and has never been submitted to any institution of higher learning for any award.

Kyokwijuka Besigiroha Gad Moses

Signed:..... Date:.....

Supervisors

L K Atuhaire (Ph.D)

Senior Lecturer,

Institute of Statistics and Applied Economics, (ISAE)

Makerere University,

Signed:..... Date:.....

J J Odwee (Ph.D)

Director,

Institute of Statistics and Applied Economics, (ISAE),

Makerere University,

Signed:..... Date:.....

Dedication

To the memory of my dear parents; Mr Elisha Biryamaraki and Mrs Irene Biryamaraki.

Dad and Mum, your inspiration, love, encouragement, support, advice, understanding and on top of it all your Christian, God fearing, of all you have made me what am. Thank you so much without my equitable measure for the full parenthood you gave me.

On another note, I thank my sister Dorothy for the support she gave during this course period. I don't have much to give you but to wish you well in whichever work you are doing.

To my parents, I only wish you were there to see me attain this degree.

"Death where is thy sting....."

Through problems we can succeed

Acknowledgement

I fully acknowledge the contribution of my supervisors Dr Atuhairu and Dr Odwee. Their professional guidance, advice and positive criticisms have helped me through the study. My thanks go to my field assistants; Peace Mbabazi, Christine Ndemere, Jennifer Tumwesigye and Medad Tukesiga of Kabale University for their good work.

Acknowledgement is also due to my course mates; Badruh, Collin and Kenneth. Their enthusiasm and company have helped me from the beginning to the end.

Am also grateful to Dr Nuwagaba of REEV CONSULT who recommended me to UNFPA-Uganda to use their library and other materials from his office.

Great appreciation goes to my late parents Mr Biryamaraki and Mrs Irene who introduced me to education without forgetting my brother Edward Mahamba who gave me full support from the time we lost our dear parents.

Lastly, I wish to thank the entire staff, both academic and non-academic of I.S.A.E, Makerere University who helped me during my research.

Abstract

Adolescents in Uganda are increasingly starting sexual intercourse at early ages in their lives. Hence the study offers an in-depth analysis of the relative contribution of some socio-demographic factors in explaining adolescent pregnancy in Kabale district. Using primary data collected from different parts of the district, a sample of 301 female adolescents in age range of 10-24 years was studied.

Results from the above models indicate that the level of education, place of residence, sex and age had significant impact on the dependent variable (adolescent pregnancy) while place of birth, religion and ethnicity were not significantly connected to adolescent pregnancy.

The majority of the respondents were from rural areas. Adolescents who were peasants and rural based had a high percentage of pregnancy compared to those from urban areas. Some of the risk factors that were likely to affect adolescents to have unwanted pregnancy were; peasantry, coming from a rural area, staying with parents, exposure to television messages, poor economic status, print media, lack of privacy, marriage before 18 years, lack of sex education and counselling against pregnancy. These factors were considered to pose high risks to adolescents because of studies that have been carried out by UNBOS, WHO, UNFPA and other health international organizations in developing countries.

The district health team should therefore intensify health education through information, education and communication materials geared towards risk reduction of adolescent pregnancy. These materials should mainly target peasants and adolescent girls. Kabale district local council should lobby for a loan scheme from the central government, NGOs and other donors for the people to start income generating projects to reduce household poverty and also enact a by-law for girl children not to marry before the age of 18 years. Advocacy for proper house designs to ensure privacy between children and parents should be done by the district local leaders. Sex education should be started as early as 12 years by parents and teachers.

The study therefore recommends effective programs for adolescents with their involvement. There is great benefit in strengthening their knowledge and skills through sex education. Greater efforts are essential in dealing with their special needs and appropriate services should be made available.

Table of Contents

Chapter 1: Introduction	1
1.1 Background to the study	1
1.2 Background on the district	5
1.2.1 Location	5
1.3 Administrative units	5
1.4 Ethnicity	6
1.5 Economic activities	6
1.6 Socio-demographic characteristics	6
1.7 Health services	7
1.8 Problem statement	8
1.9 Objectives	9
1.9.1 General objective	9
1.9.2 Specific objectives	10
1.10 Research questions	10
1.11 Study hypotheses	11
1.12 Justification	11
1.13 The conceptual framework	12
Chapter 2: Literature review	14
2.1 Global picture	15
2.2 Uganda picture	15
2.3 Big population	15
2.4 Laws and policies on adolescent reproductive health	15
2.5 High maternal morbidity and mortality	15
2.6 Poor family and community influence on adolescent reproductive health (A.R.H)	16
2.7 Early pregnancy and childbearing	16
2.8 Early adolescent marriages	17
2.9 Unsafe abortions	18
2.10 Education of adolescents	18
2.11 First Sexual Intercourse	19
2.12 Contraceptive knowledge and use	20
Chapter 3: Data and Methodology	22
3.1 Area of study	22

3.2 Study population	23
3.3 Study design	23
3.4 Selection of respondents	23
3.5 Study unit	24
3.6 Sample size	24
3.7 Sampling procedure	24
3.8 Study variables	26
3.9 Data collection	26
3.10 Data processing	27
3.11 Data analysis	28
3.11.1 Qualitative analysis	28
3.11.2 Key informant interviews	29
3.12 Univariate analysis	29
3.13 Bivariate analysis	29
3.14 The Chi-square Test	29
3.14.1 Logistic regression model	30
3.15 Data limitations	31
3.16 Quality assurance	32
3.17 Ethical considerations	32
3.18 Limitations of the study	33
3.19 Summary	33
Chapter 4: Analysis of Factors Affecting Adolscent Pregnancy..	34
4.1 Socio-demographic characteristics	34
4.2 Background Characteristics of respondents	34
4.2.1 Age of respondents	34
4.2.2 Religious affiliation	35
4.2.3 Place of childhood residence	36
4.2.4 Respondents' type of residence	36
4.2.5 Education level of respondents	37
4.2.6 Respondents' ethnicity	37
4.2.7 Occupation of respondents' parents	38
4.2.8 Marital status of respondents	38
4.2.9 Percentage distribution of respondents by Socio-economic and demographic characteristics	39

4.3 Knowledge and use of contraceptive methods	41
4.4 Pregnancy related factors	42
4.5 Socio-behavioral characteristics	43
4.5.1 Reproductive behavior	43
4.5.2 Age at first sexual intercourse among respondents	43
4.5.3 The effect of peer influence on Adolescent pregnancy	45
4.5.4 Sex education	46
4.5.5 Reasons for sex	47
4.5.6 Sexual partner	47
4.6 Access and Use of Media	47
4.6.1 Focus group discussions (FGD)	50
4.6.2 Key informant interviews	51
4.7 Factors of Adolescent pregnancy	52
4.8 Education and adolescent pregnancy	53
4.8.1 Education and Sexual intercourse	53
4.8.2 Education and Condom use	54
4.8.3 Education and STDs	55
4.9 Place of residence and adolescent pregnancy factors	55
4.10 Place of birth and pregnancy	57
4.11 Ethnicity and pregnancy	57
4.12 Religion and pregnancy	59
4.13 Age and pregnancy	60
4.14 Consequences	62
4.14.1 Social consequences	62
4.14.2 Medical consequences	62
4.15 Determinants of Adolescent pregnancy	63
4.15.1 Multivariate Analysis	63
4.15.2 Logistic regression model	63
4.16 Results of the logistic regression model and discussion	64
4.16.1 The model addresses the following hypotheses	65
4.17 Summary	68
Chapter 5: Summary of findings, Conclusions and Recommendations	70
5.1 Age at marriage among adolescent women	73

5.2 Relationship between socio-economic factors and adolescent pregnancy	74
5.2.1 Relationship between staying with parents and adolescent pregnancy	74
5.2.2 Relationship between mass media on adolescent pregnancy	75
5.2.3 Access to the print media	76
5.2.4 Exposure to pornographic information in the family	76
5.2.5 Relationship between poor economic status and adolescent pregnancy	77
5.2.6 Sexual behavior among adolescents	78
5.2.7 Knowledge and use of contraceptives among adolescents	78
5.3 Conclusions and Recommendations	79
5.5 Area for future research	83
References	84
Appendix 1: Individual Questionnaire	86
Appendix 2: Focus Group Discussion Guide	94
Appendix 3: Key Informant Guide	95

List of Tables

1. Table 1.1: Health indicators of Kabale district	8
2. Table 4.1: Percentage distribution of the respondents by age at last birthday	35
3. Table 4.2: Percentage distribution of the respondents by religious affiliation	36
4. Table 4.3: Percentage distribution of the respondents by place of birth	36
5. Table 4.4: Percentage distribution of the respondents by educational level	37
6. Table 4.5: Percentage distribution of the respondents by tribe	37
7. Table 4.6: Percentage distribution of occupation of respondents' parents	38
8. Table 4.7: Percentage distribution of marital status of respondents	38
9. Table 4.8: Relationship between Age at marriage of the respondents	39
10. Table 4.9: Relationship between socio-economic factors among respondents families	40
11. Table 4.10: Knowledge and use of contraceptive methods	41
12. Table 4.11: Percentage distribution of factors related to pregnancy	42
13. Table 4.12: Sexual behavior and practice among the respondents	45
14. Table 4.13: The effect of peer influence among respondents	46
15. Table 4.14: Percentage distribution of respondents by sex education	46
16. Table 4.15: Type of Sexual partners	47
17. Table 4.16: Access and Use of Media among the respondents	48
18. Table 4.17: Percentage of respondents according to level of Education attained and Pregnancy	53
19. Table 4.18: Percentage of respondents according to level of Education attained and Sexual intercourse	54

20. Table 4.19: Percentage of respondents according to level of Education attained and Condom use	55
21. Table 4.20: Percentage of respondents according to place of residence and selected pregnancy factors	56
22. Table 4.21: Percentage distribution of the respondents by Tribe and Pregnancy	59
23. Table 4.22: Percentage distribution of the respondents by Religion and Pregnancy	60
24. Table 4.23: Percentage distribution of the respondents according to their age at sexual intercourse and Pregnancy	61
25. Table 4.24: Logistic Regression estimates of the risk factors of adolescent pregnancy in Kabale district	66

List of Figures

1. Figure 1.1: Conceptual framework for analyzing risk factors responsible for adolescent pregnancy in Kabale district 13
2. Figure 4.1: Age at first sexual intercourse among adolescents 44

List of Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
CAO	Chief Administrative Officer
CDC	Centres for Disease Control
DDHS	District Director of Health Services
DHT	District Health Team
DHV	District Health Visitor
DMU	Dispensary Maternity Units
FGD	Focus Group Discussions
TBA	Traditional Birth Attendants
HSD	Health Sub-district
HU	Health Unit
HIV	Human Immunodeficiency Virus
IMR	Infant Mortality Rate
IEC	Information, Education and Communication
KI	Key Informant
MMR	Maternal Mortality Rate

NGO	Non Governmental Organization
RDC	Resident District Communionissioner
STD	Sexually Transmitted Diseases
TBA	Traditional Birth Attendent
UBOS	Uganda Bureau of Statistics
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations Children’s Fund
UDHS	Uganda Demographic and Health Survey
WHO	World Health Organisation
VoK	Voice of Kigezi

Glossary

An adolescent in this study is a woman aged between 10 and 19 years.

Adolescence pregnancy is an act of becoming pregnant during adolescence.

Maternal Mortality Rate (MMR) is defined as the number of maternal deaths per 100,000 live births over a given time.

Reproductive Health is the complete physical, mental and social well being of an individual and not merely the absence of disease or infirmity in all matters related to reproductive

process, their function and system at all stages of life (WHO, 1998).

Counseling is a face to face communication in which a counselor facilitates the client to identify, clarify and resolve problems in order to make an informed choice or decision and act on it.

A peer is some one you can identify with ease in terms of age, sex, behaviour, personality and hobbies.

Sexual activity is defined as vaginal sexual intercourse in this study.

Marriage is a state of being united to a person of the opposite sex as husband and wife.

Sex education is the process of providing knowledge and skills usually of desirable qualities of behavior regarding sexual intercourse.

Poverty is total or relative lack of money or materials.

Chapter 1

Introduction

1.1 Background to the study

In recent decades adolescent pregnancy has become an important health issue in a great number of countries, both developed and developing. However, pregnancy in adolescence (*i.e. in a girl less than 20 years of age*) is by no means a new phenomenon. In large regions of the world (*e.g. South Asia, the Middle East and North Africa*), age at marriage has traditionally been low in kinship-based societies and economies. In such cases most girls married soon after menarche, fertility was high, and consequently many children were born from adolescent mothers. This was not considered to be a problem. In contrast, in Europe during the 18th and 19th centuries, age at marriage was relatively high, and social control strongly discouraged premarital sex; if conception occurred this was usually followed by an early marriage. Such social control by parents and family declined as economies developed as the education and training of young people was extended and undermined parental authority.

In many Western societies over the last century, the incidence of sexual intercourse among adolescents and the number of pregnancies sharply increased, especially after the Second World War.

In 1960s and 1970s both society at large and health authorities increasingly viewed the growing numbers of adolescent pregnancies as a problem. Comparable developments took place in many developing countries (*e.g. in sub-Saharan Africa and Latin America*) and in many of these countries there has been a gradual shift away of living, the role of members in the hitherto extended family in educating and acting as role models for young people in sexual

behaviours has disappeared (*Ojwang and Maggwa, 1991*).

In Uganda, young people (*10-24 years olds*) constitute about 33% of the total population, 24% are aged 10-19 years and the size of the youth (*adolescents*) population is increasing rapidly. In 2000, adolescents aged 15-24 were estimated to number 4.7 million and expected to increase to 5.5 million by 2005 with the population growth rate estimated to be 3.24%. In 2001, 48.9% of the population was under 15 years of age (*Neema, Nakanyike and Kibombo, 2004*).

In Uganda, adolescents are confronted with life threatening health risks related to unwanted pregnancies, HIV/AIDS and sexually transmitted infections (STIs). Adolescence is a life period of experimentation and frequent risks taking. Key factors for adolescent vulnerability to sexual and reproductive health problems include: lack of awareness and lack of correct information about the risks of unwanted pregnancies and STIs, peer and other social pressures, lack of skills needed to resist such pressures and to practice safe behavior, lack of youth-friendly sexual health and counselling services, poverty, traditional cultural norms that give young women a low social position, and little power to resist persuasion or coercion into unwanted sex (*Neema, Nakanyike and Kibombo, 2004*)[8].

The government of Uganda has recognized and addressed reproductive health as a serious matter. Impressive successes in combating the HIV/AIDS epidemic have been achieved with significant reductions of the HIV-1 prevalence in young pregnant women in several parts of the country (*Kilian et al., 1999; Opio et al., 2000*). However, other reproductive health programs such as family planning have been less successful as indicated by the lower reproductive health indicators in Uganda compared to the region (*East Africa*) and Sub-Saharan Africa. Population growth in Uganda was 2.9% for Sub-Saharan Africa and 2.4% for Africa

(*Population reference Bureau, 1999*). The total Fertility Rate (TFR) was estimated at 8.0 for Uganda, for East Africa 6.0, for Sub-Sahara Africa 5.8 and for Africa 5.2. Also significantly lower is the contraceptive prevalence rate in Uganda with 10% in comparison to East Africa 18% (*Population reference bureau, 1999*). The 'unmet need' for family planning in Uganda was reported to be 38% while it was only 25% in sub-Sahara Africa (*Population Action International, 2001*).

The political commitment in Uganda to family planning is still ambiguous at all levels which manifests itself in the lack of data and/or clear policies and guidelines for the workers involved in family planning programs.

According to the reproductive health issues and programmes report on Uganda (*UNFPA, 1998*), it is stated that in pursuance of the goal of "Health for all by the year 2000", it has been recognized that hitherto under-served groups like adolescents must be brought at the center stage in the promotion and provision of reproductive health services. In Uganda, youths become sexually active at an early age, which puts them at risk of Sexually Transmitted Diseases (*STDs*), pregnancy and other related problems.

"The importance of reproductive health of adolescents has started receiving recognition, particularly in developing countries where four out of five of the world's young people live and where more than half the population is under the age of 25" (*WHO/UNICEF, 1989*).

Adolescence is the transition from childhood to adulthood. However, adolescence differs from society, thus there is no universally accepted definition. The World Health Organization (*WHO*) defines adolescence as ranging from 11 or 12 through 17 or 19 years of age. It is characterized by physical, psychological, emotional and social changes putting adolescents at risk for early marriage, unwanted pregnancies, unsafe abortion, STIs, HIV/AIDS, sexual abuse and exploitation. It is a difficult period where unexpected changes take place and

especially where there are no opportunities for counseling (*WHO, 1998*).

Globally about 14 million births each year are by adolescents (*James et. al, 1998*). There are an estimated 200 million pregnancies around the world each year and approximately 75 million of them are unwanted (*UNFPA, 1997*). These pregnancies contribute to maternal health problems in two ways: First, many pregnancies are unwanted for reasons that can threaten the woman's health or well being and secondary, where women do not have access to safe abortion services, many unwanted pregnancies are terminated using unsafe procedures that can lead to the woman's death or disability (*UNFPA, 1997*).

Every year, approximately 50 million unwanted pregnancies are terminated worldwide. Some 20 abortions are unsafe. About 95% of unsafe abortions take place in developing countries, causing death of at least 200 women each day (*WHO, 1997*). One in ten of the world's women live in Sub-Sahara Africa, but the region accounts for 40% of all pregnancy related deaths worldwide (*215,000 deaths every year*). Maternal deaths can be due to haemorrhage, postabortal sepsis and uterine rupture. Other factors related to maternal deaths may include; poor social status for women, inaccessibility to health care by mothers, delay in decision making on where to seek health care, also delay in receiving health facilities and high adolescent or early pregnancy rates (*James et.al, 1998*).

In most countries of Sub-Sahara Africa, sexual activity during adolescence is common. In eleven countries representing 40% of the population in Sub-Sahara Africa, births to adolescents comprise of between 15% and 20% of all births. In Botswana and Namibia, 75% of adolescents' births are outside marriage (*Gary, 1992*).

In Mulago hospital, one third (30%-35%) of maternal deaths occurred among young girls

and women who had tried to get rid of unwanted pregnancies through induced abortions (*Mmiro, 1992*). Maternal deaths are also more likely to occur among women who do not receive antenatal care, adolescent mothers and women who have had more than five births (*Kyaddondo, 1994*).

1.2 Background on the district

1.2.1 Location

Kabale is a district and a town in South-Western Uganda and is about 400km from Kampala, the capital city of Uganda. It measures 1,800 square kilometres and has a population of around half a million. The people are predominantly from the Bakiga tribe, but also from Batwa (*Pygmies*) and other groups.

The main transport system is by road. However transport in Kabale is difficult due to terrain - most of the roads are only motorable by 4-wheel-drive vehicles and motorcycles. There is no railway or air strip (*one is planned*). The district is served with a 132 KV line of electricity from Mbarara and a local power station at Maziba.

The post office in Kabale town has five sub-post offices in other parts of the district. Telephone landlines are limited but the exchange is automatic and connections can be made nationally and internationally. All three mobile phone networks have reached Kabale. Radio calls can be made from some points in the district.

1.3 Administrative units

There are three counties, Rubanda, Rukiga and Ndorwa. The rural counties are divided into 17 sub-counties and 106 parishes which are further divided into 1,229 villages/cells. The municipality has three divisions with 12 wards and 75 villages. This makes a total of [3] rural counties, 1 municipality, 118 parishes and 1,374 villages.

1.4 Ethnicity

The district is inhabited by various tribes namely; Bakiga, Banyarwanda, Bafumbira, Bahororo. The health sub district uses a manual system to capture, store, process, retrieve and generate monthly patient health information reports. Monthly health information reports are transferred from one health unit to the sub district headquarters through road transportation means; this causes delays and insecure means of acquiring information which results into untimely top management decisions.

1.5 Economic activities

Eighty five (85%) of the population in Kabale are engaged in full-time agriculture. Of this segment, 84.6% are dependent on subsistence agriculture as the primary source of livelihood (*Kabale Department of Lands and Survey, n/d*). This figure is an aggregated estimate since (*Bakiga*) women's culture role includes producing food for the family. Major agricultural products are sweet and Irish potatoes, sorghum, beans, pigeon peas, wheat and bananas, grown mostly for local consumption. The limitations are high population density, isolation from major markets, poor marketing structure and storage facilities, excessive soil erosion and unpredictable weather. The rest trade in timber and small private businesses.

1.6 Socio-demographic characteristics

Kabale district has a population of about 471,783, with a ratio of 86.0 males to 100 females (*2001 projection*) people, predominantly from the Bakiga tribe of which approximately 520,000 (21%) are persons within the reproductive age group (*15-49 years*). The district population density is 258.2 persons per square km (*1991 population and housing census report, 2001 projection*), the third largest in Uganda, and the land is heavily fragmented. Accord-

ing to the 2000/2001 district annual health plan, the total female population is estimated at 141,915 (55%) out of which pregnant women are 13,437 (35.5%). However, the proportion of teenage mothers is rather an under estimate since many teenagers become pregnant and end up with abortions outside health facilities in the district.

1.7 Health services

The district overall health service coverage is about 68%, with more than 66% of mothers attending antenatal care, but paradoxically only a third deliver from health facilities (*1991 district population and housing census report, 1999 projection*).

Kabale offers one governmental hospital with 212 beds, 48 other government health units, 16 non-governmental health units, 13 private clinics and 14 drug shops. The public health directorate has 15 doctors, 102 nurses, 39 paramedics, around 80 support staff.

According to the UDHS (1995), it is estimated that about half of the women in the district live within a distance of 5km to a health facility providing antenatal care, delivery and immunization services. The situation analysis of 1994 for Kabale district reported the following as basic health indicators as shown in the table below.

Selected demographic indicators of Kabale district

Table 1.1: Health indicators of Kabale district.

Indicator	Proportion
Area (sq km) total	1,827 sq km
Area (sq km) Land	1,695 sq km
Total population (2001)	471,783
% urban population (2001)	9.7%
% rural population (2001)	90.3%
Population density person / sq km (2001)	258.2 persons per sq. km
Sex ratio	86.0 males to 100 females
Average annual population growth rate (%)	32%
Population 0-14 years 2001(%)	24%
Population 15-49 years 2001(%)	21%
Maternal mortality rate (MMR)	800/100,000 live births
Infant mortality rate	91/1,000 live births
Under five mortality rate	148/1,000 live births
Life expectancy at birth	31.7 years
Total fertility rate (per female)	8.9
Average family size	6.4

Source: Selected indicators from; MoH, (1999) & Kabale District health profile, (2002).

1.8 Problem statement

In Uganda, studies have shown high prevalence of early sexuality (*i.e before 18 years*), adolescent pregnancy and child bearing. The average age of first sexual experience is 12 years, with many adolescents starting as young as 10 to 14 years in some areas (*Turyasigura, 1989, Bachou, 1992*). Data from adolescent fertility study (1999-2001) showed that among the 15-19 year olds, 75% of males and 68% of females were sexually active (*Agyei and Epema, 1992*).

In the same age group, 25% of females had experienced one pregnancy, with more rural adolescents pregnant than adolescents in urban areas. One of the factors contributing to high fertility in Uganda is pregnancy at early age and early marriage. According to the UDHS (1995), half of women 20-49 years were married or in a union by 18 years. Of the

women interviewed, 18% had had a child by 15 years, 33% between 15 and 17 years. This pattern of early child bearing contributes to high fertility and is detrimental to the health and well being of the young mothers and children.

Adolescent pregnancy and motherhood are a major health and social concern, because it is associated with high morbidity and mortality for both mother and child. Adolescent pregnancy is estimated to about 46% in females aged 15-19 years and is believed to be a big health problem in Kabale district. By the age 14, about 16% of males and 13% of females had already experienced sexual intercourse. The current rate of adolescent pregnancy in Kabale district is estimated at about 57% (*District population report, 1999*). This is higher than the average of 43% and 36% for Uganda and Western region respectively (*UDHS, 1995*). Adolescent pregnancies are associated with complications related to pregnancy and birth such as illegal abortions, obstructed labor and ruptured uterus that may culminate into maternal deaths (*Ekoch, 1998*). Despite efforts by the DHT to reduce this problem through adolescent reproductive health programs in the district, adolescent pregnancies are still on the increase. The attributable factors to this problem are not well documented in the district. There seems to be low awareness by health workers and the entire community of the actual risk factors responsible for adolescents' pregnancy.

1.9 Objectives

1.9.1 General objective

The main purpose of this study is to establish the risk factors of adolescent pregnancies in order to facilitate the planning process for reproductive health needs of adolescents and reproductive health programs in Kabale district.

1.9.2 Specific objectives

1. To identify opinions about various issues regarding sexuality and reproductive health in adolescents.
2. To identify major sources of information regarding sexual behavior in relation to adolescent pregnancy.
3. To determine the sexual behavior in pregnant and non-pregnant adolescents and identify their safe sex practices.
4. To determine the perceptions, attitudes and use of modern contraceptive methods in adolescents.
5. To determine the socio-economic and demographic characteristics linked to adolescent pregnancy.
6. To study the influence of parent-child communication, socio-economic status and commitment to religious beliefs and practices on adolescent sexual activity.
7. To assess the extent of problems arising from adolescent sexual activity such as history of pregnancy, abortion and sexually transmitted diseases.

1.10 Research questions

1. What are the risk factors associated with pregnancy among adolescents girls?
2. What variations exist between the sexual behaviour among pregnant and non-pregnant adolescents?

1.11 Study hypotheses

The following hypotheses were tested in this study:

1. Socio-demographic characteristics have influenced adolescent pregnancy.
2. Adolescent girls in higher class levels have access to reproductive health information about adolescent pregnancy while adolescents (girls) in lower classes have limited access to that information (reproductive health).
3. Older adolescents are knowledgeable about modern contraceptive methods while the young ones are not knowledgeable about those health methods.
4. Adolescents staying with parents have knowledge about adolescent pregnancy while those (adolescents) not staying with parents have limited access to pregnancy information.
5. Adolescents who have experienced adolescent sexual activity experience problems such as pregnancy, abortion and sexually transmitted diseases while those who do not involved in sexual activities don't experience such problems.
6. Adolescents that have access to reproductive health information regarding to sexual behavior do not experience adolescent pregnancy as it is a case to adolescents who don't have access to that information (reproductive health).

1.12 Justification

This study aims at identifying social, economic and demographic factors associated with adolescent pregnancy. Understanding risk factors for adolescent pregnancy will provide an insight into the root causes of the problem and is also important for designing appropriate cost-effective reproductive health services for adolescent girls. Information on risk factors

associated with adolescent pregnancy is not available in the district, hence the need for this study. The information generated by this study will assist the district health team (DHT) and policy makers to design appropriate health services that will meet the needs of adolescent girls and address this problem.

1.13 The conceptual framework

The analytical conceptual framework that has been used in the study mainly focuses on rural influence of Kabale district and the education of the respondents. It is conceived that the rural influence and education level is supposed to have an effect on adolescence pregnancy. However, the study focuses on the socio-demographic factors of age, sex, family, religion, education level and ethnic background. Further, adolescent sexuality models consist of two components, biological (demographic) and sociological.

Conceptual model for analyzing risk factors of adolescent pregnancy

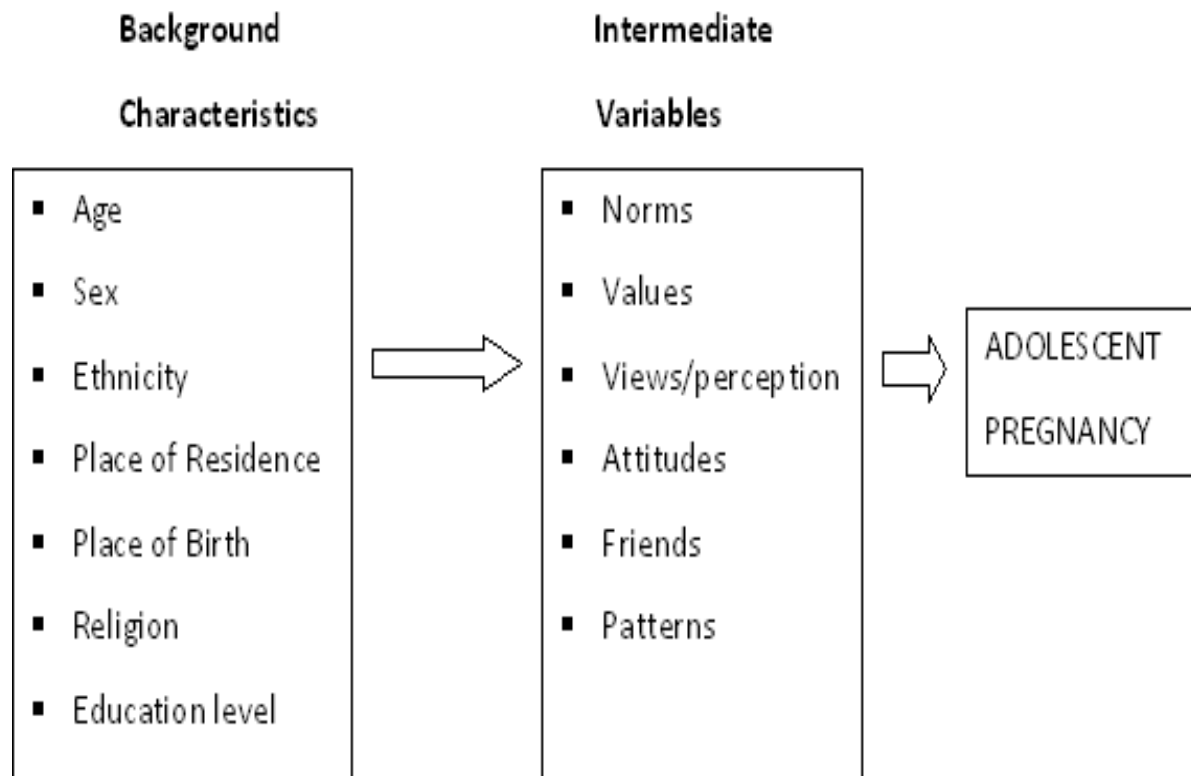


Figure 1.1: Conceptual framework for analyzing risk factors responsible for adolescent pregnancy in Kabale district.

Chapter 2

Literature review

2.1 Global picture

Teenage pregnancy is important because of its association with higher morbidity and mortality for both mother and child. In addition teenage pregnancy has been associated with termination of education of mothers, which itself has a spiral effect on the socio-economic status of the individual and hence the child (*UDHS, 1995*).

There is growing suspicion that sexual activity among unmarried adolescents is increasing around the globe, yet the suspicion is largely unsupported by hard evidence. The result is therefore unwanted pregnancies, which sometimes leads to illicit abortions which in turn culminate into sepsis, infections, maternal morbidity and mortality, difficult and prolonged labor and infant mortality are effects of adolescent pregnancy (*WHO, 1995*).

In United States of America, almost one in five of all deliveries and one third of abortions are adolescents. Over 100 million adolescents live in developing countries of which a high proportion of them live in Africa. In developing countries, incidents of unwanted pregnancies are common (*WHO, 1994*).

Lack of family life education and counseling keeps the female adolescent unaware of the preventive measures against unwanted pregnancies. The young girls through ignorance find themselves pregnant even before they are ready or willing to support the baby. In Ghana, adolescents have limited programs offering family life education or counseling. At the same time the traditional methods of teaching adolescents about sex and reproduction are becoming inadequate for dissemination of useful up date information (*Gyepi, 1987*)[3].

2.2 Uganda picture

The problem of adolescent pregnancy is becoming very serious in developing countries in general and Uganda in particular. The national average adolescent pregnancy rate for Uganda is 36-45% (*UDHS, 1995*).

2.3 Big population

In Uganda one in every four people (24.3%) is an adolescent. These people are the future parents and leaders of the nation. This group of people was until recently, believed to enjoy robust health and as a group, were neglected in terms of health service delivery. Hence in Uganda we lack adolescent specific, gender sensitive health information and services (*UNFPA-UGANDA, 1998*).

2.4 Laws and policies on adolescent reproductive health

The Uganda government has adopted policies and laws that create an environment supportive of adolescent sexual and reproductive health. The 1996 National AIDS Control Policy addresses adolescent sexual and reproductive health as well as access to voluntary testing and counseling (VCT). Additionally, the 1999 National Youth Policy commits the government to fulfill youth development goals as spelled out at the 1994 International Conference on Population and Development in Cairo.

Furthermore, the 2000 National Health Policy specifically addresses the sexual and reproductive health needs of youth.

2.5 High maternal morbidity and mortality

All too often adolescent girls get complications during pregnancy. They suffer miscarriages,

hypertensive diseases of pregnancy and obstructed labor more often than pregnant women in their early twenties. In Kampala hospitals, a survey done revealed that adolescents contribute one third of the total maternal mortality in Uganda (*M.O.H/UNFPA, 1998*).

2.6 Poor family and community influence on adolescent reproductive health (A.R.H)

In Uganda we had a "Senga" (*aunt*) institution whereby a girl's aunt took on the responsibility of giving guidance on sexuality and reproductive health issues. With rapid 'modernization' and urban migration, this culture has been swept aside. This has led to inadequate knowledge on growth and development, poor reproductive health services and their utilization. Even where conventional health services exist adolescents are reluctant to use them. Adolescents usually lack money and other resources to access health services. Health services were designed without adolescents in mind. There is lack of respect for adolescents among health workers. There is also a communication gap between adolescents and health-care providers. Health workers therefore often find it awkward, difficult and "unfamiliar" when dealing with adolescents. Worse still adolescents are not always straight forward when presenting their health problems to health workers.

2.7 Early pregnancy and childbearing

Unwanted adolescent pregnancy and childbearing and the associated consequences pose a serious public health concern and contribute to rapid population growth in Uganda. 10% of births (*in the 5 years prior to the survey*) to 15-19-year-old mothers were not wanted at all and 23% were mistimed. Complications of pregnancy, abortion and childbirth are the leading causes of disability and death among women between ages 15 and 19 in Uganda. Aside from health consequences, teenage pregnancy results in school abandonment and lost career op-

portunities. Until recently, adolescents who got pregnant in Uganda were prevented by their parents and school system from going back to school. Because of universal primary education (UPE) instituted by the government and new attention being paid to the rights of female adolescents, adolescents who get pregnant are now allowed to go back to school after delivery.

Teenage pregnancy has decreased in Uganda over the past decade. In 1995, 43% of 15-19-year-old females were pregnant or had already had a child compared to 35% in 2000-2001. The proportion of women in Uganda who have had a first before age 15 and are therefore decreased over time. In the UDHS 2000-2001, approximately 10% of women 30-34 years old reported to only 2% of 15-19 year olds.

But Uganda still leads in countries with highest teenage pregnancy rate in Africa compared to Niger 1992 (36%), Central Africa Republic 1995 (36%), Tanzania 1992 (29%) and Kenya 1993 (21%).

2.8 Early adolescent marriages

Early marriage for adolescents in Uganda remains common but is declining. The 1995 UDHS showed that 48% of females and 11% of males aged 15-19 had ever been in union. Data from 2000-2001 UDHS show 32% of females and only 7% of males aged 15-19 were ever in a union. Relatively few adolescents marry at the youngest ages: 7% of women aged 15-19 were married by age 15 in 2000-2001. By age 20, 74% of women had ever been in union compared to only 26% of men. Data from the 2000-2001 UDHS also show that the median age at first marriage was 17.7 years for women 20-24 years old and 21.9 years for men 25-29 years old.

Early marriage exposes adolescent girls to risks of early pregnancy that might result in complications such as prolonged labor, stillbirth, postpartum hemorrhage, maternal distress

and mortality.

2.9 Unsafe abortions

Local studies suggest that abortion occurs among adolescents, although national data do not exist to assess the frequency. Most abortions are performed under unsafe conditions because abortion is illegal in Uganda, except to save a woman's life.

A survey in Mbarara district found that 78% of female adolescents knew someone who had had an abortion.

A study by *Mirembe* showed that in the local teaching hospital in Uganda, 68% of abortion patients were 15-19 year olds. AYA conducted a baseline study in sampled districts of Uganda found that 9% of male adolescents had been involved in an abortion (*e.g helping their girl friends to abort*), while 3% of female adolescents reported that they had ever had an abortion.

The UNFPA (1998) status of adolescent health policy for Uganda revealed that of the total maternal mortality, 25-35% is due to complications of abortion and half (50%) of the abortions occur in adolescents. It is further noted in this report that 94% of the complicated abortions seen in hospitals are done by medical doctors and other medical personnel. These abortions are mainly due to unwanted pregnancies by adolescents.

2.10 Education of adolescents

On average the education level for women is very low with 60% of adult female illiterate. About 90% of the Uganda females live in rural areas where schools are poorly funded with infrastructure and unqualified teachers.

In urban areas most of the adolescents are in school and have completed primary education. In rural areas, however 80% of adolescents have seven or less years of education. Illiteracy is more among adolescent males.

High urban school attendance among adolescents, which tend to discourage early childbearing, may account for the lower levels of motherhood and pregnancy among urban teenagers. However, it is also possible that higher school attendance is due to the avoidance of early parenthood. The level of teenage childbearing is strongly associated with the level of education with 49% having no education and 47% for those with primary education (*UDHS, 1995*).

About 40% of girls in rural areas have no formal education and only 10% go beyond primary seven. Nationally 35% of girls of school going age do not attend school. Of the remaining 65% who start primary, 75% drop out before they finish their secondary education (*UNDP, 1994*).

The high enrollment rate for boys as compared to girls is partly caused by poverty as when resources are scarce, boys take precedence in school fees payment and partly by society's construction of the roles to be played by girls and boys in adulthood. While the girls are expected to marry and raise families, the boys are expected to take up public offices and head households. Pregnancies also contribute to female school dropouts. Education level significantly affects the age of marriage, number of children, socio-economic status and health seeking behaviour of women.

2.11 First Sexual Intercourse

Young people in Uganda start sexual activity at an early age. Trend data from the UDHS show an increase in the median age at first sex among adolescents. The median age at first

sex among adolescents (15-19 years) was 16.0 years in 1988-1999, 16.3 years in 1995, and 17.1 years in 2000-2001. For male adolescents in the same age range (15-19 years), the median age at first sex increased from 17.7 years in 1995 to 18.3 years in 2000-2001. Among female adolescents age 15-17 in 2000-2001, 34% have had sex. The proportion of males the same age who had sex (27%) was lower than that of females. By age 18-19 the proportion sexually active was substantially higher for both sexes (77% and 59% respectively). Although median age at first sex for both adolescent males and females has slightly increased over the years, females on average still start having sex before males. Yet adolescents, especially those who are not in a union, tend to have sex sporadically. The proportion of sexually experienced adolescents aged 15-19 who were currently sexually active in 2000-2001 was 76% for females and 57% for males.

The age of the sexual partners can be used as a proxy measure for power in the relationship. Sexual coercion of females has been shown to be more likely to occur with an older male partner. Data from 2000-2001 UDHS showed that only 3% of females aged 15-24 said that their first sex partner was either younger or the same age, 25% of females had partners who were 1-2 years older, the majority had male partners were 3 or more years older, and about 1 in 10 male partners were 10 or more years older.

2.12 Contraceptive knowledge and use

While contraceptive knowledge and approval of contraception among adolescents is high, the level of actual use among sexually active adolescents is low.

Recent UDHS data from 2000-2001 show that while 96% of married 15-19 year-old women know of at least one contraceptive method (*and 95% know of at least one modern method*) and more than three-quarters of both male and female adolescents approve of family planning,

only 30% of them have ever used a method. This percentage of ever use of a contraceptive method is higher than the 1995 figure of 24% ever use among married 15-19 year-old women.

Among all sexually active 15-19 year-olds, 35% of females and 44% of the males have ever used a modern method, the majority of them using the male condom. Some of the reasons given for contraceptive nonuse include side effects; lack of appropriate knowledge about methods; opposition to use (*personal, social and religious*); misconception attached to safety of use; and costs related to purchase.

In 2000-2001, the main reasons for nonuse of contraceptives among married women aged 15-29 who were not using and did not intend to use a contraceptive method included side effects (30%), intention to get pregnant (12%), partner's opposition (10%), health concerns (10%) and religious (5%). (*Walter Kipp, James Odit, James Ntozi*)

Chapter 3

Methodology

3.1 Area of study

The study took place in selected study sites of Rubanda, Ndorwa, Rukinga and Municipality in Kabale district. Kabale district is located in south-western Uganda, bordering Kisoro in the South, Kanungu in the West, Rukungiri in the North and Ntugamo in the East.

Kabale district is unique because of its high mortality rates among adolescents in the whole country, (see table 1.1) and with a poor health service delivery system due to its geographical set up. The district has one regional hospital, 4 health centres, 8 Dispensary Maternity Units (*DMUs*), and 19 sub-dispensaries. In each of the three counties, there is relatively big government owned health unit supposed to be manned by a medical officer as a health sub-district head.

There are other satellite health units of different categories and ownership around these big units. All in all there are 36 health units. Thirty two are owned by government and four by non-governmental organizations. There are also a number of private clinics and nursing homes scattered all over the district. District hospitals have been decentralized to local governments and health sub-district created with health centre level (IV) as the headquarters. The majority (66%) of these health units are run by health workers without formal medical training. The district under took training of Traditional Birth Attendant (*TBA*) since 1991 and has so far trained 383 of them.

3.2 Study population

The over all population characteristics of the district are similar to the rest of the country; high levels of illiteracy and an infant mortality rate of 91/1000 live births. According to the national census of 1991, one out of every five people in the district were adolescents in the age bracket 10 to 19 years. One third of the people in the district aged six years and above had never attended school.

The study population consisted of adolescents in the age group from 10-24 years in Kabale district. The study was cross-sectional and descriptive, using quantitative and qualitative research methods. A structured questionnaire was used to assess perception about sexuality, reproduction and sexual behavior in the study population.

The key informants were the director district health services, district health visitor, and senior midwife and health unit in-charges.

3.3 Study design

This was cross-sectional study employing both quantitative and qualitative methods to understand the levels and trends of reproductive health in adolescents. This district was chosen because of higher population growth than other regions in Uganda.

3.4 Study design and selection of respondents

This study utilized primary data collected during March/May 2006. The sample was selected from a total of 301 respondents in Kabale district. Data collection was preceeded by a pre-visit to Kabale district with three research assistants. The propose of this visit was to meet the district and local authorities for introduction; subsequently a list of respondents was got.

3.5 Study unit

The target group were pregnant and non-pregnant adolescents of 10-24 years selected from study sites of Ndorwa, Rubanda, Rukiga and Kabale municipality where the study has been carried out.

3.6 Sample size

The sample size "n" was determined using the formula developed by Kish [1965]. The model is expressed as follows;

$$n = \frac{Z^2 pq}{d^2}$$

Where;

n = The desired sample size.

Z = The value that corresponds to the 95% confidence interval which is 1.96.

p = The probability of an event (proportion of the sexually active adolescents who are pregnant adolescents)

q = $1-p$ (0.65)

d = The degree of precision of error to be committed which will be 5% (0.05).

$$n = \frac{(1.96)^2 \times 0.35 \times 0.65}{(0.05)^2} = 301$$

3.7 Sampling procedure

Using simple random sampling as a statistical method for selecting the sample for this study, all sub-counties in Kabale district were listed and classified as urban or rural (adolescent girls aged 10-24 years). Then in one each category one sub-county was selected. In a second stage, in the two sub-counties for urban and rural representation, four parishes were chosen-two

from the urban sub-county and two from the rural sub-county. The probability of selecting a parish was obtained by the equation below;

$$\pi_i = \frac{Y_i}{\sum_1^N Y_i}$$

Where;

π_i = *The probability of parish i being selected.*

Y_i = *The population of the parish.*

$\sum Y_i$ = *The total population in the study area.*

Subsequently, in each parish a list of all villages were obtained and two villages were selected in the study using the above method. In each village, a list of households have been used to select about 25 households. All selections were based on systematic random sampling, using statistical tables. A sample size of 301 respondents was chosen and in each village, the selected households were visited and all adolescents in the respective age groups were interviewed from the study sites.

In order to verify the results from the interviews, focus groups discussions were conducted for male and female adolescent respondents. Focus groups were held in the vernacular language and later translated into english for analysis. Other key informants who were included in the study because of their roles in their communities and their knowledge on local issues and these were members of the local council officials, health workers, community elders and director of health services records.

3.8 Study variables

The dependent variable that was measured is pregnancy. Independent variables were the factors to be investigated and these include:

1. Demographic characteristic: The characteristic that has been looked at is age.
2. Contraceptive methods: Knowledge and use of contraceptives.
3. Sexual behaviour: Age at first intercourse, rewards for sex, sex education, type of sexual partner and reasons for having sex.
4. Mass media: Print media, radio messages, television messages.
5. Socio-economic status: Household economic status was determined using proxy indicators (means test) like household properties for instance an adolescent mother coming from home with cemented floor and having a house roofed with iron sheets (UDHS, 1995).
6. Peer influence.
7. Pregnancy: Desire for pregnancy, counseling against early pregnancy, age at first pregnancy.

3.9 Data collection

Data was collected by use of self administered questionnaire, which was strictly confidential. No name was required since the study involved personal, intimate and sensitive questions. Hence respondents were free to give answers.

An introduction and then an explanation of the purpose of the interview were made which was at the same time printed on each questionnaire. The pupils were told that the survey was about sexual behavior and practice on the subject of adolescent pregnancy. They

were further given assurance of confidentiality (*See Appendix 1*). For instance, they were not required to write their names on the questionnaire after completion. Furthermore, data collected would not be analyzed to reflect an individual but collectively as respondents.

The researcher further went through question by question on how to give responses. Relevant codes were availed and explained (*See Appndex 1*). During completion, my assistants and I were around to answer queries and guide respondents.

The method to collect information (data) in each county was to first brief the Local Council (LCs) officers, who later introduced us to village chiefs to work with especially during selection of respondents. Respondents were selected using simple random sampling. Each village asked respondents in one place and a random pick was made. Each respondent had her own round of selection.

3.10 Data processing

This stage consisted of four activities;

1. **Editing:** This was a process of scrutinizing and examining the already administered questionnaires for completeness, accuracy and internal consistency by the researcher. It also included standardizing certain aspects of the questionnaire to facilitate analysis.
2. **Coding:** This was a process of assigning codes for the open ended parts of the questionnaire. A complete coding manual was developed and used on the questionnaire.
3. **Data entry:** The data entry was done using Epiinfo.
4. **Data cleaning:** This was used to remove the errors which were detected during data entry. Frequencies were calculated using the same program. After completing the above exercise, suitable questionnaire records were imported into SPSS for analysis.

Further cleaning was done in SPSS.

3.11 Data analysis

The data that was used was collected in 2006. Two methods were used for data analysis. These were qualitative and statistical methods. The statistical methods were used on adolescents born between 1986 and 2004 to estimate the level, trends and differentials in pregnant adolescents.

3.11.1 Qualitative analysis

While carrying out the qualitative analysis, the objectives of the study were first reviewed and the analysis was then proceeded using the objectives as a guide. The analysis of the focus groups information/data was started using the following procedures:

1. The data was first translated from Rukiga to English language.
2. The data was coded and developed for tasks of each each participant in all focus groups.
3. A master sheet was developed where all focus groups and views were entered under each task using codes.
4. Similarities of groups and individuals were then be summarized following the the objectives and themes of the study.
5. Qualitative results were then integrated with quantitative results in the relevant sections of the research.

3.11.2 Key informant interviews

Key informant interviews were held with four key informants. These include; District Health Visitor, District Director of Health Services, Senior Midwife and the in-charge of Kahalo health centre.

This was necessary to determine the parents influence on adolescent pregnancy. These interviews were important because they enabled informants to express themselves freely and provide the researcher with opportunity to probe deeply especially on contentious issues raised in FGDs.

3.12 Univariate analysis

At univariate analysis level, frequency distributions and percentages were presented so as to show the distributions of the socio-economic and demographic factors, proximate and community factors of the respondents. These formed part of the background characteristics of this study. The independent variables included; age, religion, highest level of education, type of marriage and occupation. The proximate determinants included breastfeeding, marital status, contraceptive use and age at first marriage.

3.13 Bivariate analysis

At the bivariate level, the independent variables (socio-economic, demographic, proximate and community factors) were cross tabulated with the dependent variable (adolescent pregnancy) so as to investigate any association between them. Pearson chi-square test was used to measure the degree of association between the dependent and independent variables.

3.14 The Chi-square Test

The Chi-square test was used to establish statistical association between the independent and

the dependent variables. In this study, it was used to establish the association between adolescent pregnancy and a set of social factors that affect the probability of adolescent pregnancy. In doing this the following formula was applied;

$$X^2 = \sum_{i=1}^r \sum_{j=1}^c \frac{(o_{ij} - e_{ij})^2}{e_{ij}}$$

Where;

$i = 1 \dots\dots\dots r$

$j = 1 \dots\dots\dots c$

o_{ij} = *The observed frequency.*

e_{ij} = *The expected frequency.*

r = *The number of categories of the dependent variables.*

c = *The number of categories of the independent variables.*

3.14.1 Logistic regression model

At the multivariate level, the Logistic regression model was fitted to determine the relative importance of the independent variables. This model was chosen because the dependent variable is dichotomous. The model estimates the probability of falling into any of the two dichotomous values of the dependent variables given the effects of the independent variables. The model was to control for some other variable that may be intervening or confounding.

The model specifies the hypothetical relationship with the assumed distributions of the random variables involved. It estimates the parameters of the relationship and tests the hypotheses about the parameters. It also assessed the goodness of fit and checked for violation of the basic assumptions and making any necessary adjustments.

The Logistic regression model for model for several variables is represented as follows;

$$P = \frac{e^z}{1 + e^z}$$

Where;

P = *The probability of being pregnant.*

Z is the linear combination of independent variables and is expressed as:

$$Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_p X_p.$$

X_i = *The independent variable.*

β'_i 's = *The regression parameter estimates.*

The probability of an event not occurring is estimated as: $\text{prob}(\text{no event}) = 1 - \text{prob}(\text{event})$.

Regardless of the value of z , the probability estimates will always be between 0 and 1 since the relationship between the independent variable and the dependent variable is non-linear.

The partial contribution of each independent variable is measured by the R statistic.

3.15 Data limitations

This study was done basing on a primary data set. Data limitations emerged from; misreporting of information in response to sensitive questions, lack of knowledge, poor reading and writing skills, carelessness and mis-statements arising from motives based on personal interests. The data set, therefore, had missing cases in some variables. However, several adjustments had to be made during data analysis for the study to have relevant variables.

3.16 Quality assurance

To ensure the quality of data collection, three (3) research assistants were recruited and trained in data collection methods for two days. Data collectors with good knowledge of

written and spoken english and locally spoken language(s) were selected and trained as interviewers. The background of the research, expected results and benefits to the district were explained to them during the training. The data collectors moved with the investigator / researcher in all areas of study to collect data and instances where the researcher could not move with them, then close on spot supervision was made by the researcher himself.

The questionnaires were pre-tested and adjustments made accordingly before actual data collection. Filled questionnaires were checked daily for correctness and completeness. Any corrections required were made by the interviewer himself. The experiences gained from this exercise would be helpful in data collectors on the following day. Responses from key informants and focus group discussions were recorded verbatim.

3.17 Ethical considerations

- o Permission to do the study was got from Resident District Commissioner (RDC), Chief Administrative Officer (CAO) and District Director of Health Services (DDHS) of Kabale district.
- o The data collectors first explained to the respondents the purpose of the study, assured them of the confidentiality and obtained verbal informed consent before data collectors.
- o Respondents were told of their freedom to pull out of the study at the time they felt like not continuing.

3.18 Limitations of the study

This study had the following limitations:

- o Some adolescents refused to answer questions concerning their pregnancies most espe-

cially where they felt ashamed or shy like onset of menarche and age at first sexual intercourse.

- o Recall bias could have occurred since some of the questions asked were related to the past exposures.
- o Time was also another limiting factor of the study. To collect data in six weeks instead of the prescribed 12 weeks for the exercise was hectic and expensive. Much more money than what was budgeted for had to be paid to the data collectors in order to meet the deadline for this exercise.
- o Despite all the above limitations, triangulation of data collection methods was done to achieve the study objectives.

3.19 Summary

This chapter describes the area of study covered, study design, study unit, selection of respondents, sample size, data collection, survey questionnaire, study variables, data management, data processing, methods of data analysis, and data limitation. The source of data was primary data set carried out during March/May 2006 by use of coded self-administered questionnaires. The study considered Kabale district with a sample of 301 respondents.

This sample was selected from four counties. In each county, respondents were selected on a simple random sampling for respondents. The data limitation noted was that being a primary data source, some variables had missing cases mainly due to misreporting and mis-statements in response to sensitive questions. Coded data was entered into the computer using Epiinfo and was analyzed using SPSS. Methods of data analysis were described and these were univariate, bivariate and multivariate levels.

Chapter 4

Analysis of Factors Affecting Adolescent Pregnancy

4.1 Socio-demographic characteristics

This chapter describes the sample according to socio-demographic and socio-behavioral characteristics. The different characteristics of the respondents that are relevant to the understanding of adolescent pregnancy are presented. These were based on the influence they have on adolescent's values, attitudes, views and perceptions towards sex hence the sexual behavior and therefore could be useful in the interpretation of the data. The various percentage distributions include those of the respondents according to their age at marriage, religion, place of residence, educational level, and tribe.

4.2 Background Characteristics of respondents

Background characteristics serve to paint a picture of the area of study and the nature of respondents in a socio-economic sense. The background characteristics enlisted were; Age, occupation, sex, religion, level of education, tribe, Marital status and place of residence. It was these characteristics that were regressed subsequently to distill out plausible factors if any that could dictate Reproductive Health patterns. The same characteristics were enlisted with their results.

4.2.1 Age of respondents

Age is an important demographic factor that influences one's sexual behavior. As one grows, he or she attains more sexual experience, exposure and maturity that make an individual

appreciate the phenomenon of sex. Table 4.1 gives distribution of respondents according to age of respondent at last birth day and numbers, which is presented in age groups. Adolescents aged 10-14 years constitutes 46.8%, 15-19 years 31.2%, 20-24 years 2.4% and those who didn't know their age constituted 19.6%.

Table 4.1: Percentage distribution of the respondents by age at last birthday.

Characteristics	Frequency	Percentage
Age at last birthday		
10-14	141	46.8
15-19	94	31.2
20-24	7	2.4
Missing	59	19.6
Total	301	100.0

From table 4.1 above, 46.8% of the respondents were in the age of 10-14 years at their last birthday. This therefore showed that most of the respondents in this study were in the ages of 10 to 14 years when they had their last birthday.

Respondents in the age group of 20-24 years had the lowest percentage (2.4%) out of the three age groups covered at their last birth day.

4.2.2 Religious affiliation

On analysis of the results, respondents were asked to state their religious affiliation. From the results indicated in table 4.2, 61.1% were Protestants, followed by Catholics 26.2%, Moslims 5.0%, Pentecostals 4.7%, Seventh Day Adventists 2.0% and other religious denominations were 1.0%. The implication from this distribution therefore is that they were more adolescent protestants than any other religion.

Table 4.2: Percentage distribution of the respondents by religious affiliation.

Characteristics	Frequency	Percentage
Religion		
Catholics	79	26.2
Protestant	185	61.1
Moslim	15	5.0
Pentecostal	14	4.7
Seventh Day Adventist	6	2.0
Other	3	1.0
Total	301	100.0

4.2.3 Place of childhood residence

Respondents were asked their place of childhood residence or place of birth by county and sub-county. With the sample population, they were evenly distributed as shown in table 4.3. However, of the respondents born, 34.9% were in Rubanda county, 26.6% in Rukiga, 19.6% in Ndorwa and 18.9% in Municipality.

Table 4.3: Percentage distribution of the respondents by place of birth.

Characteristics	Frequency	Percentage
County		
Rukiga	80	26.6
Ndorwa	59	19.6
Rubanda	105	34.9
Municipality	57	18.9
Total	301	100.0

4.2.4 Respondents' type of residence

Respondents were asked their place of residence and this was categorized as town, trading center and village. Town and trading center were assumed to be urban while village was rural.

Most of the respondents live in rural areas (62.1%) and of the urban respondents, 37.9% live in urban areas.

4.2.5 Education level of respondents

Of the 301 adolescents under the study, the majority had primary education (57.5%), followed secondary education (22.6%), no education (14.6%) and then tertiary education with 5.3%, See Table 4.4 below.

Table 4.4: Percentage distribution of the respondents by educational level.

Characteristics	Frequency	Percentage
Level of education		
No education	44	14.6
Primary	173	57.5
Secondary	68	22.6
Tertiary	16	5.3
Total	301	100.0

4.2.6 Respondents' ethnicity

Kabale district is predominantly inhabited by Bakiga which constitute the highest percentage (69.4%) of all other tribes in the district. From the study, they are other tribes that live in the district and among them 11.6% are Bafumbira, 7.6% are Banyarwanda, 5.3% Batoro, 3.7% Banyoro and the rest 2.4% are mainly Congoles and Indians.

Therefore the Bakiga are the biggest tribe with the highest number of adolescents among the respondents compared to the Bafumbira, Banyarwanda, Banyoro and Batoro tribes, see table 4.5 for details.

Table 4.5: Percentage distribution of the respondents by tribe.

Characteristics	Frequency	Percentage
Tribe		
Banyoro	11	3.7
Banyarwanda	23	7.6
Bakiga	209	69.4
Bafumbira	35	11.6
Batoro	16	5.3
Others	7	2.4
Total	301	100.0

4.2.7 Occupation of respondents' parents

The biggest percentage (51.8%) of adolescents indicated that their parents are peasant farmers by occupation. It was also observed that a good number (28.2%) of adolescents' parents are housewives with a small number 25.2% engaged in business. Others are engaged in small activities as it can be seen in table 4.6 below.

Table 4.6: Percentage distribution of occupation of respondents' parents.

Characteristics	Frequency	Percentage
Occupation		
Peasant farmers	156	51.8
Domestic farmers	9	3.0
Civil servants	29	9.6
Casual laborers	12	4.0
Business persons	76	25.2
House wives	85	28.2
Domestic servants	2	0.7
Drivers	28	9.3
Others	34	11.3
Missing	13	4.3

4.2.8 Marital status of respondents

From table 4.7, a high proportion of adolescents are single 68.1%. Only 25.6% of adolescents are married with rest divorced 3.7% and widowed 2.6%.

Therefore from the results below i.e table 4.7, it shows that they are more single respondents (68.1%) than the married, divorced and widowed respondents. The married, divorced and widowed respondents have small numbers from the study done.

Table 4.7: Percentage distribution of marital status of respondents.

Characteristics	Frequency	Percentage
Marital status		
Single	205	68.1
Married	77	25.6
Divorced	11	3.7
Widowed	8	2.6
Total	301	100.0

Percentage distribution of age at marriage and adolescent pregnancy.

Table 4.8: Percentage distribution of Age at marriage of the respondents.

Age at marriage	Frequency	Percentage
10-14	27	28.1
15-19	46	47.9
20-24	23	24.0
Total	96	100.0
Missing	205	
Age at pregnancy		
10-14	29	21.6
15-19	95	70.9
20-24	10	7.5
Total	134	100.0
Missing	167	

Table 4.8 presents the percentage distribution of adolescent pregnancy and the age at marriage among adolescent girls. From this study, 21.6%, 70.9% of the respondents for age groups 10-14 and 15-19 respectively. For 19 years and above, 7.5% indicated early sexuality and marriage.

4.2.9 Percentage distribution of respondents by Socio-economic and demographic characteristics

Family economic status

From the study, 68.1% of the houses had mud floors which indicated that some families were still poor. Only 31.9% of the houses had cemented floors.

From table 4.9, poor family economic status is indicated by rooms in the house, type of roof and type of floor. This is showed by 70.8% for 1-3 roomed houses, 24.6% for grass thatched roofs, 1.3% polythene materials and 68.1% mud floors.

Table 4.9: Percentage distribution of socio-economic factors among respondents families.

Characteristics	Frequency	Percentage
Stay with parents		
Yes	148	49.2
No	153	50.8
Rooms in the house		
1-3	213	70.8
4-6	88	29.2
Type of roof		
Iron sheets	217	72.1
Grass thatched	74	24.6
Polythene material	4	1.3
Tiles	6	2.0
Type of floor		
Cemented	96	31.9
Mud	205	68.1

Table 4.9 shows that majority the respondents (50.8%) are not staying with their parents as compared to 49.2% of the respondents that staying with their parents.

Adolescents were asked about the number of rooms in their parents houses with a view of establishing their exposure to what their parents do and the level of privacy in their parents homes. A household with less than four rooms was considered to lack privacy between children and parents. On tabulation, 70.8% reported having less than four rooms and 29.2% had atleast four rooms.

Therefore from table 4.9, it shows that most adolescents (70.8%) came from families with houses of 1 to 3 rooms with a small number (29.2%) adolescents coming from families with atleast four/more rooms.

4.3 Knowledge and use of contraceptive methods

Table 4.10: Knowledge and use of contraceptive methods.

Characteristics	Frequency	Percentage
knowledge		
Yes	207	68.8
No	94	31.2
Contraceptive use		
Yes	101	33.6
No	200	66.4
Source of information		
Friends	78	35.6
Relatives	31	14.2
School teachers	90	41.1
Radio / TV	109	49.8
News papers / Magazines	43	19.6
Posters	39	17.8
Parents	20	9.1
All the above	19	8.7
Others	2	0.9
Source of supply		
Government health unit	228	76.3
Pharmacy / drug shops	81	27.1
Friends	18	6.0
Schools	30	10.0
Bars	9	3.0
Community distributors	48	16.1
Others	3	1.0

From analysis of the results, respondents' knowledge on family planning was high (68.8%) but the use of family planning information was very low (33.6%). It was evident from respondents that pills 23.8% and condoms 63.4% were widely known as the means of contraceptive methods. It also evidenced that most adolescents perceive contraception not in the context of pregnancy but in the context of HIV/AIDS, STDs prevention.

From table 4.10, it is noted that contraceptive use is low 33.6% compared to knowledge 68.8% in the Kabale district. However there is anomalous relationship between contraceptive knowledge and use as indicated by only 33.6% who were currently using contraceptives. The general lack of sensitization about the use of family planning methods would increase on

the likelihood of adolescent pregnancy since they are not equipped with that health knowledge.

Various sources of knowledge on contraceptive methods mentioned by respondents which were widely known include; friends 35.6%, School teachers 41.1%, Radio / TV 49.8%, News papers / Magazines 19.6%, Posters 17.8% and Relatives 14.2% among others.

It was also noted that the main source of supply of contraceptives is the government health units 76.3%, pharmacy / drug shops 27.1%, community distributors 16.1% and small supplies from other suppliers, See table 4.10.

This was therefore indicated that many adolescents who use contraceptives get them mainly from government health units which are widely spread in rural areas.

4.4 Pregnancy related factors

Table 4.11: Percentage distribution of factors related to pregnancy.

Characteristics	Frequency	Percentage
Counseled		
Yes	89	29.6
No	212	70.4
Pregnancy		
Yes	123	40.9
No	178	59.1
Age at first pregnancy		
10-14	29	21.6
15-19	95	70.9
20-24	10	7.5

Table 4.11 above presents factors related to pregnancy among adolescents. A higher proportion of respondents (70.4%) had never got counseling about early pregnancy while 29.6% had got.

For those who had counseling, it was done by parents 30.2%, teachers 39.0%, health workers 18.9% and others 11.9%. The mean age at first pregnancy was 16 years. The age range was

13-19 years. The mean age at first pregnancy was slightly higher than that for age at first sexual intercourse.

4.5 Socio-behavioral characteristics

A review of socio-behavioral characteristics of the respondents is also useful in interpretation of results presented in this study. All respondents [301] gave information on several characteristics that included; age at first sex, sex influence, rewards for sex, sex education, type of sexual partner and reasons for having sex that was vital in this study.

4.5.1 Reproductive behavior

A number of questions were asked that explored some aspects of sexual behavior of the respondents. Among these were; age at first intercourse, type of sexual partners, sex education and reasons for sex. Since knowledge of reproductive health influences practices of adolescents therefore it was examined. A question was asked whether or not respondents had ever discussed reproductive issues with parents/guardians. Results indicate that the majority (53.0%) had not discussed sex with their parents.

4.5.2 Age at first sexual intercourse among respondents

A good number of the respondents in this study who have had their first sexual intercourse were between 10-14 years of age (63.1%). A small number (27%) of respondents had their first sexual intercourse between 15-19 years of age.

Figure 4.1 below presents the distribution of age at first sexual intercourse among respondents.

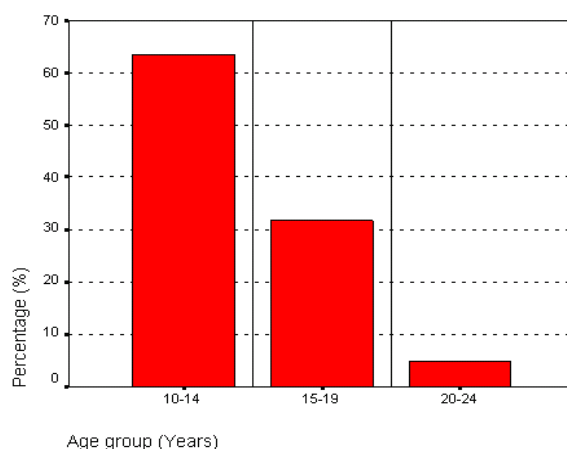


Figure 4.1: Age at first sexual intercourse among adolescents.

It is apparent that a significant proportion (63.1%) of adolescents experienced their first sexual intercourse at a lower age [10 years]. On the other hand, a small proportion (27.9%) of adolescents who completed secondary education experienced their first sexual intercourse at the age of 15 years. This is not surprising given the relative higher level of nuptiality among the non-educated rural communities in Uganda (UDHS 1995).

These sexual encounters were experienced due to a variety of reasons ranging from *party, drunkardness, rewards, rape, curiosity (peer pressure) and other cultural norms*. Most of these sexual unions had been without much protection since circumstances surrounding the act were either so hastily improvised as in the case of being lured or the adolescents did not perceive any danger since they were young. This has been seriously the cause of high rates of adolescent pregnancy and also seemed to emerge as some sort of casual marriages that resulted into unwanted pregnancies in Kabale district.

The extent of these relationships that later develop into pregnancies was given weight by one adolescent in *Rwere village - Rubanda county* who reiterated;

”...Since you have no job and hence no money and yet you know the needs of girls, any boy who has some money is more than welcome. Since you want means of survival this boy ends up becoming your husband without a second thought. In most cases he abandons you as easily as he found you...”

Another girl from *Rwamucuucu - Rukiga county* was quick to add;

”...If you have found some one willing to look after you and yet he has not formalized your relationship, we do not normally decide when to give birth or not. And yet we also ‘plan’ to retain this man by making sure you bare him a child as a means of obtaining financial support. Otherwise the man will abandon you as soon as the next beautiful girl comes around...”

From the above assertion, poverty (money) seems to be a very strong proximate determinant of adolescent pregnancies among adolescents since they lack the self worth that comes with a secure income in a highly monetary economy.

Table 4.12: Sexual behavior and practice among the respondents.

Characteristics	Frequency	Percentage
Age at first sexual encounter		
10-14	137	63.1
15-19	57	26.3
20-24	23	10.6
Total	217	100.0
Missing	84	

4.5.3 The effect of peer influence on Adolescents

During this study, respondents were asked on circumstances / conditions that influenced them to having sexual intercourse. The results showed that a large proportion (47.1%) of the respondents was due to peer pressure (curiosity).

Peer influence as an intermediate variable was examined and analyzed in this study according to the number of friends who had sexual intercourse or are married or had got pregnant.

Table 4.13 represents the proportion of peer influence (curiosity) among other conditions that influence adolescents into sexual activities.

Curiosity which is mainly caused by friends, siblings and others accounted for 47.1% compared to Rewards 26.7%, Parties 13.3%, Drunkardness 4.4%, Rape 3.1% and others 5.3%. This therefore indicated a significant association that was found to exist between peer influence and adolescent.

Table 4.13: The percentage distribution of peer influence among respondents.

Characteristics	Frequency	Percentage
Party	30	13.3
Drunkardness	10	4.4
Reward	60	26.7
Rape	7	3.1
Curiosity (peer influence)	106	47.1
Others	12	5.3
Total	225	100.0
Missing	76	

4.5.4 Sex education

From the analysis of the results, it was found that adolescent's sexual behavior and attitude are related to the type of education one has got.

From Table 4.14, 66.8% of the respondents compared to 33.2% have not got sex education which shows that there was relationship between adolescents who didn't get sex education and those who got.

Table 4.14: Percentage distribution of respondents by sex education.

Ever had sexual education	Frequency	Percentage
Yes	100	33.2
No	201	66.8
Total	301	100.0

4.5.5 Reasons for sex

From this study, it was found out that the major reason for adolescents having sex seemed to be the engagement in sex which was due to peer influence (curiosity) as indicated by 47.1% of the total respondents. Respondents said that they wanted to try out sex and others they were forced to have sex (raped) 3.1%, and got rewards 26.7% from their sexual partners. Other reasons for having sex were due to drunkardness 4.4%, party 13.3%, others 5.3%. There was a slight difference between those had sex due to drunkardness 4.4% and rape 3.1%.

4.5.6 Sexual partner

Table 4.15 below shows that most respondents have had sexual intercourse with their boy friends (40.4%), compared to ordinary friends (26.2%), husbands (15.1%), relatives (3.0%) and others (15.1%).

Table 4.15: Type of Sexual partners.

Sexual partner	Frequency	Percentage
Relative	7	3.0
Husband	34	15.1
Ordinary friend/stranger	59	26.2
Boy friend	91	40.4
Others	34	15.1
Total	225	100.0
Missing systems	76	

4.6 Access and Use of Media

During this study, it was found out that the media is a powerful instrument in disseminating information such as adolescent reproductive health. The major forms of media used in the study area include; Television, radio and newspapers. The table below indicates the level of access to these facilities.

Table 4.16: Access and Use of Media among the respondents.

Type of media	Frequency	Percentage
Radio ownership		
Yes	251	83.4
No	50	16.6
Listening to radio		
Daily	193	76.9
Atleast once a week	50	19.9
Atleast once a month	7	2.8
Never	1	0.4
Access to newspapers		
Yes	104	34.6
No	197	65.4
Newspaper reading		
Daily	31	25.0
Atleast once a week	71	57.3
Atleast once a month	21	16.9
Never	1	0.8
T.V ownership		
Yes	62	1.32
No	211	70.1
Watching T.V		
Daily	16	18.0
Atleast once a week	15	16.9
Atleast once a month	57	64.0
Never		

Note: Most respondents watched Televisions not owned by them.

1. T.V ownership

From table 4.16, it shows that television sets are owned by a small proportion of only 1.32%. This means that a big percentage of respondents don't get educative programs about pregnancy and reproductive health.

From table 4.16, 18.0% (16/90) watch T.V daily. This doesn't mean that 18.0% own T.Vs but they actually watch television not owned by their parents. The T.V was not basically accessed due to the absence of T.V signals in majority of up-country areas.

The television programs that adolescents watched most included; politics, Music, News,

plays and drama and education programs.

Adolescents who were exposed to television messages were less than those who had atleast watched once in a month. Exposure to the television measages can assist in educating adolescents about pregnancy related factors which can be helpfull to them.

2. Radio ownership

As regards to the radio, there was an impressive proportion of the people 83.4% (251) who have radios and 76.9%who listen to radios daily. Programs listened by respondents include; health issues, music, news and announcements.

The radio was however more available probably because it is affordable in the first place as evidenced by the big numbers of radio ownership in all counties. However they are impeding factors to those who listen a least a week, a month and those who never listens to radios and these include;

- . lack of batteries for the radio.
- . Lack of time by mothers due to house hold work.

The above is further corroborated with married adoloscents who confessed that despite accessing the media, most time don't listen to radio as was reported by one in *Karujanga village focus group*, Ndorwa county that;

"When i should be listening to the radio it is when i am cooking or washing utensils or feeding the baby. It is my husband who tells me what was said on radio, but also when we are able to have cells"

Another respondent in *Mparo village*, Rukiga county reported that; *"We only buy batteries for our radio on big days like christmas.....I can not see our family affording batteries all the time"*

3. Access and exposure to printed media

During this study, it was observed that the degree of access to newspapers was found less than sufficient to be regarded as adequately covering the area of the study. Respondents were asked whether they had ever been exposed to publications in form of posters, newspapers or leaflets that carry information, education and communication messages on adolescent reproductive health. A bigger percentage of them 65.4% (197) have no access to printed media or had never read publications on adolescent reproductive health.

As of the respondents in Kabale municipality asserted;

"There is no way you can start buying newspapers unless you are a politician. Where can you get all that money to spend daily when you have to pay money for exercise books and pens"

This further illustrates how the reproductive health message that is channeled through straight talk as pullout once a month may not be utilised by most of the adolescents since their families and hence themselves seem not to afford the cost. It was apparent that the newspapers were almost esteemed to be a highly ostentatious commodity.

4.6.1 Focus group discussions (FGD)

From the focus group discussion, the participants reported that a number of factors have contributed to the problem of adolescent pregnancy in Kabale district. These factors include; age at menarche, early sexual intercourse, early marriage, socio-economic reasons and cultural practices. Almost all groups agreed that there was an early age of sexual intercourse and marriage, which usually follows menarche.

As one member of Rukiga county focus group reported; *"Our parents and relatives*

usually encourage us to marry as soon as we start having our menstruation periods at about the age of 10-14 years”

The focus group participants said that sexual activity is common among their peers. They said that *”Although physical attraction is the main reason for romantic relationships (which might include sex), the desire for material or financial gains is the primary motivation for sexual relationships, some of which result into pregnancy”*

There was a discussion concerning when a girl matures enough to become pregnant. The participants in Kijuguta focus group reported that; *”if you have not seen your periods, you can not become pregnant”*

In another focus group discussion, the participants said that they start sex early because they want to marry and have children. *”We start sex early after starting periods so that we start producing children since our friends can laugh at us if we do not have children early”*

4.6.2 Key informant interviews

Key informant interviews were held with the District Health Visitor (DHV), District Director Health Services (DDHS), Senior midwife and the in-charge of Kahalo health centre.

The most likely factors responsible for adolescent pregnancy in Kabale district were mentioned as poverty, idleness of girls because of no work to do, cultural beliefs and drinking alcohol by parents from whom children copy sexual practices. There is high immorality because of inadequate distribution of information, education and communication materials that could promote adolescent reproductive health and prevent adolescent pregnancy. The lack of adolescent friendly health services and rebuking of

adolescents by health workers when they seek health care in health was also thought as a probable cause of this problem (*Key informant - Kahalo health centre*).

Early onset of menarche (10-14 years) and the loss of culture by adolescents which used to be helpful in discussing problems related to early sexuality, marriage and pregnancy were some of the factors believed to contribute to the problem of adolescent pregnancy (*Key informant - Kakyekano health centre*)

Other factors that could be contributing to the problem of adolescent pregnancy were; lack of interest in schooling by girl children as compared to the boys, lack of privacy or separation of houses for boys and girls, exchanging sex for material needs like vaseline and clothes. Peer influence was also a factor mentioned especially at parties and other social events and idleness especially in towns.

Adolescents were reported not to be very friendly to existing health services as noticed from the fact that they never ask for condoms, HIV tests and counselling that are offered at Kahalo health centre.

4.7 Factors of Adolescent pregnancy

Under this section, some variables are examined in detail. Basic bivariate associations between independent variables and the dependent variable are investigated.

Socio-demographic characteristics of adolescents such as level of education, place of residence, place of birth, tribe, religion and age are analyzed to assess their association with adolescent pregnancy. Chi-square statistic is used to test whether there is any association between the dependent and independent variables.

4.8 Education and adolescent pregnancy

The level of education of an individual is a socio-demographic indicator that is known, (*UBOS, National Housing Census, 2004*) to influence one's pregnancy. In this study, it is hypothesized that the level of education attained by an individual affects her pregnancy. Several questions were asked relating to adolescent pregnancy of the youth in schools.

The findings show that among the school adolescents, there was a strong association between the level of education attained and pregnancy. Table 4.17 shows that overall, 44.5% of the respondents have ever been pregnant.

The table results also shows that, 63.6% of the respondents who had no education have ever been pregnant. The table also shows that 41.0% of respondents who have attained primary education, 39.7% for secundary and 50.0% for tertiary education have ever been pregnant.

Table 4.17: Percentage of respondents according to level of Education attained and Pregnancy.

Ever been pregnant	Yes	No	Number
Level of education			
No education	63.6	36.4	44
Primary	41.0	59.0	173
Secondary	39.7	60.3	68
Tertiary	50.0	50.0	16
Total %	44.5	55.5	301
$X^2 = 8.191$, $p = 0.042$			

4.8.1 Education and Sexual intercourse

Overall, 71.4% of the respondents had sexual intercourse. Among the respondents attending tertiary education, 88.6% had had sexual intercourse presenting the highest percentage of respondents. This was an expected response as most of the respondents at this level are mature (15-19, 20-24) and are either married, divorced or widowed.

This is followed by respondents who had no education with 88.6% of the them reporting that they have had sexual intercourse.

The rest, 69.4% and 64.7% of primary and secondary respondents respectively reported that they had experienced sexual intercourse. The association therefore between level of education and sexual intercourse experience is highly significant ($p = 0.039$). This is an expected sequence of results as adolescents grow older and acquire higher education, they become more curious about sex. In another case, adolescents (females) who have not gone to school are more exposed to sexual exploitation by men of any age.

4.8.2 Education and Condom use

Table 4.18: Percentage of respondents according to level of Education attained and Sexual intercourse.

Ever had sexual intercourse	Yes	No	Number
Level of education			
No education	88.6	11.4	44
Primary	69.4	30.6	173
Secondary	64.7	35.3	68
Tertiary	75.0	25.0	16
Total %	71.4	28.6	301
$X^2 = 8.351, p = 0.039$			

From hypothesized results, it showed that there is no significant association between the level of education and condom use ($p = 0.299$). This further shows that condoms are used by the educated respondents. Adolescents at all education level in Kabale district either do not appreciate the use or lack accessibility to condoms. The situation is worsened by the negative attitudes and beliefs held by the society towards condoms and other contraceptives.

As shown in table 4.19, a big number of respondents have not been educated about condoms and this is strongly associated to the level of education ($p = 0.299$). Respondents also have never seen female condoms and don't know how to use them ($p = 0.299$) and don't know where to get them ($p = 0.299$).

Table 4.19: Percentage of respondents according to level of Education attained and Condom use.

Ever used a condom	Yes	No	Number
Level of education			
No education	29.5	70.5	44
Primary	37.0	63.0	173
Secondary	35.3	64.7	68
Tertiary	56.3	43.8	16
Total %	36.5	63.5	301
$X^2 = 3.670$, $p = 0.299$			

4.8.3 Education and STDs

From this study, it was obviously seen that adolescents are at a risk of contracting Sexually Transmitted Diseases (STDs) including HIV/AIDS more especially to girls who are at a risk of getting pregnant as well. It also shows that promiscuity is more prevalent among secondary school students. It was noted that among the sexually transmitted diseases, some respondents had heard about syphilis especially at secondary and tertiary levels of education.

4.9 Place of residence and adolescent pregnancy factors

It was hypothesized that adolescents residing in rural areas get frequent pregnancies than adolescents residing in urban areas, that is towns and trading centers. One's type of residence was significantly associated with peer influence on pregnancy matters ($p = 0.024$). Table 4.20 indicates that the majority who discussed sexual relationships with close friends were residing in rural areas (52.8%). Besides, most rural residents are

uneducated and have negative attitude towards sexual matters. Most rural residents live with their parents, father and mother and hence are family influenced. However most urbanites live with relatives and friends hence experience peer pressure (47.2%).

Table 4.20: Percentage of respondents according to place of residence and selected pregnancy factors.

Sexual influence	Party	Drunkardness	Reward	Rape	Curiosity	Others
Residence						
Urban	26.7	32.8	31.7	28.6	47.2	33.3
Rural	73.3	67.2	68.3	7.4	52.8	66.7
X² = 12.980, p = 0.024						
Source of information about pregnancy	Parents	Teachers	Health worker	Others		
Residence						
Urban	33.3	53.3	25.0	40.0		
Rural	66.7	46.7	75.0	60.0		
X² = 4.132, p = 0.248						
Knowledge about sex	Yes	No				
Residence						
Urban	37.3	38.4				
Rural	62.3	61.6				
X² = 0.013, p = 0.910						

Table 4.20 above shows that there is no significant association ($p = 0.248$) between place of residence and source of information about pregnancy. The majority whose most important source of information about pregnancy were parents (66.7%) of whom most were rural residents followed by teachers (33.3%).

There is no association between place of residence and knowledge about sex ($p = 0.570$). Most respondents being from the village (59.3%) stay with their parents.

4.10 Place of birth and pregnancy

One's origin is believed to affect her sexual behavior. Respondents from the same origin are likely to have the same behavior due to cultural factors. However from the results, there was no significant association between place of birth and initiation into sexual intercourse ($p = 0.195$). Also no significant association was found between place of birth of respondents and adolescent pregnancy ($p = 0.083$). It is however noticeable in table 4.18 that atleast 75.4% who had had sexual intercourse, 34.9% of those were from rural areas.

As expected, place of birth was significantly associated with the level of education ($p = 0.000$). As expected, respondents were schooling in their respective counties of birth.

From the above findings, it is evident that most sexual variables were not significantly associated with place of birth. This can be attributed to dynamic migrations that have been experienced in Kabale district over centuries. People have moved from different destinations both within Uganda and outside. Hence the district's population has developed similar cultural, social, demographic and religious characteristics over years. Therefore the above observations indicate that an adolescent's origin does not significantly affect her from getting pregnant.

4.11 Ethnicity and pregnancy

Pre-marital pregnancy is one of the major problems facing adolescents in Uganda today. Such pregnancies have been responsible for generating the high rates of fertility (UDHS 1995, Nuwagaba 1992). However, a significant proportion of the pregnancies has culminated into miscarriages because of various reasons. From table 4.8, it is ap-

parent that youths become pregnant when they are not yet married. In Kabale district, most adolescents had been pregnant (47.8%) due to under various circumstances such as rewards such as money, clothes and cultural beliefs.

From table 4.21, it was found out that there was no significant association between tribe and pregnancy ($p = 0.454$). This means that the tribe has no significant association on pregnancy on whether you are Mukiga, Munyoro, Mutoro, Mufumbira, Munyarwanda and the rest.

Although tribe is an important variable, few studies have been carried out on sexual experience on different tribe groups in Uganda. It was hypothesized due to social reasons, certain tribes in Kabale district are more sexually active than others. There was a significant association between one's tribe and sexual intercourse.

The majority of the respondents had had sex with someone of the same tribe group. However in almost all tribes, there were respondents who had sexual partners with someone from a different tribe.

Table 4.21: Percentage distribution of the respondents by Tribe and Pregnancy.

Ever been pregnant	Yes	No	Number
Tribe			
Banyoro	36.4	63.6	11
Banyarwanda	39.1	60.9	23
Bakiga	48.5	51.5	206
Bafumbira	37.1	62.9	35
Batoro	31.6	62.9	19
Others	28.6	71.4	7
Total %	44.5	55.5	301
$X^2 = 4.697$, $p = 0.454$			
Ever had sexual intercourse			
Banyoro	63.6	36.4	11
Banyarwanda	60.9	39.1	23
Bakiga	77.7	22.3	206
Bafumbira	57.1	42.9	35
Batoro	57.9	42.1	19
Others	42.9	57.1	7
Total %	71.4	28.6	301
$X^2 = 13.521$, $p = 0.019$			

Furthermore, there was no significant association between ethnicity and current use of contraception ($p = 0.429$). From the respondents who were interviewed, the Banyoro had the highest percentage (45.5%) of the respondents who knew the most effective method of contraception.

4.12 Religion and pregnancy

In this context, what matters is the intensity of religious belief and commitment in a particular denomination but not religious affiliation. Hence the influence appears to be due to the strength of the religious and their practice.

Religious institutions have an influence on an adolescent's sexuality through moral teachings. All religious denominations condemn premarital sex; however different religious beliefs have different norms with regard to sexuality. For example, the Catholics are against promotion of most contraception methods such as use of condoms and sup-

port only methods of family planning.

Regarding sexual intercourse, there was no significant association between one's religious affiliation and having ever had sexual intercourse ($p = 0.973$). Analysis also showed no significant association between an adolescent's religion and pregnancy ($p = 0.396$). The results shows that Moslems youth had had sex more than other religions (78.6%) followed by the Protestants (72.0%), Pentacostals (71.4%), Catholics (69.6%) and Seventh Day Adventists (60.0%). Findings indicate that irrespective of religion, most of the respondents who participated in this study have had sexual intercourse. The findings show that religious affiliation does not influence pregnancy ($p = 0.396$).

Table 4.22: Percentage distribution of the respondents by Religion and Pregnancy.

Ever sexual intercourse	Yes	No	Number
Religion			
Catholic	69.6	30.4	79
Protestant	72.0	28.0	186
Moslem	78.6	21.4	14
Pentecostal	71.4	28.6	14
Seventh Day Adventist	60.0	40.0	5
Others	66.7	33.3	3
p = 0.973			
Ever had been pregnant			
Catholic	36.7	63.3	79
Protestant	47.0	53.0	186
Moslem	53.3	46.7	14
Pentecostal	57.1	42.9	14
Seventh Day Adventist	20.0	80.0	5
Others	33.3	66.7	3
p = 0.396			

4.13 Age and pregnancy

Age is an important demographic factor especially in explaining the growth and reproductive systems of the body. Results in Table 4.23 shows a significant association between age at first sexual intercourse of respondents and pregnancy ($p = 0.000$).

Table 4.23 indicates that 30.5% of the youths aged between 10-14 years had had sexual intercourse which led to pregnancy at the time of the interview. "I don't know" (62.7%) age group are those who didn't know their age by the time they got pregnant and these were mainly those with no education and those in primary. This proportion decreases as the age rises. Table 4.23 indicates that as age increases, those initiated into sexual intercourse reduces in number. A big proportion (85.7%) of respondents of 20-24 years reported that were pregnant during the same years.

Table 4.23: Percentage distribution of the respondents according to their age at sexual intercourse and Pregnancy.

Ever been pregnant	Yes	No	Number
Age group			
10-14	30.5	69.5	141
15-19	51.1	48.9	94
20-24	85.7	14.3	7
I don't know	62.7	37.3	59
Total %			301
$X^2 = 25.571$, $p = 0.000$			

Also knowledge about pills and condoms was not associated with age ($P = 0.231$). There was no association between age and where to get pills and current use of contraception. But a given higher percentage of older adolescents (73.9%) had some knowledge, knew the source and were currently using contraceptives than the younger adolescents.

As expected, the likelihood of one having a steady boy friend was strongly related to one's age as it was indicated by sexual partners in table 4.15. It is noticed that as one's age increases, a higher number of adolescents who have steady relationships are noticed. A significant association also existed between age and number of different sexual partners during one's lifetime. Most of those who had had more than three

different sexual partners were aged between 15-19 and 20-24 years. Age group of 15-19 and 20-24 had the largest proportion of respondents who had had at least one partner in their lifetime.

4.14 Consequences

4.14.1 Social consequences

Social consequences of non-school and school adolescent sexual intercourse can be seen through prevalence of Sexually Transmitted Diseases (STDs), HIV/AIDS and above all, unwanted pregnancy which all leads to school drop out. A question (*Ref: Q133(a) Appendix 1*) was asked as to whether the respondents had ever been pregnant. A big percentage (44.5%) of respondents reported to had ever been pregnant. This variable significantly showed that a big number (72.7%) of respondents with no education had ever been pregnant. This could be due to education factor as ever been pregnant reduced among respondents who are at a certain level of education.

However some respondents on the other hand were not sure whether they had ever been pregnant or not. Those who were not sure of whether they had ever been pregnant are likely to have ever or were currently pregnant.

4.14.2 Medical consequences

Sexual related problems among adolescents account for a substantial proportion for cause of death. Among female adolescents, it is the leading cause of death. In this study, a very small percentage (30.8%) reported to had ever had a still birth.

4.15 Determinants of Adolescent pregnancy

4.15.1 Multivariate Analysis

Of the multivariate methods, the logistic regression model was found to be the best procedure to present interactions of the factors that influence adolescent pregnancy.

This model is able to estimate the probability of an event occurring for variables. The dependent variable is adolescent pregnancy, while the independent variables include; age, religion, level of education, place of residence and ethnicity.

Therefore the logistic regression model was used to predict the likelihood that a respondent would be pregnant due to socio-demographic factors. It also identifies the variables useful in making such a prediction. The enter selection procedure was used when the logistic regression was being formulated. This included all variables in the model at a go irrespective of whether significant or not in the bivariate analysis. The advantage of the procedure is that because of interactions between variables, bivariate analysis shows some variables not significant while they can be significant in the multivariate analysis.

4.15.2 Logistic regression model

The effect of the selected socio-demographic factors on adolescent pregnancy was further investigated using logistic regression model. Logistic regression model is very widely used for analyzing data involving dichotomous variables (*Dobson, 1991*).

This model was therefore chosen because the dependent variable, that is pregnancy is dichotomous in nature taking the letters 'Y' for ever pregnant and 'N' for never been pregnant. This dichotomous dependent variable was regressed on dummy indica-

tor variables representing the independent variables. These dummy variables represent the categorical variables. They are binomial and take on the value '1' for the relevant categories and '0' for the other categories.

The independent variables selected in this model include; age, education, place of birth, place of residence, ethnic group and religion. In order to use the above mentioned variables in the logistic regression model, it was found necessary to create dummy variables to enable multivariate regression.

For each of the above-mentioned independent variables, one of the original categories was assigned the value 0 and was taken to be the reference category in this analysis. This reference category was the one expected to have a very low likelihood on adolescent pregnancy. The probability of adolescent's sexual initiation was analyzed in relation to the selected reference category.

With this model, the dependent variable takes on two values (*for Yes and No*) for the method to be appropriate.

4.16 Results of the logistic regression model and discussion

The above mentioned dummy variables were used to formulate the logistic regression model where the dependent variable was regressed on all the dummy variables. The contribution of all the dummy variables representing the independent variables are displayed in table 25. The table depict the Beta co-efficient (β), significance level (sig) and the odds ratio $\text{Exp.}(\beta)$. The e raised to the power (β_i) ($\text{Exp.}(\beta)$) is the factor by which the odds change when the independent variable increases by one unit. The odds ratio of an event occurring is defined as the ratio of the probability that the event will occur to the probability that it will not occur. If (β_i) is positive, this factor will

be greater than one, which means that the odds are increased. If (β_i) is negative, the factor will be less than one, which means that the odds are decreased.

4.16.1 The model addresses the following hypotheses

1. Adolescents residing in rural areas are likely to be more pregnant than those residing in the urban areas are.
2. Adolescent's level of education affects her pregnancy.
3. One's ethnic background affects someone's values, attitude, tastes and exposure to sex and consequently pregnancy.

Logistic Regression estimates of the risk factors of adolescent pregnancy in Kabale district

Table 4.24: Logistic Regression estimates of the risk factors of adolescent pregnancy in Kabale district.

Variables in the Logistic regression model	B	Sig	Exp. (B)
Place of birth			
Rukiga*			
Ndorwa	0.455	0.259	1.579
Rubanda	0.937	0.033	2.552
Municipality	1.263	0.002	3.537
Ethnic/tribe group			
Banyoro*			
Banyarwanda	-0.029	0.987	0.971
Bakiga	0.190	0.906	1.209
Bafumbira	-0.057	0.970	0.944
Batoro	-0.532	0.741	0.587
Others	0.037	0.982	1.038
Religion			
Catholic*			
Protestant	-0.065	0.966	0.937
Moslem	-0.280	0.854	0.756
Pentecostal	-0.633	0.693	0.531
Seventh Day Adventist	-0.695	0.667	0.499
Others	-0.722	0.703	2.059
Level of education			
No education*			
Primary	-0.314	0.645	0.731
Secondary	0.252	0.681	1.287
Tertiary	0.441	0.494	1.555
Place of residence			
Rural*			
Urban	0.610	0.033	1.840
Age			
10-14*			
15-19	1.308	0.000	3.700
20-24	0.406	0.273	1.501
Constant	2.572	0.528	29.653

Exp. (β) - odds ratios

Sig - Test of Statistical Significance

(β) - Beta parameters [the maximum likelihood estimate co-efficients]

* Reference category

From the estimated logistic regression model shown in table 4.24, it can be seen that most variables were not significant at 5%.

1. Place of birth

In the logistic regression model, it was found out that the place of birth is significantly associated with adolescent pregnancy. At 95 percent confidence interval, the level of significance was $p = 0.002$, which was an indication of a direct relationship between respondents born in Rukiga county and those born in Ndorwa, Rubanda and Municipality (reference category).

2. Ethnic/tribe and Religion

In terms of having higher pregnancies, tribes and region registered the following odds ratios; Banyarwanda (0.971), Bakiga (1.209), Bafumbira (0.944), Batoro (0.587) and Protestant (0.937), Moslem (0.756), Pentecostal (0.531), Seventh Day Adventist (0.499) respectively.

3. Place of residence

The odds ratios of urban adolescents with pregnancy came at 1.840 times those of rural adolescents. The rural adolescents had more pregnancies than their urban counterparts because rural female adolescents leave school at an early age which is a contributing factor to early marriages.

4. Level of education

The logistic regression model shows that the level of education was not significantly

associated with pregnancy. At 5 percent level of significance, $p = 0.645$ for respondents at primary level. This indicated a clear picture of a negative relationship between level of education and pregnancy.

5. Age

From the logistic regression model, age was significantly associated with pregnancy amongst female adolescents. At 95 percent confidence interval, the level of significance was $p = 0.000$. This had a direct relationship between pregnancy and age, a by-product of early school drop outs due to poverty.

4.17 Summary

This chapter is a description of socio-demographic and behavioral of the adolescents. The majority of the respondents were primary going students, most of whom were from rural schools.

Adolescents in Kabale district were found to be getting sexually active early in life with an average age at first intercourse of 14 years. Most of the respondents had had two or more sexual partners in their lifetime. This has led to pregnancy to many adolescents at that age.

In this chapter, bivariate analysis of socio-demographic factors influencing adolescent pregnancy has been. Using the Chi square statistic, the effect of each of the independent variables of level of education, place of residence and age were found to be significantly related to adolescent pregnancy. On the other hand, place of birth, tribe and religion were not strongly related to adolescent pregnancy.

In order to establish the effect of different background factors on adolescent preg-

nancy, bivariate analysis was carried out in the previous chapter. There were some factors that were found to be statically significant, that include; age, education and place of residence.

Chapter 5

Summary of findings, Conclusions and Recommendations

Adolescent pregnancy and childbearing is a reality among women attending antenatal care in health units in Kabale district. The health facilities in Rukiga county were found to have the highest proportion of pregnant adolescents (31.3%) as compared to those in Ndorwa, Rubanda and Municipality counties attending antenatal care. This could be because Rukiga is more urban based with mixed tribes, religions and cultural practices that could negatively influence the health seeking behaviour among adolescents. The high population in Rubanda county also explains a rate higher rate (27.6%) of pregnancy among the adolescents compared to other counties as reflected by the antenatal care attendance.

The study further revealed that Rukiga county has more health facilities than other counties. This is most probably because Rukiga county is sub urban with many small towns in it compared to others. The variations in tribes, religion and culture are less in other counties as it is not the case for Rukiga. The accessibility to information, education and communication materials on sexuality, early marriage and pregnancy targeting adolescents could be much higher in Rukiga than other sub counties.

A number of demographic, social, economic and cultural factors are closely associated with adolescent pregnancy. Statistical tests were used to assess the degree of association for various characteristics among female adolescents (10-19 years) who were pregnant and those who were not.

The majority of the population were Bakiga. This was rather expected since the study was carried out in their region. Further more, the Bakiga practice the culture of early sex initiation and marriage especially after menarche as reported in one of the focus group discussions that may result into early pregnancy. Tribe is a factor that could have confounded the relationship between adolescent pregnancy and other factors.

Adolescent pregnancy is not limited to any one religious affiliation. In this study, the Seventh Day Adventists were less likely to become pregnant (16.7%) compared to other religions. The most likely explanation for this could be because of their population in the district. The association between religion and adolescent pregnancy could have confounded by education and marital union of respondents.

Not all adolescents in Kabale district have the opportunity of attending school. Even with the ongoing universal primary education, not all children go to school and if they do many drop out before primary seven.

The study results showed that most pregnant adolescents had not even gone to primary level of education (59.0%). This may have influence on adolescent sexual behaviour and resulting pregnancy in that adolescents with high education were less likely to become pregnant. This is typical of Uganda socio-demographic characteristics, (*Barton T, Wamai 1994*).

In this study, students (in school) were less likely to become pregnant compared to those out of school. This is probably because school going adolescents are exposed to family life education messages, post-pone marriage and child bearing in order to continue with their education. Further more adolescent girls in this category could

be getting guidance and counselling from parents and teachers about early sexuality, marriage and pregnancy which those not in school may be lacking.

A young woman's level of education is the factor most strongly and consistently associated with the probability of giving birth during adolescence, (*Gupta, 1999*).

Sexual activity was found to be higher among women with no education (88.6%) and those in tertiary (75.0%).

Peasant adolescents were more likely to become pregnant. Peasant adolescent women had low income as revealed by this study, which impeded their access to health care, information and education regarding adolescent reproductive health. Such information and education could have prevented adolescent pregnancy and childbearing.

Results from this study revealed that marriage of adolescent girls was one of the factors associated with pregnancy. Marriage is a deeply held tradition in Uganda that girl children are forced into early marriage as 15 years. Marriage takes many forms; customary, religious and civil. Marriages are also recognized by law. Unfortunately, this study did not determine the type of marriages adolescents were engaged in or whether the marriages were monogamous or polygamous. Marriage is one of the extraneous variables that could have confounded knowledge and use of contraceptives among adolescents.

The majority of primary education were married (48.1%) compared to others at other levels of education. This is because some adolescent girls are forced out of school to enter marriage because of pregnancy.

The chances of becoming pregnant were closely related to the frequency of sexual intercourse which acts as a measure of exposure to pregnancy (*UDHS, 1995*). And also

the unmarried adolescents are more bound to have protected sex to prevent themselves from acquiring sexually transmitted diseases and by so doing, they prevent pregnancy. The married adolescents may not take such precautions since they are interested in bearing children. In Brazil, teenagers may opt for marriage because of pregnancy and nearly 25% of births among teenagers in union occur within 7 months, (*Gupta, 1999*).

A greater proportion (62.1%) of adolescents were coming from rural areas. The higher frequency (49.7%) of adolescent pregnancy among rural adolescent women could be due to the fact that rural adolescents lack access to health services and may not afford the existing health services. This is both in terms of the distance to health units and cost for services (fee for service) in health units. The rate of school dropouts in Kabale is believed to be higher for adolescent girls than boys and also greater in rural than urban areas. Since this study revealed that poor economic status is associated with pregnancy among adolescents, this could further compound the problem. The negative cultural beliefs and practices that affect the health of adolescents are more embedded in rural than urban communities. Sexual activity is higher among rural women (61.3%) than the urban (52.9%) counterparts (*UDHS, 1995*).

5.1 Age at marriage among adolescent women

The mean age at marriage was 16 years and adolescents who married at less than 18 years were more likely to become pregnant compared to those who married later. This could be a reflection of the problem of school dropout and early marriage among female adolescents with a long reproductive life time, a problem that was noted in other studies (*Friedman H.L, 1989*). Also female adolescents who married at less than 18 years might have had little knowledge on dangers of early sexuality and probably missed

ideas on contraception methods. On the converse adolescents seem to have desire for pregnancy especially after menarche and dropping out of school irrespective of their age.

5.2 Relationship between socio-economic factors and adolescent pregnancy

5.2.1 Relationship between staying with parents and adolescent pregnancy

As the study results showed staying with parents was significantly ($P = 0.000$) associated with adolescent pregnancy, with those who stayed with their parents (22.3%) being less likely to become pregnant as compared to those who did not. This is something that should be encouraged since it gives the opportunity for parental care and guidance about sexuality and pregnancy as of the existing traditions in the family.

Without such care and guidance and compounded with the low education and economic status many adolescent girls would end up pregnant and later in marriage. The explanation for the reduced likelihood of pregnancy among adolescents who stayed with their parents could be that their socio-economic are needs met by their parents unlike those who did not stay with them, but may merely depend on boyfriends or other people.

A study done in urban Kampala, revealed that sexual intercourse was high among adolescent who stay alone and 8.6% of them end up pregnant (*Ndyanabangi, 1999*). This calls for the need to revive the mother daughter interactions on reproductive health matters. The traditional practice of girls spending time and learning from their mothers (*Kwoogananyina*), otherwise traditionally called taking a bath with the mother needs also to be revived. Girls who stay away from their parents had higher incidences of early sexuality and pregnancy (UDHS, 1995).

5.2.2 Relationship between mass media on adolescent pregnancy

The study revealed that adolescents who were exposed to television messages were less likely to become pregnant. This data reveals that television is an important part of information dissemination and indicates the the great potential for its use in future to disseminate information aimed at adolescent pregnancy reduction. The explanation for this could be that parents with television probably guide and encourage their children to watch adolescent health related programs that discourage early sex, marriage and pregnancy. This finding could, however have been confounded by known factors like household income and the education level of the study participants.

Further more, since more adolescents are in primary school, their teachers could be encouraging them to watch televisions or films that are less pornographic or romantic unlike those who are out of school that could be lacking such guidance. Also the non-pregnant adolescents were mostly from urban areas where exposure to such discouraging information is more common than in rural areas. This finding is, however different from that by *Ndyanabangi, 1996* where it was found that adolescents who watch films indulged more in sexual activity that resulted in pregnancy as compared to those who did not. Exposure to television messages is, however a poor means of reaching out to the rural adolescent girls since very few families can afford a television set or even maintaining one if it exists due to family poverty. Worse still many of the adolescents who attended antenatal care were from rural areas where television messages transmission is difficult, if not possible to access.

5.2.3 Access to the print media

Adolescent who read the print media were more likely to become pregnant than those who did not. The print media exposed to were mainly; pamphlets, *The New Vision*, *The Monitor* and a *Runyakole-Rukiga* local paper. This implies that the information got from such media is detrimental and should be discouraged. This finding also on the other side shows lack of exposure or access of adolescent girls education and information messages from the newspapers like "*Straight Talk*", that is protective against unsafe sexual practices and subsequent pregnancy.

This finding is in agreement with that of Friend (1992), where intense exposure to mass media like news (*The New Vision and The Monitor*) could make adolescents sexually active and end up pregnant.

5.2.4 Exposure to pornographic information in the family

Results from this study showed that adolescent women who shared shelter with their parents in houses with less than 4 rooms were more likely to become pregnant as compared to those who shared more than 4 rooms. This could be possibly explained by the fact that parents who closely share rooms with their children induce sexual curiosity during adolescence as they may copy such practices from their parents. This could be the likely cause for early onset sexual activity among adolescent boys and girls.

Key informant interviews in this study also revealed that there is moral decadence in some families, whereby parents get drunk and have sex in the presence of their children. Exposure to such pornographic information increases the risk for early sexual activity and pregnancy among adolescent girls. In many homes, adults share bedrooms with children who are old enough to understand what their parents should have oth-

erwise done in privacy. Children's morals are therefore ruined because of the nature of houses their families live in. Children end up trying out what they hear or see at night. Thus, shelter exposes children to both direct sexual abuse and pornographic acts, (*Njeri, 1999*).

5.2.5 Relationship between poor economic status and adolescent pregnancy

Whereas more adolescents attending antenatal care were from poor families, few of them came from rich families. Adolescents from poor families were more likely to become pregnant as compared to those from rich families. Measurement bias could have occurred in determining who is poor or rich. This could be partly explained by the fact that socio-economic needs for girl children who come from poor families may not be met by their parents or guardians as they grow yet such needs increase with age. Adolescents may find no alternative, other than having pre-marital sex in exchange for financial or material needs or forced to enter early marriage in order to meet their socio-economic needs.

The results of this are usually early pregnancy and childbearing. This reflects the influence of poverty on adolescent pregnancy, motherhood and health. The high levels of adolescent pregnancy, childbearing and unsafe abortions reflect and result in lack of educational and economic opportunities (*UNFPA, 1997*). The low level of education among teenagers compounded with lack of gainful employment opportunities puts adolescents at an increased risk of early marriage and pregnancy (*Kabangira, 1996*). The key informant interviews in this study also revealed that poverty is one of the factors that increase adolescent sexuality and pregnancy. This suggests that poverty could be one of the factors greatly contributing to pregnancy among adolescents. Due

to the fact that poor economic status is one of the predisposing factors to adolescent pregnancy, there is therefore a need to have cheap and accessible adolescent friendly health services within the district health care delivery system of Hoima. Such health services could specifically target adolescents in the community and those who come for antenatal care in the health units in order to prevent the first or subsequent pregnancies.

5.2.6 Sexual behavior among adolescents

The highest proportion of adolescents (63.1%) had their first sex intercourse within the age range of 10-14 years as compared to those in age range of 20 + years. The lowest age at first sexual intercourse reported was 8 years among the respondents. The fact that most adolescents were from rural areas with low education levels and poor economic status could be a possible reason for early sexual activity among adolescents. Furthermore, the negative cultural attitudes, beliefs and practices among the Bakiga who encourage early sex initiation and marriage after menarche, could be factors also contributing to early sexuality among adolescents. This finding suggests sexual activity before reproductive maturity and could reflect an increase in cases of defilement. These findings are similar to those in other studies for example; *Obongo (1993)* in Kenya. Early initiation of sexual activity increased the likelihoodness of an adolescent pregnancy, (*Witmer, 1997*).

5.2.7 Knowledge and use of contraceptives among adolescents

Knowledge about contraceptive use was not significantly associated with pregnancy. Marriage and education status of adolescents could have been some of the extraneous factors that affect this study finding.

Counseling was found to be protective against pregnancy. Counseling and guidance against pregnancy was done by either relatives, parents, teachers or health workers. This finding was also noted in the focus group discussions where respondents suggested that counseling and use of protector condoms were some of the ways of preventing adolescent pregnancy. This shows that the auntie (*Senga*) institution still exists in some communities or families in Kabale, where by adolescent girls are educated and counseled about the dangers of early pregnancy. This finding is similar to that revealed by the senior midwife at Kahaaro Health Centre who said that the loss of the Senga institution which was helpful in discussing problems related to early sexual activity, marriage and pregnancy contributed to this problem.

5.3 Conclusions and Recommendations

This study established socio-economic factors associated with adolescent pregnancy, explored the relationship between mass media and contraceptive use and adolescent pregnancy among adolescents in Kabale District. It also compared sexual behavior among pregnant and non pregnant adolescent pregnant level.

This study also shows methods which can be taken in order to control pregnancy in adolescents because if followed well, it reduces chances of acquiring unwanted pregnancies that results into abortions, premature delivery, low birth weights and other maternal incidences. These can be prevented only if there is sex education and counseling against pregnancy, access to television messages and newspapers and provision of special income generating projects by the government.

At bivariate level, the following factors were found to influence pregnancy among ado-

lescents; age, education level, place of residence and ethnicity.

At multivariate level, factors that were found to be significantly influence pregnancy among adolescents were; age, level of residence and birth.

In this study, the presence of education materials (like posters and magazines), sex education in rural and urban centres, health services provided by non-governmental organizations, the district and government of Uganda were found to be significant in controlling adolescent pregnancy.

The following factors in this study were identified as risk factors for adolescent pregnancy among respondents; being Mukiga, peasantry, coming from a rural area, staying with parents, education status (in school), peer influence, lack of privacy, poor economic status, exposure to television messages, access to print media, marriage at less than 18 years, sex education and counseling against pregnancy.

From the findings of this study, the following recommendations can be drawn. They target the young people themselves, the parents, service providers, the government and the society in general.

Based on the findings, it was realized that improving an adolescent's education level is clearly the first step in any intervention measure to control pregnancy among adolescents. Pregnancy in adolescents might be expected to reduce in future simply as a result of increasing education attainment through Universal Primary Education (UPE) and Universal Secondary Education (USE) to eradicate illiteracy and hence improve adolescent status.

High education for adolescents increases their opportunities for employment and hence

it is hoped that their motivation to practice contraception would also increase. Also education makes children less valued because of the maintenance expenses involved. Moreover, through education, an individual becomes more exposed which also affects his/her attitudes and values.

Effective and continuous sex education in primary and post primary schools could have a role to play in pregnancy in adolescents. Because education has much an important effect on the adolescents' lives, it becomes the number one recommended intervention if adolescent pregnancy is to decrease.

Similary several strategies for information, education and communication should be established.

Mass media like radios (where health education messages are usually communicated) could be a potential method to disseminate pregnancy information more widely than hospitals and clinics. This potential should therefore be encouraged and should be exploited with programs scheduled for the most popular slots. Adolescents should be sensitized to maximally use/listen to their radios. This is more likely to capture a large number of adolescents, out of school adolescents inclusive.

The government of Uganda, the Ministry of Health (MoH) and other organizations concerned should take should involve communities especially in areas of planning, distribution of health services to the adolescents and set up more efficient information and follow up services in the area. The supplies could include condoms, oral contraceptives and injectables. To the illiterates, information must be accompanied by very specific directions about the source of supply and how the methods should be used.

The promotion of contraceptives especially condom use is so important as it prevents the twin risks of unwanted pregnancies and contracting of HIV/AIDS and other Sexually Transmitted Diseases (STDs).

The District Health Team should formulate adolescent fertility control and pregnancy risk reduction programs through a comprehensive information, education and communication (IEC) package for adolescents. This could be done through mass media, peer education, school talks, film or television shows and drama shows. These IEC messages should mainly target peasant families, catholics and rural adolescent girls. radio talk shows should be sponsored by the DHT on radio Voice of Kigezi (VoK).

Research agenda: A similar study should be done among adolescents in the community in order to answer some unanswered questions in this study.

The low household income was found to be significantly associated with adolescent pregnancy. This calls for Kabale District Local Council to lobby for a loan scheme for the people to start income generating projects. This scheme will increase the family and individual incomes that will enable parents and their girl children to meet their socio-economic needs, rather than relying on bride price or material needs from sexual partners.

Kabale District Local Council should enact a by-law for girl children not to marry before the age of 18 years. It should also advocate for cheaper education for the girl child and re-enrollment of adolescent girls back into school after delivery. This could help in delaying subsequent pregnancies and allow benefit from formal education that reduces the risk of pregnancy.

There should be advocacy for proper house designs and space to ensure privacy between children and parents. Separation of boys and girls should also be encouraged especially during adolescence.

Parents or guardians to the girl children should be encouraged to offer sex education, guidance and counseling against early sex, marriage and pregnancy and its effects as early as 10 years.

5.4 Area for future research

There a lot of gaps as regards to control of pregnancy in adolescents. Future researchers should find new ways of protecting adolescents from pregnancy especially need to study the cultural norms, customs and traditions that have hindered the acceptance of adolescent programs. Research is also needed to find out the extent to which adolescents have reproductive freedom, knowledge and access to contraceptives in the different regions of Uganda.

References

1. African. [1996] "African Reproductive Health Network". Kampala: UNFPA.
2. Gyepi, G. [1987] "Some Implication of Early Child Bearing in Ghana". Population Bulletin, Vol.40, No.2, pp 1-8.
3. UNFPA, Uganda. [1995] "A Situation analysis of Key Areas Affecting the Health and Reproductive Health Status of Women in Uganda", pp 3, 10, 12 and 30.
4. WHO, Geneva. [1997] "A tabulation of available data on frequency and mortality of Unsafe Abortion". Geneva: WHO.
5. William, X. Agyei, K. [1994] "Access and Utilisation of Contraceptives and Reproductive Health Services among Adolescents in Uganda". Kampala: Fountain Publishers.
6. US Centre for Disease Control and Prevention (CDC). [1998]. Prevention and treatment of STDs as an HIV Prevention Strategy. Atlanta, CDC.
7. Stella, B. Nakanyike, K. and Richard, D. [2004]. Adolescent Sexual and Reproductive Health in Uganda: A Synthesis of Research Evidence. New York and Washington. The Alan Guttmacher Institute.
8. MOH / GOU - UNICEF. [Dec 1999]. "A needs Assessment for Adolescent Friendly Health Services (AFHS) in Uganda". A study of Kabale, Kiboga, Mbale, Nebbi and Rukungiri Districts, Summary report.
9. PATH and UNFPA. [1998]. Adolescent Reproductive Health: Making a difference. PATH and UNFPA.
10. MOH / GOU. Adolescents in Uganda: Sexual and Reproductive Health. Research in brief (protecting the next generation), 2005 series. Kampala: MoH / GoU.

11. WHO. [2004]. "Risk and Protective Factors Affecting Adolescent Reproductive Health in Developing Countries". Geneva: WHO.
12. WHO. [2004]. Adolescent Pregnancy. Issues in Adolescent Health and Development. Geneva: World Health Organisation.
13. Warren, C. [1992]. "Adolescents perspectives on international sex practices and American family sex communication relevant to teenage sexual behaviour in the United States". Health communication. pp 4(2), 121 - 136.
14. UNFPA. Status of Adolescent Health Policy in Uganda. pp 3-30.
15. Laurie, M. Suzanne, B. [1998] Examining Adolescent Pregnancy. Human Development bulletin. College of Human Ecology, The Ohio State University.
16. Bannet, N. Walter, K. James, O. Bernard, M. Robinah, M. Ntozi, J. [2003] "Reproductive health behavior among adolescents and young adults in a semi-urban district in Uganda". A Journal of health and population in developing countries. Kampala: United Nations Population Fund, Uganda.
17. WHO. [2004]. Risk and Protective Factors Affecting Adolescent Reproductive Health in Developing Countries. An analysis of adolescent sexual and reproductive health literature around the world. Geneva: WHO.

Appendix 1: Individual Questionnaire

INDIVIDUAL QUESTIONNAIRE

(For female adolescents only)

Good morning/afternoon Madam? I am called K. Besigiroha Moses, a postgraduate student (*Msc Population & Reproductive Health*) from Makerere University-Institute of Statistics and Applied Economics. I am carrying out a research about the risk factors of adolescent pregnancy in Kabale district. I am trying to find out risk factors associated with adolescent pregnancy.

To these factors, I need to know more about you the adolescents. Your local civic and political leaders, with whom this issue was discussed, are very interested and so have agreed that I visit you to get this information from you.

Some of the questions are personal and you may feel embarrassed however your answers will be kept confidential and used **ONLY** for the purpose of this study. This interview may not be compulsory so in case you feel that you are unable to answer these questions, inform the researcher in time to collect questionnaire from you so to give it to another person.

Answer the questions by ticking the most appropriate alternative. In case for those who don't know how to write and read, I will ask and write down your answers because I may forget what you say or confuse them with what other ladies tell me when I visit them. I will not tell any one else what your answers are or show these papers to any one.

Please make every effort to answer each question as honestly as possible. The success of this project rests on your cooperation.

A. General information about the respondent

District	Kabale
County	
Sub-county	
Village	
Type of health facility	1. Government 2. Private 3. Church/Missionary 4. NGO 5. other

B. Socio-demographic characteristics of respondents

100. How old were you at your first birth day? Age in complete years

101. What is your tribe?

1 = Munyoro 2 = Munyarwanda 3 = Mukiga
4 = Mufumbira 5 = Mutoro 6 = Other (Specify)...

102. Are your parents alive?

1 = Yes 2 = No

103. What is your parents religion?

1 = Catholic 2 = Protestant 3 = Muslim 4 = Pentecostal
5 = Seventh Day Adventist 6 = I don't know 7 = Other (specify).....

104. What is the main occupation of your parents?

1 = Peasant farmer 2 = Domestic farmer 3 = Civil servant 4 = Casual labourer
5 = Business person 6 = House wife 7 = Domestic servant 8 = Driver 9 = I don't know
10 = Other (specify).....

105. What is your level of education?

1 = No education 2 = Primary 3 = Secondary 4 = Tertiary

106. What is your religion?

1 = Catholic 2 = protestant 3 = Muslim
4 = Pentecostal 5 = Seventh Day Adventist 6 = I don't know 7 = Other (specify).....

107. What is your marital status?

- 1 = Single 2 = Married
3 = Divorced 4 = Widowed 5 = Other (specify).....

108. If married, at what age did you marry?

- 1 = 10-14 2 = 15-19
3 = 20-24 4 = Other (specify).....

109. Do you have any child (children)?

- 1 = Yes 2 = No

110. How many children / child do you have?

111. What is your place of residence?

- 1 = Urban/town 2 = Rural

112(a) Do you stay with your parents?

- 1 = Yes 2 = No

(b) If No, with whom do you stay?

- 1 = Uncle 2 = Aunt 3 = Grand parent 4 = Sister
5 = Brother 6 = Guardian 7 = Husband 8 = Alone

113. How many rooms are there in your father's house?

114. What is the type of roof of your house?

- 1 = Iron sheets 2 = Grass thatched
3 = Polythene material 4 = Tiles 5 = Other (specify)

115. What is the type of floor of your house?

- 1 = Cemented 2 = Mud 3 = Other (specify)

116. How many wives does your father have?

C. Mass media

117. Do you have a radio at home?

1. Yes 2. No

118. If Yes, how often do you listen to the radio?

1. Daily 2. Atleast once a week
3. Atleast once a month 4. Never

119. Enlist the types of programs you usually listen to on radio?

1. Christian/Religious 2. Health 3. Politics 4. Music 5. Plays and drama
6. News 7. Sports and games 8. Announcements 9. Education 10. Other(specify)...

120. (a) Do you access newspapers and or magazines?

1. Yes 2. No

(b) If Yes, how often do you read them?

1. Daily 2. Atleast once a week
3. Atleast once a month 4. Never

121. Do you enjoy reading magazines/newspapers?

1. Yes 2. No

122. (a) Do you have a television set at home?

1. Yes 2. No

(b) If Yes, how often do you watch television?

1. Daily 2. Atleast once a week
3. Atleast once a month 4. Never

123. What programs do you usually watch most on television?

1. Christian/Religious 2. Health 3. Politics 4. Music 5. Sports and games
6. News 7. Plays and drama 8. Education 9. Announcements 10. Other (specify) ...

D. Risky sexual behaviors

124. Do you have a boy friend?

1. Yes 2. No

125. (a) Have you ever had sexual intercourse?

1. Yes 2. No

(c) If Yes, how old were you at your first sexual intercourse?

1. 10-14 2. 15-19
3. 20-24 4. Other (specify)

126. With whom did you have sex on this occasion?

1. Relative 2. Husband
3. Stranger 4. Boy friend 5. Other (specify)

127. What were the circumstances / conditions that lead you initiate / start sex activity?

1. Party 2. Drunkardness 3. Reward
4. Rape 5. Curiosity 6. Other (Specify)

128. Have you ever experienced any of the following?

1. Kissing 2. Hugging 3. Lesbianism 4. Masturbation
5. Oral sex 6. Anal sex 7. All the above 8. None of the above
9. Other (specify)

129. (a) Have you ever used a condom during sexual intercourse?

1. Yes 2. No

(b) If Yes, why were condoms used on these occasions?

1. Protection against pregnancy 2. Protect against HIV/AIDS
3. Protect against STIs 4. Other (specify)

130. Have many friends or relatives (girls) at your age ever had sex?

1. Yes 2. No

131. Have you ever had sex education?

1. Yes 2. No

132. If Yes, who educated you about sex?

1. Parents 2. Teachers 3. Relatives
4. Friends 5. Siblings 6. Other (Specify)

E. Pregnancy and social factors
--

133. (a) Have you ever been pregnant?

1. Yes 2. No

(b) If Yes, at what age did you first become pregnant?

1. 10-14 2. 15-19
3. 20-24 4. Other (specify).....

134. (a) Did you plan to get your first pregnancy?

1. Yes 2. No

(b) If Yes, who was responsible for this pregnancy?

1. Boyfriend 2. Ordinary friend
3. Husband 4. Stranger 5. Other (Specify)

135. Whom were you staying with when you got the first pregnancy?

1. Husband / partner 2. Parents
3. Guardian 4. Other (Specify)

136. What circumstances led to your pregnancy?

137. At the time you become pregnant were you married?

1. Yes 2. No

138. How many children / child would you wish to have?

F. Family planning, knowledge and use
--

139. Have you ever heard of family planning methods?

1. Yes 2. No

140. What family planning methods do you know?

1. Pills 2. Condoms 3. IUD 4. Injectables 5. Norplant
6. Sterilization 7. Abstinence 8. With drawal 9. Diaphragm 10. Other (specify).....

141. From the above methods, which is the most appropriate for young people of your age?

1. Pills 2. Condoms 3. IUD 4. Injectables 5. Norplant
6. Sterilization 7. Abstinence 8. With drawal 9. Diaphragm 10. Other
(specify).....

142. From whom did you hear / know these family planning methods?

1. Friends 2. Relatives 3. School teachers 4. Radio / TV 5. News papers/Magazines
6. Posters 7. Parents 8. All the above 9. Other (Specify)

143. (a) Are you currently using any means of contraception?

1. Yes 2. No

(b) If Yes, which method are you currently using?

1. Pills 2. Condoms 3. IUD 4. Injectables 5. Norplant
6. Sterilization 7. Abstinence 8. With drawal 9. Diaphragm
10. Other (specify).....

144. (a) Did you find any problem in using the above family planning methods?

1. Yes 2. No

(b) If Yes, what problems did you get?

1. No menstrual flow 2. Discomfort 3. Severe bleeding
4. Headaches 5. No problems 6. Other (Specify)

145. Do you think the use of family planning methods can help to reduce or

stop the unwanted pregnancies among adolescent girls?

1. Yes 2. No

146. Which are the sources of supply of the above family planning?

1. Government health unit 2. Pharmacy/drug shops 3. Friends
4. Schools 5. Bars 6. Community distributors 7. Other (Specify)

G. Counseling and guidance against pregnancy

147. (a) Have you ever been counseled about becoming pregnant before 20 years?

1. Yes 2. No

(b) If Yes, who counseled you?

1. Parents 2. Teachers
3. Health worker 4. Other (specify).....

Thank you for your cooperation.

Appendix 2: Focus Group Discussion Guide

Focus Group Discussion Guide

Introductory speech

We are from the DMOs office, Kabale district. We are involved in a study on risk factors of adolescent pregnancy. We are not sure of the actual risk factors responsible for this problem. What you will tell us will help us to design strategies that will reduce adolescent pregnancies in the district and whatever you will share with us will be handled with confidentiality.

1. What are the major problems of adolescents in this area? (Probe for adolescent pregnancy if not mentioned)
2. At what age do girls usually start having menstruation periods?
3. How do you feel about becoming pregnant at an adolescent age?
4. What factors do you think affect or increase adolescent pregnancy?

Appendix 3: Key Informant Guide

Key Informant Guide

Introductory speech

We are from the DMOs office, Kabale district and we will be visiting you for a number of times in the next two weeks. We are involved in a study on risk factors of adolescent pregnancy. We are not sure of the actual risk factors responsible for this problem. What you will tell us will help us to improve on the planning for adolescent reproductive health programs in the district and whatever you will share with us will be handled with confidentiality.

1. What is your opinion about girls becoming pregnant during adolescence?
2. What do you think are the reasons for early sex and pregnancy among adolescents?
3. What do you suggest as solutions to this problem?