Determinants of Contraceptive Use and Sexual Activity Amongst School-Going Adolescents in Lesotho

By

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DECLARATION

Submitted in fulfilment / partial fulfilment of the requirements for the degree of Master of Population Studies , in the Graduate Programme in the Faculty of Community and Development Disciplines , University of KwaZulu-Natal,

Durban, South Africa.

I declare that this dissertation is my own unaided work. All citations, references and borrowed ideas have been duly acknowledged. It is being submitted for the degree of Master of Population Studies in the Faculty of Humanities, Development and Social Science, University of KwaZulu-Natal, Durban, South Africa. None of the present work has been submitted previously for any degree or examination in any other University.

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<u>Abstract</u>

This study investigated factors that have an influence on sexual activity and subsequent contraceptive use among school-going adolescent girls in Lesotho, focusing on the districts of Berea, Maseru and Mohale's Hoek. The factors under investigation from a reproductive health survey included demographic variables (age, district, rural urban residence, class and religion), behavioural variables (drinking alcohol, boyfriend status), and attitude and knowledge variables (including attitude toward sex before marriage, contraceptive use before marriage, and communication with a boyfriend about sex).

The methodology comprised a secondary analysis of the 1999 Adolescent Reproductive Health Survey of Lesotho. Bivariate analysis and binary logistic regression were used to establish if significant relationships existed between sexual activity and contraceptive use and the independent factors. A limitation of the study is that the survey instrument contained a limited set of indicators. Thus a number of theories of sexual decision-making were excluded from the conceptual framework.

Prevalence of sexual activity was lower than expected. This research confirmed that the likelihood of adolescents being sexually active increases with age. A somewhat surprising result was that Catholic adolescents were more likely to become sexually active than adolescents of other religions. Adolescents who live in rural areas, as well as those with a boyfriend were also found to be more likely to become sexually active.

Contraceptive use was higher for this Lesotho sample than has been reported for research from other African countries. Nevertheless, the proportion of adolescents not using contraceptives is argued to be a matter of concern. Adolescents in the lowest school class were least likely to use contraceptives, which suggests a lack of control over decision-making in this group. Contraceptive use was found to be lower among adolescents who were coerced into their first sexual experience. Adolescents from Mohale's Hoek, designated the least developed area for this research, were the least likely to use contraceptives. Those adolescents who reported having a boyfriend were more likely to

use contraceptives, suggesting a regular partner allows the adolescent some control over decision-making. A positive view of use of contraceptives before marriage was associated with higher likelihood of use. Somewhat surprisingly, use of alcohol was associated with higher likelihood of contraceptive use.

The findings suggest adolescent girls can be grouped into different risk categories. Some practice abstinence and some who are sexually active appear to have control over sexual decision-making, specifically in being able to negotiate use of contraceptives. However, there is a group which is sexually active but does not use contraception. This group has a higher rate of coercion as the reasons for sexual activity.

The analysis suggests a multi-dimensional set of factors explain sexual activity and associated contraceptive use (or non-use) and that beliefs and attitudes do not always predict an expected behaviour. Interventions should target the most at-risk group and must take into account that belief and attitude does not necessarily predict behaviour.

List of Tables   Page

CHAPTER 1

INTRODUCTION

1 Background of the Study

In African countries, historically, sexual activity was expected to be confined to marriage (Makatjane, 2006) and traditional methods of birth control were developed. These methods include premarital virginity, no sexual intercourse during breastfeeding periods, as well as polygamy (Delano, 1985). These methods were mainly aimed at child spacing within marriage (Goliber, 1997). Whereas traditional birth control methods were mostly practiced within marriage, in some African cultures unmarried adolescents also practiced non-penetrative sex (Epprecht, 2004). However, the initiation of sexual intercourse has been found to be taking place at much younger ages (Gage-Brandon and Meekers, 1993). It was also found by Ministry of Health and Social Welfare (1994) in Lesotho that this early initiation of sexual intercourse is often taking place before marriage, without the use of any birth control (Gage-Brandon and Meekers, 1993). This combination of factors has given rise to the increase in premarital childbearing by adolescents (Gage-Brandon and Meekers, 1993; International Family Planning Perspective (IFPP), 1991).

Premarital childbearing by adolescents has had a negative impact on the lives of the young parents as well as on the wider society through, for example, an increase in the number of the unemployed, because girls do not complete their schooling (Goliber, 1997). In the United States of America, children that are born of adolescent parents are reported to be more prone to being dependent on public assistance because their parents often delay the completion of school as a result of the pregnancy (White, 1994). The adolescent parents acquire low grades that diminish their chances of getting well-paid work (White, 1994). In Africa the impact of adolescent childbearing has a significant impact on the immediate family and wider community. For example in South Africa, the responsibility for the economic and child-rearing needs of children that are born to adolescents is often taken over by their grandparents, parents and/or other relatives (Kaufman, et al., 2001).

Evidence suggests that adolescents are initiating sex at younger ages but that contraceptive use is not high. A study done in sub-Saharan countries, including Ghana, Kenya, Mali and Togo, comparing age of initiation of sexual activity of

1

literate and illiterate women, found that a significant proportion initiate sexual activity before the age of 15 (Meekers, 1994). Similarly, it has been demonstrated that school-going girls initiate sex at an early age in Lesotho (Mturi, 2001a). According to that author, 18% of school-going girls in Lesotho initiated sex before their first menstruation, or in the same year as their first menstruation, while the mean age at menarche – the age at which a woman first experiences menstruation – was 13 years. Along with early sexual activity, the same study found that there are high rates of sexual activity, 83% for males and 66% for females, but lower contraceptive prevalence rates, at only 37.2% for males and 14% for females (Mturi, 2001a). A survey by the Lesotho Bureau of Statistics (2003) in Lesotho reported that only 10% of sexually active adolescents used some form of protection during their first sexual encounter. Of those respondents that were reported to have had sex within the period of the survey, only 31% reported that they had used some form of protection during their last sexual encounter (Bureau of Statistics, 2003). The early initiation of sexual intercourse has given rise to an unmet need for contraception among sexually active adolescents. For my study, contraception refers to modern birth control methods such as the injection, the pill, the condom and the IUD.

This study investigates the factors that influence contraceptive use among female adolescents who are still attending school in Lesotho. Possible factors influencing contraceptive use include education, age, religion, geographic location, rural urban residence, peer pressure, parental influence, and risk taking behavior that is associated with adolescence. Aside from these socio-demographic factors another explanation for the low use of contraceptives could be that there is resistance by staff at clinics to dispense contraceptives to adolescents because of the belief held in many African countries that sexual activity is a practice that should be confined to marriage (Kuate-Defo, 1998; Mpangile et al, 1993). This resistance is evident in some adolescents having limited access to contraceptives (Wood & Jewkes, 2006; Kuate-Defo, 1998; Mpangile et al, 1993).

In trying to understand contraception among school going adolescents, the study also investigates levels of sexual activity, since this will determine the level of need. This study will focus on three areas in Lesotho – Maseru, Berea and Mohale's Hoek – which represent different stages of economic development.

1.1 Rationale of the Study

It has been found that in Africa and Latin America, up to 40 percent of childbearing takes place before the age of 18 (Kuate-Defo, 1998). Whether this is a desirable state of affairs is debatable because it has been shown that children born of adolescent parents are at risk of "intellectual, emotional, social, and behavioral difficulties" (Seibopi, 1991: 153). This is partly because the adolescent may not be in a position to adequately care for her/his own offspring because of conflicting needs as a young person (Seibopi, 1991). There are also risks to the adolescent mother, which include the disruption of her education, as well as health risks arising from early childbearing (Goliber, 1997; Meekers, 1994). A further effect on society is that the burden of care could fall on older members of the family or the surrounding community (Kaufman, et al., 2001). It is evident from the authors cited here that childbearing among adolescents often does more harm than good to the adolescents themselves, as well as to the societies that they live in. Thus, adolescents need to be made aware that they have choices in reproductive health matters, particularly in respect to the use of contraceptives to prevent unwanted births.

Contraceptive use by adolescents can be analyzed from two broad positions. The more traditionalist position sees childbearing amongst adolescents as harmful and negative. The more modern position views contraceptive use as a human right, and adolescents who need such services must not be shunned, instead they must be sensitively accommodated (Seibopi, 1991). This dualist state is represented by stakeholders who deny access to contraceptive services as opposed to others who argue that there needs to be more attention given to education on sexual and reproductive health issues (including the choice to use contraceptives) for adolescents.

1.2 Statement of the problem

The knowledge of contraception among school-going adolescents in Lesotho is quite high (Mturi, 2001b). This may be because the particular youth under study are exposed to some education about contraception at school and attendance levels are high. According to the National Research Council (1993), Demographic Health Surveys in African countries have found that there is a positive relationship between both traditional and modern methods of contraceptive use and the level of education amongst women. In other words, better educated women are more likely to use a method, whether traditional or modern. However, a different situation has been observed in the case of Lesotho adolescents. It has been mentioned in Mturi (2001a) that school-going adolescents in Lesotho were found to have high rates of sexual activity and low contraceptive use prevalence. This study therefore intends to establish what factors have an influence over the use (or non-use) of contraceptives by adolescent girls. The role of education in influencing contraceptive use or non-use will also be more clearly determined, as evidence also suggests that exposure to education has not necessarily influenced delayed initiation of sexual intercourse, and it has also not influenced higher contraceptive use in some instances (Mturi, 2001a).

1.3 Profile of Lesotho

This research project will focus on Lesotho adolescents and some background information on the country is provided here. Lesotho is a small country that is completely surrounded by South Africa. Lesotho is an area covering about 30,355 square kilometers with a population of about 2 million people. There are ten districts: Berea, Butha-Buthe, Leribe, Mafeteng, Maseru, Mohale's Hoek, Mokhotlong, Qacha's Nek, Quthing, and Thaba Tseka (The World Fact Book, 2004).

1.3.1 Population distribution by district

In investigating contraceptive use among adolescents from the districts of Maseru, Berea and Mohale's Hoek, it is important to understand the different levels of economic development of the three districts. Population density is one indicator of level of development, with the argument being that stronger development is associated with higher population density because it is easier to manage and monitor development and also to ensure sustainable development in high-density areas (Bureau of Statistics, 2003). Where an area is sparsely populated, it becomes expensive to ensure the development of such an area (Bureau of Statistics, 2003; UNFPA, 1996).

Mohale's Hoek has the lowest density at 88 people per square kilometre, Maseru has a population density of 116 people per square kilometre, and the district with the highest density is Berea with 135 people per square kilometre (Wikipedia, 2008). For this research I am rating Maseru (predominantly urban and relatively high population density) as well developed, Berea as medium developed and Mohale's Hoek (predominantly rural and relatively low population density) as having a low level of development. Although Berea might be considered 'most' developed based on population density, Maseru is categorised as being 'most' developed because it is the capital town along with a relatively high population density.

1.4 Objectives of the study

The main objective of this study was to investigate what factors have an influence on early sexual activity and subsequent contraceptive use or non-use among school-going adolescents (girls). Based on existing research potential factors include education, age, religion, geographic location, rural-urban residence, peer pressure, parental influence, and risk-taking behaviour.

Having established what factors are significantly associated with sexual activity and contraceptive use, a second objective was to recommend areas that the population

policy in Lesotho can focus on in terms of increasing contraceptive prevalence rates among adolescents.

1.5 Hypotheses

Based on existing literature (see above and Chapter 2), the hypotheses investigated were that early sexual activity and contraceptive use is influenced by the following factors:

Socio-demographic
- Older girls are more likely than younger girls to (a) have sexual intercourse and (b) use contraception.
- Girls with a higher level of education are more likely to use contraceptives
- Girls from more urbanized locations are more likely to use contraception
- Higher population density is positively related to contraceptive use.
- Girls who are Catholic are less likely to use contraception than girls of other religions.

Peer and parental influences
- School-going girls whose friends have a positive opinion of premarital sex are more likely to (a) have premarital intercourse and (b) use contraception, compared to girls whose friends do not have a positive opinion of premarital sex.
- Girls whose parents have a positive attitude toward adolescent sexual activity and contraceptive use are more likely to use contraceptives.

Own behaviour
- School going girls who engage in risky behaviour are less likely to use contraceptives

1.6 Organization of the dissertation

The dissertation is presented in six chapters. This introductory chapter provides the context for the research, gives a background of the study and the reasons for undertaking the study. A brief profile of Lesotho is also provided. In Chapter 2, theories of sexual activity and contraceptive use are described and the relevance of these to the current research is discussed. Chapter 2 provides a review of what has been found from other studies in terms of contraceptive use by adolescents in sub-Saharan Africa, including Lesotho. Chapter 3 describes the research methods including method of data collection and method of analysis used in this study. A description of the sample and distribution of the independent variables are provided. In Chapter 4 a bivariate analysis of the data is conducted. This analysis is split into two sections; in the first section a descriptive analysis of sexual activity and contraceptive use is provided, and a more comprehensive analysis of factors that could influence sexual activity and contraceptive use among the respondents is conducted in the second section. In Chapter 5 logistic regression analysis of the data is presented to establish whether a set of predictors can be modeled to explain contraceptive use. In the final chapter, a discussion of the key findings of the study is presented along with recommendations for policy and further research.

CHAPTER 2

LITERATURE REVIEW

This chapter is presented in two sections. In the first I describe some important theories that could explain early sexual behaviour and contraceptive use by adolescents. The relevance of these theories to this research is discussed briefly. In the second section I present evidence for the early sexual activity and contraceptive use amongst youth in Africa and review literature on factors, specifically those that were measured in the survey used for this research, which could determine early sexual behaviour and contraceptive use.

2.1 Theories of early sexual activity and contraceptive use

There are several theories that could be used to explain the use of contraceptives among young women in developing countries. These can be grouped as psychosocial, economic and demographic theories. Psychosocial theories include the health belief model, the protection motivation theory, and the theory of planned behaviour. A theory with economic underpinning is the bargaining model. The demographic transition theory, the fertility theory, and the Easterlin-Crimmins synthesis models are explained through demographic changes.

2.1.1 Psycho-social theories for sexual and reproductive behaviour

Health Belief Model
The health belief model (HBM) as described by Lin et al (2005) focuses on use of contraception as a means to prevent disease and other unwanted outcomes from sexual activity, such as pregnancy. The crux of the model is that for a woman to take action to avoid contracting a disease four inter-related beliefs must be in place. The woman must believe (1) that she is vulnerable to the given infection; (2) that the disease could have a some kind of negative impact on her life; (3) that there are behaviours that would assist in reducing either her vulnerability to infection or the severity of infection; and (4) that barriers such as cost, pain and embarrassment would

not impede the aforementioned behaviours (Lin et al, 2005: 471). This model has been further developed to include the dimension of self-efficacy which is defined as the belief the woman has in her ability to perform the beneficial behaviours that will reduce her vulnerability (Lin et al, 2005: 471).

Although this model is useful in predicting health related behaviours such as breast cancer screening and decisions to seek medical attention, it is also useful in predicting contraceptive use (Lin et al, 2005). For example, in a study on adolescents in Ghana to compare a sexuality education program based on the Health Belief Model with other interventions on sexuality education, it was found that girls who had become sexually active after the start of the study were more likely to have used contraception at their most recent sexual encounter, and they were also found to have used contraceptives more consistently compared to girls who had attended other programs (Adih and Alexander, 1999).

It was not possible to test the relevance of the HBM in this research project because it requires the measurement of specific questions that were not included in the 1999 Adolescent Reproductive Health Survey (ARHS) implemented in Lesotho. Although the 1999 ARHS does include some questions on behaviour, it does not capture the respondents' beliefs about susceptibility, severity of impact, possible beneficial behaviours and barriers to these behaviours. With such omissions, it could be concluded that this survey was not designed using the HBM as a theoretical framework and thus this model is not used for the conceptual framework of this study.

Planned Behaviour and Protection Motivation theories
According to the theory of planned behaviour, contraceptive use is related to attitude, subjective norms and perceived behavioural control (Boer and Mashamba, 2007). Boer and Mashamba's work refers specifically to condom usage within the broader context of contraceptive use. Attitude (to condom use) refers to belief about the negative consequences of condom use, subjective norm refers to the approval of others of condom use, and perceived behavioural control refers to an assessment of whether condom use depends entirely on the individual (Boer and Mashamba, 2007). Beliefs about negative consequences and contraceptive use mirror the susceptibility and severity of impact beliefs of the HBM but the planned behaviour model moves

beyond individual behaviour to ask questions about the impact of others on condom use.

The protection motivation theory views unsafe sexual behaviour as resulting from an individual's assessment of a threat, which may be vulnerability to HIV or to pregnancy, and coping resources that she has available in dealing with the threat. When the individual experiences greater threat levels, they are more likely to protect themselves. Coping appraisal refers to the individual's assessment of her response to the threat, and her estimated ability to successfully protect herself from the threat. According to this theory, the seriousness of the threat, and the response to the threat, are related to how the individual protects her/himself from the threat, for example through contraceptive and condom use (Boer and Mashamba, 2007). This theory shares similarities with the HBM, for example, through the idea that belief in susceptibility and severity of impact will determine behaviour. The difference lies in the definition of the response to the threat, where in the case of the protection motivation theory a response is defined as a coping strategy while for the HBM it is defined as benefit behaviours and barriers to these.

Boer and Mashamba (2007) have tested these theories as predictors of the intended use of condoms among males and females in Venda. Those authors found that condom use among males was determined by attitudes to condoms and subjective norms, and condom use among females was determined by self-efficacy and attitudes towards condoms. Both measures are based on psychosocial questions, which are not included in the 1999 ARHS.

Thus, while these theories may be useful to explain contraceptive use they are of limited use for this research because the survey questionnaire measured neither subjective norms and perceived behavioural control nor threat and coping appraisal towards contraceptive use, and there is limited coverage of attitudes.

2.1.2 Economic theories of sexual and reproductive behaviour

Bargaining theory

Bargaining theory posits that women have greater decision-making power when they have economic power over their partner (Bawah and Wak, 2005). In applying this theory to contraceptive use, a woman with economic power would be in a position to afford to buy contraceptives without having to ask for money from her husband. She would also be in a position, when she had greater economic power than that of her partner, to afford to be estranged from him and provide for herself and her children financially, should he not agree with her decision to use contraceptives (Bawah and Wak, 2005).

The bargaining theory, still to be tested empirically, is not thought to be relevant for this research because the targeted population, school-going adolescents, are not likely to be earning income and a relationship based on economic power is likely to be at an early stage, if it exists at all, for the very young adolescent. The questionnaire used in this study does not cover income earned by the adolescents and it does not have a significant set of indicators exploring the nature of the relationship between the respondent and her partner.

2.1.3 Socio-demographic models of sexual and reproductive behaviour

Demographic Transition Theory

The Demographic Transition Theory, which is defined as a transition from a pre-modern society to a post-modern society is characterised by the change from high fertility to low fertility. For example, in Britain, the number of children per woman was at a peak of 2.94 in 1964, and by 2006 it was found to have declined to less than 1.74 (Dixon and Margo, 2006). This reduction in fertility level has been found to be slower in sub-Saharan Africa (Makinwa-Adebusoye, 2001). According to UNFPA (1999, in Makinwa-Adebusoye, 2001), fertility in sub-Saharan Africa has declined from 6.5 to 5.5 children per woman in the last 50 years. The main reason for the higher fertility rates in Africa is the influence of beliefs within households and communities that favour childbearing, which in turn becomes an impediment to

contraceptive use (CBASSE, 1993). Religion and culture are suggested as two sources of these beliefs (CBASSE, 1993).

Although the rate of decline in fertility has been slower and fertility rates remain high, the second demographic transition describes a rise in non-marital childbearing and an increase in age at first marriage of women in both Western (Heuveline, Timberlake and Furstenberg, 2003) and Africa countries (Garenne, Tollman and Kahn, 2000). Modernisation, economics, and rational choice have been used to explain the change in marriage and child bearing demographics.

Toroitich-Ruto (1990) has argued that modernisation, represented by the erosion of traditional moral codes and rural to urban migration, is responsible for changes in fertility levels and related marital status. Gonzalez (2004) provides an economic explanation for demographic transition. Gonzalez (2004: 31-32) provides evidence that the high prevalence of single mothers is associated with higher female wages and lower female unemployment rates. Lower male earnings and higher male unemployment rates are also significantly associated with higher prevalence of single mothers (Gonzalez, 2004). A third explanation for demographic transition is the 'rational adaptation' argument. According to proponents of this approach, pregnancy is used as a rational strategy to prove fecundity and facilitate marriage (Shell-Duncan and Wimmer, 1999).

The demographic transition theory is relevant to this research because it provides a context and explanation for the high levels of sexual activity and childbearing amongst young girls in Lesotho as described by Mturi (2001a) in Chapter 1.

Easterlin-Crimmins Synthesis Model
At the core of the Easterlin-Crimmins Synthesis Model is that the number of children desired by parents determines contraceptive use. This model is based on comparing the number of children that a couple at reproductive age expects to bear if no contraceptives are used to the number of children wanted or desired (Eisen and Zellman, 1999). If the potential number of births exceeds the quantity desired, then there is a motivation for contraceptive use (Eisen and Zellman, 1999). I would argue that most adolescents (particularly younger adolescents) are not likely to have

considered desired family size and would not have discussed this with their partner. Also, the strong emphasis of the model on a couple makes this of questionable relevance for an analysis of adolescent behaviour given many will not have formed a regular partnership.

Fertility transition model

Another theory that would explain the use or non-use of contraceptives is that of fertility transition. According to the theory of fertility transition, unwanted fertility assumes an inverted u-shape. The beginning of the transition is a period of low development, and women have and desire large numbers of children. At this stage of the transition there are no unwanted births. With increasing development, more and more women prefer smaller family sizes because raising children becomes more costly. So there is an increase in contraceptive use with the desire for smaller family sizes, which is also accompanied by an increase in unwanted fertility (Bongaarts, 1997). This model shares similarities with the Easterlin-Crimmins model in that fertility change is driven by desire for children. The theory is relevant for adolescents in the sense that it explains the influence of age on contraceptive use but it is not possible to test this model because of the cross-sectional nature of the 1999 ARHS.

2.1.4 Hallman's holistic framework of sexual and reproductive health behaviour

Hallman (2004) has developed a holistic model to explain sexual and reproductive health behaviour. The model includes sociological, demographic, economical, epidemiological, psychological and anthropological factors that may lead to, or influence the risk of HIV among young women and men (Hallman, 2004). These factors would also have an influence on safe sex practices, as well as pregnancy.

To develop the model Hallman draws from a number of sources including the 'Transitions to Adulthood in the Context of AIDS in South Africa', a survey conducted in 2001 in KwaZulu-Natal. The outcomes of this study reflect how the factors listed above influence safe sex practice. When economic factors were measured among respondents that had ever had sex, it was found that low household wealth is associated with high rates of ever having had sex. Added to this, females who live in a household with members that are highly educated were found to delay

the initiation of sexual intercourse. When economic factors were compared by age difference between a respondent and her partner, it was found that older men hold greater economic power over younger women. This is argued to lead young women to engage in unprotected sex, since their weaker economic status places them in a weaker bargaining position in the relationship (Hallman, 2004).

Sexual coercion is a sociological factor that was also found to be relevant by the Transitions survey. According to UNAIDS (2004, in Hallman, 2004), it has been found, worldwide, that the first sexual encounter of between 25% and 50% of young women was forced. Wood and Jewkes (1997, in Hallman, 2004) reported that 60% of township women had been involved in sexual intercourse against their will, and others believed that it was a routine part of a relationship. In the Hallman study (2004), it was found that 5% of young women in each age group reported to have been raped.

As suggested from the previous two examples, a key point about the Hallman model is that it embraces multifaceted explanations for sexual and reproductive health behaviour (in the examples above there are economic and sociological explanations). By incorporating multiple explanations Hallman's model is holistic and more comprehensive than the theories and models listed in sections 2.1.1 through 2.1.3.

2.1.5 The present study: factors to explain early sexual activity and contraceptive use

In the above section I have eliminated some of the theories as being inappropriate for my research either because the indicators required to test the theory were not measured in the survey I am using or because the model is not obviously relevant for adolescents. The demographic transition theory is relevant for my study because it provides a context and explanation for early sexual activity and pregnancy amongst adolescents in Lesotho. The Hallman model has some advantage over the others because it is holistic and provides a comprehensive set of factors that could explain adolescent behaviour. However, in attempting to explain sexual activity and subsequent contraceptive use by adolescents for this research I am limited to the indicators measured in the ARHS. These are primarily socio-demographic indicators although there are also indicators that measure attitudes of peers and parents as well

as propensity for risk-taking behaviour. In the next section I will expand on the themes of early sexual activity and contraceptive use amongst adolescents. And in order to justify inclusion of indicators in the analysis, I provide evidence that each indicator to be used has an association with sexual activity and contraceptive use.

2.2 Early sexual activity and contraceptive use in Sub-Saharan Africa

Evidence suggests that the take up of contraceptive use is not high in Africa. According to Rosen and Conley (1998), there is a total fertility rate of six children, and many women start childbearing in their teens. The continent also has a contraceptive prevalence rate of 18 percent, and the unmet need for contraception is about 25 percent of all married women. This is despite the fact that it has been reported by the National Research Council (1993) that there is a worldwide increase in contraceptive prevalence among women of reproductive age, where it increased from 10% in the 1960s to 55% in the late 1980s to early 1990s.

In Sub-Saharan Africa, contraceptive use among adolescent women is very low (Blanc and Way, 1998). For example, between 1992 and 1993, the proportion of unmarried women in the age group 15-19 found to be using contraceptives was 8.2% in Burkina Faso, 0.9% in Madagascar, 2.7% in Malawi, and 1.6% in Zambia. According to the Global Population Profile (2002) 1 in 9 sub-Saharan African countries had a contraceptive prevalence rate that was either high or higher than the median level of prevalence rates in developing countries, which is 44%. In the case of North Africa, there were 6 in 10 countries that had a contraceptive prevalence rate that was either as high or higher than the median level. In Asia, countries that had a contraceptive prevalence rate as high or higher than the median prevalence rate were 7 in 10, and in Latin America and the Caribbean 9 in 10 countries were recorded as having strong prevalence rates.

In Lesotho the problem of low prevalence is not easily explained by a lack of access to contraceptives. In Lesotho, the main providers of family planning services are the Ministry of Health and Social Welfare (MOSHW) and the Lesotho Planned Parenthood Association (LPPA). The Christian Health Association of Lesotho

(CHAL), and the Red Cross also provide family planning services, as do various private practitioners. All health facilities that are owned by the government in Lesotho provide family planning services (Tuoane et al, 2004). In the discussion below the presence of a health facility is considered to imply the presence of family planning services. Given the apparent high availability, low contraceptive prevalence or use is more likely to be the result of other factors, such as the attitude of the respondents, as well as the attitude of parents and friends to contraceptive use. Another explanation for low usage could be resistance to distribution by health service workers who work for the organisations listed above.

2.2.1 Early sexual activity and contraceptive use amongst adolescents

Ginott (1973) argues that adolescence is a period of identity or personality development. Often this involves the breaking of ties with parents, and the increasing importance of relationships with peers (Ginott, 1973; Gage, 1998). Gage (1998) adds that adolescence is a process that involves three main components, these being the development of the physical body, the development of identity, and autonomy. While on one hand this process involves their evolution into adulthood, whereby their peers play an important role in their decision-making, on the other they are still considered to be children by society, as they are still the responsibility of their parents, teachers, religious leaders as well as traditional leaders. McCauley and Salter (1995:1, in Mturi, 2001b), support the above point that adolescence is a very difficult stage in human development, whereby the youth often lack adequate knowledge about their sexuality. This makes them vulnerable to health risks that are associated with their sexual activity, such as premarital pregnancy and increasing infant mortality (Gage, 1998; Ginott, 1973).

In a nationwide survey, the South African Youth Risk Behaviour Survey 2002, it was found that 41% of boys and girls between grade 8 and 11 admitted to being sexually active, and 14 % reported that they had initiated sex before the age of 14 (Reddy et al, 2003). Of those that reported that they were sexually active, 54% had had several partners (Reddy et al, 2003). This early initiation of sexual intercourse is also often associated with the non-use of contraception, as sexual activity at this stage is often spontaneous (Gupta, 2000).

One reason for the increase in premarital sexual activity (Reddy, 2003; Van de Walle and Foster, 1990) is a delay in marriage arising from women's improving education. However, it has transpired that it is not necessarily delayed marriage that is responsible for increasing premarital sexual activity. Another reason is the phasing out of traditional structures, which are not being adequately replaced by modern education (Kowaleski-Jones and Mott, ND).

The consequence of early sexual activity for adolescents is their vulnerability to sexually transmitted infections, including AIDS. They are therefore faced with several decisions to make concerning their sexuality, and these include the decision whether or not to have sex, whether to continue being sexually active, whether to use contraception, and in the case of pregnancy, whether or not to have an abortion (Gage, 1998).

2.2.2 Factors that affect contraceptive use among adolescents

Age

The theory of fertility transition discussed earlier in Chapter 2 accounts for contraceptive use and unwanted fertility, but it also integrates age as a factor in influencing the use of contraception among adolescents. This statement is supported by a study by Garenne et al (2000, in Kaufman et al, 2001) in which it was found that the age pattern for childbearing has two peaks, where the first peak is in the teen years and results from low contraceptive use by adolescents before their first pregnancy. The second peak follows in the late 20s to early 30s, which suggests that contraceptive use by the adolescent increases after the first pregnancy.

In a study by Glei (1999) to investigate contraceptive use patterns across age groups among women that were at risk of unintended pregnancy, it was found that women who had recently initiated sexual intercourse and were more likely to have low levels of contraceptive use either had infrequent sexual intercourse or were in unstable relationships. While the fertility transition theory includes a phase where there are no unwanted births (Bongaarts, 1997) during which there is low contraceptive use, in the

study by Glei (1999) the reason for low contraceptive use was because sexual intercourse under some circumstances is not planned.

In another study on contraceptive use among Asian adolescents, it was found that adolescents aged 15 to 19 had a contraceptive prevalence that was about 10 to 20 percent lower than that of women who were aged 20 to 24 (Pachauri and Santhya, 2002). The reason given for this was that the women aged 15 to 19 were at a stage when they would be trying to initiate childbearing, and therefore they were more likely to avoid use of contraception. Women aged 20 to 24 on the other hand would have started childbearing, and they would at this stage be trying to exercise some control over any subsequent births (Pachauri and Santhya, 2002).

It was also found that contraception was often not used when sex was initiated in the early teenage years in a study on teenage pregnancy in the United Kingdom (Childline, N.D.).

It has been mentioned already that adolescents initiate sexual intercourse at an early age, as early as 14 years (Reddy et al, 2003). The studies mentioned above confirm that contraceptive use would initially be low, and it would increase with age.

Education

An analysis of Demographic Health Survey (DHS) data for seven sub-Saharan African countries, which was obtained between 1986 and 1989 and had as it's focus 'never married' women aged 15-24, revealed that higher education levels are associated with higher levels of contraceptive use in all cases (Gage-Brandon and Meekers, 1993). Related to this is the fact that higher education levels are associated with lower fertility (Goliber, 1997). According to Gupta and Mahy (2003), when the education of women is increased to secondary level, the age at which they have their first child also increases. A factor that contributes to this scenario is the fact that the length of time spent by women in acquiring education has increased over the years, which has resulted in delayed marriages (Van de Walle and Foster, 1990).

As was mentioned in Chapter 1, there are some cases, such as in Lesotho, where educated women that are sexually active do not necessarily use contraceptives. In countries such as Kenya and Tanzania, it has also been found that there is a high premarital sexual activity rate, but low contraceptive prevalence rate (Kulin, 1988 in Van de Walle and Foster, 1990). While the length of time that women spend in acquiring education has increased, traditional attitudes to sexuality have been compromised. According to Kowaleski-Jones and Mott (N.D.), traditional attitudes to sexuality may have two effects. While on one hand they may influence adolescents to avoid sexual activity, on the other hand they may be responsible for the non-use or the improper use of contraceptives by adolescents who are already sexually active. This is because traditional methods may not be an adequate replacement, and adolescents initiate sex without adequate "knowledge of contraception, not expecting to have intercourse, not knowing where to obtain contraception, and not realising it is possible to get pregnant" (Kuate-Defo, 1998: 209).

An example is that of Tanzania, where the erosion of traditional structures that prevented girls from getting pregnant have not been successfully replaced. Single women find themselves in a situation whereby they are denied access to reproductive health services because school regulations prohibit the use of contraceptives by students, and the family planning policy of the country restricts these services to married women only (Mpangele et al, 1993). The result is that adolescent women find a way of dealing with the unmet need for contraception by buying them over the counter in shops, where they do not receive any guidance about their use. It was found in the case of Tanzania that some adolescents used the pill *after* sexual intercourse, which defeats the purpose of its use (Mpangile et al, 1993).

According to the Bureau of Statistics (2003), school attendance is high in Lesotho, with attendance ratios being higher in the urban areas than in the rural areas. Despite the fact that school enrolment rates are high, the initiation of sexual activity is taking place early, with 25% of adolescents being reported to be sexually active by the age of 15 years (Bureau of Statistics, 2003). It has also been noted (Chapter 1) that school-going adolescents in Lesotho have a high knowledge of contraception. However, this stage in the lives of these adolescents coincides with a period when they have least access to contraceptives (Kiragu and Zabin, 1995).

Geographical location: Rural Urban Residence

According to Keller et al (1989), there is a tendency by governments of many developing countries to concentrate most of the health budget on urban health facilities. It was found in the case of Brazil that due to family planning services being more accessible in urban areas, more adolescents living in urban areas reported to have used contraception at the initiation of sexual intercourse than was the case in rural areas (Gupta, 2000). It was also found in Burkina Faso that 38% of women aged 15 to 19 in urban areas used contraceptives compared to 12% in rural areas (The Allan Guttmacher Institute, 2004).

This trend is supported by the research of Tuoane et al (2003), which was aimed at identifying factors that affect contraceptive use and the choice of the method in Lesotho using multi-level models for analysis. It was found by those authors that urban areas recorded higher figures of women using contraception than in rural areas. It was also found that women who had access to LPPA clinics had higher contraceptive use; LPPA clinics are found only in urban areas.

Geographical location: Districts

Research in various countries suggests region or district (and, by proxy, level of development) is associated with contraceptive use. According to Gupta (2000), in a study of adolescent women in Brazil, contraceptives were not being adequately used in the North East region. This was illustrated by adolescents aged 15-19 recording the highest percentage of women having had at least one pregnancy, 21%, in this region. This high level of pregnancy occurred despite the fact that there was widespread knowledge of contraception. A contributing factor was said to be that the North East region is the least developed in Brazil (Gupta, 2000). According to Van Dongen (2005) North East Brazil is a very poor district, featuring very poor living conditions, including the spread of diseases that require medical attention.

Looking at the accessibility to health services in general in Lesotho, it has been reported by The World Bank (2002) in the Lesotho Core Welfare Indicators Questionnaire (CWIQ survey) that there were discrepancies in the percentage of the

population that had access to health facilities. While Maseru had the highest percentage population that had access to a health facility that was less than thirty minutes from their homes (at 16%), Berea was the next highest at 12%, and Mohale's Hoek was lowest at 10% (The World Bank, 2002). It was also found that the knowledge of contraception among women in these three districts differed by a similar distribution. In Maseru, Berea and Mohale's Hoek, 90%, 58% and 55% of women knew about modern contraceptive methods respectively (Bureau of Statistics, 2003).

These trends correspond to the levels of development per province. As was mentioned in Chapter 1, Maseru is argued to have the highest level of development, followed by Berea and Mohale's Hoek. Thus, district is used as a proxy for level of development and evidence suggests contraceptive use is higher in better-developed areas.

Religion

Religion is an important determining factor that influences contraceptive use. In a study that was done in Tanzania by Mpangile et al (1993), it was found that a greater proportion of women in all religions did not know of any contraceptive method compared to their non-religious counterparts. Also, in the case of Brazil, according to Paiva (1993), Judeo-Christianity played a big role in decision-making about fertility control. The values of this religion are "…marriage, monogamy, and procreative sex" (Paiva, 1993:99).

For research in Nakuru District, Kenya on women's perceptions to contraceptive use, women participants cited religion as an inhibitor to contraceptive use (Bauni and Jarabi, 2000). In focus group discussions the women participants spoke about how churches appeared to promote the ideas that using contraception was sinful behaviour and equivalent to murdering the foetus before conception (Bauni and Jarabi, 2000).

In a US study, it was found that sexually active adolescents that attend church more frequently had a lower likelihood of using contraceptives compared to adolescents that attended church less frequently (Studer and Thornton, 1989). The Christian belief that premarital sex is sinful (Hardon, N.D.) may contribute to such a pattern, in that

sexually active adolescents that attend church may be having less frequent sexual intercourse as compared to sexually active adolescents that do not attend church frequently. Adolescents that have sexual intercourse more frequently may therefore be more likely to use contraceptives.

The dominant religion in Lesotho is Christianity, with the major denominations or churches being the Roman Catholic, Lesotho Evangelical Church (L.E.C.), the Anglican Church, and other smaller denominations. The Roman Catholics make up about 70% of the total population. The Roman Catholic Church also owns about 75% of all the schools in Lesotho, and was also a major player in the establishment of the National University of Lesotho (US Department of State, N.D.).

The teachings of the Roman Catholic Church do not favour contraceptive use, and such practice is viewed as ungodly. According to Hardon (N. D.) the consequences of contraceptive use have been "fornication, adultery, sterilization, homosexuality, AIDS, breakdown of the family, and murder of the unborn" (Hardon, N.D: 6). These consequences are all perceived by the church to be sinful.

However, in Lesotho, while some churches have played a role in promoting birth control, the belief systems of other churches, such the Catholic church have contributed to limitations in terms of access to contraceptives. For example the Christian Health Association (CHAL), which is a collective organization of different Christian denominations or churches, has some health facilities that dispense contraceptives (Tuoane et al, 2004). According to the Lesotho Government Portal (2007), half of the county's hospitals are run by churches that are members of CHAL, while the other half are mostly run by the government. The staff that work in these health facilities that are run by CHAL are paid by the government. However, the member churches can still exercise their belief systems over how they carry out their work. For example, a significant number of the health facilities are operated by the Catholic church and these do not dispense contraceptives (Tuoane et al, 2004).

Parental Influence

> "Overall, parental closeness to and support for adolescents have been related to reduced adolescent sexual activity and increased contraceptive use" (Meschke et al, 2000: 148).

It is a great challenge for families to play a major role in educating adolescents about their reproductive health (Miller et al, 1998). Research has shown that when adolescents are close to their parents, they tend to engage in responsible sexual behaviour (Zhang et al, 2007; Hogan et al, 1985; The National Campaign to Prevent Teen Pregnancy, N.D). According to Newcomer and Udry (1985), in a study on the communication between American parents and teenagers on sex-related issues, it was found that when adolescents discussed contraception with their parents, they used more reliable contraceptive methods than was the case when there was no communication with their parents about contraceptives.

Rodgers (1999) argues that the presence of a mother has a significant impact on contraceptive use by adolescents. When mothers communicate with their daughters about sexual matters, the daughters become more assertive, they are also more likely to delay initiating sexual intercourse, and when they did have sexual intercourse they would use contraceptives.

In the context of Lesotho the relationship between parental influence and contraceptive use by adolescents appears to be less clear-cut. There is an inter-generational gap, whereby parents tend to stick to traditions that discourage premarital sexual activity, while the adolescents themselves do not abide with tradition and have premarital sex, and therefore need to use contraceptives (Miller et al, 1998; Kiragu and Zabin, 1995). This intergenerational gap may arise as a result of the lack of accurate information on sexual matters on the part of parents, especially in the case of parents who have little or no education (Mturi, 2001a; Meekers and Guyasuddin, 1999).

Peer Influence

Coleman and Hendry (1980) say that adolescence is often characterised by low self-esteem, especially in the early stages. These authors state that low self-esteem is more

prevalent in adolescent girls than in boys. This is because girls place greater importance on their peer groups, who are a reflection of who they perceive themselves to be, as well as their body image, at a time when they are going through physical body changes which may not always be perceived as favourable by the girls themselves.

Peer groups also play an important role among adolescents because they have become a source of information on sexual matters, as parents often do not impart such knowledge to their children (United Nations Economic and Social Commission for Asia and the Pacific, N.D). These peer groups are, therefore, a great source of information on contraception, and the groups may enhance contraceptive use among adolescents (Thompson and Spanier, 1978).

This is illustrated in the case of Cameroon, where the Institute of Behavioral Studies and Research tested a peer education strategy targeting adolescents. The strategy was aimed at increasing contraceptive prevalence and reducing the rate of transmission of sexually transmitted infections. Their findings were that some of the youth who were involved in the program postponed the initiation of sexual intercourse, and there was also a reduction in the number of youth that were reported to have multiple sexual partners (Population Council, 2006).

The weight given to peer influence is reflected by calls to give priority to peer education on reproductive health issues. It is argued that peer education should be given priority because it could be very effective in influencing healthy sexual behaviour, including contraceptive use (The National Campaign to Prevent Teen Pregnancy, N.D).

Risky Behaviour

> "Teenagers who abuse drugs, for example, are much more likely than others to drink and smoke heavily, drop out of school, have sex at early ages and experience early childbearing… Early tobacco and alcohol use have been associated with permissive sexual attitudes and peer relationships that, in turn, predicted sexual behaviour" (Ainsworth, 1985:2).

Adolescence is associated with some risky behaviour. It has been found that adolescents engage in irresponsible sexual activity without the use of contraceptives as a result of alcohol and drug abuse (Kowaleski-Jones and Mott, ND; Ainsworth, 1985).

In a study that was done by Childline on alcohol abuse and teenage pregnancy in the United Kingdom, there were reports of girls having to drink alcohol in order to gain the courage to start having sex as a result of having been pressurized by their peers to start having sex in their early teenage years, and subsequently drinking alcohol because they regretted having had sex (Childline, N.D.). It was found in this study that the use of alcohol was also a reason that is often cited for these girls not to use any contraception during their sexual encounters.

International research suggests that drinking of alcohol generally leads to reduced levels of contraceptive use. The reason given is mainly that it is difficult to exercise control over one's actions after consuming alcohol, and therefore contraceptives are not used during sexual activities under such circumstances (Kaljee et al, 2005; Cooper, 2002; Childline, N.D.).

2.3 Summary

In concluding this chapter, it has been established that it is difficult to use an existing theory to frame this study because the survey I will use is cross-sectional and has a strong focus on socio-demographic indicators rather than, for example, psychosocial or economic measures. It would not be possible to test some of the theories described in Section 2.1 because of the limitations of the available data. However, Hallman's comprehensive framework for sexual and reproductive health behaviour is relevant for the research questions more broadly.

In this chapter it has been established that sexual activity is high amongst adolescents in Africa but contraceptive use is relatively low. Studies detailing factors that could explain contraceptive use, ranging from socio-demographic indicators such as age and education, to influence of other actors such as parents and peers, to the individual's risk behaviour, have been described. Surprisingly, few of these studies present a

multivariate analysis of factors so it is not possible to describe inter-relationships between the different factors, and how they influence contraceptive use. One of the objectives of this study is to explore the influence of listed factors in a multivariate context. The research design for such an analysis is presented in the next chapter.

CHAPTER 3

METHODOLOGY AND METHODS

In this chapter I outline the advantages and disadvantages of the secondary analysis methodology used for this research and then describe the specific survey used, the 1999 Adolescent Reproductive Health Survey of Lesotho. The sampling frame, dependent and independent variables and method of analysis are described. Limitations of the research design and methods are discussed.

3 Introduction to the survey approach

The survey approach is argued to give reliable results when the instrument is properly designed and tested and when the sample selected is representative of the entire population (Otoide et al, 2001). The survey methodology can inform us of the present state of affairs of the issue under investigation (Denscombe, 1998). The survey method is relevant to the investigation of contraceptive use among adolescents because the researcher can design and administer a questionnaire that contains questions that measure characteristics s/he is interested in for a suitably large sample. In using the survey approach, the researcher has a choice of methods to select from in order to determine the most suitable sample. Probability methods are promoted as being most likely to provide a representative sample; such methods include simple random, stratified, systematic and multistage sampling. Sample size also plays a role in determining reliability and representation. Large samples are more likely to be representative and reliable than very small samples.

3.1 Advantages and disadvantages of secondary analysis of survey data

In this research I will be conducting a secondary analysis of existing survey data collected in 1999. A key advantage of this methodology is the saving on cost because the data have been collected already; it is not necessary for the researcher to develop a proposal to get funds for the research, conduct the fieldwork, or employ additional researchers to help with the survey (Kiecolt & Nathan, 2003). However, authors such as Dale, Arber and Proctor (2003) argue that this advantage is actually a disadvantage

because the researcher doesn't have a strong hold on either the conceptualisation of the study or the process of fieldwork, and there is no interaction between the respondent and the researcher.

The methodology of secondary analysis of surveys has additional limitations, for example, lack of depth or responses and inability to follow up on interesting responses. Further, the researcher might not know what theoretical framework was used in the design of the study and questionnaire, and there could be a problem with the availability of relevant variables if the survey was designed for a different purpose other than what the researcher wants to use it for. Added to this may be that survey procedures, and errors made in the original survey, may not have been documented, so details of these are lost to the secondary analyst (Kiecolt & Nathan, 2003). Nevertheless, the usefulness of this methodology is reflected by the number of researchers working with large datasets such as the Demographic and Health Surveys.

3.2 Description of survey data

This study uses data from the 1999 Adolescent Reproductive Health Survey of Lesotho (ARHS). The data were collected from three districts in Lesotho, which are Maseru, Berea and Mohale's Hoek. The choice of these areas was partly determined by their different poverty status and partly by their proximity to the National University of Lesotho, where the study was based (Mturi, 2001).

The study focused on school-going adolescents between the ages of 12 and 19. The sample included those that were in secondary school, that is, Form A to Form E, as well as those that were in first and second year university (NUL – National University of Lesotho). In all, the sample included 1 007 females and 838 males (Mturi, 2001b). The higher proportion of females in the sample is representative of the proportion of males to females in the entire population of Lesotho (WHO Global InfoBase, 2005). Whereas the initial intention was to have a sample size of 2 250, the final sample realization was 1 845. The lower than expected sample size was because of challenges encountered in trying to get permission from the Ministry of Education and the targeted schools to gather information from students.

One process for dealing with some of the limitations of secondary analysis is to use other research methods at the same time (Bryman, 2003). According to Denscombe (1998), a range of other methods can also be used that are not necessarily quantitative, such as documents and observations. In the case of the 1999 Adolescent Reproductive Health Survey of Lesotho, focus group discussions were also conducted as a form of data collection to add to information gathered from the survey (Mturi, 2001b). Thus both quantitative and qualitative information were collected for the study but only the quantitative component of the data is used here. My analysis for this research was restricted to the quantitative component and, more specifically, adolescent girls only. This was because my supervisor at the start of the research project, Professor Mturi, wanted me to focus on girls only. As a result I was given access to the subset of data covering adolescent girls only (not the full dataset) and I was not expected to extend the analysis to male adolescents.

The information used for this research was collected through the administration of structured questionnaires (Mturi, 2001b). Themes covered by the questionnaire included: background of the respondent; the respondents' perceptions of premarital sex; the opinion of friends about premarital sex; and whether sex is ever discussed with other people such as parents, relatives or friends; as well as the respondent's use of contraception. Background questions asked about the respondent's age, current level of study, marital status, and whether they lived in a rural or an urban area. The questionnaire is attached in Appendix A.

3.3 Dependent variable

The analysis proceeded in two stages and there is a dependent variable for each stage. The first stage of analysis was performed to establish characteristics of girls who have had sexual intercourse and possible determinants of this activity (sexual intercourse). For the first stage the dependent variable is whether the adolescent girl has had sexual intercourse, derived from the question *Have you ever had sexual intercourse?* with response options of 'yes' (coded 1) and 'no' (coded 2). The second stage focused on girls who had responded affirmative to having sexual intercourse to establish characteristics of girls who had and had not used contraception as well as possible determinants of this activity (contraceptive use). For the second stage the dependant

variable is current use of contraception by sexually active female adolescents, as measured by the question *Currently using a method?* The possible response categories to this question were 'yes' (coded 1) and 'no' (coded 2).

3.4 Independent variables

Based on a review of previous research, several factors were examined for possible influence on sexual activity and the use of contraception by female adolescents (see Chapter 2, section 2.2). Obviously the inclusion of factors was also determined by what was measured in the survey. It was possible to test for influence of education, the age of the respondent, geographic location, peer pressure, parental influence, and risky behavior. Table 3.1 below illustrates the independent variables that were selected, with a frequency of categories for the sample of sexually active adolescent girls.

Table 3.1: Characteristics of sample of sexually active adolescent girls (n=235)

Independent Variables	Categories	N	%
Age of respondent	12 – 17	92	39
	18 – 19	143	61
Education: current class (grouped)	Form A – C	61	26
	Form D – E	140	60
	National University of Lesotho (NUL)	34	15
Place of residence	Rural	143	61
	Urban	92	39
District	Maseru	105	45
	Berea	58	25
	Mohale's Hoek	72	31
Religion	Catholic	108	46
	Lesotho Evangelical Church (LEC)	82	35
	Anglican	23	10
	Other	21	9
Whom are you living with?	Alone/boarding school	64	27
	Mother and father/mother only	126	54
	Only father/other relative	44	19
Opinion of friends about premarital sex	Good	92	39
	Neutral	43	18
	Bad	79	34
	Don't know	20	9
Opinion of parents about premarital sex	Good	7	1
	Neutral	15	2
	Bad	866	86
	Don't know	119	12
Do you drink alcohol?	No	155	66
	Yes	80	34

Source: 1999 Adolescent Reproductive Health Survey of Lesotho (author's own calculations)

The variable 'Religion' was recoded. The main reason for recoding this variable is because the Catholic, Lesotho Evangelical Church (LEC) and Anglican are the main churches in Lesotho, whilst all other churches had comparatively very low counts.

3.5 Descriptive analysis

The frequency procedure was used for descriptive analysis of dependent and independent variables for the sample. Cross-tabulation was used to obtain distribution of categories for the independent variables for each dependent category. Unless otherwise stated all figures presented are from the author's own calculations.

3.6 Inferential statistics: logistic regression

Binary logistic regression was performed to test the hypotheses that age, education, district of residence, rural urban residence, peer pressure, parental influence, and risk taking behavior affect sexual activity and the use of contraceptives by adolescent girls. This method was used because the dependent variable, which is represented in the data by current use of contraceptives, has a dichotomous response. The independent factors could either have a positive or a negative influence on use of contraceptives. As with the descriptive analysis, unless otherwise stated all figures presented are from the author's own calculations.

The logistic regression measures the change in odds, which results from a unit change in the independent variable. The odds of an event occurring are measured through calculating the probability of an event occurring, divided by the probability of the event not occurring (Field, 2000).

In this study, an example would be to measure the odds of using a contraceptive if the respondent reports drinking alcohol as well as the odds of not using a contraceptive under the same condition. Then the proportionate change in odds is calculated, which is the odds after a unit change in the independent variable divided by the original odds. In other words, the proportionate change in odds is the odds of using contraceptives given that adolescents are drinking, divided by the odds of not using contraceptives given that adolescents are drinking. This value is expressed as Exp(B) in SPSS output (Field, 2000). This proportionate change in odds is also known as the odds ratio (Norusis, 2003)

In interpreting Exp (B), a value greater than 1 indicates that as the independent variable increases, the odds of the dependent variable occurring increase. A value of Exp (B) less than 1 indicates that as the independent variable increases, the odds of the dependent variable occurring decrease (Field, 2000). Simply put, a value of Exp (B) that is less than 1 indicates that contraceptive use is unlikely to occur, and a value of Exp (B) greater than 1 indicates that contraceptive use is more likely to occur. The formula for binary logistic regression can be written as follows (Field, 2000; Kleinbaum and Klein, 1994):

$$Y = \beta_0 + \cdots + ,$$

Where $Y = \log [p/1-p]$ and is the probability that the adolescent girls use contraception given known values of the independent variables.

β_0 is the coefficient of the constant covariate, and

β_j = are the corresponding coefficients of the given covariates.

3.7 Limitations of the study

Some limitations of secondary analysis of surveys have been mentioned above. A further limitation of the survey approach is the issue of protocol that is required, especially for a study where the sensitive issue of contraceptive use among adolescents is being addressed. It has been mentioned in the case of the data collection for the 1999 Adolescent Reproductive Health Survey of Lesotho, that there were obstacles from the part of the Ministry of Education, as well as school principals in terms of granting the researcher permission to interview students in schools. This resulted in a smaller sample size than anticipated and may have an impact on the representation of the sample. The researcher therefore had to resort to another method of data collection that made it difficult to realize the sample size that had initially been required. Another limitation for this analysis was that a limited subset of data was provided from the original survey. This meant I was not able to explore analysis by gender, for example. The analysis for female adolescents is presented in Chapters 4 and 5.

CHAPTER 4

ANALYSIS OF SELECTED VARIABLES BY SEXUAL ACTIVITY AND CONTRACEPTIVE USE AMONGST ADOLESCENT GIRLS

This chapter is divided into two sections. In the first section a brief description of the sample is provided and a descriptive analysis of respondents reporting sexual activity and contraceptive use is presented. An analysis of factors that could explain sexual activity and contraceptive use amongst adolescent girls is provided in the second section. Unless otherwise stated all statistics presented are derived from the 1999 Lesotho Reproductive Health Survey and all calculations are the authors own.

4.1 Sample characteristics, sexual activity and contraceptive use

The sample consisted of 1 007 school-going girls. The average age of the adolescent girls was 15.9 years with the youngest being 12 and the oldest 19 years of age. A third (33.2%) of the girls attended school in Maseru, 36.4% in Berea and 30.4% in Mohale's Hoek. There was a significant, moderate, correlation between age and the current form (level of education reached in school, also known as standard or grade) in which the girl was registered (Spearman's rho=0.692, $p < 0.01$).

Of the 1 007 school girls, 23.3% reported having had sexual intercourse (Table 4.1.1). This percentage was lower than expected given incidence of sexual activity reported by other authors. Makatjane (2002) places premarital childbearing in Lesotho at 39%. Other countries in the region also show higher proportions of sexual activity than the participants in the 1999 AHDS. For example, according to Okonofua (2007), 80% of never married women under the age of 20 in sub-Saharan African countries were sexually active. According to UNICEF (1998), in Ghana and Ivory Coast, 31% and 45% (respectively) of women below the age of 20 were sexually active.

Table 4.1.1. Frequency of girls reporting sexual activity

Ever had sexual intercourse		
	N	%
Yes	235	23.3
No	772	76.7
Total	1007	100.0

Of the 235 girls who reported having had sexual intercourse, 140 (59.8%) reported having further intercourse since the first occurrence. Of these, 36.2% reported not having had intercourse in the past month, 27.7% reported having had sex once in the past month, and 25.5% and 10.6% reported having had sex between two and four times and more than four times in the past month, respectively. Their relatively infrequent sexual activity may be due to a number of reasons ranging from desire to maintain control over sexual decision-making to limited opportunity.

Of the 235 girls who reported having had sexual intercourse, 228 provided an answer for the question on whether they had ever used contraception. Of these, 73.2% reported having used contraception (Table 4.1.2). Thus just over a quarter of girls who have had sexual intercourse have never used contraception. While it is a concern that 61 adolescents would be exposed to the health risks of not using contraception it is interesting to note that almost three quarters of the adolescents have used contraception. It was not possible to establish whether those who were using contraceptives were using them regularly.

Table 4.1.2. Frequency of girls reporting they have used contraceptives

Ever used contraception		
	N	%
Yes	167	73.2
No	61	26.8
Total	1007	100.0

Those girls who reported multiple sexual encounters were more likely to have used contraception (87.8%) compared with those who report only a single sexual encounter (51.6%).

What contraceptives do the adolescent girls use? This question can be answered for the 140 girls 'currently using' contraceptives (Table 4.1.3). Almost three quarters of girls 'currently using' contraceptives were using the condom. It is assumed that condom refers to the male condom rather than the female condom, as the female condom has had a lower than expected uptake in many countries (Hoffman et al, 2004). The second most prevalent contraceptive is the pill. Two important points can be drawn from Table 4.1.3. Firstly, it is interesting that a 'male' contraceptive is much more likely to be utilized than a contraceptive over which the female adolescent has control (e.g. the pill). Secondly, the relatively high incidence of condom usage is promising as it goes against suggestions that men are not willing to use condoms during sex. It is not possible to establish the consistency with which condoms were used from the questionnaire.

Table 4.1.3. Type of contraceptive used by girls currently using a contraceptive

Type of contraceptive		
	N	%
Pill	19	13.6
Condom	104	74.3
IUD	4	2.9
Injection	10	7.1
Calendar	1	0.7
Withdrawal	2	1.4
Total	140	100

Where do adolescent girls source contraceptives? Almost a third of girls 'currently using' contraceptives obtain these from a shop (Table 4.1.4). Other important sources of contraception include 'private doctor, clinic or hospital', LPPA and a state hospital. Access to contraceptives was viewed as being a problem by only 11 of 130 girls. In terms of cost, 63.6% of girls 'currently using' considered contraceptive cheap while 27.3% and 9.1% considered them expensive and very expensive respectively (n=130).

Table 4.1.4. Source of contraceptives

Hospital	14	10.9
Health centre	8	6.2
Health worker	2	1.6
Private doctor/ clinic/ hospital	20	15.5
Pharmacy/ medical store	7	5.4
LPPA	17	13.2
Other private sector	2	1.6
Shop	42	32.6
Other	17	13.2
Total	129	100.0

For those girls who have had sexual intercourse it is relevant to explore the reason they report for having their first sexual experience. Reasons for having first sexual encounter are provided in Table 4.1.5. At first look it appears that the most significant proportion of girls initiated their first sexual activity because of curiosity, at 41.5%. However, one third of girls were seduced and a further 12% were forced into the activity. Very few girls reported initiating their first sexual activity either to obtain a partner (including for marital purposes) or for economic reasons.

Table 4.1.5. Reasons for having first sexual encounter

Reason for having first intercourse	N	%
To encourage marriage	3	1.3
Financial assistance	4	1.7
In need of a partner	17	7.3
Curiosity	97	41.5
Seduced	78	33.3
Forced	28	12.0
Other	6	2.6
Total	234	100.0

Of the girls who were seduced or forced to have first intercourse, 46.2% and 46.4% respectively reported having further intercourse. Almost all girls who had first intercourse to encourage marriage (100%), gain financial assistance (100%) and obtain a partner (94.1%) reported further intercourse. Two thirds (66.4%) of girls who initiated first intercourse because of curiosity answered affirmative to having further intercourse. These findings suggest that seduction or force could act to limit further

sexual behaviour. The lower likelihood of continued sexual activity by girls who were seduced or forced could be because of fear and trauma caused when she loses control over sexual decision-making.

It could be expected that those girls who were forced and seduced are less likely to have control over contraceptive use during intercourse and this is borne out in the survey (Table 4.1.6). Although the use of contraceptives here refers to general sexual activity (whereas the reason is related to *first* sexual activity), girls who were seduced or forced are significantly less likely to report use of contraceptives (Table 4.1.6). Over double the proportion of girls who were forced to have first intercourse report not using contraceptives compared with girls whose first intercourse was from the need to have a partner or curiosity. The higher likelihood of using contraceptives cannot be linked directly to the first sexual encounter. In some cases the findings might reflect the first experience and in others it might reflect the broader problem young girls have in controlling decisions around sexual activity when they live in environments under which sexual activity is forced. Not only are these teenage girls subject to traumatic sexual experience but they are also more likely to be exposed to the health risks of sex without contraceptives.

Table 4.1.6. Reason for having first sexual experience and use of contraceptives

	Reason for first sexual experience							
Ever used contraception	To Encourage Marriage	Financial Assistance	In need of partner	Curiosity	Seduced	Forced	Other	Total
N	3	4	17	96	76	27	6	229
Yes (%)	100.0	100.0	82.4	81.3	65.8	59.3	50.0	73.4
No (%)	0.0	0.0	17.6	18.8	34.2	40.7	50.0	26.6

These findings are not unexpected as other authors, for example Hallman (2004), have reported that force is a common reason given worldwide by adolescent girls for their first sexual encounter.

The very low proportion of girls reporting the reason for their first sexual encounter was to find a partner or for financial assistance was somewhat surprising given theories such as fertility transition (see Chapter 2). However, this result might be partly explained by the young age of the girls in this sample; searching for a partner to

marry and to garner economic support are likely to be more relevant reasons as the girls reach a more mature age.

The association between reason for first sexual intercourse and *current* use of contraception was also measured (Table 4.1.7). Results show that the percentage of girls currently using contraceptives is slightly higher than for their first encounter (76.8% in Table 4.1.7 compared with 73.2% in Table 4.1.6). The percentage of girls using contraceptives at the time of the survey was slightly higher for all reasons except for those girls who reported being seduced. Girls who had their first sexual experience because they needed a partner showed the most notable difference, a higher proportion for current use of contraceptives. The (slight) increase in use of contraceptives from first sexual encounter suggests that adolescents might develop some control over decision-making on activities relating to sexual behaviour.

Table 4.1.7. Reason for first sexual encounter if girl is *currently* using a contraceptive method

	Reason for first sexual intercourse							
Currently using a contraceptive method	To Encourage Marriage	Financial Assistance	In Need of a Partner	Curiosity	Seduced	Forced	Other	Total
N	3	4	16	78	56	21	3	181
Yes (%)	100.0	100.0	93.8	84.8	64.3	61.9	66.7	76.9
No (%)	0	0	6.3	15.2	35.7	38.1	33.3	23.1

Table 4.1.8 shows that almost four fifths of girls talk to their peers about sex matters, 23.3% talk to their parents and 20.2% talk about sex matters to their teacher. Lower proportions (less than one fifth) talk to their boyfriends, siblings and close relatives. Girls are most likely to talk about HIV/AIDS (77.4%) and pregnancy (66.8%) and least likely to talk about the act of sex (21.0%), abortion (30.4%) and contraception (33.7%). Nevertheless, a third of girls do talk about contraception. These findings represent a measure of the importance attributed to the matters/themes listed by the respondents.

There are some interesting trends within the categories of who the girl talks to. For example almost half the girls who talk to their boyfriend discuss the act of sex (compared with less than a quarter overall) and over three fifths talk to their boyfriend about abortion (compared with less than a third overall). Contraception, although discussed by a third of the sample, was not an obvious priority for discussion. Those respondents discussing issues with a boyfriend or a close relative had the highest likelihood of talking about contraception (62.5% and 65.2% of cases respectively). Of the 128 cases that reported discussing issues with a boyfriend, 90.6% discussed pregnancy and 61.7% discussed STDs.

Table 4.1.8. Who girls talk to about 'sex matters' by what they talk about (both sets of variables are multiple response)

| Topic of discussion | Whom respondents talk to | | | | | | | | |
	Peers	Boyfriend	Parents	Close relative	Brother sister	Teacher	Other	N	% Total
Act of sex	22.5	49.2	14.9	37.0	29.2	18.5	15.7	155	21.5
Contraception	36.1	62.5	39.3	65.2	50.0	45.2	39.2	243	33.7
Pregnancy	67.0	90.6	82.1	82.6	78.3	73.3	70.6	496	68.8
HIV/AIDS	78.9	83.6	85.1	84.8	87.7	90.4	74.5	558	77.4
STDs	42.3	61.7	51.8	65.2	62.3	59.6	56.9	314	43.6
Abortion	33.5	61.7	33.3	56.5	50.0	45.9	37.3	219	30.4
N	579	128	168	92	106	146	51	721	
% Total	80.3	17.8	23.3	12.8	14.7	20.2	7.1		100.0

Table 4.1.9 demonstrates that girls who have had intercourse are much more likely to have discussed a range of sex matters. For example 39.9% of girls who have had intercourse have discussed the act of sex compared with 13.5% of girls who have not had intercourse. Similarly to Table 4.1.8, the data illustrates the respondents' preference of matters for discussion. Nearly 80% of girls who reported having had sexual intercourse discussed HIV/AIDS, and this was the most frequently cited sex-related matter that was discussed, followed closely by pregnancy at 77.5%. Sexually transmitted diseases and contraception were discussed by 54.6% and 51.4% of sexually active respondents respectively. Abortion and the act of sex were the least discussed matters.

Table 4.1.9. Ever had intercourse by what sex matters are spoken about (issue talked about is multiple response)

	Have had sexual intercourse			
Topic of discussion	Yes	No	N	Total
Act of sex	39.9	13.5	155	21.5
Contraception	51.4	26.0	243	33.7
Pregnancy	77.5	65.0	496	68.8
HIV/AIDS	79.8	76.3	558	77.4
STDs	54.6	38.8	314	43.6
Abortion	45.0	24.1	219	30.4
N	218	503	721	
% Total	30.2	69.8		

The findings from Tables 4.1.8 and 4.1.9 suggest communication about sex matters is relatively high, particularly amongst girls who have had intercourse but the significant proportion of communication is with peers. Nevertheless, a range of sex matters is discussed between a girl and her boyfriend for the lower proportion who report such behaviour.

4.2 Identifying bivariate associations between selected factors and sexual activity and contraceptive use

In this section the relationship between some key variables and two dependent variables – ever had sexual activity and ever used contraceptives – are described. For each table, the first set of percentages (designated a) represents the percentage each category of the independent variable contributes to the total, the second set of percentages (designated b) represents the percentage of each category reporting 'yes' to having ever had sexual intercourse, and the third set of percentages (designated c) represents the percentage of each category reporting 'yes' to using contraception when the respondent reports having had sexual intercourse.

Socio-demographic variables: Age

Table 4.2.1 illustrates that the mode age of respondents was 16 years, and the age category 12 featured the least number of girls in the sample (Table 4.2.1a). Extremely low proportions of very young girls reported having sexual intercourse (Table 4.2.1b). Over two fifths of girls aged 18 and about two thirds of girls aged 19 reported having

sexual intercourse (Table 4.3.1b). The association between age and sexual activity is statistically significant. It was necessary to combine low ages for girls who have had sexual intercourse and used contraceptives because of low counts of 13 (n=3) and 14 (n=5) year olds (Table 4.2.1c). For all age categories, over two thirds of the girls who reported sexual intercourse had used contraceptives and there was no significant association between age and use of contraception (Table 4.2.1c).

Table 4.2.1. Age by sexual activity and use of contraception

	Age								
	12	13	14	15	16	17	18	19	Total
a) Total									
N	23	91	110	146	195	178	142	122	1007
%	2.3	9.0	10.9	14.5	19.4	17.7	14.1	12.1	100.0
b) Ever had sexual intercourse?									
N	23	91	110	146	195	178	142	122	1007
Yes (%)	4.3	2.2	2.7	7.5	13.3	27.5	44.4	65.6	23.3
c) Had sexual intercourse, ever used contraception? (n=230)*									
N			16		24	48	63	79	230
Yes (%)			72.7		67.7	76.8	77.3	67.3	73.0

Notes: * Ages 13, 14 and 15 were combined because of low number of cases for ages 13 and 14; For b: $\chi^2 = 243.267$, df=7, $p=0.000$; For c: $\chi^2 = 2.372$, df=4, $p=0.668$

Socio-demographic variables: Form

It is noted from Table 4.2.2a that Forms A, B and D featured the highest number of respondents with the fewest reporting registration at university. There are also relatively few respondents in Forms C and E (Table 4.2.2a). Probability of affirming sexual activity was found to increase with Form (Table 4.2.2b). The association between education level and sexual activity is statistically significant.

The class attended follows a similar trend to age with respect to contraceptive use. The proportion of respondents that have used contraceptives was above 70% from Form C (Table 4.2.2c). However, the association between education level and contraceptive use is not statistically significant. This finding implies that Form is not a useful predictor of contraceptive use.

Table 4.2.2. Form (education level) by sexual activity and use of contraception

	Form						
	A	B	C	D	E	Post school	Total
a) Total							
N	269	285	66	241	96	49	1006
%	26.7	28.3	6.6	24.0	9.5	4.9	100.0
b) Ever had sexual intercourse?							
N	269	285	66	241	96	49	1006
Yes (%)	4.8	9.8	30.3	33.6	61.5	69.4	23.4
c) Had sexual intercourse, ever used contraception? (n=230)							
n	12	25	20	80	59	34	230
Yes (%)	41.7	68.0	75.0	71.3	78.0	82.4	73.0

For b: $\chi^2 = 232.477$, df=5, $p=0.000$; For c: $\chi^2 = 8.715$, df=5, $p=0.121$

Socio-demographic variables: Area

From Table 4.2.3a the highest proportion of respondents was from Berea, and the lowest was from Mohale's Hoek. A significantly higher proportion of respondents from Maseru reported having had sexual intercourse at least once compared to the other districts (Table 4.2.3b). Berea featured the lowest proportion of respondents reporting sexual activity. The association between the respondents' district of residence and sexual activity is statistically significant.

For contraceptive use, the highest proportion of respondents reporting use of contraceptives was from Maseru (Table 4.2.3c). The district with the lowest prevalence of contraceptive use was Mohale's Hoek. The association between district and contraceptive use is statistically significant. This finding is interesting if district is viewed as a proxy for level of development. In Chapter 1, Maseru was designated as the most developed area by virtue of high population density and economic status. Adolescents in this region show the highest incidence of sexual activity but also the highest incidence of contraceptive use. This implies girls in more developed areas are more equipped to protect themselves. Mohale's Hoek was identified as the least developed region by virtue of a lower population density and a strong rural character. This region has the second highest incidence of sexual activity but the lowest

prevalence of contraceptive use. This implies girls in less developed areas are vulnerable to risks involved in unprotected sexual activity.

Table 4.2.3. District by sexual activity and use of contraception

	Maseru	Berea	Mohale's Hoek	Total
a) Total				
N	334	367	306	1007
%	33.2	36.4	30.4	100.0
b) Ever had sexual intercourse?				
N	334	367	306	1007
Yes (%)	31.4	15.8	23.5	23.3
c) Had sexual intercourse, ever used contraception?				
N	104	56	70	230
Yes (%)	81.7	69.6	62.9	73.0

For b: χ^2 =23.897, df=2, p=0.000; For c: χ^2 = 8.004, df=2, p=0.018

Socio-demographic variables: Location

About two thirds of respondents live in rural areas, according to Table 4.2.4a below. A higher proportion of urban respondents reported having had sexual intercourse (27.3%) compared with rural respondents (21.3%) (Table 4.2.4b). The association between area of residence and sexual activity is statistically significant.

Considering contraceptive use, Table 4.2.4c shows that just over three quarters of urban respondents used contraceptives compared with 70.5% of rural respondents. The association between area of residence and contraceptive use is not statistically significant; implying residence of respondent is not a predictor of contraceptive use for this sample.

Table 4.2.4. Location by sexual activity and use of contraception

	Rural	Urban	Total
a) Total			
N	670	337	1007
%	66.5	33.5	100.0
b) Ever had sexual intercourse?			
N	670	337	1007
Yes (%)	21.3	27.3	23.3
c) Had sexual intercourse, ever used contraception?			
N	139	91	230
Yes (%)	70.5	76.9	73.0

For b: χ^2 =4.447, df=1, p=0.035; For c: χ^2 = 1.151, df=1, p=0.283

Socio-demographic variables: Religion

The largest proportion of respondents, 38.6%, were Catholic followed by 34.6% from the LEC Table 4.2.5a). Smaller proportions of respondents were Anglican (13.6%) and 'other' religions at 13.3% (Table 4.2.5a). Surprisingly, Catholic respondents featured the highest proportion (27.9%) reporting having had sexual intercourse, followed by LEC members at 23.6% (Table 4.2.5b). Lower proportions of Anglican and 'other' church respondents reported having had sexual activity. The association between religion and sexual activity is statistically significant.

As with sexual activity, surprisingly, Catholic respondents were more likely than others to report having used contraception. Just over three quarters of Catholic respondents (76.4%) reported using contraception (Table 4.2.5b). Anglican respondents, while apparently relatively conservative for sexual activity, are highly likely (73.9%) to use contraceptives. It is noted that over three fifths of respondents across all religions reported having used contraceptives, which is rather high (Table 4.2.5c). The association between religion and contraceptive is not statistically significant, which implies that the religion of the respondents does not affect differences in use of contraceptives.

45

Table 4.2.5. Religion by sexual activity and use of contraception

	Catholic	L E C	Anglican	Other	Total
a) Total					
N	387	347	136	133	1003
%	38.6	34.6	13.6	13.3	100.0
b) Ever had sexual intercourse?					
N	387	347	136	133	1003
Yes (%)	27.9	23.6	16.9	15.8	23.3
c) Had sexual intercourse, ever used contraception?					
N	106	81	23	19	229
Yes (%)	76.4	70.4	73.9	63.2	72.9

For b: χ^2 =11.910, df=3, p=0.008; For c: χ^2 = 1.851, df=3, p=0.604

Development status variable: Menstruation

A majority of respondents (89.1%) had experienced menstruation at the time of the survey (Table 4.2.6a). Of these, just above a quarter of respondents that had experienced menstruation had also reported to experience sexual intercourse (Table 4.2.6b). The association between experience of menstruation and sexual activity is statistically significant.

Almost three quarters (73.4%) of the adolescents who had experienced at least one sexual encounter and menstruation reported contraceptive use (Table 4.2.6c). A single respondent who had experienced sexual activity before her menarche reported contraceptive use (Table 4.2.6c). The association between experience of menstruation and contraceptive use was statistically significant at the 0.1 level, implying experience of menstruation is a weak predictor of contraceptive use.

Table 4.2.6. Experienced menstruation by sexual activity and use of contraception

	Yes	No	Total
a) Total			
N	897	110	1007
%	89.1	10.9	100.0
b) Ever had sexual intercourse?			
N	897	110	1007
Yes (%)	26.1	.9	23.3
c) Had sexual intercourse, ever used contraception? (n=230)			
N	229	1	230
Yes (%)	73.4	.0	73.0

For b: χ^2 =34.719, df=1, p=0.000; For c: χ^2 = 2.722, df=1, p=0.099

Attitude variables: Sex Before Marriage Permissible

A majority of respondents, 87.3%, disagreed and strongly disagreed with the statement that 'sex before marriage is permissible' (Table 4.2.7a). Just over 10% or 105 of girls strongly agreed and agreed that sex before marriage was permissible while over 200 reported having had sexual intercourse. This suggests that factors beyond attitude determine activity.

Attitude to sex before marriage and sexual activity is statistically significant. Adolescents who strongly agreed and agreed with the idea of sex before marriage were significantly more likely to report sexual activity (Table 4.2.7b). Less than one fifth of girls who disagreed or strongly disagreed with the idea of sex before marriage reported sexual activity (Table 4.2.7b).

Attitude toward sex before marriage and contraceptive use showed a significant association (Table 4.2.7c). Contraceptive use was over 60% for each category, but just over 80% of those who strongly agreed and strongly disagreed with the statement reported contraceptive use compared with 67% of those who disagreed and strongly disagreed with sex before marriage (Table 4.2.7c).

Table 4.2.7. 'Sex before marriage is permissible' by sexual activity and use of contraception

	Strongly agree/ agree	Neither agree nor disagree	Disagree/ Strongly disagree	Total
a) Total				
N	105	23	878	1006
%	10.4%	2.3%	87.3%	100.0%
b) Ever had sexual intercourse?				
N	105	23	878	1006
Yes (%)	67.6%	56.5%	17.1%	23.3%
c) Had sexual intercourse, ever used contraception? (n=229)				
N	70	13	146	229
Yes (%)	80.0%	92.3%	67.8%	72.9%

For b: χ^2 = 148.764, df=2, p=0.000; For c: χ^2 = 6.184, df=2, p=0.045

Attitude variables: Attitude of Friends About Premarital Sex

A majority of respondents, 58.9%, reported having peers who felt premarital sex was bad and very bad (22.9% and 36.0% respectively) (Table 4.2.8a). Just below 5 % of respondents had friends that had a positive attitude toward premarital sex (Table 4.2.8a).

Believing your peers had a positive attitude to premarital sex was positively associated with experiencing sexual activity (Table 4.2.8b). When peers thought premarital sex was very good or good the percentage of respondents reporting having had sex was 76.2% and 57.1% respectively (Table 4.2.8b). When peers thought premarital sex was bad or very bad the percentage of respondents reporting having had sex was 14.0% and 13.0% respectively (Table 4.2.8b).

Contraceptive use was not significantly associated with peer attitude to premarital sex (Table 4.2.8c).

Table 4.2.8. Attitude of friends about premarital sex by sexual activity and use of contraception

	Very good	Good	Some good, some bad	Bad	Very bad	Don't know	Total
a) Total							
N	42	105	115	229	361	150	1002
%	4.2	10.5	11.5	22.9	36.0	15.0	100.0
b) Ever had sexual intercourse?							
N	42	105	115	229	361	150	1002
Yes (%)	76.2	57.1	37.4	14.0	13.0	13.3	23.4
c) Had sexual intercourse, ever used contraception?							
N	32	59	43	30	45	20	229
Yes (%)	81.3	78.0	79.1	66.7	57.8	75.0	72.9

For b: $\chi^2 = 186.349$, df=5, p=0.000; For c: $\chi^2 = 8.573$, df=5, p=0.127

Attitude variables: Opinion of Parents About Premarital Sex

A majority, 86%, of adolescents perceived their parents as viewing premarital sex as being 'bad' and 'very bad'. (Table 4.2.9a). Less than 1% of respondents reported having parents who viewed premarital sex as 'good' and 'very good' (Table 4.2.9a).

The association between parents' opinion about premarital sex and the sexual activity of respondents is not statistically significant (Table 4.2.9b). Similarly, the association between parental attitude to premarital sex and contraceptive use was not determined to be statistically significant (Table 4.2.9c).

Table 4.2.9. Opinion of parents about premarital sex by sexual activity and use of contraception

	Very good	Good	Some good, some bad	Bad	Very bad	Don't know	Total
a) Total							
N	1	6	15	151	715	119	1007
%	0.1	0.6	1.5	15.0	71.0	11.8	100.0
b) Ever had sexual intercourse?							
N	1	6	15	151	715	119	1007
Yes (%)	0.0	50.0	33.3	27.8	21.5	26.1	23.3
c) Had sexual intercourse, ever used contraception?							
n	0	3	5	41	150	31	230
Yes (%)	0	100.0	100.0	63.4	73.3	77.4	73.0

For b: $\chi^2 = 7.001$, df=5, $p=0.221$; For c: $\chi^2 = 5.191$, df=4, $p=0.268$ (40% cells have expected count less than 5)

Attitude variables: Opinion About Using Contraceptives Before Marriage

The responses to a question asking about the respondent's opinion of using contraceptives before marriage are interesting because over 50% of respondents agreed and strongly agreed it was acceptable compared with just over 10% agreeing that sex before marriage was permissible (Table 4.2.10a). This finding suggests that attitudes can be contradictory and that adolescent girls are not adverse to others taking more 'liberal' behaviour (using contraception) even when it goes against their own belief (that sex before marriage is not permissible).

Girls who strongly agreed and agreed with using contraceptives before marriage were more likely to have had intercourse (Table 4.2.10b). This association was statistically significant.

It was not possible to use statistical inference for the relationship between contraceptive use and opinion about using contraception before marriage because of low expected counts (Table 4.2.10c). Nevertheless, a relatively high number of

respondents who disagreed and strongly disagreed with using contraception before marriage reported using contraception (52 cases) suggesting concern over health risks outweighs attitudinal resistance to using contraception.

Table 4.2.10. Opinion about using contraceptives before marriage by sexual activity and use of contraception

	Strongly agree/ agree	Neither agree nor disagree	Disagree/ Strongly disagree	Total
a) Total				
N	504	73	415	992
%	50.8	7.4	41.8	100.0
b) Ever had sexual intercourse?				
N	504	73	415	992
Yes (%)	34.7	5.5	13.0	23.5
c) Had sexual intercourse, ever used contraception?				
n	174	3	52	229
Yes (%)	76.4	66.7	63.5	73.4

For b: χ^2 = 73.912, df=2, p=0.000; For c: χ^2 = 3.519, df=2, p=0.172 (33% cells have expected count of less than 5)

Attitude variables: Opinion About Premarital Pregnancy

Respondents who had a negative opinion of premarital pregnancy were in the majority (Table 4.2.11a). Less that 2% of the respondents had a positive opinion of premarital pregnancy (Table 4.2.11a).

Of the respondents that had a positive opinion of premarital pregnancy, just over half reported that they had been sexually active compared with less than a third of those who had a negative opinion of premarital pregnancy (Table 4.2.11b). Low expected count for some combinations meant it was not possible to establish statistical association.

Similar percentages of respondents with positive and negative views of premarital pregnancy – around seventy percent – reported use of contraception (Table 4.2.11c).

Table 4.2.11. Opinion about premarital pregnancy by sexual activity and use of contraception

	Very good/ good	Bad/ very bad	Total
a) Total			
N	18	963	981
%	1.8	98.2	100.0
b) Ever had sexual intercourse?			
N	18	963	981
Yes (%)	55.6	22.4	23.0
c) Had sexual intercourse, ever used contraception?			
n	10	212	222
Yes (%)	70.0	72.6	72.5

For b: χ^2 = 10.936, df=1, p=0.001(25% of cells have expected count of less than 5);
For c: χ^2 = 0.033, df=1, p=0.885 (25% of cells have expected count of less than 5)

Attitude variables: Attitude to Sex Education in School

The majority of respondents were in agreement with sex education in schools, with 64.3% being in strong agreement, and about a third were in agreement (Table 4.2.12a).

A statistically significant association is observed between sexual activity and attitude to sex education in school. Those respondents in strong agreement and agreement with sex education were more likely to report having had sex (Table 4.2.12b).

It was not possible to test the association between contraceptive use and attitude to sex education in schools because of low expected counts for some combinations (Table 4.2.12c).

Table 4.2.12. Attitude to sex education in school by sexual activity and use of contraception

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Total
a) Total						
N	646	296	11	50	2	1005
%	64.3	29.5	1.1	5.0	0.2	100.0
b) Ever had sexual intercourse?						
N	646	296	11	50	2	1005
Yes (%)	26.3	20.6	9.1	6.0	0	23.4
c) Had sexual intercourse, ever used contraception?						
	170	56	1	3	0	230
Yes (%)	72.4	75.0	100.0	66.7	0.0	73.0

For b: $\chi^2 = 14.671$, df=4, p=0.005; For c: $\chi^2 = 0.581$, df=3, p=0.901 (50% cells have expected count of less than 5)

Relationship variables: Parent Presence or Absence

A majority of respondents, over four fifths, reported that both their parents were alive. The next highest proportion of respondents, 15.1%, was of those that only had a mother surviving (Table 4.2.13a).

In terms of sexual activity, the highest proportion of respondents that reported sexual activity were those who did not know the survival status of both parents; all respondents in this category reported that they had been sexually active (Table 4.2.13b). The next highest proportion reporting sexual activity, just over half, was of respondents who reported both parents had died (Table 4.2.13b). About a third of respondents that had either a mother or a father surviving reported to have been sexually active. Respondents with both parents alive were the least likely to report sexual activity (Table 4.2.13b). The association between the presence or absence of parents and sexual activity is statistically significant. This result suggests that the 'presence' (in as much as they are alive) of parents acts as a deterrent to sexual activity. What is not clear is whether this is because their presence limits opportunities

for sexual activity or because living in a dual parent household either protects the adolescent from forced sexual encounters or effects a more cautious approach to sexual behaviour.

The association between contraceptive use and parent presence or absence was not statistically significant (Table 4.2.13c).

Table 4.2.13. Parent presence or absence by sexual activity and use of contraception

	Both alive	Only father alive	Only mother alive	Both dead	Don't know	Total
a) Total						
N	812	26	151	11	3	1003
%	81.0	2.6	15.1	1.1	0.3	100.0
b) Ever had sexual intercourse?						
N	812	26	151	11	3	1003
Yes (%)	21.3	34.6	28.5	54.5	100.0	23.3
c) Had sexual intercourse, ever used contraception?						
	169	8	43	6	3	229
Yes (%)	72.2	87.5	72.1	100.0	33.3	72.9

For b: $\chi^2 = 21.799$, df=4, p=0.000; For c: $\chi^2 = 5.532$, df=4, p=0.237

Relationship variables: Partner Status

Just under four fifths of the respondents did not have a boyfriend (Table 4.2.14a).

Of the respondents who had a boyfriend, 93% reported that they had been sexually active (Table 4.2.14b). This association between partner status and sexual activity is statistically significant. Earlier analysis of the reasons for initiation of sexual activity suggests the high prevalence of sexual activity for girls with a boyfriend could be due to either mutual agreement (curiosity) or coercion on the part of the male partner (seduction or force).

Three quarters of respondents who had boyfriends reported using contraceptives compared with half the respondents who did not have a boyfriend (Table 4.2.14c). The association between boyfriend status and contraceptive use was statistically

significant suggesting a relationship with a boyfriend is a predictor of contraceptive use.

Table 4.2.14. Boyfriend status by sexual activity and use of contraception

	Has boyfriend	Does not have boyfriend	Total
a) Total			
N	214	781	995
%	21.5	78.5	100.0
b) Ever had sexual intercourse?			
N	214	781	995
Yes (%)	93.0	4.6	23.6
c) Had sexual intercourse, ever used contraception?			
n	196	34	230
Yes (%)	77.0	50.0	73.0

For b: χ^2 =727.321, df=1, p=0.000; For c: χ^2 = 10.760, df=1, p=0.001

Communication and knowledge variables: Discussed Sex Matters With Another (peer, sibling, partner, parent, other relative)

About three quarters of respondents discussed sex matters with another person (Table 4.2.15a).

Of those who discussed sex matters about a third reported that they had been sexually active (Table 4.2.15b). The association between having discussed sex matters and sexual activity is statistically significant.

Three quarters of respondents who discussed sex matters reported that they used contraception (Table 4.2.15c). It was not possible to establish a statistical association between communication about sexual matters and contraceptive use because a high proportion of combinations had low expected counts.

Table 4.2.15. Discussed sex matters with another person by sexual activity and use of contraception

	Yes	No	Total
a) Total			
N	730	276	1006
%	72.6	27.4	100.0
b) Ever had sexual intercourse?			
N	730	276	1006
Yes (%)	29.9	6.2	23.4
c) Had sexual intercourse, ever used contraception?			
n	215	15	230
Yes (%)	74.4	53.3	73.0

For b: χ^2 =62.854, df=1, p=0.000; For c: χ^2 = 3.166, df=1, p=0.075 (25% of cells have expected count less than 5)

Communication and knowledge variables: Discussed Sex Matters With Boyfriend

Less than one fifth of respondents discussed sex-related matters with their boyfriend (Table 4.2.16a).

In cases where sex-related matters were discussed over 80% had sexual intercourse (Table 4.2.16b) and used contraceptives (Table 4.2.16c). In contrast fewer than 20% of those who did not discuss sex-related matters with their boyfriend reported sexual activity (Table 4.2.16b) but over 60% reported using contraception (Table 4.2.16c). The association between having discussed sex matters and both sexual activity and contraceptive use are statistically significant. This finding suggests there are two groups of adolescent girls when a boyfriend is present. One group communicates with her partner about sexual matters and this corresponds with high incidence of sexual activity and contraceptive use. The second group does not discuss sexual matters with her boyfriend and has a substantially lower incidence of sexual activity, although contraceptive use is relatively high for those girls who experience sexual activity. The first group could be interpreted as confident girls who are secure in their relationship, eliciting strong trust through communication. The second group could be interpreted

as cautious girls who are reluctant to engage in sexual activity and are still developing a trusting relationship with a boyfriend.

Table 4.2.16. Discussed sex matters with boyfriend by sexual activity and use of contraception

	No	Yes	Total
a) Total			
N	604	128	732
%	82.5	17.5	100.0
b) Ever had sexual intercourse?			
N	604	128	732
Yes (%)	19.0	81.3	29.9
c) Had sexual intercourse, ever used contraception?			
n	114	102	216
Yes (%)	65.8	83.3	74.1

For b: χ^2 =194.949, df=1, p=0.000; For c: χ^2 = 8.628, df=1, p=0.003

Communication and knowledge variables: Knowledge of HIV/AIDS

Almost all respondents (99.5%) had heard of HIV/AIDS so no further analysis by sexual activity and contraceptive use was conducted.

Communication and knowledge variables: Knowledge of Other STDs

Under half the respondents had knowledge of other STDs apart from HIV/AIDS (Table 4.2.17a).

Those respondents reporting knowledge of other STDs were more likely to report having had sexual intercourse (Table 4.2.17b).
The association between knowledge of other STDs (apart from HIV/AIDS) and sexual activity is statistically significant.

While it appears that respondents with knowledge of other STDs were more likely to use contraceptives (Table 4.2.17c) this association is not statistically significant.

Table 4.2.17. Knowledge of other STDs (other than HIV/AIDS) by sexual activity and use of contraception

	Know of other STDs	Does not know of other STDs	Total
a) Total			
N	441	561	1002
%	44.0	56.0	100.0
b) Ever had sexual intercourse?			
N	441	561	1002
Yes (%)	36.1	13.2	23.3
c) Had sexual intercourse, ever used contraception?			
N	159	69	228
Yes (%)	76.7	66.7	73.7

For b: χ^2 =72.324, df=1, p=0.000; For c: χ^2 = 2.513, df=1, p=0.113

Risk behaviour variable: Drinks alcohol

Only 11.5% of respondents reported drinking alcohol (Table 4.2.18a).

Of those respondents who reported drinking alcohol, 69% reported that they had been sexually active compared with only 17.4% of respondents who reported not drinking alcohol (Table 4.2.18b). The association between drinking alcohol and sexual activity is statistically significant.

Similarly to sexual activity, there is a statistically significant association between use of alcohol and contraceptive use (Table 4.2.18c). Those girls who reported drinking alcohol were more likely to report using contraceptives (87.3% of cases as opposed to 65.6% of girls who did not drink alcohol) (Table 4.2.18c). The association between alcohol use and contraceptive use is statistically significant suggesting alcohol use is a predictor for contraceptive use (in this case alcohol use is associated with lower prevalence of contraceptive use).

Table 4.2.18. Drinks alcohol by sexual activity and use of contraception

	Yes	No	Total
a) Total			
N	116	889	1005
%	11.5	88.5	100.0
b) Ever had sexual intercourse?			
N	116	889	1005
Yes (%)	69.0	17.4	23.4
c) Had sexual intercourse, ever used contraception?			
N	79	151	230
Yes (%)	87.3	65.6	73.0

For b: χ^2 =152.087, df=1, p=0.000; For c: χ^2 = 12.494, df=1, p=0.000

Summary

The percentage of adolescent girls reporting sexual activity – 23.3% – is relatively high, but lower than expected based on other research. Over half (60%) of girls continued sexual activity after the first time. A majority of girls – 73.2% – reported using contraception, and usage was higher amongst those respondents who had more than one sexual encounter. This suggests that the adolescent girls are likely to exercise their decision making power around contraceptive use as the incidence of sexual intercourse increases.

The data also illustrate that the initiation of sexual intercourse was mostly a result of either curiosity or coercion (which includes both force and seduction). Contraceptive use was found to be higher among respondents that had initiated sexual intercourse voluntarily (curiosity and for the need of a partner) than in the case of respondents who had been coerced.

Virtually all variables – including socio-demographic (age, education, district, urban-rural and religion), development (menstruation) attitude (own attitude to premarital sex and use of contraception before marriage, peer and parental attitudes to sex before marriage), relational (status of parents and boyfriend), communication (talks about sexual matters with boyfriend or others), and behavioural (drinks alcohol) questions – were significantly associated with sexual activity.

In contrast, few variables proved to be clear predictors of contraceptive use. However, results suggest possible predictors of contraceptive use can be derived from multidimensional indicators, including socio-demographic (region), attitude (respondents attitude to sex before marriage and use of contraceptives before marriage), communication (discusses sex-related matters with boyfriend), and behavioural (drinks alcohol) variables.

FACTORS INFLUENCING SEXUAL ACTIVITY AND CONTRACEPTIVE USE: MULTIVARIATE ANALYSIS

5 Introduction

This chapter is presented in two sections. In the first section the contribution that a set of independent variables makes to the variation in experience of sexual intercourse is measured. In the second section the contribution that a similar set of independent variables makes to the variation in use of contraceptives by the adolescent girls is measured. The method chosen to establish the influence of independent variables on the dependent variables is binary logistic regression analysis as, in the example of contraceptive use, it makes it possible to determine whether the factors being studied either increase or decrease the odds of using contraception. Knowing which factors influence use of contraception contributes toward an understanding of the phenomenon as well as suggesting areas for intervention.

5.1 Factors influencing sexual activity

Bivariate analysis established that a number of variables, representing different dimensions, might be useful predictors of sexual activity. Three models were derived for the analysis of sexual activity. The first included socio-demographic variables only. For the second model, behavioural variables – having a boyfriend, and behaviours associated with health risks i.e. drinking alcohol and smoking – were added. In the third model attitude and knowledge variables were added. The idea here was to establish whether socio-demographic variables could explain a significant level of variation in sexual behaviour and whether the addition of behavioural and attitude variables add to the explanation of variation in sexual activity. If the behavioural and attitude variables were not making a contribution to the variation explained by the socio-demographic variables then the statistics would not change significantly for the different models. The models are presented in Table 5.1 below under columns labeled Models A, B and C. The coefficient and significance level are presented for each category (except the reference category) and the odds ratio is presented for significant categories. For example, in Model A the coefficient for Form A is -2.225. This is

significant at the 0.01 level and the odds ratio is 0.108. Summary statistics for the regression models – -2 log likelihood, chi-square and R^2 – are presented at the bottom of each column.

Table 5.1. Logistic regression coefficients of the effect of selected socio-demographic, behaviour and knowledge and attitude variables on the outcome of having sexual activity [Coefficient (Odds ratio for significant variables)]

	Model A	Model B	Model C
Variable	Socio-demographic factors	Behaviour variables added	Attitude and knowledge variables added
Age	.613*** (1.846)	.395 *** (1.485)	.482 *** (1.619)
Class			
Form A	-2.225*** (0.108)	.351	.969
Form B	-1.711*** (0.181)	.147	.555
Form C	-1.225 ** (0.294)	.964	1.347
Form D	-1.064 ** (0.345)	1.096	1.497
Form E	-.268	.964	.923
Post-school	†	†	†
Area 1			
Maseru	-.515 ** (0.598)	-.737	-2.034 *** (0.131)
Berea	-1.075 *** (0.341)	-.275	-.406
Mohales Hoek	†	†	†
Area 2			
Rural	.042	.598	.879 ** (2.408)
Urban	†	†	†
Religion			
Catholic	.797 ** (2.220)	.229	.377
LEC	.563	.641	1.126
Anglican	.082	.343	.740
Other	†	†	†

62

Table 5.1 (Continued)

Variable	Model A Socio-demographic factors	Model B Behaviour variables added	Model C Attitude and knowledge variables added
Residence			
Alone	.686	-.080	-.154
Boarding school	-.313	-.287	-.649
Both parents	.174	-.560	-.391
Mother only	.215	-.347	-.199
Father only	1.293 ** (3.645)	1.158	.617
Other relative	†	†	†
Has boyfriend			
No		-5.523 *** (0.004)	-5.671 *** (0.003)
Yes		†	†
Drinks			
No		-1.231 *** (0.292)	-.505
Yes		†	
Smokes			
No		-2.025	.858
Yes		†	†
Knows about other STDs			
No			-.294
Yes			†
Sex before marriage permissible			
Strongly disagree			-.253
Disagree			-.539
Neither			.684
Agree			.576
Strongly agree			†
Friends: sex before marriage permissable			
Strongly disagree			-2.384 *** (0.092)
Disagree			-1.989 ** (0.137)
Neither			-1.650 * (0.192)
Agree			-.317
Strongly agree			†

Table 5.1 (Continued)

Variable	Model A Socio-demographic factors	Model B Behaviour variables added	Model C Attitude and knowledge variables added
Opinion on using contraceptives before marriage			
Strongly disagree			-.228
Disagree			-.691
Neither			-1.699
Agree			.225
Strongly agree			-.228
			†
Talks to boyfriend about sex			
No			-2.283 *** (0.102)
Yes			†
Constant	-10.340 ***	-1.795	-2.802
-2 log likelihood	756.286	336.550	261.252
Model Chi Square (df)	329.465(17)	748.671(20)	803.289(34)
% of sexual activity correctly predicted (Nagelkerke R Square)	42.4	79.6	84.5

* p < 0.10; ** p < 0.05; *** p < 0.01; † Reference category

Model A

The set of socio-demographic variables explained 42.4% of the variation in sexual activity (Table 5.1, Model A). Age, class, district, religion, and residence status were significant predictors of sexual activity.

The odds ratio provides a measure of chance of an event occurring relative to a reference category. Three outcomes are possible i.e. no difference in odds (no change in contraceptive use would occur if the subject moved from state a to state b), improved odds (the chance of contraceptive use would increase if the subject moved from state a to state b), and lowered odds (the chance of contraceptive use would decrease if the subject moved from state a to state b). With increasing age, there was higher odds adolescents would report being sexually active. As age increased by one unit the odds of sexual activity increased 1.846 times.

A lower class (form or standard) was associated with lower odds of sexual activity (relative to the reference category which was post-school learners). This is not unexpected as a moderate correlation was observed between age and class of study.

The odds of adolescents from Berea and Maseru having sexual intercourse were lower than Mohale's Hoek. Importantly, Mohale's Hoek is rated as being the least economically developed district for this study.

For the case of religion, the odds that respondents who were Catholic would participate in sexual activity were greater than 'other' religions. An adolescent who was Catholic was 2.220 times more likely to report sexual activity. Although it was noted earlier that behaviour sometimes contradicts attitudes (and probably beliefs) this trend was unexpected. Further research would be required to understand why Catholic girls would behave differently from the teachings of their church.

For the regression model a change was made for the variable measuring presence or absence of parent(s) used in the binary analysis. Instead, a variable measuring residence status of the adolescent was used. It was felt this better represented the actual living environment of the adolescent. This variable was significant in the regression model. When respondents live with their fathers only, the odds of sexual activity increased significantly, 3.645 times from the odds ratio. 'Other' relative was the reference category for this variable. This finding could represent the limitations faced by a father when raising an adolescent girl on his own. That is, he might find it difficult to discuss sexual matters with his daughter, have difficulty understanding her needs, and have limited influence on her behaviour.

Model B

Adding in behaviour variables resulted in a model that predicted 79.6% of variation (Table 5.1, Model B). This suggests an improvement in explanatory power by combining socio-demographic and behaviour variables. However, age was the only significant socio-demographic variable in Model B. This perhaps reflects the importance of behaviour variables as predictors, but along with socio-demographic indicators.

For a unit increase in age, the odds of sexual activity increased 1.485 times.

Two of the three behaviour variables included – not having a boyfriend and not drinking alcohol – proved to be significant in the multi-dimensional model. Not having a boyfriend and not drinking alcohol reduced the odds of sexual activity.

Model C

Adding in attitude and knowledge variables improved the percentage of variation explained to 84.5% (Table 5.1, Model C). Socio-demographic (age, district, area of residence), behavioural (boyfriend status), and attitude (peer attitude to sex before marriage, communication with boyfriend) variables contribute to the variation.

In this third model, there were greater odds that respondents from rural areas would be sexually active. Rural adolescents were 2.408 times more likely to become sexually active. Residents of Maseru showed lower odds of sexual intercourse compared with Mohale's Hoek. These findings are consistent given Mohale's Hoek has a relatively strong rural character.

Not having a boyfriend and not talking to a boyfriend about sex were associated with lower odds of sexual activity. Peer attitude to sex before marriage influenced sexual activity. Where there was disagreement or neutrality about sex before marriage, the odds of sexual activity were lower.

Summary from the three models

What seems important from the three models is that a variety of predictors explain the variation in sexual activity of adolescent girls. The level of variation explained is relatively high. The chance of sexual activity increases with age and in lower developed and/or rural areas. Having a boyfriend, and talking to him about sex, increases odds of sexual activity. Peer attitude to sex before marriage influences behaviour – if peers disagree with such behaviour odds of conducting the action are lowered. These findings suggest that beyond curiosity, improvement of social conditions and communication between the adolescent and her boyfriend and peers are important factors that could be considered for interventions.

5.2 Factors influencing contraceptive use

Bivariate analysis suggested fewer variables might be useful predictors of contraceptive use. As with sexual activity, three models were derived for the analysis of contraceptive use. The first included socio-demographic variables only. For the second model, behavioural variables – having a boyfriend, frequency of intercourse, ever been pregnant, behaviours associated with health risks i.e. drinking alcohol and smoking, and reason given for first intercourse – were added. In the third model attitude and knowledge variables were added. As with analysis of sexual behaviour, the idea here was to establish whether socio-demographic variables could explain a significant level of variation in contraceptive use and whether the addition of behavioural and attitude variables add to the explanation of variation in contraceptive use. If the behavioural and attitude variables were not making a contribution to the variation explained by the socio-demographic variables then the statistics would not change significantly for the different models. The models are presented in Table 5.2 below under columns labeled Models A, B and C.

Table 5.2. Logistic regression coefficients of the effect of selected socio-demographic, behaviour, knowledge and attitude variables on the outcome of using contraceptives [Coefficient (Odds ratio for significant variables)]

Variable	Model A Socio-demographic factors	Model B Behaviour variables added	Model C Attitude and knowledge variables
Age	.080	-.016	-.012
Class			
Form A	-1.921* (0.147)	-.715	.237
Form B	-.480	-.285	.633
Form C	-.355	.587	.988
Form D	-.361	.332	1.098
Form E	.163	.625	1.656
Post-school	†	†	†
Area 1			
Maseru	1.049** (2.854)	.931* (2.537)	.660
Berea	.453	.820* (2.272)	.570
Mohales Hoek	†	†	†
Area 2			
Rural	-.134	.067	.141
Urban	†	†	†

67

Table 5.2 (Continued)

Variable	Model A Socio-demographic factors	Model B Behaviour variables added	Model C Attitude and knowledge variables
Religion			
Catholic	.571	.713	.786
LEC	.260	.424	.543
Anglican	1.033	1.566* (4.788)	1.641* (5.163)
Other	†	†	†
Residence			
Alone	-.784	-1.354	-1.538
Boarding school	-.171	.013	.017
Both parents	.379	.255	-.014
Mother only	.042	.019	.278
Father only	1.007	2.002	2.042
Other relative	†	†	†
Has boyfriend			
No		-.862* (0.422)	-1.009* (0.364)
Yes		†	†
Number of times had intercourse in last month			
None		-20.460	-19.655
Once		-19.372	-18.648
2-4 times		-19.941	-19.116
More than 4 times		†	†
Ever been pregnant			
No		.134	.772
Yes		†	†
Drinks alcohol			
No		-1.091** (0.336)	-1.292** (0.275)
Yes		†	†
Smokes			
No		-19.027	-19.030
Yes		†	†
Reason had first intercourse			
Forced		.414	.868
Seduced		.651	.962
Curiosity		1.325	1.649
Find partner/marriage		.831	1.038
Financial		19.856	20.879
Other		†	†

Table 5.2 (Continued)

Variable	Model A	Model B	Model C
	Socio-demographic factors	Behaviour variables added	Attitude and knowledge variables
Knows about other STDs			
No			-.119
Yes			†
Sex before marriage permissible			
Strongly disagree			.984
Disagree			.208
Neither			2.530
Agree			-.562
Strongly agree			†
Friends: sex before marriage permissible			
Strongly disagree			-.959
Disagree			-.903
Neither			.410
Agree			.186
Strongly agree			†
Opinion using contraceptives before marriage			
Strongly disagree			-.079
Disagree			-1.266* (0.282)
Neither			-2.577
Agree			-.947
Strongly agree			†
Constant	-1.055	38.881	37.513
-2 log likelihood	241.509	205.634	189.871
Model Chi Square (df)	23.336(17)	56.562(29)	71.090(42)
% of sexual activity correctly predicted (Nagelkerke R Square)	14.2	32.2	39.5

* p < 0.10; ** p < 0.05; *** p < 0.01; † Reference category;

Model A

The socio-demographic variables explained 14.2% of the variation in contraceptive use (Table 5.2, Model A). Form and district were significant predictors of contraceptive use. Relative to the reference category (post-school adolescents), adolescents in Form A showed lower odds (0.147) of using contraceptives. This finding confirms the bivariate analysis in Chapter 4, where respondents in Form A that had had sexual intercourse reported lower prevalence of contraceptive use

compared with other standards. The lower odds of very young adolescents using contraceptives is of great concern.

Respondents from Maseru were found to be most likely (relative to Mohale's Hoek respondents) to have used contraceptives, with odds increasing 2.854 times. This finding corresponds with the bivariate analysis in Chapter 4. What must be highlighted here is that adolescents from less developed regions have lower odds of using contraceptives.

Model B

Adding in behaviour variables more than doubled the explanatory power of the model to 32.2% of variation in contraceptive use explained (Table 5.2, Model B). District, religion, partner status, and drinking alcohol were significant predictors of contraceptive use.

Some additional variables, viewed as potential predictors of contraceptive use in the light of the weak set of predictors emanating from the bivariate analysis, were included in Model B. These included number of times had intercourse, ever been pregnant, and reason for first intercourse. None of these proved significant in the model.

Maseru and Berea, classed as more developed than Mohale's Hoek for this research, had increased odds of contraceptive use; 2.537 times and 2.272 times higher odds respectively.

For the case of religion, respondents who were Anglican were significantly more likely to report having used contraceptives compared to respondents of other religions, as indicated by the odds of 4.788. Although Catholic respondents showed the highest percentage of contraceptive use in the bivariate analysis Anglican respondents had the second highest proportion so it is not difficult to justify the reliability of the regression finding for religion.

In terms of partner status, respondents who had a boyfriend had a greater likelihood of reporting contraceptive use, compared to those that did not have a boyfriend. This

finding is supported by bivariate analysis in Chapter 4, where there were around 20% more respondents with a boyfriend who used contraceptives compared to those without one.

In terms of drinking alcohol, respondents who did not drink alcohol had lower odds of contraceptive use. This is consistent with the bivariate analysis but was an unexpected finding. Effectively, multiple factors can explain contraceptive use and it is suggested that a single factor does not necessarily dominate in the outcome. Thus, lower use of contraception by adolescents who do not use alcohol could be explained by, for example, the use of coercion in some cases.

Model C

Adding in attitude and knowledge variables increases the level of explanation of variation to 39.5% (Table 5.2, Model C). Religion, boyfriend status, drinking alcohol and attitude to contraceptive use before marriage were significant predictors of contraceptive use.

As with Model B, being Anglican increased the odds of using contraceptives relative to 'other' religions. Anglican respondents had the second highest proportion of contraceptive users after Catholic respondents in the bivariate analysis.

Similarly to Model B, those respondents who did not report a boyfriend showed lower odds of using contraception. This has been explained, in part, by the idea that girls who communicate with a steady boyfriend are more likely to be able to negotiate contraceptive use. In contrast, a higher proportion of those girls who have intercourse but not a steady boyfriend apparently find it more difficult to control decision-making over contraceptive use.

Respondents who did not drink alcohol showed lower odds of using contraceptives. This somewhat unexpected result is explained under Model B.

Respondents with a negative attitude to sex before marriage were 0.282 times less likely to report using contraceptives. Unlike some other examples discussed earlier, in this instance attitude does seem to be quite consistent with actual behaviour.

Summary from the three models

While the set of factors used to explain contraceptive use is not as effective as was for sexual activity, as demonstrated by the lower R^2 values, two points are taken from analysis. Firstly, as with the models for sexual activity, a multi-dimensional set of predictors explains contraceptive use. In this case, socio-demographic factors (region, religion), behaviour (boyfriend status and drinking alcohol) and attitude (the use of contraceptives before marriage) were significant predictors. Secondly, there was consistency in predictors for Models B and C, suggesting the models have a level of reliability in spite of some unexpected patterns (such as non-drinkers showing lower odds for contraceptive use).

5.3 Factors influencing contraceptive use: Reason for first intercourse

Although the variable 'reason for first intercourse' was not significant in the regression model for contraceptive use it was decided to explore this variable in more depth (Table 5.3). When analyzed independently the variable explains a low amount of variation in contraceptive use (8.4%) and voluntary reasons – curiosity and finding a partner – are associated with higher odds of contraceptive use (Table 5.3).

Table 5.3. Logistic regression coefficients of the effect of reason for first sexual experience on the outcome of using contraceptives [Coefficient (Odds ratio for significant variables)]

Reason for first sexual experience	
Forced	.375
Seduced	.654
Curiosity	1.453* (4.278)
Find partner/marriage	1.735* (5.667)
Financial	21.203
Other	†
Constant	.000
-2 log likelihood	254.383
Model Chi Square (df)	13.717(5)
% of sexual activity correctly predicted (Nagelkerke R Square)	8.4

Grouping the categories into more aggregated sets – voluntary (curiosity, find a partner/marriage and financial) versus coerced (forced and seduced) gives a statistically significant association with contraceptive use (Table 5.4). Essentially, voluntary reasons for first sexual activity are significantly more likely to be associated with contraceptive use (χ^2 =10.853, df=1, p=0.001).

Table 5.4. Reason for first sexual activity by use of contraception

	Coerced (forced or seduced) n=111	Voluntary (curiosity/looking for partner/financial reasons) n=119
Yes, has used contraception	70 (63.1%)	98 (82.4%)

An important reminder in explaining level of contraceptive use is that of 167 adolescents who have used contraception, only 8.5% reported having a problem accessing the method they used. Thus, other reasons, relating to control over decision-making, influence contraceptive use.

Summary

Findings in this chapter suggest a variety of factors are significant in influencing sexual activity and, perhaps less successfully, contraceptive use. Socio-demographic, behavioural and attitudinal factors are significant. An interpretation of these findings is presented in the next chapter.

CHAPTER 6

DISCUSSION AND CONCLUSION

In this chapter I interpret the findings in relation to the research questions and hypotheses posed in Chapter 1. The chapter concludes with some policy recommendations and recommendations for further research.

6.1 Some expected and unexpected patterns in sexual activity and contraceptive use

Level of sexual activity and contraceptive use

One of the unexpected findings in this research was the percentage of adolescents reporting sexual activity – 23.3%. This percentage is significantly lower than that reported by Makatjane (2002). The observed difference could be due to the fact that the figure reported by Makatjane (2002) is calculated from the Lesotho - 1991 Demographic and Health Survey, which covers the larger age group of 15 to 49 whereas this study uses a survey that covers a much smaller age and younger age group. The findings suggest that Lesotho adolescents, particularly younger adolescents, are cautious in relation to sexual behaviour. The decision to have sex appears to be influenced by demographic, behavioural and attitudinal factors, although there is evidence of force and seduction, so the decision is not always voluntary. Many of the adolescents who were seduced or forced to have sex did not report further sexual experiences which would protect them against risks of unprotected sex, but this may be too late for some.

A majority of sexually active respondents were using contraceptives although a limitation of the questionnaire is that it was not possible to establish the *regularity* of contraceptive use. And it remains a concern that about a quarter of sexually active respondents were not using contraceptives because this behaviour would expose them to the risks of unwanted pregnancy and infection with HIV/AIDS and other STDs. The main contraceptives used were the condom (assumed to be the male condom) and

74

the pill. Under a tenth of respondents reported having a problem accessing contraceptives suggesting other factors influence the decision to use or not use contraception.

The multidimensional nature of factors explaining sexual activity and contraceptive use

Factors that were identified as significant to explain sexual activity were multi-dimensional and included socio-demographic (age, religion, region), behavioural (regular boyfriend, use of alcohol), and attitude (communicates with boyfriend and attitude of peers to sex before marriage) variables. Similarly, the factors identified as significant for use or non-use of contraceptives were varied, including socio-demographic (region, religion), behavioural (regular boyfriend, use of alcohol), and attitude (opinion of contraceptive use before marriage) variables.

Considering the hypotheses listed in Chapter 1, some would be accepted and others rejected on the basis of the findings. For example, it was hypothesized that increasing age would be associated with greater sexual activity and greater contraceptive use. It was indeed the case that the proportion of sexually active girls increased with age but there was no significant association between age and contraceptive use. In other words, the hypothesis that older girls would be more likely to use contraceptives is not supported by the results.

That the physical development of respondents, as represented by the onset of menarche, was significantly associated with sexual intercourse was not unexpected because physical development comes about as a result of ageing.

Part of the argument behind older adolescents showing a higher probability of using contraception is based on the idea that age is moderately correlated with education level and those with a more advanced level of education could be more likely to use contraception (Gage-Brandon and Meekers, 1993; Kowaleski-Jones and Mott, N.D.). The results from this study offer some support to this hypothesis since adolescents in Class A (the lowest class) were least likely to use contraceptives. One explanation for this result is that adolescents in Class A are only beginning sexual activity and would

not have strong control over decisions on contraceptive use. However, the remaining forms or classes were not established to be different from those adolescents who were in post-school education.

Another explanation for low contraceptive use by younger adolescents who have had sexual activity could be the effect of the erosion of traditional structures (Kowaleski-Jones and Mott, N.D.) that previously provided guidance to adolescents on the prevention of early pregnancy. It could be that there has not been an adequate replacement for a structure or method that seeks to educate adolescents. Whilst traditional structures provided guidelines that prevented early pregnancy, there is a need for a structure that will educate adolescents on the use of modern contraception, and in making it accessible.

District, argued to be a proxy for level of development, was found to have a significant association with both sexual activity and contraceptive use. The hypothesis that a less developed district would have a negative influence on contraceptive use by school-going adolescents is supported by the findings. Sexual activity in Maseru, the most developed region, was highest, but the use of contraception was also highest. Although sexual activity in the least developed region, Mohale's Hoek, was moderate, the use of contraception was lowest.

The latter finding might reflect access issues in areas with different levels of development in spite of a low percentage of adolescents reported problems accessing contraceptives. The proportion of residents in the different provinces that have access to health facilities within 30 minutes of their homes is low and according to the World Bank (2002) a low proportion of people in Lesotho who need medical attention actually go out of their way to acquire it. Furthermore, a low proportion of people who used medical facilities were satisfied with them (World Bank, 2002). This suggests health facilities are not adequate for the needs of the people and this could include adolescents in relation to acquiring access to reproductive health services.

The role of parents in determining reproductive and health behaviour was evident through the association between parent presence or absence and sexual activity.

Where parents were alive and the adolescent was living with them, for example, a lower prevalence of sexual activity was recorded.

In relation to attitudinal variables it was hypothesized that school-going girls whose friends have a positive opinion of premarital sex would be more likely to (a) have premarital intercourse and (b) use contraception, compared to girls whose friends do not have a positive opinion of premarital sex. The first hypothesis was supported by the findings. The second was not supported. However, another attitude question covering opinion of use of contraceptives before marriage, not included in the original list of hypotheses, was found to be significant to predict contraceptive use.

While other studies have supported the hypothesis that drinking alcohol is a risky behaviour that contributes to the non-use of contraception (Ainsworth, 1985; Cooper, 2002), a contrary result was obtained in this study. In this study a relatively low percentage of respondents reported using alcohol. Alcohol drinkers were more likely to have sexual intercourse but were also more likely to use contraception. This implies the adolescents in who engage in risky behaviour (drinking) are aware of the consequences and attempt to control for these. In contrast, some adolescents who do not drink are not able to control the decision over contraceptive use, perhaps because they are forced into sexual activity.

Some factors, which were expected to have an influence on sexual activity and contraceptive use, were not significant. For example, other studies had shown that risky behaviour such as smoking would have an influence on contraceptive use (cf Ainsworth, 1985), but smoking was not a significant factor in this study. The respondents' knowledge and attitude toward STDs, the permissibility of sex before marriage, and their peers' attitude the permissibility of sex before marriage, were all found not to have a significant influence on *contraceptive use*.

Similarly, factors such as urban/rural location, residential status, and reason for first sexual encounter were not significant predictors of *contraceptive use*.

Some factors were not significant when controlling for multiple variables but did show some effect on contraceptive use when analyzed in isolation, such as reason for

first sexual encounter being voluntary or coerced. It is suggested that such variables be included in future research to further test their relevance.

Behaviour, belief and attitudes

Attitudes of respondents, peers and parents were found to be associated with both sexual activity and contraceptive use. For example, where respondents had a liberal opinion about premarital sex and pregnancy, they were also found to report higher sexual activity and contraceptive use. Where other people, such as friends, had a positive opinion of the issue, the respondents reported higher sexual activity and contraceptive use.

However, one of the important themes which emerged from this research is that belief and attitude do not always translate into expected behaviour in the world of the adolescent and this has important implications for interventions. For example, Catholics are taught to abstain and to avoid use of contraceptives. Thus one would expect Catholic respondents to report low prevalence of sexual activity and contraceptive use. In this research Catholic adolescents showed the highest incidence of sexual activity and the highest incidence of contraceptive use. This is at odds with the behaviour expected from the belief system practiced by the Catholic Church and raises questions about the effectiveness of Catholic teaching.

Similarly, with respect to attitudes, many adolescents showed 'conservative' attitudes to sex before marriage and contraceptive use but behaved in a contrasting manner by having sexual intercourse and using contraceptives.

These findings suggest that interventions based on belief and attitudes must take into account the distance between what is stated (as a belief or attitude) and what is actually practiced. Many adolescents apparently ignore their belief and/or attitude in what they actually practice. A stronger understanding of why there is a distance between belief/attitude and actual behaviour is required.

Typologies of adolescent

The analysis suggests adolescents can be grouped into three (somewhat crude) categories. The first group represents the adolescent who does not have sexual intercourse. This could be the cautious adolescent who is wary of the risks involved in sexual activity, the adolescent who is too young to want to experiment, or the adolescent who does not have the opportunity to act. The second group has used contraceptives (although we don't know how regular such use has been). Many of these girls have a regular boyfriend and communicate with him about sex-related matters, including contraception (Table 4.1.8). This communication appears to enhance the use of contraception, which may be related to the girl's ability to negotiate use with a regular partner. The third group has not used contraception and is likely to be the most at risk of unwanted pregnancy and sexually transmitted diseases. This group is more strongly represented by girls who have been coerced to have sex – through seduction or force – compared to girls who have sex from voluntary reasons. The first and second groups might have been influenced by programmes to improve safety of sexual practices.

6.2 Theoretical and methodological considerations

In Chapter 2, several theories of early sexual activity and contraceptive use were discussed. Some of these theories will be revisited here in relation to the findings.

The health belief model, according to Lin et al (2005) is defined as the belief by the woman that she is susceptible to infection, which in the case of this study could be pregnancy or infection, and her perceived need to take precautionary measures to avoid infection. It can be assumed that her beliefs can be used to predict her health behaviour, specifically whether or not she chooses to use contraception. This research has found that behaviour can be a predictor of sexual activity and contraceptive use. Having a regular boyfriend and drinking alcohol, while they both increase the likelihood that the respondent will have sexual intercourse, were found to be associated with higher probability of using contraceptives.

The planned behaviour and protection motivation theory as described by Boer and Mashamba (2007) is very similar to the health behaviour model. This model considers the attitude, subjective norm and perceived behavioural control of an individual in their approach toward condom use. Where an individual has a positive attitude to condom use, they are more likely to use it. Where condom use is dependant on approval by others, then lower rates of condom use can be expected. Although the questions to measure the planned behaviour and protection motivation theory were not measured in the Lesotho questionnaire, this research has demonstrated attitudes can be predictors of sexual activity and contraceptive use. Specifically, peer attitudes influence sexual activity and attitude to contraceptive use before marriage influences contraceptive use.

The findings from this research suggest a combination of socio-demographic, attitude and behavioural factors influence sexual behaviour. This finding supports the idea of a holistic framework, such as that developed by Hallman (2004) for measurement and analysis of sexual behaviour.

6.3 Conclusion: Policy Recommendations

In conclusion, it can be said that while general figures for the Sub Saharan Africa region, as well as for Lesotho, paint a somewhat gloomy picture in terms of low contraceptive prevalence rates, the case of Berea, Maseru and Mohale's Hoek appear to be different. Sexual activity was unexpectedly low and contraceptive use is actually relatively high at 73.2%. While much of this sexual activity is curiosity and exploration (as suggested by increase in activity with age), policy needs to address the high rates of seduction and coercion, which are more strongly associated with lack of contraceptive use. The latter is of concern for the transmission of HIV and sexually transmitted diseases. This would involve educating men and boys about women's rights as well as adolescent girls of their right to say no. Stronger processes for reporting of, and dealing with, cases where an adolescent girl is forced or coerced to have sex must be facilitated.

Given the obvious relevance of peer-related influence, a drive to provide youth with accurate information about sexual activity and choices should be encouraged. Peer

influence is problematic if the information peers are working with is of poor quality. The typology of adolescents which emerges from this research suggests programmes and interventions should be tailored for different groups of adolescent. For example some adolescents apparently have a regular boyfriend and, through communication about sex-related matters and contraception, negotiate a comparatively safe set of practices. Such adolescents could be identified and used in peer-based programmes.

Another recommendation is that access to health facilities within districts needs to be improved, especially in the case of the less developed districts where contraceptive use was lower. More people need to have access to family planning services. One solution would be to train and employ community based workers, who can do home visits. In this way they could reach all groups of women, including adolescents, in imparting information about birth control, as well as providing contraceptives.

The level of variation explained by the factors measured by the 1999 Lesotho Adolescent Health Survey was not high. It is recommended that further research on adolescent contraceptive use should include a broader range of socio-demographic, behavioural and attitudinal factors than included in this survey.

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APPENDIX A

FEMALE QUESTIONNAIRE

Please circle only
one answer unless
otherwise stated

this part is for
official use only

SECTION 1: IDENTIFICATION

1. Interviewer's name ....

2. Are you currently married?
    (i)   yes --------------> thank the respondent and stop
    (ii)   no

3. Were you previously married?

    (i)   yes ---------------> thank the respondent and stop
    (ii)   no

4. Are you still attending school?

    (i)   yes
    (ii)   no----------------- > thank the respondent and stop

5. What is your age?   AGE   [   ]

6. Is age between 12 and 19 (inclusive) years?

    (i)   yes
    (ii)   no----------------> thank the respondent and stop

7. Sample Point Number ....   SNO   [   ]

8. Date ....   DATEM   [   ]
                                                         DATEY   [   ]

9. School ....   SCHOOL   [   ]

10. District ....   DISTRICT [   ]

SECTION 2: BACKGROUND OF RESPONDENT

Q1.   What is your birth date?   month ....   Q1A   [   ]
                                     year ....   Q1B   [   ]

93

Q2. What class are you? (1) form A
                          (2) form B
                          (3) form C   Q2 [   ]
                          (4) form D
                          (5) form E
                          (6) NUL - Year 1
                          (7) NUL - Year 2

Q3. What is your usual place of residence (home)?

                          (1) rural (village)
                          (2) urban (town)   Q3 [   ]

Q4. Religion   (1) Catholic
                          (2) L.E.C.
                          (3) Anglican
                          (4) Muslim   Q4 [   ]
                          (5) Other (specify) ....
                          (6) No religion

Q5. How many brothers and sisters do you have from your own mother
     (including those who are dead)?
                          Brothers ....   Q5A [   ]
                          Sisters ....   Q5B [   ]

Q6.   What number are you in the family? ....   Q6 [   ]

SECTION 3: SEXUAL BEHAVIOUR

Q7. Have you experienced menstruation?

                          (1) yes   Q7 [   ]
                          (2) no -------------------> go to Q9

Q8. When did you first experience menses?

                          month ....   Q8A [   ]
                          year ....   Q8B [   ]

Q9. Have you ever had sexual intercourse?

                          (1) yes   Q9 [   ]
                          (2) no -------------------> go to Q16

94

Q10. When did you have your first sexual intercourse?

                    month ....   Q10A [   ]
                    year ....   Q10B [   ]

Q11. Why did you have sexual intercourse?

        (1) to encourage marriage
        (2) financial assistance
        (3) in need of a partner
        (4) curiosity/experimentation   Q11 [   ]
        (5) seduced/cheated
        (6) forced
        (7) other (specify) ....

Q12. What was the age of your first sexual partner?

        (1) under 20
        (2) 20-29
        (3) 30-39
        (4) 40+   Q12 [   ]

Q13. What was the occupation of your first sexual partner?

        (1) student
        (2) farmer
        (3) business man
        (4) teacher   Q13 [   ]
        (5) office worker
        (6) politician
        (7) unemployed)
        (8) other (specify) ....
        (9) don't know

Q14. Have you encountered sexual intercourse since then?

        (1) yes
        (2) no .... go to Q16   Q14 [   ]

Q15. How often did you practice sexual intercourse during the last month?

        (1) no sex
        (2) once
        (3) less than 4 times   Q15 [   ]
        (4) 4 or more
        (5) other (specify) ....

Q16. According to your own opinion, do you think sexual intercourse before marriage should be permissible?

        (1) strongly agree
        (2) agree
        (3) don't know   Q16 [   ]
        (4) disagree
        (5) strongly disagree

Q17. State the reason(s) for your choice in Q16

....

....

....

....

Q18. What is the opinion of your friends about premarital sex?

        (1) sex is very good
        (2) sex is good
        (3) sex is bad   Q18 [   ]
        (4) sex is very bad
        (5) don't know
        (6) some good, some bad

Q19. Which of the following best describes the opinion of your parents/ guardians about premarital sex?

        (1) premarital sex is very good
        (2) premarital sex is good
        (3) premarital sex is bad
        (4) premarital sex is very bad   Q19 [   ]
        (5) don't know their opinion
        (6) not sure of their opinion

Q20. Have you ever discussed sex matters with another person?

        (1) yes
        (2) no ----------------> go to Q25   Q20 [   ]

Q21. Who did you discuss with? (more than one answer is allowed)

(1)	peers	Q211 [ ]
(2)	boy friend	Q212 [ ]
(3)	parents/guardians	Q213 [ ]
(4)	close relative	Q214 [ ]

96

(5) brother/sister	Q215 [	]
(6) teacher	Q216 [	]
(7) other (specify)	Q217 [	]

Q22. What did you discuss about? (more than one answer is allowed)

(1) the act of sex	Q221 [	]
(2) contraception	Q222 [	]
(3) pregnancy	Q223 [	]
(4) HIV/AIDS	Q224 [	]
(5) STDs	Q225 [	]
(6) abortion	Q226 [	]
(7) other (specify)	Q227 [	]

Q23. In your opinion, do you think the discussion was helpful?

(1) yes		
(2) no	Q23 [	]

Q24. Did the discussion happen at the right time or would you have preferred it at a different time?

(1) at the time		
(2) earlier		
(3) later	Q24 [	]
(4) don't know		

Q25. When during a woman's monthly cycle do you think pregnancy is most likely to happen?

(1) it is the same throughout the entire cycle		
(2) during the first few days		
(3) in the middle of the cycle		
(4) immediately before menstruation	Q25 [	]
(5) during menstruation		
(6) some women at the beginning of the cycle with others at the end		
(7) don't know ------------------> go to Q27		

Q26. Where did you get the information for Q25?
(more than one answer is allowed)

(1) at home--from parents	Q261 [	]
(2) at home--from a close relative	Q262 [	]
(3) friends	Q263 [	]
(4) peers	Q264 [	]
(5) books/magazine/pamphlets	Q265 [	]

(6) health education/visitor	Q266	[	]
(7) teacher	Q267	[	]
(8) other (specify)	Q268	[	]

Q27. Do you currently have a boy friend(s)?

(1) yes			
(2) no -------------> go to Q31	Q27	[	]

Q28. How many boyfriends do you have? .... Q28 [   ]

Q29.   If more than one, are they in the same locality?

(1) yes			
(2) no	Q29	[	]
(3) not applicable			

Q30. Do you plan to marry your boy friend (or any of your boyfriends)?

(1) yes			
(2) no	Q30	[	]

SECTION 4: CONTRACEPTION

Q31.   Have you ever heard any of the methods that are used to space or
prevent pregnancies?

                    (1)   yes

                    (2)   no ----------------> go to Q42   Q31   [   ]

Q32. State the methods you know   (more than one answer is allowed)

(01)	pill	Q321 [	]
(02)	condom	Q322 [	]
(03)	IUD (loop)	Q323 [	]
(04)	norplant	Q324 [	]
(05)	injection	Q325 [	]
(06)	male sterilization	Q326 [	]
(07)	female sterilization	Q327 [	]
(08)	diaphram/jelly/foam	Q328 [	]
(09)	calendar	Q329 [	]
(10)	mucus method	Q3210 [	]
(11)	withdrawal	Q3211 [	]
(12)	other (specify)	Q3212 [	]

Q33.   Where did you hear or read about the method(s) stated in Q32?
(more than one answer is allowed)

(1)	newspapers	Q331 [	]
(2)	radio	Q332 [	]
(3)	MCH clinics	Q333 [	]
(4)	relative	Q334 [	]
(5)	friend	Q335 [	]
(6)	church/mosque	Q336 [	]
(7)	school	Q337 [	]
(8)	parents	Q338 [	]
(9)	posters	Q339 [	]
(10)	other (specify)	Q3310 [	]
(11)	no where	Q3311 [	]

Q34.   Have you or your partner ever used any method to prevent pregnancy?

                    (1)   yes ----------------> go to Q36

                    (2)   no   Q34   [   ]

Q35.   Why have you or your partner never used a method?

                    (01)   pregnant
                    (02)   wants children
                    (03)   I don't know where to get a contraceptive
                    (04)   partner opposed
                    (05)   cost too much
                    (06)   side effects   Q35   [   ]
                    (07)   hard to get methods
                    (08)   religion
                    (09)   not sexually active
                    (10)   inconvenient
                    (11)   other (specify) ....
                    (12)   don't know

---------------------------------------> **go to Q42**

Q36.   Are you or your partner using any method to prevent pregnancy now?

                    (1)   yes
                    (2)   no ----------------> go to Q42   Q36   [   ]

Q37.   Which method are you or your partner using?

                    (01)   pill
                    (02)   condom
                    (03)   IUD (loop)
                    (04)   Norplant
                    (05)   injection
                    (06)   male sterilization   Q37   [   ]
                    (07)   female sterilization
                    (08)   diaphram/jelly/foam
                    (09)   calendar ----------------------> go to Q42
                    (10)   mucus method ----------------> go to Q42
                    (11)   withdrawal -------------------> go to Q42
                    (12)   other (specify) ....

Q38.   Where did you or your partner get the method?

                    (1)   hospital
                    (2)   health centre
                    (3)   village health worker
                    (4)   private doctor/clinic/hospital
                    (5)   pharmacy/medical store   Q38   [   ]
                    (6)   LPPA

(7) other private sector

(8) shop

(9) neighbour/relative/friend

(10) other (specify) ....

Q39. Do you have any problems in getting the methods?

(1) yes

(2) no -------------------> go to Q42   Q39 [   ]

Q40. State the problems you face in obtaining the methods?

....

....

....

....

Q41. In your opinion, do you consider the cost of the methods

(1) very expensive

(2) expensive

(3) cheap   Q41 [   ]

(4) very cheap

Q42. What is your opinion about using contraceptives before marriage?

(1) strongly agree

(2) agree

(3) no opinion   Q42 [   ]

(4) disagree

(5) strongly disagree

Q43. State the reason(s) for your answer in Q42

....

....

....

....

Q44. What is your opinion about using contraceptives when married?

(1) strongly agree

(2) agree

(3) no opinion   Q44 [   ]

(4) disagree

(5) strongly disagree

101

Q45.   State the reason(s) for your answer in Q44

....
....
....
....

Q46.   Have you heard that some women terminate a pregnancy (i.e. go for an abortion) when they do not want to have a baby?

        (1) yes
        (2) no ------------------> go to Q48   Q46 [   ]

Q47.   What is the source of information for Q46?   (more than one answer is allowed)

(1) newspapers	Q471 [	]
(2) radio	Q472 [	]
(3) MCH clinics	Q473 [	]
(4) relative	Q474 [	]
(5) friend	Q475 [	]
(6) church/mosque	Q476 [	]
(7) school	Q477 [	]
(8) parents	Q478 [	]
(9) posters	Q479 [	]
(10) other (specify)	Q4710 [	]

SECTION 5: PREGNANCY HISTORY

Q48   Have you ever been pregnant?

        (1) yes
        (2) no --------------> go to Q97   Q48 [   ]

Q49.   Are you pregnant now?

        (1) yes
        (2) no   Q49 [   ]

Now I would like you to answer questions related to
all your pregnancies starting with the first pregnancy you ever had

Q50.   State month and year of your first pregnancy

        month ....   Q50A [   ]
        year ....   Q50B [   ]

Q51.   Before you fell pregnant, did you use any method to prevent pregnancy?

        (1) yes
        (2) no -----------------> go to Q56   Q51   [   ]

Q52.   Of the following methods, which were you using?

        (01) pill
        (02) condom
        (03) IUD (loop)
        (04) norplant
        (05) injection
        (06) male sterilization   Q52   [   ]
        (07) female sterilization
        (08) diaphram/jelly/foam
        (09) calendar
        (10) mucus method
        (11) withdrawal
        (12) other (specify) ....

Q53.   Who suggested that you start to use contraception?

        (1)   entirely own decision
        (2)   sexual partner
        (3)   mother
        (4)   sister   Q53   [   ]
        (5)   other relative (specify) ....
        (6)   friend
        (7)   peers
        (8)   teacher
        (9)   medical personnel
        (10) LPPA
        (11) other (specify) ....

Q54.   Were you still using a method of contraception at the time you fell pregnant?

        (1) yes --------------------> go to Q56
        (2) no   Q54   [   ]

103

Q55. Was this pregnancy intended?

       (1) yes
       (2) no   Q55   [   ]

Q56. What was the outcome of this pregnancy?

       (1) live birth
       (2) induced abortion ----------------> go to Q62   Q56   [   ]
       (3) spontaneous abortion -----------> go to Q65
       (4) miscarriage ---------------------> go to Q65
       (5) still pregnant---------------------> go to Q97

Q57. Was it a single or multiple birth?   Q57   [   ]

       (1) single
       (2) multiple

Q58. What sex was this child? (If multiple births, indicate the sex of each child)

       (1) male
       (2) female   Q58   [   ]

Q59. What year and month was this child born?

           month..............   Q59A [   ]
           year.................   Q59B [   ]

Q60. Is the child still alive?

       (1) yes -----------------> go to Q65
       (2) no   Q60   [   ]

Q61. How old was the child when she/he died? ....   Q61   [   ]

------------------------> **GO TO Q65**

Q62. Was abortion at hospital?

       (1) yes -----------------> go to Q64
       (2) no   Q62   [   ]

Q63. Where was the abortion performed?

        (1) home where you leave
        (2) other home   Q63 [   ]
        (3) other (specify) ....

Q64. Who performed the abortion?
        (1) doctor
        (2) nurse
        (3) friend   Q64 [   ]
        (4) yourself
        (5) other (specify) ....

Q65. Did you have a second pregnancy?

        (1) yes
        (2) no ------------------> go to Q97   Q65 [   ]

Q66. State month and year of your second pregnancy

        month ....   Q66A [   ]
        year ....   Q66B [   ]

Q67. Before you fell pregnant, did you use any method to prevent pregnancy?

        (1) yes
        (2) no ----------------> go to Q71   Q67 [   ]

Q68. Of the following methods, which were you using?

        (01) pill
        (02) condom
        (03) IUD (loop)
        (04) norplant
        (05) injection
        (06) male sterilization
        (07) female sterilization   Q68 [   ]
        (08) diaphram/jelly/foam
        (09) calendar
        (10) mucus method
        (11) withdrawal
        (12) other (specify) ....

Q69. Who suggested that you start to use contraception?

        (1) entirely own decision

        (2)   sexual partner
        (3)   mother
        (4)   sister
        (5)   other relative (specify) ....   Q69   [   ]
        (6)   friend
        (7)   teacher
        (8)   medical personnel
        (9)   other (specify) ....

Q70.   Were you still using a method of contraception at the time you fell pregnant?

        (1)   yes --------------------> go to Q72
        (2)   no   Q70   [   ]

Q71.   Was this pregnancy intended?

        (1)   yes
        (2)   no   Q71   [   ]

Q72.   What was the outcome of this pregnancy?

        (1)   live birth
        (2)   induced abortion ----------------> go to Q78   Q72   [   ]
        (3)   spontaneous abortion -----------> go to Q81
        (4)   miscarriage ----------------------> go to Q81
        (5)   still pregnant---------------------> go to Q97

Q73.   Was it a single or multiple birth?   Q73   [   ]

        (1)   single
        (2)   multiple

Q74.   What sex was this child? (If multiple births, indicate sex of each child)

        (1)   male
        (2)   female   Q74   [   ]

Q75.   What year and month was this child born?

        month ....   Q75A [   ]
        year ....   Q75B [   ]

Q76.   Is the child still alive?

               (1) yes ------------------> go to Q79
               (2) no   Q76 [   ]

Q77.   How old was the child when she/he died? ....   Q77 [   ]

----------------------------> **GO TO Q81**

Q78.   Was abortion at hospital?

               (1) yes ----------------> go to Q80
               (2) no   Q78 [   ]

Q79.   Where was the abortion performed?

               (1) home where you leave
               (2) other home   Q79 [   ]
               (3) other (specify) ....

Q80.   Who performed the abortion?

               (1) doctor
               (2) nurse
               (3) friend   Q80 [   ]
               (4) yourself
               (5) other (specify) ....

Q81.   Did you have a third pregnancy?

               (1) yes   Q81 [   ]
               (2) no ------------------> go to Q97

Q82.   State month and year of your third pregnancy

               month ....   Q82A [   ]
               year ....   Q82B [   ]

Q83.   Before you fell pregnant, did you use any method to prevent pregnancy?

               (1) yes   Q83 [   ]
               (2) no ----------------> go to Q87

Q84.   Of the following methods, which were you using?

           (01) pill
           (02) condom
           (03) IUD (loop)
           (04) norplant
           (05) injection
           (06) male sterilization   Q84 [   ]
           (07) female sterilization
           (08) diaphram/jelly/foam
           (09) calendar
           (10) mucus method
           (11) withdrawal
           (12) other (specify) ....

Q85.   Who suggested that you start to use contraception?

           (1) entirely own decision
           (2) sexual partner
           (3) mother
           (4) sister   Q85 [   ]
           (5) other relative (specify) ....
           (6) friend
           (7) teacher
           (8) medical personnel
           (9) other (specify) ....

Q86.   Were you still using a method of contraception at the time you fell pregnant?

           (1) yes --------------------> go to Q88
           (2) no   Q86 [   ]

Q87.   Was this pregnancy intended?

           (1) yes
           (2) no   Q87 [   ]

Q88.   What was the outcome of this pregnancy?

           (1) live birth
           (2) induced abortion ----------------> go to Q94   Q88 [   ]
           (3) spontaneous abortion -----------> go to Q97
           (4) miscarriage ----------------------> go to Q97
           (5) still pregnant---------------------->go to Q97

Q89.   Was it a single or multiple birth?   Q89   [   ]

        (1) single
        (2) multiple

Q90.   What sex was this child?   (If multiple births, indicate the sex of each child)

        (1) male
        (2) female   Q90   [   ]

Q91.   What year and month was this child born?

             month.................   Q91A [   ]
             year..... ....   Q91B [   ]

Q92.   Is the child still alive?

        (1) yes ------------------> go to Q97
        (2) no   Q92   [   ]

Q93.   How old was the child when she/he died? ....   Q93   [   ]

------------------------------> **GO TO Q97**

Q94.   Was abortion at hospital?

        (1) yes ----------------> go to Q96
        (2) no   Q94   [   ]

Q95. Where was the abortion performed?

        (1) home where you leave
        (2) other home   Q95   [   ]
        (3) other (specify) ....

Q96.   Who performed the abortion?

        (1) doctor
        (2) nurse
        (3) friend   Q96   [   ]
        (4) yourself
        (5) other (specify) ....

<u>Please add all pregnancies before asking Q97</u>

Q97.   So you had a total of .... pregnancies?

                (1) yes
                (2) no ----------------> go to Q48   Q97 [   ]

Q98.   What is your opinion about premarital pregnancy?

                (1) premarital pregnancy is very good
                (2) premarital pregnancy is good
                (3) don't know   Q98 [   ]
                (4) premarital pregnancy is bad
                (5) premarital pregnancy is very bad

Q99.   State the reasons for your answer to Q98

....
....
....
....

Q100.   Which of the following best describes your parents'/guardians' opinion about premarital pregnancy?

                (1) premarital pregnancy is very good
                (2) premarital pregnancy is good
                (3) premarital pregnancy is bad   Q100 [   ]
                (4) premarital pregnancy is very bad
                (5) not sure of their opinion
                (6) don't know their opinion

SECTION 6:   AIDS AND OTHER SEXUALLY TRANSMITTED DISEASES

Q101.   Have you heard of an illness called AIDS

                (1) yes
                (2) no -------------> go to Q104   Q101 [   ]

Q102.   Where did you hear or read about AIDS?   (more than one answer is allowed)

                  (1)   radio   Q1021 [   ]
                  (2)   newspapers   Q1022 [   ]
                  (3)   health workers   Q1023 [   ]
                  (4)   mosque/churches Q1024 [   ]
                  (5)   friends   Q1025 [   ]
                  (6)   relatives   Q1026 [   ]

110

(7) school		Q1027 [	]
(8) slogans/pamphlets/posters		Q1028 [	]
(9) community meetings		Q1029 [	]
(10) teacher		Q10210 [	]
(11) other (specify)		Q10211 [	]

Q103. How is AIDS transmitted? (more than one answer is allowed)

(1) sexual intercourse		Q1031 [	]
(2) needles/blades/skin punctures		Q1032 [	]
(3) mother to child		Q1033 [	]
(4) transfusion of infected blood		Q1034 [	]
(5) other (specify)		Q1035 [	]

Q104. Do you know any (other) disease that may be spread through sexual intercourse?

     (1) yes

     (2) no ------------------> go to Q109   Q104 [   ]

Q105. Have you ever contacted a sexually transmitted disease?

     (1) yes

     (2) no ------------------> go to Q109   Q105 [   ]

Q106. Where did you receive treatment for this disease?

     (1) no treatment received

     (2) MCH clinic

     (3) LPPA

     (4) doctor's office or clinic   Q106 [   ]

     (5) hospital

     (6) other (specify) ....

Q107. Do you know how to reduce risks of contacting sexually transmitted diseases?

     (1) yes

     (2) no ------------------> go to Q109   Q107 [   ]

Q108.   State the ways you know of preventing a sexually transmitted disease

....

....

....

....

111

SECTION 7: GENERAL ISSUES

Q109.   In your opinion, what is the ideal age at marriage?

men ....   Q109A[   ]
women ....   Q109B[   ]

Q110.   What is your attitude towards sex education in schools?

(1)   strongly agree
(2)   agree
(3)   neither   Q110 [   ]
(4)   disagree
(5)   strongly disagree

Q111.   Do you think it is good for young people to be told about sexual matters?

(1)   yes
(2)   no ------------------------> go to Q114 Q111 [   ]
(3)   not sure -------------------> go to Q114

Q112.   Who do you think should be responsible for talking to adolescents?
(1)   parent
(2)   teacher
(3)   relative
(4)   friends
(5)   peers   Q112 [   ]
(6)   health centre staff
(7)   LPPA staff
(8)   none
(9)   other (specify) ....

Q113.   Why is your answer to Q112?

....
....
....
.. ..

Q114.   Do you smoke?

(1)   yes
(2)   no   Q114 [   ]

112

Q115. Do you drink alcohol?

     (1) yes
     (2) no   Q115 [   ]

Q116. Do you have access to radio at home?

     (1) yes
     (2) no   Q116 [   ]

Q117. Do you have access to videos at home?

     (1) yes
     (2) no   Q117 [   ]

Q118. How often do you read magazines?

     (1) always
     (2) rarely   Q118 [   ]
     (3) never

Q119. Whom are you living with at the moment?

     (1) alone
     (2) boarding school
     (3) with both parents at home   Q119 [   ]
     (4) with only mother at home
     (5) with only father at home
     (6) with other relatives at home
          (please specify the relationship with
          the household head ....)

Q120. What is the survival status of your biological parents?

     (1) both alive
     (2) father alive & mother dead
     (3) father dead & mother alive   Q120 [   ]
     (4) both dead
     (5) don't know

Q121. How do you best describe the current marital status of your parents or guardians?

     (1) married
     (2) divorced
     (3) separated   Q121 [   ]
     (4) widow

(5) single

(6) other (please specify ....)

Q122. Briefly explain your family circumstances during the last five years or so. That is, mention important events in the family which changed your living arrangements like parents divorced, separated, dead, father going away to work etc.

....

....

....

....

Q123. If there is anything else you would like to add about your sex life, please feel free to mention

....

....

....

....

....

THANK YOU FOR YOUR COOPERATION