RISK FACTORS FOR UNWANTED / UNPLANNED TEENAGE PREGNANCY IN ZOMBA DISTRICT, MALAWI

NANZEN CAROLINE CHINGUWO KAPHAGAWANI

A RESEARCH REPORT SUBMITTED TO THE FACULTY OF HEALTH SCIENCES, UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH

JOHANNESBURG, 2006

DECLARATION

I, Nanzen Caroline Kaphagawani declare that this research report is my own work. It is being submitted for the degree of Master of Public Health in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University.

_____

NANZEN CAROLINE KAPHAGAWANI

This _____day of _____ 2006

DEDICATION

To my mother, children Chisomo and Chimwemwe, nieces and nephews and in loving memory of my dear husband Didier Kaphagawani.

ABSTRACT

Teenage pregnancy is a health and social problem in Malawi as a result of physical, psychological and socio-economic consequences on the teenage mother, family and the society as a whole. Although studies have been conducted on the prevalence and risk factors that cause teenage pregnancy in Malawi before, detailed reports are scanty, especially for Zomba district. In spite of studies and interventions that have been and are being implemented, the prevalence of unplanned teenage pregnancy in Malawi is still high, suggesting that more efforts are required to achieve effective preventive measures.

The aim of this study was to explore risk factors such as cultural issues, non-use of contraceptives, lack of knowledge on sexual and reproductive health, circumstances of first sex, gender power dynamics, sexual and physical violence, age difference between teenage girls and their partners and socio-economic status for unplanned teenage pregnancy in Zomba district of Malawi. A cross-sectional analytic design was used. Five antenatal clinics were selected using a stratified and simple random sampling technique. Data were obtained from 505 participants under the age of 20 years using a questionnaire administered through face-to-face interviews. Descriptive statistics were used to analyse data and comparisons between planned and unplanned teenage pregnancy were conducted using the Chi-squared ($P \leq 0.05$) and logistic regression model to predict factors for unplanned pregnancy. Findings reveal that unplanned pregnancy accounted for 76.4% of teenagers attributable to early sex and marriage, low contraceptive use, educational levels and socio-economic status, lack of knowledge of reproductive and sexual health, physical and sexual violence and substance abuse, transactional

sex due to poverty, early school dropout, misleading counselling causing a lack of knowledge on sexual and reproductive health and gender inequalities.

Recommendations made are aimed at eliminating myths and misconceptions surrounding the use of contraceptives and condoms, empowering teenagers economically and in decision making, promoting career guidance, awareness on human rights, including sexual and reproductive rights and implications of early marriage and training of traditional counsellors. A multisectoral approach, including government, Non-Governmental Organisations (NGOs) and communities, is required to implement these recommendations.

ACKNOWLEDGEMENTS
I would like to express my heartfelt gratitude and appreciation to the following people for their help and support that made this study possible:

-My supervisor, Nicola Christofides, senior scientist at the South African Medical Research Council, who gave up much of her time in providing guidance, support, expertise and encouragement which made my research a challenging but enjoyable experience.

-The Malawi government, through Department of Human Resource, Management and Development, for granting me a scholarship for the Masters Degree course.

-The executive management of Malawi College of Health Sciences for granting me a study leave and financial support for this study.

-Management teams and staff members of various institutions, hospitals and clinics for their cooperation during data collection.

-Faculty of Health Sciences, the Witwatersrand University for offering Levenberg Bequest Research Grant for this study and staff of School of Public Health for their assistance and support.

-My children and relatives for their untiring support and endurance during my absence from home, participants for their cooperation, understanding and patience which made this study a success and research assistants who helped in data collection.

-The Malawian community at Wits and around, friends and colleagues for their support and assistance throughout the period of study.

-D. Kamundi, L. Palamuleni, M. Palamuleni, C. Chitsulo and my sister Linda, for their assistance and support throughout the period of study.

-Dr J. Levin and Mr E. Malinda for statistical assistance.

-Above all, I give thanks to almighty God for life, health, strength and wisdom.

TABLE OF CONTENTS PAGE

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

CHAPTER 1

INTRODUCTION

1.1 Background to the problem

Teenage pregnancy has health and social consequences, including physical, psychological and socio-economic on the teenage mother, child, family and the society as a whole, which are of public health concern (Vundule et al., 2001). In South Africa, teenage pregnancy has been reported as a common problem, which puts teenagers at risk of HIV / AIDS, affecting one in five pregnant teens (Jewkes et al., 2001; Vundule et al., 2001). Similarly in Malawi, where more than one-fifth of the population is between the ages of 10 years and 19 years, the level of teenage pregnancy is high (33.6%) and so is that of HIV / AIDS (20-27%) among this group (Hickley, 1997; Palamuleni, 2002; Munthali & Chimbiri, 2003).

Teenage pregnancy seems to be a worldwide problem. Among developed countries, the United States of America has one of the highest rates of teenage pregnancy (52 per 1,000) followed by the United Kingdom with 30 per 1,000 (Kmietowcz, 2002). However, the developing world and the sub-Saharan region in particular has the highest rate of teenage pregnancy globally with an average of 143 per 1,000 (Treffers, 2003; Magadi, 2004). High rates of teenage pregnancy have been reported for South Africa and Zambia with 350 and 225 per 1,000, respectively (Allan Guttmacher Institute, 1999; Wood & Jewkes, 2006). In Malawi, teenage pregnancy has increased from 330 per 1,000 in 2000 to 336 per 1,000 in 2004 (Malawi Demographic and Health Survey (MDHS), 2000 & 2004). Munthali & Chimbiri (2003), reported that 590 per 1,000 of maternity admissions in Mchinji district of Malawi were teenagers, implying that the

magnitude of teenage pregnancy is high and it differs from district to district. Reasons for teenage pregnancy are variable, but Treffers (2003) attributes the differences in rates of teenage pregnancy among industrialized countries mainly to availability and use of effective contraceptives for adolescents and not abstinence from sexual intercourse. However, in Zimbabwe, where contraceptive use has been reported to be high, according to statistics for the period between 1997 and 2004, unplanned pregnancy is still on the increase (Mbizvo et al., 1997; Clements & Madise, 2004). In South Africa, where contraceptive use is 64.4% among sexually active black African women, teenage pregnancy is also substantially high (Wood & Jewkes, 2006). High teenage pregnancy despite the use of contraceptives indicates that there may still be unmet contraceptive needs, including intermittent use of contraceptives and interruption in supply (Rasch et al., 2000).

Teenage pregnancy may be planned or unplanned. Studies have revealed that some teenagers become pregnant deliberately so that the relationship can continue or the partner should marry them (Jewkes et al., 2001). Some teenagers may also become pregnant to prove fertility in order to attain the status and acceptance as a woman in a society (Wood & Jewkes, 2006). This implies that causes of teenage pregnancy might be different between planned and unplanned. However, teenagers who plan to have a child may have based their decision on inadequate or lack of information on sexual and reproductive health and the resultant socio-economic impacts associated with raising children. Planned and unplanned pregnancies are envisaged to have different intervention strategies. For example, if enough contraceptive pills are provided to both groups, teenagers with prematurely planned pregnancy will not use them, resulting in high prevalence of pregnancy. It is therefore necessary to include both planned and unplanned

pregnancy in order to capture a comprehensive set of factors for teenage pregnancy for effective interventions.

In this study, teenagers whose pregnancy is desirable at this age are regarded as planned and those who do not desire or accidentally become pregnant as unplanned.

The total fertility rate for Malawi is 60 per 1,000, which is a bit higher than other countries in southern Africa. For example, total fertility rates in Mozambique, Zambia and South Africa are 59 per 1,000, 55 per 1,000 and 29 per 1,000, respectively. In Malawi, where teenage pregnancy accounts for 16.6% of the total fertility rate, 61% male and 57% female teenagers are sexually active (MDHS, 2004). The high fertility rate exacerbated by the high occurrence of early marriages and motherhood may extend the reproductive period and contribute to large households and therefore increased population growth (Hickley, 1997).

Teenage pregnancy may cause higher probabilities of miscarriage, stillbirth, premature birth and / or low birth weight babies among teenage mothers than in adult mothers. Teenage mothers are also likely to have maternal complications, including obstructed labour and pregnancy-induced hypertension, which have greatly contributed to the increase in maternal mobility and mortality - estimated at 984 deaths per 100,000 women per year particularly among young adolescents in Malawi (Munthali & Chimbiri, 2003; MDHS, 2004). Abortion may be opted for because girls are still at school and fear suspension from school or ridicule and stigmatisation attached to pregnancy by the community leading to high morbidity and mortality rates - estimated at 68% due to unsafe abortion practices (Palamuleni, 2002; Allan Guttmacher Institute, 2005). Fifty three percent of deaths of young women in Malawi were found to be due to abortion complications (Mtimavyale, 1997).

Teenage pregnancy is one of the major reasons for girls leaving school in Malawi (Chimombo & Chonzi, 1999). About 14% of teenage girls drop out of school at primary level, mainly because of pregnancy (MDHSE, 2002). Although the education policy allows re-enrolment after delivery, most teen mothers do not continue with their education. Therefore, early childbearing may be associated with major losses in education. Women with low levels of education may have fewer opportunities for employment affecting their socio-economic status (Crawford, 2003; MDHS, 2004). This may also undermine efforts to empower women economically and socially, which is important for the development of the country. The teen mother may be financially dependent on parents, spouse and / or guardians for support (Vundule et al., 2001).

Some teenage pregnancies occur within marriage. However, early pregnancy and marriage may be associated with a high probability of marital dissolution, leading to single parenthood (Crawford, 2003). Children who grow up in single parent households are more likely to be disadvantaged and become poor. Crawford (2003) points out that teenage parent often neglect and abuse their children who in turn are likely to repeat the pattern of early childbearing, thus perpetuating the cycle. Teenage mothers may face social exclusion from the family and peers, as they are perceived to have gone against the social norm (Varga, 2003). This is contradicting with what most teenagers believe in some societies that pregnancy will make them acceptable in a society.

Teenage pregnancy may be associated with HIV infection. Behaviour patterns leading to early childbearing also places adolescents at risk of HIV / AIDS (Varga, 2003). In a study that was

conducted in Malawi, 33% of teenage girls admitted to having sexual relations with older and married men for monetary favours in which these men insisted on unprotected sex (Allan Guttmacher Institute, 2005). However, the focus of this study is not about HIV / AIDS among pregnant teenagers.

Risk factors for teenage pregnancy in Zomba district have not been explored. This study thus sought to understand what risk factors are associated with unwanted / unplanned teenage pregnancy in Zomba District, Malawi.

1.2 Problem statement

It has been observed that a large number of pregnant mothers attending antenatal clinics in Zomba district are teenagers. The proportion of teenagers among all pregnant women in this area is not known, but up to 65% of mothers attending antenatal services in Malawi are teenagers. Among teenagers in Zomba district, 38.4% were pregnant or had given birth (MDHS, 2004). Pregnant teenagers account for 42% of the 984 maternal deaths per 100,000 due to increased maternal complications (MDHS, 2004). In addition, there are high rates of school dropouts due to teenage pregnancy (Chimombo & Chonzi, 1999). School dropout results in low education attainment which, in turn, restricts affected women to low-paying jobs and eventually low socio-economic status. Factors causing the high teenage pregnancy in the area are not known - therefore there is a need to determine them in order to plan effective intervention measures. Regression models are commonly used to investigate causal factors including those leading to unsafe abortion (Oye-Adeniran et al., 2004). It was therefore envisaged that the regression method is appropriate for isolating the following potential factors

of teenage pregnancy in this study: non- use of contraceptives, cultural issues leading to early sex and marriage, lack of knowledge on sexual and reproductive health, age at first sex, circumstances of first sex, characteristics of sexual partner, gender power relations in partnership, socio-economic status, physical and sexual abuse and substance abuse.

1.3 Justification of the study

Comparison between the 1992 report on teenage pregnancy at 650 per 1,000 and 2000 at 330 per 1,000 in Malawi suggests a substantial reduction. However, the recent survey (MDHS, 2004) gives 336 per 1,000, suggesting that teenage pregnancy may be on the increase. Therefore, reducing teenage pregnancy, chiefly by promoting the use of contraceptives, will be necessary in order to prevent consequences that are associated with teenage pregnancy. Nevertheless, lessons from Zimbabwe and South Africa suggest that promoting the use of contraceptives alone does not necessarily reduce teenage pregnancy in developing as in developed countries. Therefore, other factors may be playing a major role as mentioned earlier. Understanding of these risk factors may help plan effective interventions.

Although studies have been conducted on the prevalence and factors associated with teenage pregnancy in Malawi (Hickley, 1997; Palamuleni, 2002) detailed surveys specifically for Zomba have not been reported. In addition, these studies have not measured other possible risk factors for unwanted / unplanned teenage pregnancy, including circumstances surrounding first sex and sexual and physical violence which recent evidence suggests that they contribute to unwanted teenage pregnancy (Vundule et al., 2001). The lack of specific data in Zomba prompted the researcher to conduct a study to generate knowledge about the prevalence and

factors that influence teenage pregnancy in order to make recommendations on the interventions aimed at reducing this problem, thereby addressing the potential health and social consequences.

1.4 Purpose of the study

The purpose of this study was to explore risk factors such as cultural issues, non-use of contraceptives, failure to comply with instructions on how to use contraceptives, lack of knowledge on sexual and reproductive health and circumstances of first sex. In addition, other factors may be gender power dynamics, sexual and physical violence, age difference between partners and socio-economic status for unwanted teenage pregnancy in Zomba District of Malawi and suggesting ways to address these issues.

1.5 Study objectives

Objectives of this study were to:

1. measure the prevalence of teenage pregnancy in antenatal clinics of Zomba using a questionnaire;
2. examine the prevalence of "unplanned" pregnancy among this group;
3. describe sources of information on sexual and reproductive health;
4. examine the risk factors associated with unplanned teenage pregnancy in Zomba, including:
    - non- use of contraceptives;
    - cultural issues, leading to early sex and marriage;
    - lack of knowledge on sexual reproductive health;

- age at first sex;
- circumstances of first sex;
- characteristics of sexual partner;
- gender power relations in partnership;
- socio-economic status;
- physical and sexual abuse and
- substance abuse.

1.6 Definitions of terms

Adolescence: Most authors define adolescence as a period of transition from childhood to adulthood characterized by biological, cognitive, psychological and social changes (Crawford, 2003; Hoosain, 2003; Munthali & Chimbiri, 2003).

Adolescents The World Health Organization (WHO) defines adolescents as "young people aged 10-19 years undergoing a period of transition in which children attain adulthood" (Crawford, 2000; Munthali & Chimbiri, 2003).

For the purpose of this study, teenager / adolescent pregnancy refers to the young mother in the age group of 13-19 who has experienced teenage pregnancy. The terms teenage and adolescence will be used interchangeably.

Teenage pregnancy: Refers to pregnancy occurring in women aged 19 or younger (Fact Sheets, 2003).

Planned pregnancy: The timed pregnancy that occurs as desired by the woman (Medical Dictionary Online). This was measured by asking respondents if the pregnancy was wanted at that time.

Unwanted pregnancy: 'Unwanted pregnancy' has many varied meanings. In this study, unwanted pregnancy refers to accidental or unplanned pregnancy, which is not desired by the woman (Medical Dictionary Online).

Unplanned pregnancy: Mis-timed pregnancy that occurs sooner than desired and can be wanted or unwanted (Medical Dictionary Online). Asking respondents if they wanted the pregnancy now or later and whether they were planning to get pregnant at all or not measured this.

Risk factors: An aspect of personal behaviour or life style, environmental exposure or inborn, inherited characteristics which on the basis of epidemiology, evidence is known to be associated with a health related condition considered important to prevent (Medical Dictionary Online).

Initiation ceremonies: Can be defined as a "counselling session for either girls or boys" (Palamuleni, 2002).

Chiputu: It is initiation ceremony that is conducted at the onset of menses and marks the beginning of womanhood in some societies in Malawi..

Litiwo: Initiation ceremony that is conducted when a woman is pregnant for the first time or after delivery of first child.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter gives an overview of risk factors of teenage pregnancy and the influence this had on this study, including contraceptive use, cultural practices, knowledge about and sources of information on reproductive and sexual health, socio-economic status and physical and sexual violence with reference to the research done in this area.

2.2 Overview of risk factors

Studies conducted in the US show that factors that are attributable to teenage pregnancy include problems with families and friends, peer pressure, physical or sexual abuse or assault, use of alcohol and drugs, poor academic performance and growing up under impoverished conditions (Crawford, 2003). Kmietowicz (2002) reports that there is a lack of preparation of teenagers to cope with a more sexualised society compounded by the move from traditional family values to socio-sexual transformation, where sexual imagery permits all aspects of life, resulting in teenagers experimenting with sex in the US and UK. However, the incidences have declined as a result of an increase in the use of contraceptives through user-friendly clinics, which are school-based, education on sexual and reproductive health and counselling on issues such as abstinence and contraception. Some countries, including Sweden, the Netherlands and Denmark have been successful in reducing teenage pregnancy due to preparations and education they give to their teenagers to cope with the sexualised society (Kmietowicz, 2002).

Other research findings have suggested that adolescents from bigger families receive less attention from their households and may be more susceptible to pressure from outside the home especially peers (Vundule et al., 2001).In addition, some families are controlled by a single parent, mainly the mother. The absence of the biological father in such families may lead to less restrictive supervision, causing the breakdown of discipline, which may result to teenage pregnancy. The presence of the father in the family may lead to parental strictness, which may act as a protective factor (Vundule et al., 2001). Other protective factors are associated with the fear of stigma and death as a result of complications, influencing girls to avoid unwanted pregnancy (Munthali & Chimbiri, 2003).

2.3 Contraceptive practices

Contraceptive use in Malawi is reported at 26% of all women (MDHS, 2004). This indicates that contraceptives are not commonly used, placing the majority of teenagers at the risk of pregnancy. Hickley (1997) and Palamuleni (2002) report that the non-availability of and reluctance to use contraceptives are contributing factors towards the increase in teenage pregnancy. Although 95% of adolescents are aware of modern methods of contraceptives, there is a gap between knowledge and use as only 7.6% use modern methods of contraceptives (Palamuleni, 2002; Munthali & Chimbiri, 2003; MDHS, 2004). Reasons for non-contraceptive use include, religious and cultural beliefs, poor quality of services, including the negative attitude of service providers, fear of exposure of their bodies, having adults at the same services and inability to negotiate contraceptive use with sexual partners. Furthermore, misconceptions, fear of side effects and stigma associated with the use of contraceptives as adolescents may be labelled as being promiscuous can also be considered as contributing factors for non-

contraceptive use (Chonzi, 2000; Paz Soldan, 2004). There are many misconceptions associated with the lack of information regarding sexual and reproductive health. Some of these are, oral contraceptives and intrauterine device causes cancer, use of contraceptives before childbearing, leading to infertility and condoms disappearing in the woman's body (Chonzi, 2000).

A study conducted in Malawi showed that 57% of teenage girls opt to risk pregnancy rather than asking a partner to use a condom (Advocates for Youth, 2005). In Malawi, there is a high prevalence of casual sex among teenagers who shun condoms although they engage in multiple relationships. A study in Malawi reported that only 6% of girls use condoms which may lead to unplanned pregnancy and HIV infection which are high among adolescents (Allan Guttmacher Institute, 2006 unpublished).

Similarly, in South Africa, a study revealed that teenage pregnancy is attributed to the low utilization of contraceptives, especially on their first intercourse, due to the lack of access to medical information on reproductive system, inaccessible family planning services, gender inequality and decision on the social life, fears about contraception on fertility and menstruation and condoms could be left inside the vagina or womb (Ehlers, 2003; Wood & Jewkes, 2006). Furthermore, it has been reported that teenagers regard family planning services existing principally for families and not for young unmarried people (Allan Guttmacher Institute, 1999).

In the UK, non-use of contraceptives has initially been due to feeling embarrassed about contraceptive services has led to increased teenage pregnancy (Kmietowicz, 2002). Teenagers in Malawi are less likely to use contraceptives than older women and more likely to practice

contraception sporadically (Chonzi, 2000; Munthali & Chimbiri, 2003). In the study area, although contraceptive use is at 28%, MDHS (2004) reveals that contraceptive use increases with age as 30% of women aged 40-44 years use contraceptives compared to 7.6% of women aged 15-19 years. Furthermore, elsewhere in Malawi, cultural values and beliefs and lack of knowledge on reproductive and sexual health are associated with a low use of contraceptives among adolescents (Chonzi, 2000). It was therefore envisaged that the use of contraceptives among teenagers in the study area could be low, making it a risk factor for unplanned pregnancy. The use, types and sources of contraceptives have been incorporated in the questionnaire (items 36-42).

2.4 Cultural practices

Culture, mainly through expectations of families and communities may play a major role in shaping sexual and reproductive behaviour of adolescents. In Malawi, many societies treat and expect teenagers to behave as adults. The importance of bearing children is communicated to girls at an early age (Palamuleni, 2002). In addition, the Yao and Chewa tribes enlist an older man at the end of the first initiation ceremony to be the first sexual partner for the teenagers to mark womanhood (Allan Guttmacher Institute, 2005). Such type of behaviour is supported and encouraged by the socio-cultural establishments, which may promote early sex. Initiation ceremonies teach girls about responsibilities of adults and mothers, importance of children in a relationship and sexual intercourse while abstinence is called for until marriage (Munthali & Chimbiri, 2003). Furthermore, these ceremonies reinforce the perceived passive roles that a woman must play in their sexual and marital relationships - obedience and satisfying the sexual desire of a partner (Hickely, 1999).

These cultural practices of treating a girl as an adult and expecting them to marry and bear children result in sexual relations and early marriages, which may lead to unplanned teenage pregnancy. Initiation ceremonies, including *Chiputu* which is practiced by the Yao, signify womanhood. This implies that the earlier the age at menarche (reported from 13-15 years or as early as 9 years), the earlier teenagers enter into womanhood. In the study area, the Yao and Lomwe tribes conduct initiation ceremonies, which promote, among other things, early sex and marriage. Therefore, it is expected that the teenagers in the area may be at risk of unplanned pregnancy (Appendix B, items 103-110).

2.5 Knowledge and sources of reproductive and sexual health

Most studies conducted in developing countries report that adolescent girls often lack basic knowledge about reproductive and sexual health (Ehlers, 2003; Munthali & Chimbiri, 2003). Studies in Malawi have revealed that friends / peers, schools, health facilities and drama, books, radio, parents and youth clubs are common sources of information. Friends / peers, being the most important followed by health facilities, radio and youth clubs while parents are a rare source (Maluwa-Banda & Lunguzi, 2002; Palamuleni, 2002; Paz Soldan, 2004). Such findings indicate that communication about reproductive and sexual matters within families is limited, forcing girls to get information chiefly from peers, boyfriends and teachers. The information that teenagers obtain from peers and boyfriends may be misleading. Thus, male partners may take advantage of the information lapse and emphasize notions of female availability and male sexual entitlement (Jewkes et al., 2001).

In general, traditional practices promote indirect contact between parents and teenagers in Malawi. The lack of parental advice in turn, indirectly promotes other sources of information and prevents monitoring of the knowledge base. Therefore, the lack of knowledge by the adolescents about contraceptives and functions of their bodies may contribute to increased teenage pregnancy.

Knowledge and sources about contraception, conception and sexuality have been investigated in this study (Appendix B, items 62-74).

2.6 Socio-economic status

Teenage girls may indulge in sexual activity in exchange for goods, money and experiences such as taking meals in hotels (Palamuleni, 2002). A study in Malawi, found that 66% of adolescents had accepted money or gifts in exchange for sex (Allan Guttmacher Institute, 1999). In some cases, parents may encourage their daughters into relationships with men for consumer goods or a girl may go out with men because her parents cannot give her the basic needs. Teenagers with unplanned pregnancy are more likely to come from low socio-economic status than with planned pregnancy (Allan Guttmacher Institute, 1999; Munthali & Chimbiri, 2003). The level of education of parents, especially the mother, may have an influence on the adolescent towards teenage pregnancy as she acts as a role model (Vundule et al., 2001) which may be a preventive factor of teenage pregnancy.

In Kenya it was reported that women with no education had first sexual intercourse three years earlier than their counterparts with at least a secondary school education (Advocate for Youth, 2005). Similarly in Malawi, 63% of adolescents with no education had begun childbearing compared to 19% with secondary education (MDHS, 2004). Furthermore, adolescents in the wealth quintile are more than twice likely to start bearing children than those in the wealthiest quintile. Marriage is also delayed if teenagers further their education to secondary and post secondary ((MDHS, 2004). The level of education has been reported to influence the use of contraceptives. For example, 27.0% of women with no education, 35.0% with 5-8 years of schooling and 44.0% with some secondary education had used contraceptives (MDHS, 2004). In Malawi, literacy levels are low (49%) (MDHS, 2000). The low literacy levels may lead to low paying jobs, causing early marriage and influencing non-contraceptive use, thereby increasing the prevalence of teenage pregnancy. Therefore, it was expected in the study area that the low literacy levels may have an impact on unplanned teenage pregnancy (Appendix B, items 4-18).

2.7 Physical and sexual abuse

Physical and sexual violence are common phenomenon perpetrated by men on women (Martin & Curtis, 2004). Violence from a sexual partner includes physical, sexual and emotional abuse. Physical violence, often in the form of beatings, slapping, stabbing, pulling the woman's hair can often end in some form of sexual coercion which may lead to unwanted teenage pregnancy (Jewkes et al., 2001). Studies in Malawi have revealed that 25-56% of rural girls are forced to have sex when they are not ready and when they do not feel like having sex (Maluwa-Banda, 2001; Munthali & Chimbiri, 2003; Saur et al., 2005). As women in such circumstances are not

prepared for sex, they may not be able to protect themselves, exposing them to the risk of unplanned pregnancy (Martin Cutis, 2004).

Similarly, Vundule et al. (2001) found that 33% of girls in South Africa have their first intercourse as a result of force, including rape. In addition, physical violence was a risk factor for unwanted teenage pregnancy in South Africa (Jewkes et al., 2001). Likewise, in Malawi, about 25% of adolescent have experienced physical violence (MDHS, 2004). Reports are not available for the study area, although the media and hospital sources indicate that the problem is on the increase countrywide. Elsewhere, studies have indicated that physical or sexual abuse exposes teenagers to unplanned pregnancy (Saewye et al., 2004). Physical and sexual abuse were investigated in this study (Appendix B, items 84-93)

2.8 Sexual partner characteristics

There is usually an assumption that partners of teenage mothers are also teenagers (Population Reference Bureau, 2001). However, most teenagers engage with older men for socio-economic reasons as stated earlier. In Cameroon, Kenya, South Africa and Canada, the average age difference between teenagers and their sexual partners is 15, 7, 5 and 2.6 years, respectively. In addition, teenagers who marry older men often have less power in decision making around sexual intercourse, childbearing and the use of contraceptives (Allan Guttmacher Institute, 1999).

Munthali and Chimbiri (2003) reported that most sexually active adolescents have had first sexual intercourse with a man older than themselves, either by force or persuasion with money and gifts in exchange for sex. Teenagers getting involved with a man older than themselves may be at risk of unplanned pregnancy. Therefore, age, education and employment of sexual partner and reasons for the relationship were incorporated in the questionnaire (Appendix B, items 20-24).

2.9 Substance use

The use of substances, including alcohol, *marijuana* and other drugs are risk-taking behaviours associated with unplanned teenage pregnancy (Facts Sheets, 2003). Teenagers drink alcohol to get drunk, forget problems, feel good and have fun (Visser & Moleko, 2005). Drug users tend to be at a greater risk for unwanted teenage pregnancy than non-drug users as they may be more sexually active, less likely to use contraceptives and fail to make good decisions about sex (Facts Sheets, 2003). Furthermore, teenagers who use drugs (*marijuana*) are 4 times likely to become pregnant than those who have never smoked (Facts Sheet, 2003). In Malawi, data on substance use among teenagers are scanty and none are available for the study area. However, statistics from psychiatric hospitals indicate that *marijuana* (*Cannabis*) is the most commonly used substance among patients, with 67% of the patients attending the psychiatry treatment facilities using the substance. Three percent of these patients were female while alcohol accounted for 33% of the patients (SENDU, 2002). Such risky behaviour may lead to unplanned teenage pregnancy (Appendix B, items 95-102).

2.10 Age at menarche, first sex and marriage

The age at menarche in Malawi ranges from 13-15 years, but can occur as early as 9 years (Munthali & Chimbiri, 2003). In South Africa, the mean age at menarche was reported to be at 13.7 (Vundule et al, 2001). The early menarche can be attributable to improved health and nutrition (SARYD, 1997). It has been reported that the earlier the age at menarche, the earlier the first intercourse is likely to occur. Early sexual activities pose health risks for teenagers as most of them enter into sexual relations for the first time without using any form of contraception, leaving them vulnerable to unplanned pregnancy (Allan Guttmacher Institute, 2005).

Early sex may be attributable to cultural practices, peer pressure, experimentation, coercion and boredom (Palamuleni, 2002; Munthali & Chimbiri, 2003). In Malawi, studies have shown that 52% of girls between 15 and 19 years had their first intercourse at the age of 17 years (MDHS, 2004). Girls are traditionally expected to abstain from sex until the onset of menses. Partly because of this traditional expectation, the majority of teenagers start having sexual intercourse at the age of 15 or 17 years, but there is evidence suggesting that some girls engage in sexual activity as early as the age of 10 years or even earlier (Palamuleni, 2002; Munthali & Chimbiri, 2003; Allan Guttmacher Institute, 2005). However, as mentioned earlier some of these teenagers are coerced, including been raped (Jewkes et al., 2001). The communities in which the study was conducted, the median age of first sexual intercourse is 16 years (MDHS, 2004), meaning that sexual intercourse is expected to start at an early age. The earlier the age at first sex, the more likely unwanted pregnancy might occur at an early age.

In Malawi, 67% of women are married (MDHS, 2004). Marriage is the primary indicator of the exposure of women to becoming pregnant. More than half of women in Malawi enter into marriage at the age of 18 years before they are physically, mentally and economically prepared for pregnancy (Munthali & Chimbiri, 2003; Allan Guttmacher Institute, 2005). A comparative study conducted in Chitipa, Ntchisi and Mangochi, representing different cultural values, reports that ages of 14 years (for Mangochi) and 17 years (Chitipa and Ntchisi) were considered appropriate for having sex as well as marriage (Hickley, 1997). Thus, menarche, sex and marriage are occurring at an early age, which may increase the rate of teenage pregnancy and early motherhood.

A study conducted in Zomba on abortion revealed that there were cases of 15-year-old girls admitted to the hospital as a result of unsafe abortions (Maluwa-Banda, 2001) indicating that teenagers are becoming pregnant at an early age.. In the study area where cultural practices expect girls to marry and bear children after the onset of menses it is expected that teenagers become pregnant at an early age. This aspect was investigated in this study (Appendix B, items 28-29).

2.11 Circumstances of first sex

Studies have shown that the majority of girls are persuaded to have sex with boyfriends, teachers, family friends and relatives (Hickely, 1999; Jewkes, 2001; Munthali & Chimbiri, 2003). It has been reported in South Africa that schoolteachers are the most common perpetrators of rape of young girls (Jewkes et al., 2001). Worldwide, 93.0% of teenagers report that their first intercourse was voluntary (Allan Guttmacher Institute, 1999). However, some

studies in South Africa have shown that the majority of teenagers have had sex against their wishes with 10.0% being raped (Jewkes et al., 2001; Vundule et al., 2001).

In Malawi, studies have shown that 25.0%-42.0% of teenagers have had forced sex (Maluwa-Banda, 2001). Those willing to have sex may be succumbing to cultural expectations because teenagers are brought up to be obedient, subservient, willing and respectful, thus being inability to refuse sex, putting them at risk of unwanted pregnancy (Hickely, 1997). Likewise, in South Africa coercive sex is perceived by some teenagers as an expression of love and as an inevitable part of relationships (Wood & Jewkes, 2006). Coerced sexual activity may be associated with unwanted teenage pregnancy as they are not prepared for sex and may not be able to protect themselves or negotiate safe sex. The willingness to have sex in response to cultural expectations may place teenagers at risk of unplanned pregnancy (Appendix B, items 30-31).

2.12 Gender power relations in partnership

Gender power imbalance is an important underlying cause for many problems that women experience. The low level of control that young women have over their own lives has a critical consequence for their reproductive and sexual health (Progress Reproductive Health Research (RHR), 2004). Discrimination against girls and women places them at a disadvantage in decision-making power and choices. These decisions include sexual intercourse, contraceptive use, child bearing and how their earnings are spent. Studies have shown that the majority of women are not free to make independent decisions in their relationships, including allocation of their earnings, reproductive and sexual health as men become the sole decision makers (Saur et

al., 2003). For example, 57.0% of teenage girls indicated that they would rather risk pregnancy than asking a partner to use a condom for fears of conflicts, violence and economic loss and rejection (Advocate for Youth, 2005). This shows that men are in control of family affairs.

It was further revealed that 70% of decisions on women's healthcare are made by men (Suar et al., 2003). Studies conducted in South Africa found that 84% of male partners made decisions on sexual matters and had the right to decide when to initiate sex in a relationship (Varga, 2003). It is under such circumstances that teenagers may find it difficult to express their own interests and pregnancy prevention strategies have often failed. For example, the lack of decision-making in women acts as a barrier for contraceptive use - some women, who go for contraceptives without the approval of their husbands, face consequences, including divorce once the husbands discover (Saur et al., 2003). Teenage girls are therefore less able to protect themselves against unsafe sex, which may lead to unwanted pregnancy (Appendix B, items 50-58).

2.13 Summary

This chapter has provided relevant literature on the risk factors leading to unplanned teenage pregnancy. One can conclude that as far as teenage pregnancy is concerned these are the risk factors; contraceptive use, cultural practices, knowledge and sources of reproductive and sexual health, socio-economic status, physical and sexual abuse, sexual partner characteristics, substance use, gender power relations in partnerships, age at first sex and circumstances of first sex. The literature review provided an essential foundation for this study. The next chapter describes the methods used to determine risk factors for unplanned teenage pregnancy in this study.

CHAPTER 3

MATERIALS AND METHODS

3.1 Introduction

This chapter presents research methods used in the study, including research design, research setting, study population and sampling and data collection processes. A description of reliability and validity of data utilised in the study is also included. The chapter it further highlights results of the pilot study and ethical considerations observed.

3.2 Research design

A cross-sectional analytic study was used to determine risk factors of unwanted / unplanned teenage pregnancy in Zomba district, Malawi. Analytic studies attempt to explain the situation, thereby identifying risk factors for the particular situation (Katzenellenbogen et al., 1997). This study design was selected because it incorporates a descriptive component that enables the calculation of the prevalence of teenage pregnancy in antenatal clinics of Zomba. It also compares exposure with respect to outcome and allows statistical comparison between wanted / planned and unwanted / unplanned pregnancies. Therefore, the study design was appropriate since data on prevalence and risk factors of teenage pregnancy in Zomba were obtained and explained. The results of the study may be useful as baseline data for making interventions to address risk factors associated with teenage pregnancy in Zomba.

3.3 Research setting

Malawi is divided into three administrative regions, namely the Northern Region, Central Region and Southern Region (Appendix A). The regions are further subdivided into 30 districts; 6 in the Northern Region, 10 in the Central Region and 14 in the Southern Region. The study was conducted in Zomba District in the Southern Region. The population of Zomba increased from 232,037 in 1987 to 280,802 in 1998 implying a population growth rate of 17 per 1000 per annum (National Statistical Office (NSO), 2002). This growth rate is lower than the national growth rate of 19 per 1000 per annum. The recent population projections by the NSO (2002) are estimated at 540,428 with 65,915 living in the urban area, 476,313 in the rural area and out of the total population, 125,810 are adolescents (NSO, 2002). The high population growth rate for the district is attributable to declining but high fertility and slow decline in mortality**.** Zomba has a total fertility rate of 59 per 1,000 (MDHS, 2000). There are 30 health centres and one rural, two private (army and police) and one central (referral) hospitals that provide antenatal services. Data for the study was collected from the central hospital and four health centres.

3.4 Study population

The study population consisted of pregnant teens from Zomba district attending antenatal clinics at the time of data collection. Antenatal clinics were used in order to access pregnant women. For a statistically representative sample size, a minimum of 385 respondents was required for the 95% confidence level using normal approximation.

3.5 Criteria for selection of the sample

Data was collected from mothers who were pregnant and under the age of 20 years. All pregnant women in this age group attending antenatal clinic over the period of study were included. Pregnant women who came to the clinic from districts other than Zomba were excluded to control for possible variations due to cultural aspects, if any. Although teenage pregnancy concerns both sexes, male teenagers were excluded as they rarely attend antenatal services with their partners.

3.6 The sample and sampling methods

The stratified and simple random sampling methods (Katzenellenbogen et al., 1997) were used to obtain a sample of health centres. Stratification involves subdividing the population into homogenous subsets from which an appropriate number of elements can be selected (Katzenellenbogen et al., 1997). In this study, two strata were identified based on ethnicity namely, the Yao and the Lomwe. Two health centers were selected from each stratum using a simple random sampling technique. The name of the health centre within each stratum was written on a piece of paper and placed in a container. Two names were picked at random from each stratum. Namikango and Domasi were sampled for the stratum representing the Yao and Lambulira and Makwapala for the Lomwe cultural backgrounds. The Zomba Central Hospital was included to represent urban teenage mothers who may have experienced different risk factors from the rural setting. To obtain an adequate sample, all pregnant women visiting the antenatal clinics over a six week period at the selected sites under the age of 20 were interviewed.

3.7 Development of the questionnaire

Due to the sensitive nature of the topic, the World Health Organization (WHO) guidelines for research on gender-based violence were used (WHO, 2004) to guide the research process. The questionnaire included previously tested items and scales from other surveys, including "relationship dynamics and teenage pregnancy in South Africa" (Jewkes & Wagman, 2004) and "knowledge on reproductive and sexual health" (Dunkle, et al., 2004; Jewkes & Wagman, 2004). These items and scales were adapted to ensure local appropriateness (Appendix B) and the questionnaire was pre-tested prior to data collection. The questionnaire comprised eight sections.

The first section was used to collect socio-demographic data such as age, religion, language spoken at home, marital status, level of education and sources of income for respondents and sexual partners. The socio-economic status was measured indirectly by asking about household items, including television, radio, car, access to cash for an emergency, how often people in the household went hungry, how often they ate meat and employment status adopted from Jewkes et al. (2001). The possession of the motorcycle and bicycle were added to suit the area under study.

The second section covered the reproductive and sexual health, which comprised questions on age at menarche and first sex, experiences of first sex, contraceptive and condom use. The third section consisted of relationship control designed to describe the relationship with sexual partners and statements describing circumstances of being pregnant as a teenager. The fourth

section was designed to measure knowledge on reproductive and sexual health and sources of information. The fifth section was about attitude towards sexual activity, which was measured by questions that described sexual activities and circumstances that prompted teenagers to early marriage. The sixth section had questions that described physical and sexual violence, including whether sexual partners had ever demanded that respondents should surrender their earnings, partners had used force, including beating or pushing, shoving, hitting in order to have sex and what prompted them to get involved with a boyfriend. The seventh section comprised questions on substance use, including alcohol and *marijuana.* The eighth section obtained information about cultural practices. This included attending initiation ceremonies, lessons learnt and influence of initiation ceremonies on behaviour.

3.8 Fieldworker Training and Preparation

Four university students who were in their final year and had some experience in data collection assisted in the study. These were given orientation on the process for data collection and management prior to the commencement of field studies. They were trained for a period of three days in the administering of the questionnaire and research ethics, with an emphasis on informed consent. Each research assistant was given a code that was used for identification in case of any queries. The researcher supervised them during data collection. The research assistants used a role-play technique to ensure that each person understood the questions they were asking and how to skip some questions, which were not applicable depending on the answers given. The role-play also helped to identify problem areas arising during questionnaire administration. The research team translated the questionnaire from English to Chichewa for easy communication with the respondents and to ensure a standard wording.

3.9 Pilot study

A pilot study was conducted at Namasalima Health Centre, which was not sampled for the main study. The purpose was to help identify items in the questionnaire that were vague or that would fail to obtain the intended response in addition to ensuring that the wording and meaning did not vary among the interviewers thereby increasing the validity and reliability. Twenty pregnant teens were interviewed from this health centre. After the pilot study the following changes were made:

- "Husband" was added to the options of question 31.
- Question 42 had the following added to the options: "scared of side effects", "cannot use contraceptives before having first baby" and "may become sterile".
- Part of question 61 was changed to read "I did not mind if I became pregnant"
- "*Litiwo*" was added to the options of question 104.

Changes were also made on the translation into Chichewa words.

3.10 Data collection

3.10.1 Questionnaire administration

Data was collected over a period of 20 working days from 6th January to 2nd February 2005 using a standardized questionnaire administered through face-to-face interviews. The questionnaire consisted mostly of closed questions. Each questionnaire took 20-40 minutes to administer. Five hundred and five pregnant teenagers were interviewed at the five sites: Makwapala (n = 46), Lambulira (n = 119), Namikango (n = 52) Domasi (n = 127) and Zomba

Central Hospital (n = 161). There were no refusals - all participants willingly consented to participate in the study. The arrangements for confidentiality and privacy ensured that respondents accepted to be interviewed and spoke more freely on the subject. In addition, it was also possible that respondents felt that there was somebody to listen to their problems. The face-to-face interviews facilitated responses and the quality of information and this method was convenient since most of the participants had low literacy levels.

3.11 Data processing and analysis

The data collected were entered into a database using Epi-Info Version 3.2-computer package (http://www.cdc.gov/epiinfo/) and analysed using STATA for windows statistical software version 8.2. Data analyses included a descriptive component in which participants who had planned and unplanned pregnancies were compared. To provide descriptive statistical information, two-by-two tables were constructed and *chi-square* tests ($P \leq 0.05$) were used to compare the difference in proportions. Frequency tables and graphs were used to show the relationship between dependent and independent variables.

3.12 Logistic Regression

To investigate predictors of unplanned pregnancy, logistic regression was used. The logistic regression gives each repressor (predictive variable) a coefficient, which measures the repressor's independent contribution to variations in the dependent variable. In this study, a logistic regression model assesses the probability that teenage pregnancy is planned as a

function of the predictor variables (Table 10). Precisely, the logistic regression tells us about what variables are more or less likely to predict unplanned pregnancy. The final model included the following variables: age, socio-economic status, persuasion, tricked and forced or raped at first sex, contraceptive use and physical and sexual violence. This model was developed by including all variables where there was a statistical significance between planned and unplanned pregnancy. These variables were scored using the scales that were created.

A socio-economic scale was developed using the following variables; radio in household, television, bicycle, car, motorcycle, and access to cash for an emergency, how often people in the household went hungry and how often they ate meat. Possession of a car, motorbike and affordability of K500 were used to measure the social economic status. The scales which were used to score violence included whether the partner used force such as pushing or shoving, hitting or hurting to have sex. Three groups were created for experiences at first sex which included persuaded, tricked and forced and raped. Very few respondents reported that they were raped, persuaded and tricked because of small numbers this has been combined with those who were forced.

3.13 Ethical considerations

In order to protect the rights of the interviewees and meet requirements for research involving people, clearances were obtained from authorities and informed consent from the participants. Ethical clearances were obtained from the Committee for Research on Human Subjects of The University of The Witwatersrand (Appendix F) and the National Health Sciences Research Committee of the Malawi Government, Ministry of Health and Population (Appendix C).

Clearances to use health facilities were also obtained from the Zomba Central Hospital and Zomba District Health Office (Appendix D and E respectively). The information sheet (Appendix H) was read to participants who were asked to sign or thumb-print a consent form (Appendix G) to indicate that they have agreed to participate in the study. The following points were clarified: participation in the study was voluntary; participants were free to withdraw at any time without coercion and there were neither direct benefits nor known risks at any time. To ensure anonymity and privacy, numbers were used instead of names on the questionnaires. Interviews were conducted in private rooms which were provided at the clinics for this purpose. The completed questionnaires were locked in a cupboard accessible to the researcher only to ensure confidentiality.

3.14 Summary

In this chapter, materials, methods and procedures for achieving the purpose of the study have been presented. The sampling methods, the data collection and the instrument have been described. Reliability and validity of the instrument were described and ethical issues relevant to the study have been outlined. The research setting was presented and significant changes in the major study as a result of the pilot study were described. The next chapter will present research findings.

CHAPTER 4

RESULTS

4.1 Introduction

This chapter presents the results of the study which are organized according to the research objectives that guided the study.

4.2 Socio-demographic characteristics

4.2.1 Age distribution

A total of 1362 mothers attended the five sampled antenatal clinics during the period of study. Of these, 505 (37.1%) were under the age of 20 years. About three-quarters (76.6 %, n = 505) of the participants had unplanned pregnancy whereas nearly a quarter (23.4%) had planned pregnancy. The occurrence of pregnancy amongst young teenagers 13 years old (0.8% (4) and 14 years old (1.0% (5) was not common in the sample (Figure 4.1). The proportion of teenage pregnancy increased steadily from 5% at 15 years to 30.7% at 18 years and reached 32.1% at the age of 19 years with the mean age of 17.6 years. The mean age difference between planned and unplanned pregnancy was not statistically different ($P = 0.130$).

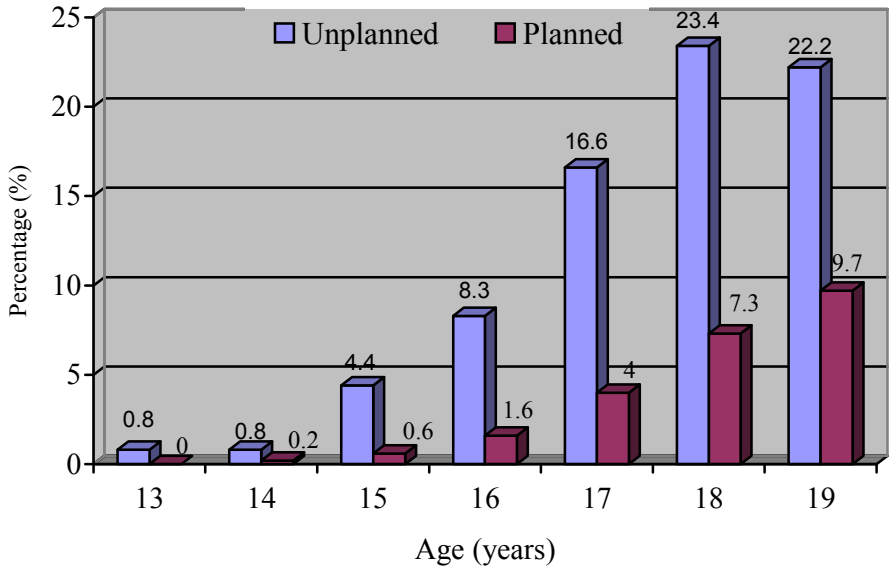


Figure 4.1 Age distribution of planned and unplanned teenage pregnancy

4.2.2 Educational levels

The majority of participants had some schooling (92.7%, n = 505) of which 59.8% did not complete primary school education, 13.5% completed primary school 16.0% had some secondary school education, 3.4% completed secondary school and none of the participants attended post secondary education (Table 4.1) indicating low education attainment (Table 4.1). Only few (9.0% & 1.9%) with planned and unplanned pregnancy respectively were still attending school and the majority (99.1% & 98.1%) of the participants with planned and unplanned pregnancy respectively had dropped out of school at the time of data collection (Figure 4.2). About 35% were at school when they became pregnant while 65% had already left school. There was a statistically significant difference between participants with a planned and unplanned pregnancy still attending school ($P < 0.001$) and their educational level ($P = 0.042$) indicating that communicating the use of contraceptives might be a problem.

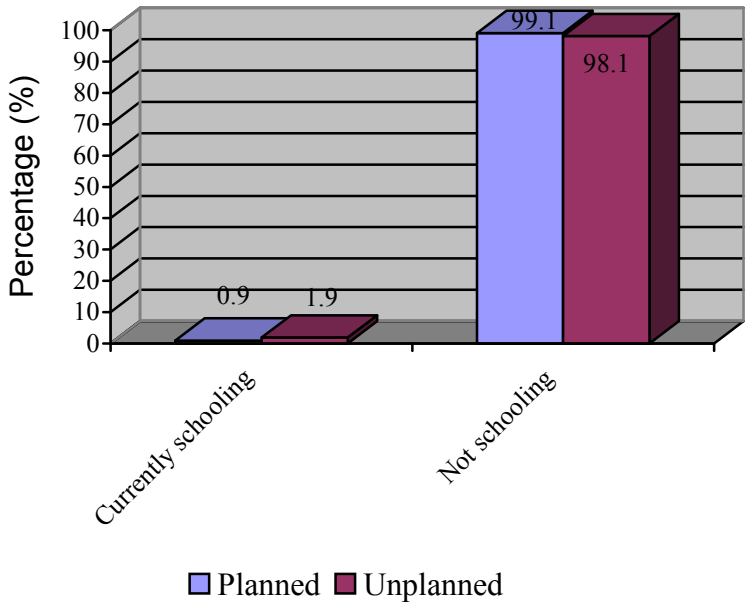


Figure 4. 2 Pregnant teenagers currently attending school and out of school

Table 4.1 Levels of education of pregnant teenagers

Highest level of education	Frequency			
	No.	%	Planned pregnancy (%)	Unplanned pregnancy (%)
No schooling	37	7.3	10.2	6.5
Incomplete primary education	302	59.8	68.8	57.3
Completed primary education	68	13.5	15.3	13.0
Incomplete secondary school	81	16.0	5.1	19.2
Completed secondary school	17	3.4	0.8	4.1
Post secondary school	0	0	0	0
Total	505	100	100	100

4.2.3 Tribal groups

The district has three main tribal groups. The proportions of the three groups in the sample were: Chewa 68.7% (347) Yao 28.7% (145) and Lomwe 2.6% (13) (Table 4. 2).

Table 4.2 Language spoken at home

Language spoken at home	Frequency	
	Number	Percent
Chewa	347	68.7
Yao	145	28.7
Lomwe	13	2.6
Total	505	100

4.2.4 Marital status

Figure 4.3 shows that 80.1% (310) were married, 16.8% (65) not married and 3.1% (12) separated / divorced / widowed for planned and 97.5% were married, 2.5% (3) not married and none were separated / divorced / widowed for unplanned pregnancy respectively. There was a significant difference ($P < 0.001$) in marital status between planned and unplanned pregnancy. Those with unplanned pregnancy were more likely to be unmarried than with planned.

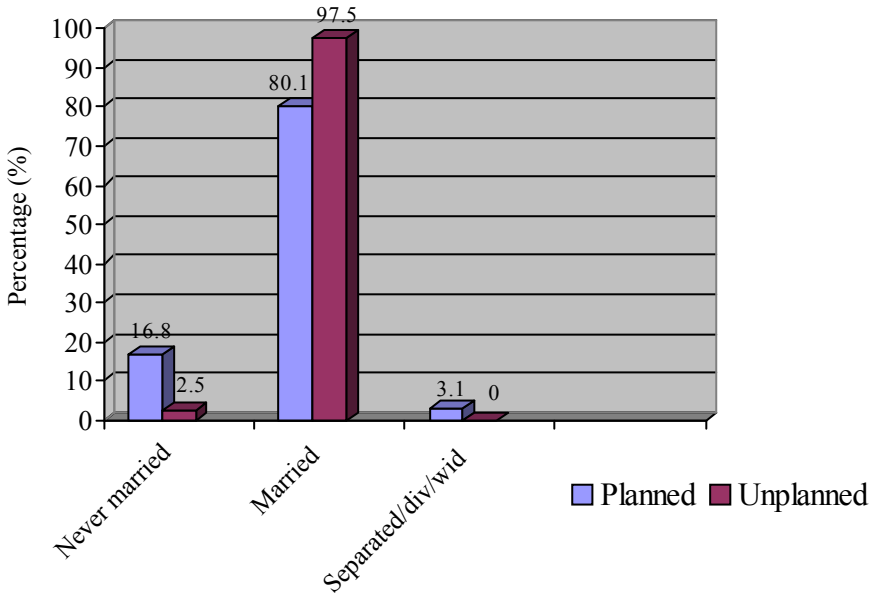


Figure 4.3 Marital status of the pregnant teenagers

4.2.5 Living circumstances

About 75.0% of pregnant teenagers stay with their husbands and 22.4% with their parents. Most (78.0%) of those that have never married, stay with their parents (Figure 4.4).

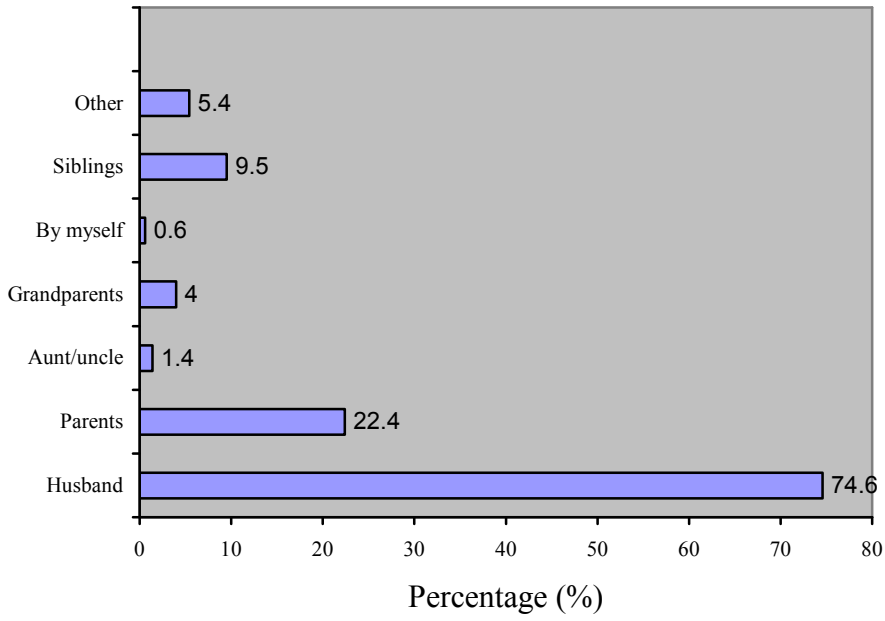


Figure 4.4 Persons pregnant teenagers stay with.

4.2.6 Religious affiliation

About 27.0% are Muslims, 18.4% Catholics, 22.8% Protestants, 2.6% Pentecostals, 28.1% Evangelical and 0.8% are not affiliated to any religious group (Figure 4.5). There was no significant difference (P = 0.136) in religious affiliation between planned and unplanned pregnancy, implying that religious affiliation had little or no influence on unplanned pregnancy.

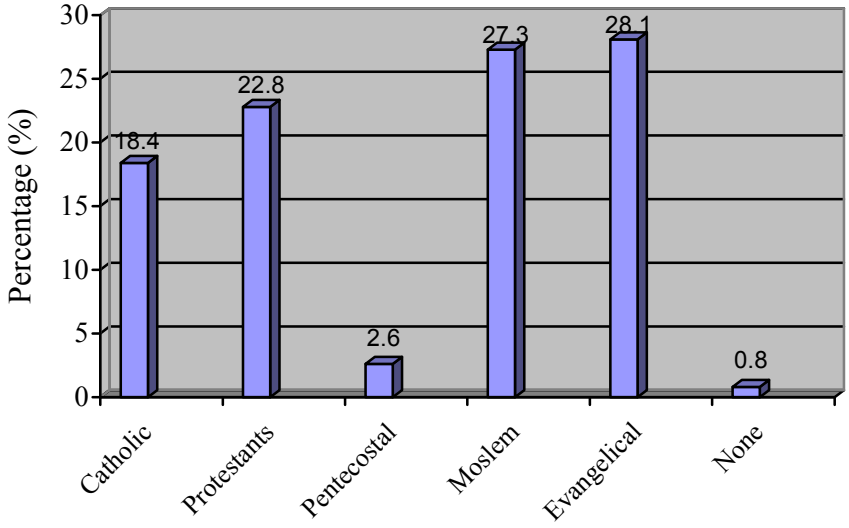


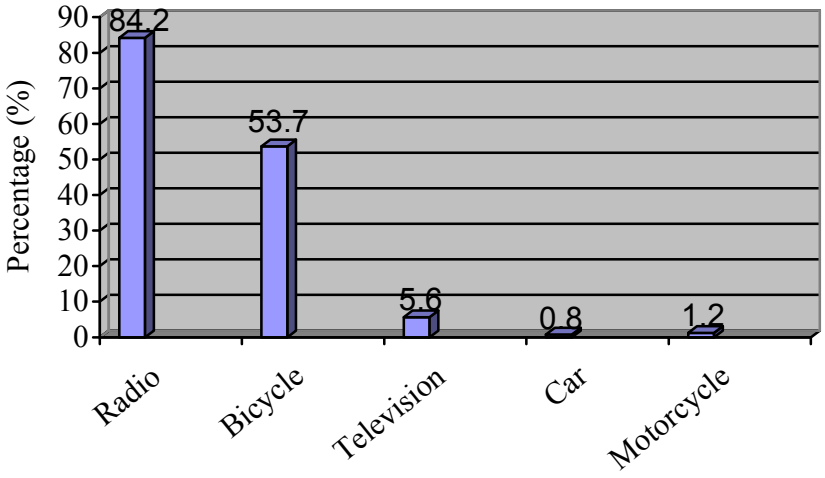
Figure 4.5 Frequency of religious affiliations of pregnant teenagers.

4.2.7 Socio-economic status

There was no statistically significant difference (P = 0.269) in socio-economic status between planned and unplanned pregnancy. About 6.0% (28) of households had television sets, 84.2% (425) radios, 0.8% (4) cars, 53.7% (270), bicycles and 1.2% (6) motorcycles (Figure 4.6a). About 57% had access to food while 24.0% (119) seldom, 19.4% (98) sometimes and 0.2% (1) often went without food. This shows that a total of 44.2% sometimes went without food. Only 3.8% (19) often had meat while 65.0% (329) and 29.3% (147) seldom and sometimes had meat respectively. One percent never had meat and another 2.0% (10) was vegetarian. The majority (41.8%) find it quite difficult to raise K500 while 14.7%, very difficult, 38.0%, easy and 5.5%,

very easy (Figure 4.6b). In addition, 60.0% of teenagers with unplanned pregnancy got involved with a boyfriend because they gave them money compared to 44.9% with planned pregnancy and there was a statistically significant difference (P = 0.003). About 40% of teenagers with unplanned and 62.7% planned pregnancy respectively, reported being involved with a boyfriend because they wanted to get married, giving a significant difference (P < 0.001). The results indicate low socio-economic status which may provide an environment for transactional sex and early marriage.

a)



b)

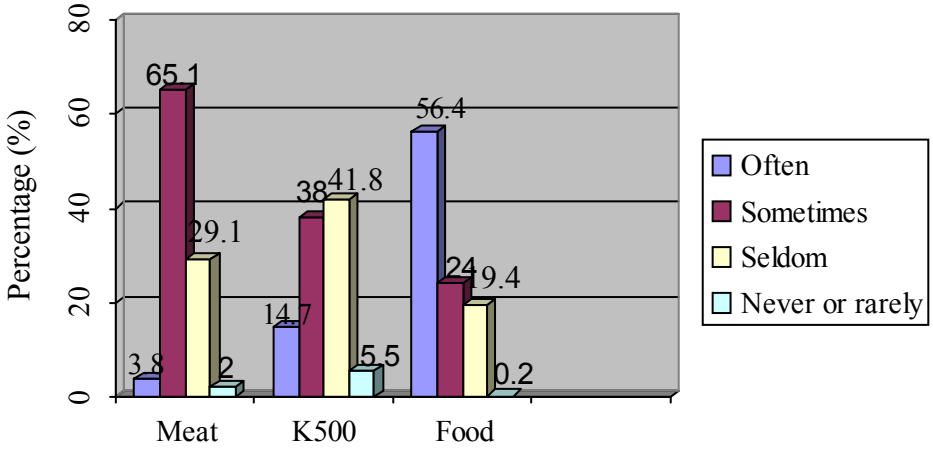


Figure 4 .6 Indicators of socio-economic status among respondents: a, household items b, ability to afford basic needs

4.2.8 Occupation of pregnant teenagers

About 47% percent earn a living through employment and / or business and 53.4% are unemployed (Figure 4.7; Table 4.3). The majority of those who work (30.3%) are self-supporting through small scale businesses, 9.3% work on farms, 5.2% provide child care / domestic / gardening services, 0.8% shop / restaurant / office, 0.4% professional / managerial, 0.4% factory / mine / labour and 0.2% police / army / security (Table 4.3). The number of unemployed and the low paying jobs indicate low socioeconomic status.

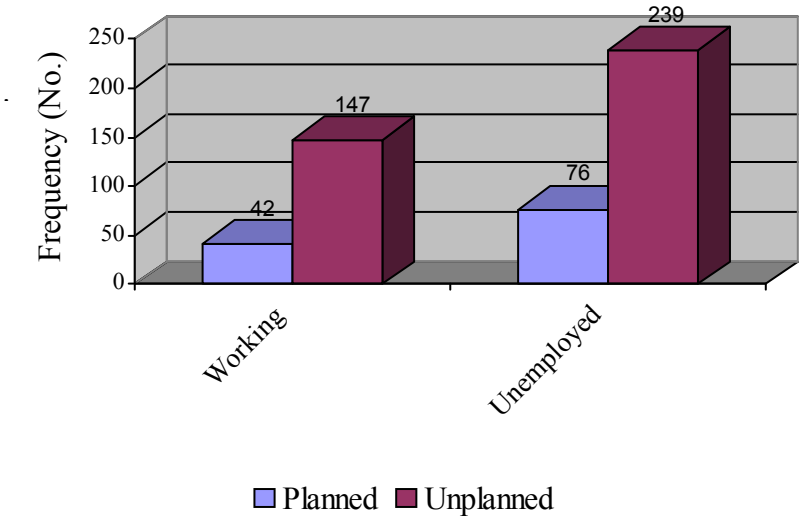


Figure 4.7 Occupational status of pregnant teenagers

Table 4.3 Type of occupation of pregnant teenagers

Occupation of respondents	Frequency	
	Number	Percent
No work	270	53.4
Professional / Managerial	2	0.4
Police / Army / security	1	0.2
Shop / Restaurant / Office	4	0.8
Factory / mine / labourer	2	0.4
Childcare / domestic	26	5.2
Farm work	47	9.3
Trading / selling	153	30.3

4.3 Characteristics of sexual partners

4.3.1 Age

There was a wide age distribution among sex partners ranging from 18 years to 40 years for planned and 17 years to 33 years for unplanned pregnancy, the majority (22.4%) were between 20 and 22 years with the mean age of 22.9. About 2.0% (10) were in the age group of 31 to 40. About a quarter (26.6%, 134) of the teenagers did not know the age of their sexual partners. The mean age of partners of the participants were 23.5 for planned and 22.7 for unplanned pregnancy, whereas the mean age of respondents was 17.6. There was a significant difference (P = 0.043) in age of sexual partners between planned and unplanned pregnancy where some participants with unplanned pregnancies had younger partners than with planned (Figure 4. 8).

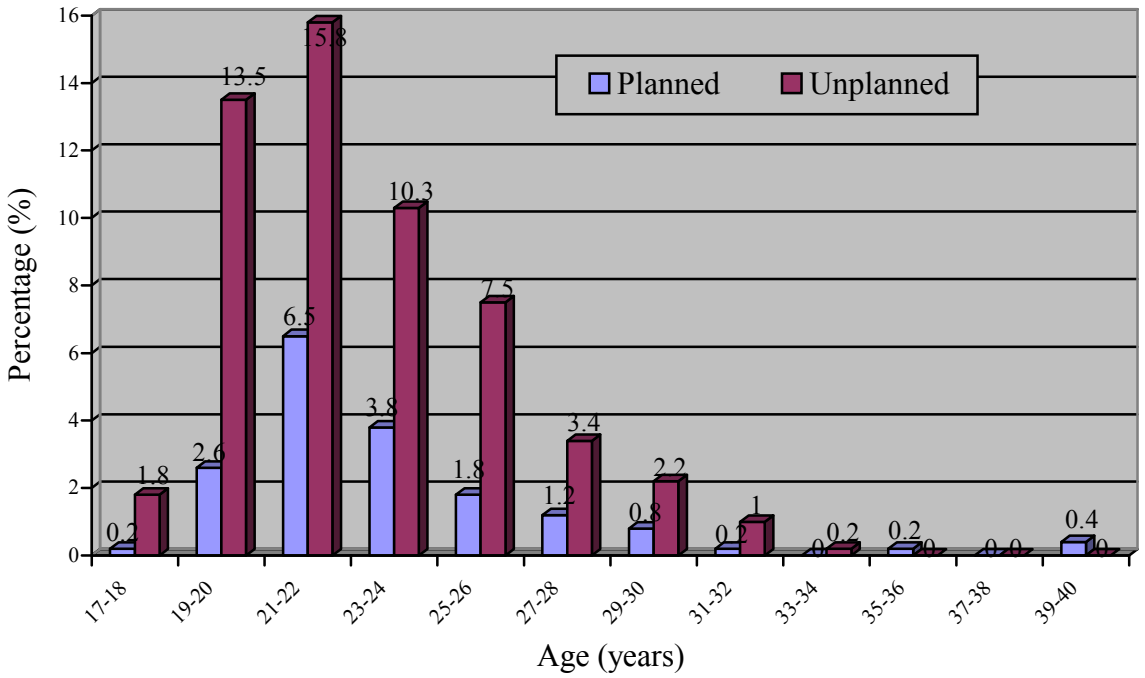


Figure 4.8 Age distribution of sexual partners

4.3.2 Educational level of sexual partners.

Most partners had attended school (96.4%, 485) and 2.8% (6) had unknown educational status implying lack of communication between partners. Nearly a quarter of the partners (24.0%, 118) had completed primary education, 16.4% completed secondary and 8.3% have post-secondary education (Figure 4.9).

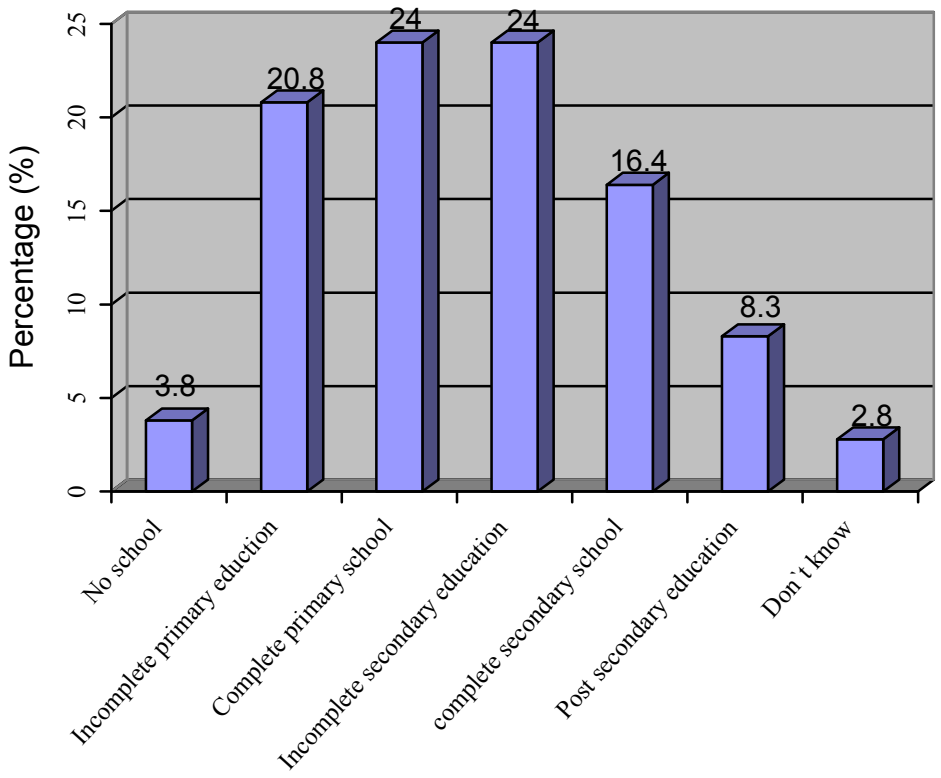


Figure 4. 9 Educational levels of sexual partners

4.3.3 Employment status

Seventy-four percent of the partners were employed, 25.8% unemployed and 1.8% had unknown employment status. There was a significant difference (P = 0.002) in employment status of partners between planned and unplanned pregnancy. Just like the pregnant teenagers,

the majority (22.0%; Table 4.4) of the partners were involved in small businesses, 14.3% skilled artisan, 9.5% shop and office work, 9.1% farm work, 6.0% domestic work, 4.0% factory and 2.0% professional work which is consistent with the low socio-economic status (Table 4.3).

Table 4.4 Occupation of sexual partner

Type of work done by sexual partner	Frequency	
	Number	%
Unemployed	130	25.8
Professional / managerial	10	2
Police / army / security	28	5.6
Shop / restaurant / office	48	9.5
Factory / mine / labour	20	4
Child / domestic work	30	6
Farm work	46	9.1
Trading / selling	111	22.0
Skilled artisan / electrician /plumber, mechanic	72	14.3
Other	4	0.8
Don't know	5	1.0

4.3.4 Substance use by sexual partner

About 21.0% of pregnant teenagers reported that their sexual partners drank alcohol (Figure 4. 10). Of these, about 58.7% drink few times a month, 18.3% only weekends, 15.4% everyday. 3.9% once in more than one month and 3.9% didn't know. Only 0.2% indicated that their partners smoked *marijuana.*

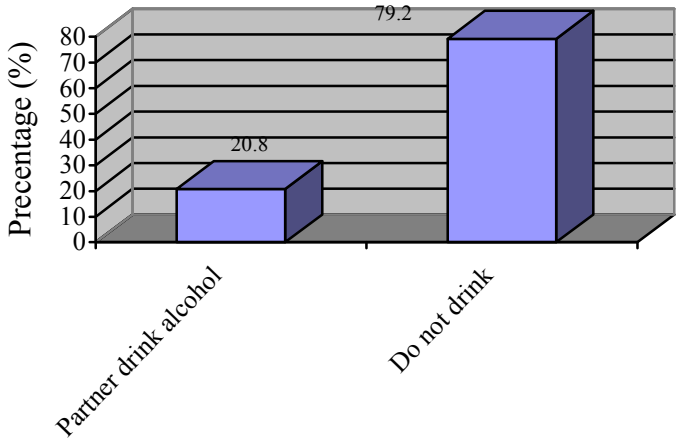


Figure 4.10 Frequency of alcohol use by sexual partner

4.4. Reproductive and sexual health

4.4.1 Menarche

The majority of pregnant teenagers (26.5%) started menstruating at the age of 14. The mean age at menarche was 14 years with a range of 9 to 18 years. There was no significant difference ($P = 0.403$) in age at menarche between planned and unplanned pregnancy.

4.4.2 Age at first sexual intercourse

About 21.0% of pregnant teenagers had first sexual intercourse at the age of 15 years, which was also the mean age. The age at first sexual intercourse ranged from 10 years to 19 years for both groups ($P = 0.709$)

4.4.3 Experiences at first sexual intercourse

In both groups the majority (69.5% planned and 50.4% unplanned) of teenagers reported willing to have sex while 17.8% planned and 34.0% unplanned said they were forced to have sex (Figure 4.11). There was a statistically significant difference in the experiences at first sexual intercourse ($P = 0.005$) between planned and unplanned pregnancy.

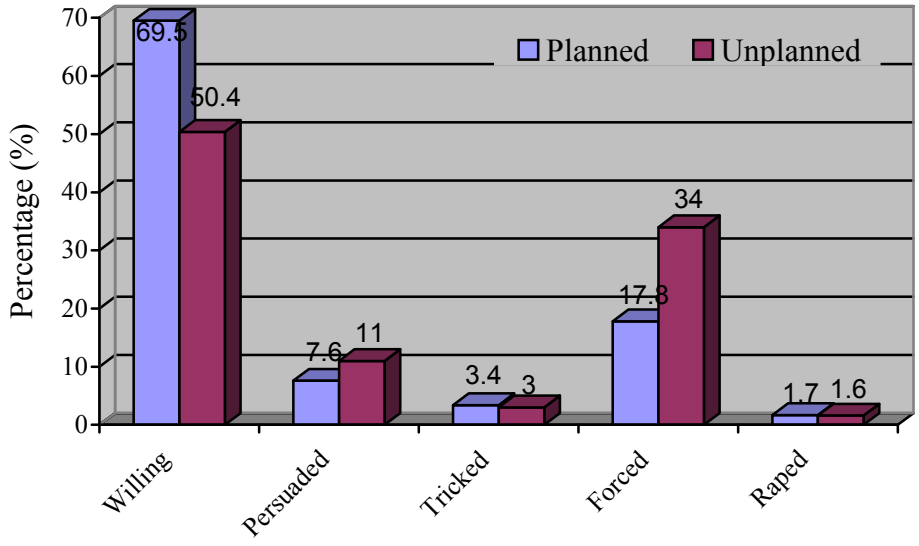


Figure 4.11 Circumstances at first sexual intercourse.

4.4.4 Sexual partners at first intercourse

The majority (75.5%) of pregnant teens had first sexual intercourse with their boyfriends, 10.9% with husbands, 7.1% and 3.6% with acquaintances that were not described as boyfriends / husbands (Figure 4.12).

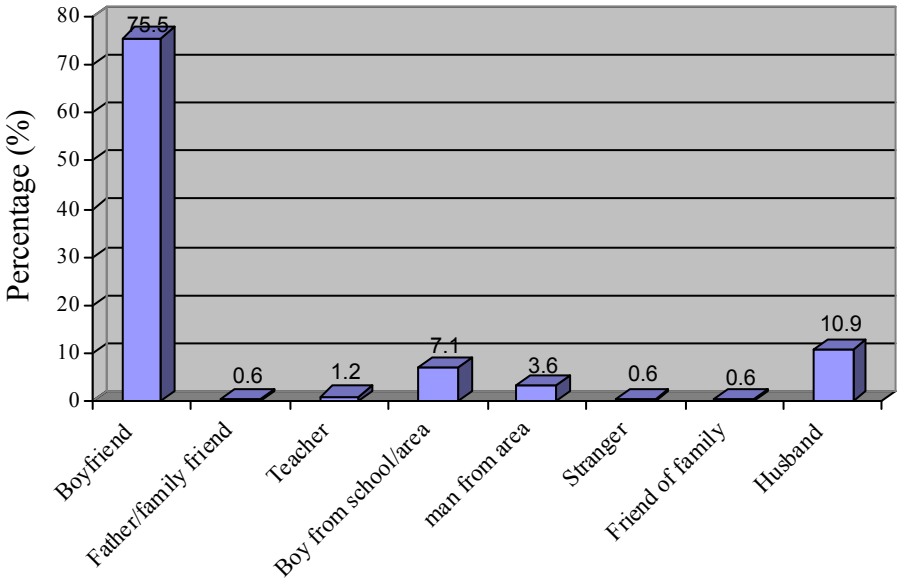


Figure 4.12 Distribution of sexual partners at first intercourse

4.4.5 Condom use among pregnant teenagers

There was no significant difference (P = 0.074) in condom use between planned and unplanned pregnancy. Nearly a quarter (25.4%) of respondents with planned and about a third (34.2%) with unplanned pregnancy used condoms (Figure 4.13).

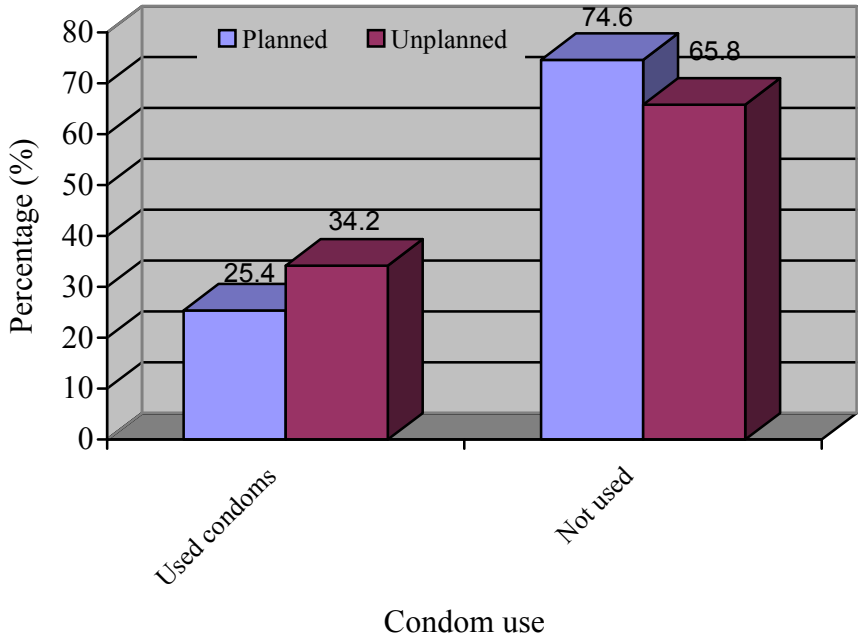


Figure 4.13 Distribution of condom use among pregnant teenagers with planned and unplanned pregnancy

4.4.6 Contraceptive use among pregnant teenagers

Only 13.6% of the participants with planned and 17.5% with unplanned pregnancy reported to have used contraceptives (Figure 4.14). Contraceptive use between planned and unplanned pregnancy was not statistically different (P = 0.320). The most frequently mentioned reasons were: not sexually active (28.0%), did not know (26.5%), scared of side effects (9.5%), fear of becoming sterile (9.0%) and wanting a child (10.5%). There was a significant difference (P <

0.001) in reasons given for not using contraceptives between planned and unplanned pregnancy. The common methods used were injections (Depo-Provera, 53.0%) followed by condoms (42.2%) and pills (3.8%; Figure 4.15). About 65.0% heard of the methods from health facilities, 21.7% from the radio, 9.6% friends and 3.7% from school.

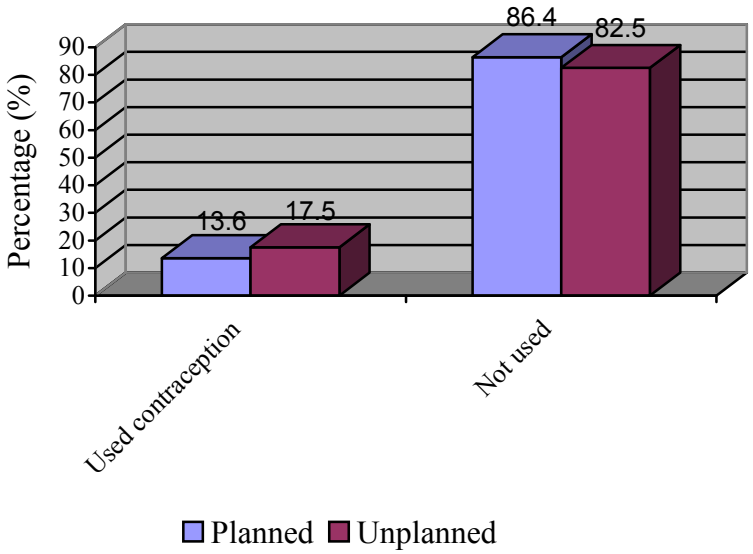


Figure 4. 14 Contraceptive use among teenagers with planned and unplanned pregnancy.

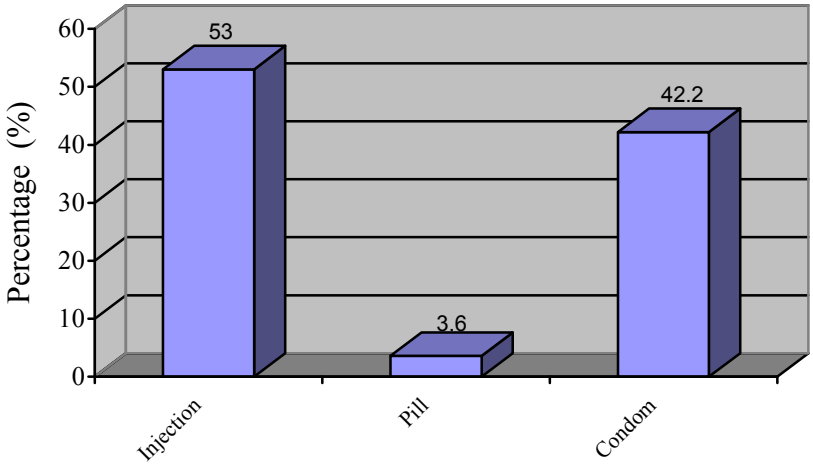


Figure 4.15 Types of contraceptive methods used by pregnant teenagers

4.4.7 Status of pregnancy

Nearly seventy-five percent (271) of teenagers with planned and 80.6% (94) unplanned pregnancy were pregnant for the first time (Figure 4.16). The majority (31.7%, 104) of teens had their first pregnancy at the age of 17 years, 25.0% 18 years, 23.1% at 16 years and 14.4% at 15 years, with the mean age of 16.6 years. There was no significant difference ($P = 0.675$) in age at first pregnancy between planned and unplanned pregnancy. Twenty-two percent had miscarried, 67.0% had one child, 9.7% two and 1.0% three. Similarly, there was no significant difference ($P = 0.348$) in the number of children between planned and unplanned pregnancy. The gestational age of pregnancy was between 4 and 40 weeks with a mean of 24.4 weeks. The majority (22.4%) of teens were pregnant for 24 weeks, 21.2% for 28 weeks, 18.0% for 32 weeks, 10.0% and 0.4% for 40 weeks and 4 weeks respectively.

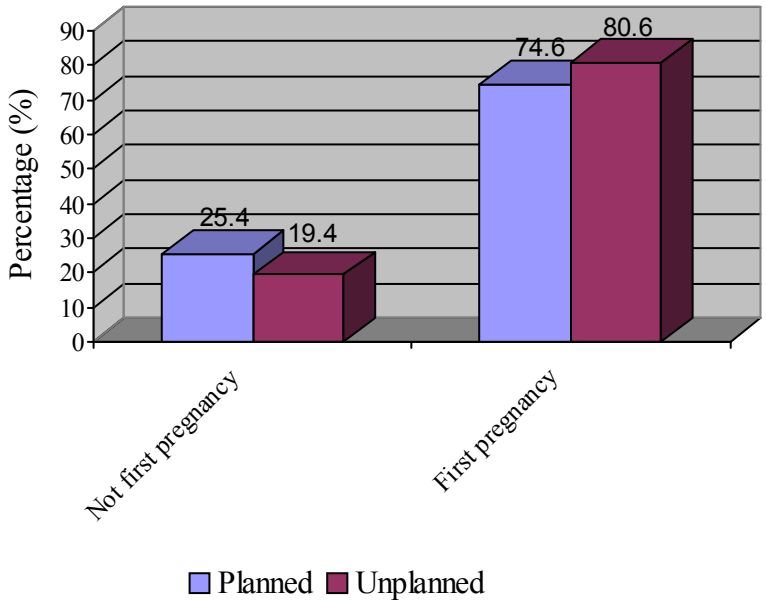


Figure 4. 16 Pregnancy status of the teenagers

Table 4.5 Reasons and frequency for not using contraceptives

Reasons for not using contraceptives	Frequency		Planned Pregnancy (%)	Unplanned Pregnancy (%)
	Numbers	Percent (%)		
Not sexually active	118	28	12.8	32.8
Did not know	112	26.5	15.7	30
Against religion	4	1	1.9	0.6
Partner did not want	35	8.4	4.9	9.7
Scared of parents	21	5	0	6.5
Scared of nurses at clinic	4	1	0	1.3
Did not have money	1	0.2	0	0.3
Wanted a baby	44	10.4	38.2	1.5
Scared of side effects	40	9.5	12.8	8.1
Scared of becoming sterile	38	9	10.8	6.9
Other	3	0.7	0	0.9
Total	422	100	100	100

4.5 Relationship control

Most of the teenagers with unplanned pregnancy (84.2%) agreed that their sexual partners were the ones making decisions that affected them. Almost half of the teenagers (58%) reported that their sexual partners would do things to please themselves and 81.4% of the teenagers would do anything to please their sexual partners as they provided them with money and other material needs. If there were any disagreements between the participants and their sexual partners, the majority (67.8%) of the sexual partners would do what they wanted. About 24.4% felt that they were tricked by their partners and 98.2% did not want to get pregnant. Teenagers feared that they would make their sexual partners angry (37.8%) or think that the teenagers were having sex with other men (41.3%) if they asked the sexual partners to use condoms. The responses to questions describing the relationship between teenagers and sexual partners suggest that men

had control over the teenager's reproductive and sexual health (Table 4.6). There was a significant difference on the perception of pregnant teenagers about their relationships ($P < 0.001$).

Table 4.6 Relationship control of planned and unplanned pregnancy

Relationship control	Planned		Unplanned	
	Frequency (%)		Frequency (%)	
	Agree	Disagree	Agree	Disagree
If I asked my partner to use a condom, he would beat me	11.9	88.1	14.5	85.5
If I asked my partner to use a condom, he would be angry with me	42.4	57.6	37.8	62.2
My partner has more say than I do about important decisions that affect us	85.6	14.4	84.2	15.8
If I asked my partner to use a condom, he would think I am having sex with other people	52.5	47.5	41.3	58.7
I feel trapped or stuck in our relationship	8.5	91.5	24.4	75.6
My partner does what he wants, even if I don't want him to	48.3	51.7	58.0	42.0
When my partner and I disagree, he gets his way most of the time.	60.0	40.0	67.8	32.2
Because my partner buys me things I want to please him	85.6	14.4	81.4	18.6
I was actively trying to get pregnant	93.2	6.8	2.8	97.2
I was actively trying not to get pregnant	5.1	94.9	98.2	1.8
I did not mind if I became pregnant	13.5	86.5	4.7	95.3

4.6 Knowledge and sources of information on reproductive and sexual health

Teenagers with planned (50.0%) and unplanned (47.5%) pregnancy expressed the fear that the use of Depo-Provera as a contraceptive method can cause sterility. About 88.9% and 92.4% of

the teenagers with unplanned and planned pregnancy respectively expressed a myth that if a woman does not menstruate, dirt will build up and make her ill. Nearly 50.0% of the teenagers with unplanned pregnancy agreed with a statement that having intercourse while in "water" can prevent pregnancy compared to 35.3% of the planned. About 60.7% and 50.1% with planned and unplanned pregnancy respectively, believe that condoms can disappear in the woman's body with a significant difference (P = 0.045) between unplanned and planned pregnancy. Nearly 73.0% of the teenagers with unplanned pregnancy believed that if a pregnant woman takes contraceptive pills, she may abort (Table 4.7).

About 35.4% of the teenagers with unplanned pregnancy learnt sexuality from counsellors, 21.5% from peers, 16.0% from school and 10.5% from their mothers. Among teenagers with planned pregnancy 23.7% learnt about sexuality from counsellors, 34.0% from peers, 17.0% grandparents and 5.9% from mother (Table 4.8). There was a significant difference (P = 0.003) in sources of reproductive and sexual information between teenagers with planned and unplanned pregnancy.

Table 4.7 Reproductive and sexual knowledge of pregnant teenagers

Reproductive and sexual knowledge	Planned		Unplanned	
	Frequency (%)		Frequency (%)	
	True	False	True	False
The most common cause of infertility is a sexually transmitted disease	84.8	15.2	83.5	16.5
A woman who is not using contraception and has sex during her period will probably get pregnant	57.3	42.7	72.1	27.9
A woman can become sterile if she uses depo	50.0	50.0	47.5	52.5
If a woman does not menstruate the dirt will build up in her body and make her ill	92.4	7.6	88.9	11.1
Having intercourse while in water cannot	64.7	35.3	50.8	49.2

Reproductive and sexual knowledge	Planned		Unplanned	
	Frequency (%)		Frequency (%)	
	True	False	True	False
prevent pregnancy				
If a man uses condom it can disappear into the woman's body	60.7	39.3	50.1	49.9
Having sex frequently prevents pregnancy	17.8	82.2	19.5	80.5
A woman who takes contraceptive pills after she discovers she is pregnant will have an abortion	77.8	22.2	73.1	26.9
A woman who uses contraceptives is promiscuous	20.3	79.7	16.3	83.7
Most women get pregnant right in the middle of their menstrual cycle (between periods)	72.9	27.1	77.3	22.7
If a woman has not got pregnant within 4 months after she stops contraception the couple are probably sterile	42.4	57.6	34.6	63.4
Pregnancy can occur at first sexual intercourse	78.8	21.2	74.2	25.8
Washing genitals soon after intercourse prevents pregnancy	26.3	73.7	26.9	73.1

Table 4.8 Sources of reproductive and sexual health

Sources of reproductive and sexual health	Planned		Unplanned	
	Frequency		Frequency	
	Number	%	Number	%
Mother	7	5.9	41	10.5
Nankungwi (Counsellor)	28	23.7	137	35.4
Father	0	0.0	1	0.3
School	11	9.3	62	16.0
Grandparent	20	17	43	11.1
Radio	10	8.5	12	3.1
Peers	40	33.9	83	21.5
Books	0	0.0	1	0.3
Other relative	2	1.7	7	1.8

4.7 Attitudes towards sexual activity

The majority teenagers agreed with statements that the right age to have sex is 20 (82.6%), girls who get married at the age of 18 are young (65%), teenage girls are prompted to get married because of money (84.8%), culture (80.8%), pregnancy (85%), forced by parents (76.8) and driven by love (88.9%; Table 4.9). Nearly a quarter (24.6%) of the participants agreed with the statement that girls should start having sexual intercourse soon after menarche. There was a significant difference (P = 0.008) in teenage girls being prompted to get married because of money between planned and unplanned pregnancy. There is no significant difference in the rest of the statements between planned and unplanned pregnancy.

Table 4.9 Pregnant teenagers' views concerning sexual activity

Statements	Agree		Disagree	
	Number	Percent (%)	Number	Percent (%)
Girls should start having sexual intercourse after menarche	124	24.6	381	75.4
The right age for a girl to have first child is 20	417	82.6	88	17.6
Girls who get married at 18 are young	329	65.1	176	34.9
Girls are prompted to get married because of money	428	84.8	77	15.2
Girls are prompted to get married because of culture	407	80.8	97	19.2
Girls are prompted to get married because of pregnancy	429	85	76	15
Girls are prompted to get married because they are being forced by parents	388	76.8	117	23.2
Girls are prompted to get married because of love	448	88.9	56	11.1

4.8 Physical and sexual violence perpetrated by partner

There was a significant difference (P = 0.008) in the physical and sexual violence between planned and unplanned pregnancy. Thirty percent of pregnant teenagers indicated that partners failed to provide money to run the house. Nearly two percent of pregnant teens reported that they surrendered earnings to sexual partners. However, most pregnant teenagers were not working. About 81.7% and 80.6% with planned and unplanned pregnancy respectively had been physically and sexually abused with 95.0% experiencing violence over the past 12 months.

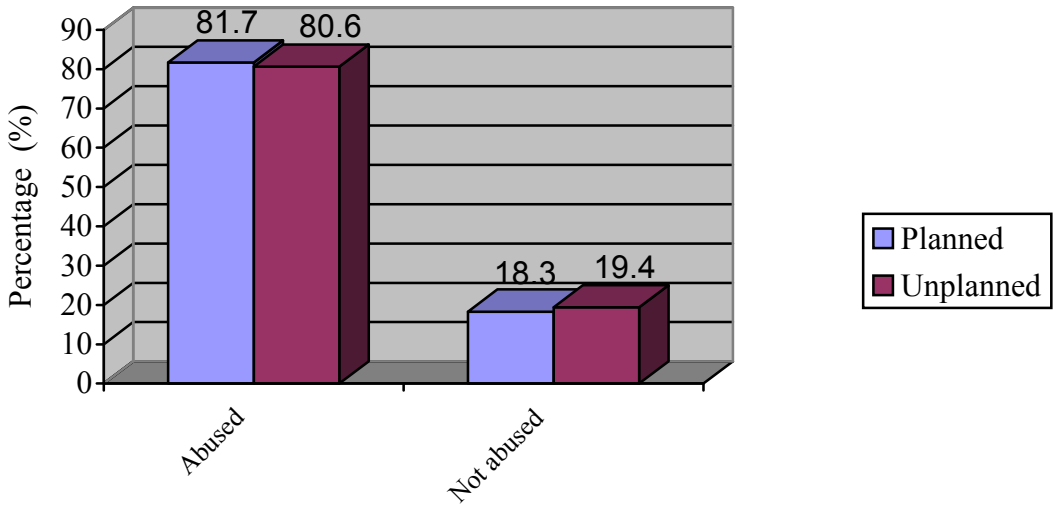


Figure 4. 17 Pregnant teenagers physically and sexually abused in the last 12 months for planned and unplanned pregnancy

4.9 Substance use by pregnant teenagers

Few participants (4.2%, 21) reported that they drink alcohol (Figure 4. 19). Of these, 85.7% drink once a month, 9.5% 2-4 times a month and 4.8% 2-3 times a week. There was a significant difference (P = 0.010) in alcohol use between planned and unplanned pregnancy,

but there was no significant difference (P = 0.233) in the frequency of the use of alcohol between planned and unplanned pregnancy. About 52.4% drunk during the past 12 months and 47.6% did not. None of the pregnant teenagers reported that they had used *marijuana*.

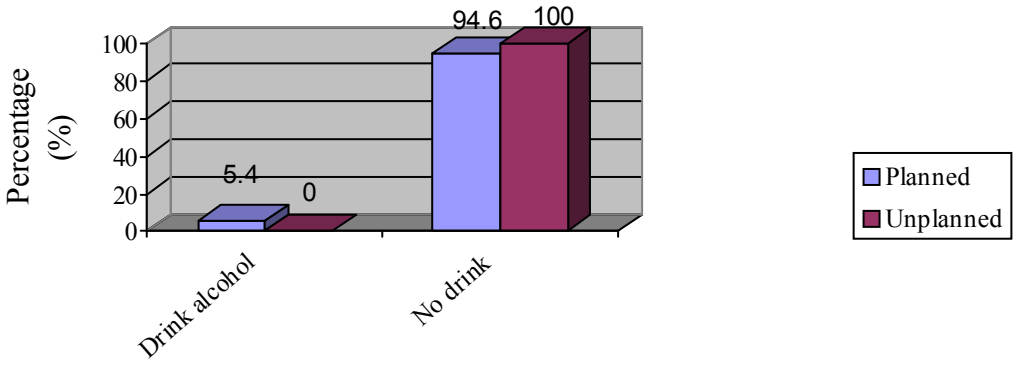


Figure 4.18 Alcohol use by pregnant teenagers

4.10 Cultural practices

The majority (82.3% planned, 77.8% unplanned) had gone through initiation ceremonies. About 68.3% had attended *Chiputu,* 27.1% *Nsondo*, 1.7% *Mkangali*, 0.4% *Litiwo* and 10.1% other ceremonies. There was no significant difference (P = 0.303) in initiation ceremony between planned and unplanned pregnancy. All sampled Moslems (100%) and 29.2% Evangelical, 18.9% Protestants, 15.8% Catholics and 2.1% other denominations had gone through initiation ceremonies. Lessons learnt from initiation ceremonies included sex and sexuality, reproductive health, good behaviour, respecting elders, ways of dressing and being obedient. Twenty-seven percent attended initiation ceremonies organized by the church, of which 95.3% had both traditional and church initiation ceremonies. About 84.5% of the participants agreed that the initiation ceremonies made them feel respected but 15.5% did not. Fifty four percent of the teenagers felt as a woman while 45.9% did not. Most of the

participants (75.2%) expected to get married and 24.8% did not. Majority of the pregnant teenagers (96.8%) learnt to respect elders while 3.2% did not.

Table 4.10 Distribution of pregnant teenagers who went through initiation ceremony

	Went through initiation ceremony		Total
	No	Yes	
Planned	20 17.7%	93 82.3%	113 100
Unplanned	82 22.2%	287 77.8%	369 100
Total	102 21.2%	380 78.8%	482 100

4.11 Logistic regression

The logistic regression analysis indicated that the following factors: age of participants, low socio-economic status and contraceptive use and physical violence were statistically significantly associated with planned pregnancy (Table 4.11).

The model (Table 4.11) shows that as the age of the teenagers increases (approaching 19 years) the likelihood of unplanned pregnancy decreases. In addition, the lower the socio-economic status, the more likely that the pregnancy was unplanned. The respondents who reported unplanned pregnancy were more likely to have been forced and / or had experienced violence. Among teenagers who had used contraceptives said they were more likely to have unplanned pregnancy implying that there were some factors associated with the use of contraceptives.

Table 4.11 Logistic regression model on determinants for planned pregnancy

Variable	Odds ratio	95% CI	P.(Z)
Age	1.37	1.13-1.67	0.001
Socioeconomic status	0.68	0.51-0.91	0.010
Persuaded at first sex	0.53	0.24-1.17	0.116
Tricked at first sex	1.04	0.31-3.55	0.94
Forced/raped at first sex	0.47	0.27-0.82	0.007
Ever used contraception	0.54	0.29-1.01	0.055
Physical violence	0.66	0.46-0.96	0.031

4.12 Summary

In this chapter results have been presented and described using graphs and tables. The next chapter presents a discussion and recommendations on the findings of the study. Limitations and conclusions of the study have been presented.

CHAPTER 5

DISCUSSION, LIMITATIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this chapter the main findings have been discussed according to the objectives of the study. Limitations, recommendations and conclusions of the study have also been presented.

5.2 Discussion

5.2.1 Prevalence and patterns of teenage pregnancy

The prevalence of teenage pregnancy in the sampled antenatal clinics in Zomba District at the time of data collection was 37.1% of which 76.4% was unplanned. The prevalence of teenage pregnancy varies from country to country; 35% for South Africa, 22.5% for Zambia, 5% for the US and 3% for the UK (Jewkes et al., 2001; Kmietowez, 2002**).** The prevalence for Zomba is slightly lower than the 40% reported for Southern Region but a bit higher than the 33% and 28% reported for Northern Region and Central Region of Malawi, respectively. The prevalence for Southern Region within which Zomba belongs, has increased from 36% in 2000 to 40% in 2004 (MDHS, 2000; 2004). Efforts to reduce teenage pregnancy were being implemented by government, Non Governmental Organisations, including Youth Net and Counselling (YONECO), "Youth Alert" and "Why Wait". This implies that there is still a need for more efforts. Possible factors contributing to the high prevalence in this study area include age at first pregnancy, low contraceptive use, educational levels and socio-economic status, circumstances

at first sex, lack of knowledge on reproductive and sexual health and physical and sexual violence (Table 4.11).

The prevalence of unplanned pregnancy in Malawi is not known, but it is 41% for Zimbabwe and 97.4% for South Africa (Mbizvo et al., 1997; Jewkes et al., 2001).

Some teenagers (23.4%) in this study reported that their pregnancy was planned, which might have been attributed by culture (P = 0.303). The feeling of being a woman (54.1%) and expectations to marry (75.2%) after initiation ceremonies in this study, may have made the pregnancy desirable. In addition, as the majority of the teenagers were married, they may have felt that pregnancy occurring within marriage is acceptable regardless of age. Furthermore, some teenagers had 1 or 2 children and may have wanted another child (33.0%) therefore, having planned pregnancy. However, the teenagers with planned pregnancy admitted that the pregnancy was planned as the pregnancy had already occurred. The teenagers were not willing to admit that they did not plan / want the pregnancy. Planned pregnancy in this study may pose critical challenges to health policy makers than unplanned pregnancy as education and contraceptive availability will not prevent teenage pregnancy. However, further study is required to differentiate planned and unplanned teenage pregnancy.

5.2.2 Age of the teenagers

There is a perception among girls that they could start having sexual intercourse and marry after menarche (Table 4.9). This perception is influenced by cultural practices (Section 4.10). In this study, early marriage was statistically significant ($P = 0.001$), which may be attributed to

early menarche and initiation ceremonies. Therefore, the earlier the age at menarche the earlier sexual intercourse starts. Sexual activity among the teenagers in this study started at an early age (10 years) with the mean age of 15 years leading to early age at first pregnancy (age ranging from 13-19 years). Among the teenagers, about 25% had not been pregnant before. Of these, 22.3% had miscarried, 67% had 1 child, 9.7% had 2 children and 1% had 3 children, an indication that the first pregnancy occurred at an earlier age. Hickely, (1997) had reported similar findings in Malawi. The logistic regression model (Table 4.11) suggests that the age of the participants was a risk factor for unplanned teenage pregnancy ($P = 0.001$). The increasing likelihood of planned pregnancy among older teenagers matches the perception of respondents, that having a child at the age of 18 is acceptable (Figure 4.1). Consequently, planned and unplanned pregnancy occurs at an early age starting from 13 years and the proportion of pregnant girls among teenagers' increases as they get older (Figure 4.1).

5.2.3 Contraceptive use and knowledge

Contraceptive use among the participants was low with only teenagers with 13.6% planned and 17.5% unplanned pregnancy (Figure 4.14). This is lower when compared to the use of contraceptives among all women in the area (28%). The level of awareness at 73.5% in this study area was relatively higher than use at 17.5% but lower than awareness of contraceptives among adolescents in Malawi has been reported at 95% (MDHS, 2004). There are low levels of awareness in this study area compared to the whole country. This may be the reason for the higher rates in teenage pregnancy in the study area (37.6%) than nationally (33.6%). Fears of side effects, sterility, disapproval from sexual partner and condoms disappearing in a woman's body were some of the reasons given by some teenagers for non-contraceptive use (Table 4.7).

The fears, beliefs and perceptions of sexual inactivity associated with contraceptive use may be attributed to the lack of knowledge and low levels of awareness. Furthermore, a mean score of 11.4 out of 20 in reproductive and sexual knowledge indicates the lack of knowledge (P = 0.045).

Traditional counsellors (*anankungwi*) and peers, being the main sources of information on reproductive and sexual health for pregnant teenagers in this study (Table 4.8), may have imparted inaccurate information leading to the lack of knowledge about fertility, conception and contraception among teenagers. For example, misconceptions surrounding menstruation and the use of Depo-Provera as a method of contraception (Table 4.7) can be blamed on poor counselling. The traditional counsellors as a main source of information in this study, contradicts recent reports in Malawi that traditional sources are weakening due to urbanisation and westernisation, thus teenagers getting more information from friends (Palamuleni, 2002; Allan Guttmacher Institute, 2005). The difference might be that the majority of the teenagers in this study had gone through initiation ceremonies therefore, getting more information from counsellors and friends / peers. The poor counselling from peers and the lack of knowledge has been reported elsewhere in Malawi (Hickely, 1997).

Among those who used contraceptives, unplanned pregnancy was higher than planned. It is expected that if teenagers use contraceptives, unplanned pregnancies will be prevented. The findings in this study differ with those of Palamuleni (2002) and Munthali & Chimbiri (2003). The explanations for the difference might be that participants with planned pregnancy terminated the use of contraceptives because they were planning to have babies therefore, the

use of contraceptives became low. On the other hand, teenagers who had unplanned pregnancy might have used contraceptives intermittently as they felt sexually inactive. If contraceptives are used intermittently, the likelihood that unplanned pregnancy would be prevented becomes low (Rasch et al., 2000). Similarly, the use of contraceptives is relatively high in South Africa (64.4%) but the prevalence of teenage pregnancy at 35% is equally high (Woods & Jewkes, 2006). Thus, the lack of knowledge or information on reproductive and sexual health, including the use of contraceptives might have influenced most teenagers in the study area not to use contraceptives including condoms, exposing themselves to unplanned teenage pregnancy (P = 0.055; Table 4.11). Non-contraceptive use on unplanned teenage pregnancy cannot be ruled out as a risk factor for unplanned pregnancy although it is statistically marginally and not supported (P = 0.055) in the area of study.

5.2.4 Levels of education, cultural practices and economic factors

Among the pregnant teens, many of them had dropped out of school before they became pregnant (64.0%; Section 4.2.7). Therefore, school dropout can be attributed to reasons other than pregnancy. Even amongst those who became pregnant whilst still attending school (177; 36.0%), only 8 (about 5.0%) were still at school at the time of survey representing 95.0% dropout and none proceeded to tertiary level. School dropout can be caused by several reasons. Firstly, most teenagers felt as if they were women after initiation ceremonies and after menarche. As a result, about 81.0% of them were prompted to get married immediately after the traditional rites (Table 4.8). The feeling of adulthood at an early age may be due to lessons learnt soon after menarche (occurring at an average age of 14 years), which include emphasis

on marriage and having children in order to maintain the relationship or to earn respect in the society.

Cultural practices are variously supported by Christians, who are mainly the Lomwe, but chiefly by Moslems, who are mostly the Yao (Figure 4.5), implying that more pregnant teenagers are likely to be Yaos than Lomwes. In a related study, cultural practices played a role in teenage pregnancy being higher in Mangochi (which consists of mainly the Yao) than in Chitipa, Malawi (Hickely, 1997). Therefore cultural practices might influence teenagers to drop out of school in Zomba. Similar findings have been reported in Malawi by Chimombo & Chonzi (2002). However, there was no statistical difference between planned and unplanned pregnancy (P = 0.303). The lack of statistical difference may be attributable to the Yao and Lomwe living in close proximity to the study area. This leads to intermarriages and similar traditional practices, which may cause the blending of cultural values and traditional practices. On the other hand, the low levels of education due to school-dropout played a significant role in unplanned pregnancy (P = 0.001; Table 4.1) as the lower the level of education, the higher the rate of teenage pregnancy.

Secondly, poverty might influence some teenagers to drop out of school. Sixty percent (303) indicated that they got into affairs because of money and 56.4% found it difficult to raise K500 (US$3.6) in an emergency, as indicated earlier while about 44% often went without food (Section 4.2.7). Vundule et al. (2001) used ownership of household items, among other things, to infer the socio-economic status of pregnant teenagers without developing standards. The possession of a radio, television set and bicycle in this study does not directly indicate the

socio-economic status. Few participants possess a car (0.8%) and a motorbike (1.2%) while many of them can afford a radio (84%) and a bicycle (53%), indicating that the majority could be poor. However, going without food implies that teenagers cannot raise about US$1 per day, indicating that they live below the poverty line (Facts Sheets, 2004). Poverty may also influence parents to encourage teenagers to get married (76.8%; (Table 4.8). This implies that the majority of teenagers could not afford basic needs for education, mainly tuition and school uniform. The high proportion of teenage pregnancy attributable to low socio-economic status in Malawi has also been reported by Allan Guttmacher Institute (1999), Palamuleni (2002) and Munthali & Chimbiri (2003). Therefore, teenagers from poor households are more likely to become pregnant at an early age than those from rich households (P = 0.010, Odds Ratio = 0.68; Table 4.11). The prevalence of teenage pregnancy in Zomba may be due to the majority of them belonging to poor households (Figure 4.6).

5.2.5 Gender power relations in partnerships

Sexual partners in this study were significantly older than pregnant teenagers with the mean age difference of 5.3 years (P = 0.043). Having older sexual partners could result in greater power inequalities in their relationships in which pregnant teenagers make little contribution to the decision-making process. This is similar to the findings of Advocates for Youth (2005) and Jewkes et al. (2001). Unequal gender power relations can be manifested in gender-based violence. This study found that some teenagers were forced, persuaded to have sex or raped. In addition, teenagers faced disapproval from their sexual partners on contraceptive use (Table 4.5), which might be due to greater power control by the sexual partner. Saur et al. (2003)

reported similar findings. This is consistent with findings in other countries, including the US and South Africa (Vundule et al., 2001; Crawford, 2003).

In addition, Saur et al. (2003) and Allan Guttmacher Institute (1999) reported that in Malawi some women are forced to have sex when they are not ready or when they do not feel like having sex. However, rape was reported by very few respondents (1.8%). This may therefore, have been due to under-reporting because most of teenagers who are raped are ashamed and afraid that they may be blamed (MDHS, 2004). In this study all forms of sexual abuse were translated into forced sex, which included rape, trickery and persuasion (Figure 4.11).

In addition to making decisions, communication was a problem**.** The age of the sexual partner was not known in 26.6% of the pregnant teenagers. Under such circumstances, negotiating safe sex between teenage girls and their partners may be highly unlikely. The reason for teenagers engaging with older sexual partners may chiefly be the need for money and gifts (Table 4.9). Sex for the exchange of materials has been reported in Chitipa, Dowa, Mangochi and Ntchisi in Malawi and elsewhere in Africa (Hickely, 1997; Allan Guttmacher Institute, 1999; Palamuleni, 2002). The partnership with older men, forced sex and transactional sex, deprive teen girls of the power to make decisions regarding contraceptive use, reproductive and sexual health and therefore, the prevention of unplanned pregnancy. There is a high rate of unplanned pregnancy (33.9%) among teenagers who were forced to have sex or were raped (P = 0.007). Thus, teenagers who are involved in relationships in which men have more power than them do are more likely to have unplanned pregnancy than those with equal power balance (Table 4.11). Martins & Curtis (2004) reported similar findings in South Africa. Therefore, unequal gender power relations and physical and sexual violence lead to unplanned teenage pregnancy.

The lack of significant difference (P = 0.136) for religious affiliations among pregnant teenagers between planned and unplanned pregnancy indicates that religion is not a risk factor. Given that Catholic doctrine does not condone the use of contraceptives, one would expect religion to be a risk factor. This implies that the Catholic denomination exerts very little influence regarding the use of condoms in the study area. However, other churches promote the use of contraceptives but their influence is yet unknown.

5.2.6 Substance abuse

Substance use by pregnant teenagers and sexual partners was not a risk-taking behaviour associated with unplanned teenage pregnancy in this study (Figure 4. 19). Similar findings have been reported in South Africa (Vundule et al., (2001). Unlike wise in Malawi, it is not common for teenage girls to use drug substances due to cultural values. However, there may have been underreporting since drug use is illegal, making it a sensitive topic. There was statistical significance (P = 0.010) in alcohol use which has been similarly reported elsewhere in Malawi (Facts sheets, 2003).

5.3 LIMITATIONS

Because the questionnaire had sensitive items, including sexuality and substance abuse, under-reporting and conflicting responses among respondents were noticed. For example, conflicting responses might be participants said had good relationship with their partners (50%) and more than 50% indicated having been physically or sexually abused (Figure 4.18). This implies that

the inaccurate reporting of some sensitive issues, which should be interpreted with caution, has occurred. However, respondents were open and willing to provide information mainly about non-sensitive issues suggesting that there was not only a feeling that somebody was listening to their problems, but also confidence in the assurance and arrangement for confidentiality and privacy.

Some of the pregnant teenagers might have been excluded since the sample was restricted to antenatal clinics. The results might have been different if the study had included those who never attended antenatal clinic during the period of the study. This is because they might have different experiences, therefore limiting the generalisability of the findings. However, this variation in responses might have been smoothered by an adequate sample size.

In addition, bias in remembering when events took place in the past when answering the questionnaire was a problem. For example, some respondents had difficulties in remembering historical events, including the time of menarche, first sexual intercourse and circumstances surrounding first sex. The study was relying on self-reported data. It is therefore possible that there were errors.

Determining the direction of causality was a problem however, since in the study associations between dependent and independent variables, one can say that there was a causal relationship between determinants and outcome. The respondents, knowing that they were being studied could have given wrong information and this might have had an effect on the results. However, this was dealt with by giving participants information and obtaining consent for their participation.

5.4 CONCLUSION

Teenage pregnancy whether planned or unplanned is detrimental to the health and socio-economic status of the teenagers. Reproductive and sexual health of teenage girls must be recognized as an area of critical importance in public health. There is a high prevalence (37.1%) of teenage pregnancy in the sampled antenatal clinics of Zomba District attributable to the low contraceptive use and socio-economic status, cultural practices, lack of reproductive and sexual knowledge, circumstances at first sex, including force and rape, physical and sexual violence, early marriage, age of sexual partner and alcohol abuse. This study has indicated that the age of teenager at first pregnancy, low contraceptive use, socio-economic status and physical violence are risk factors that are greatly associated with unplanned teenage pregnancy. Among reasons contributing to the low use of contraceptives are; sexually inactive, lack of knowledge, fear of side effects, including sterility, condoms disappearing in the womb and inequality of power with sexual partners. Early marriage is statistically significant in this study ($P < 0.001$) between planned and unplanned pregnancy but logistic regression is not a strong predictor of teenage pregnancy. Teenagers obtain information mainly from traditional counsellors and peers. The high prevalence of unplanned teenage pregnancy, low contraceptive use, myths and misconceptions surrounding the use of contraceptives indicate that teenagers are receiving inaccurate information about reproductive and sexual health, a problem which may be compounded by low educational levels. Therefore, the lack of knowledge about reproductive health is a risk factor for unplanned teenage pregnancy.

The lack of basic necessities is one of the factors that force teenagers to engage in transactional sex. In addition, teenagers are prompted to get married because of financial problems (P = 0.008) thus making the prevailing low economic status a risk factor for unplanned teenage pregnancy.

Based on the study it is clear that teenagers have no control over sexual and reproductive health since their sexual partners are the sore decision makers (P = 0.032) making physical and sexual violence a risk factor for unplanned teenage pregnancy. However, the influence of cultural practices and religion, substance abuse, relationship control, and fear of parents and intimidating attitude of health service providers have not been supported as risk factors. The apparent blending of traditional values between the Yao and Lomwe tribes in the study area may be due to the proximity between tribes and intermarriages, resulting in the lack of statistical difference (P = 0.303). Further research is required to determine cultural practices as a risk factor for teenage pregnancy.

The associations suggested by the study point towards a need for greater emphasis in reproduction and sexual health promotion interventions. In addition, strengthening awareness and giving information to dispel fears, misconceptions and rumours about contraceptive use will prepare teenagers for the physical changes they might experience when adopting contraceptive methods. Nevertheless, contraceptive use alone may not reduce teenage pregnancy, but addressing the impact of poverty on teenagers and empowering them on their rights and information in order to make right choices is just as important.

5.5 RECOMMENDATIONS

The study recognizes efforts being made by government and non-governmental organizations to solve the problem of teenage pregnancy in Malawi. These efforts include promoting the use of contraceptives, education of girls and poverty alleviation. However, the low use of contraceptives and socio-economic status, continued sexual and physical violence, the feeling of inferiority due to age differences with sexual partners and early marriages indicate that risk factors for unplanned teenage pregnancy still persist in the study area. Therefore there is a need to develop programmes to address risk factors identified in this study. Solutions to the problem require multidisciplinary implementing teams, including parents, schools, communities, NGOs and government sectors. The following recommendations are therefore suggested:

1. Noting that myths such as the fear of sterility and sexual inactivity, contribute to the low and irregular use of contraceptives, education programmes aimed at eliminating myths and misconceptions surrounding the use of contraceptives and condoms should be developed and implemented. In addition, adequate, friendly and school-based family planning services should be provided to teenagers.
2. Since the majority of pregnant teenagers fall in the low socio-economic status category, teenagers should be economically empowered by incorporating them in the existing income-generating programmes and enhancing their access to loans.
3. Attainment of education is low due to the high rate of school dropout before and after teenagers have become pregnant; hence career guidance should be promoted to encourage them to value education. In addition, incentives should be provided to girls

with outstanding academic performance to encourage competition and continuation of studies.

4. Noting that physical and sexual violence are risk factors for unplanned teenage pregnancy, awareness programmes on human rights should include the rights of girls in sexual and reproductive matters. In addition, perpetrators of violence should be educated to become responsible and appropriately punished.
5. The majority of pregnant teenagers do not participate in decision-making regarding sexual and reproductive health partly because of age differences and the need for subservience as required by traditional practices; hence programmes aimed at discouraging subservient behaviour and empowering teenagers to become assertive should be developed and implemented.
6. Noting that teenagers marry at an early age predisposing them to early pregnancy, awareness programmes on the implications should be developed and implemented.
7. Recognizing that peer and traditional counsellors are the main source of information about sexual and reproductive health and that the information conveyed is ineffective in preventing unplanned teenage pregnancy, updated information should be prepared for and training provided to traditional counsellors. In addition, awareness programmes should be developed aiming at encouraging parents to play a leading role in providing appropriate information about sexual and reproductive health and preparing their children to cope with the sexualised society.
8. Knowing that cultural values exert varying influences, further studies should be conducted in which isolated sites are sampled.
9. Given that physical and sexual violence exist among teenagers, strategies are needed, including training health care providers, teachers and others to identify, counsel and

refer victims of sexual violence to health services should be implemented, alongside working with government and non-governmental organisations to eliminate gender inequalities. In addition, awareness campaigns on human rights should be conducted so that women are aware of their reproductive rights and communities should be educated against sexual violence.

10. Since most teenagers are not using contraceptives and some are not aware of them, there is need to intensify awareness on contraceptive use before teenagers become sexually active.

REFERENCES

Advocates for Youth 2005. "The Facts: Adolescent Sexual and Reproductive Health in Sub-Saharan Africa". http://www.advocateforyouth.org/publications/factsheet/fssxrepr.html.

Allan Guttmacher Institute. 1999. "Teen Sex and Pregnancy". http://www.guttmacher.org/pubs/fb_teen_sex.html

Allan Guttmacher Institute. 2005. "Adolescents in Malawi; Sexual and Reproductive Health". http://www.guttmacher.org/pubs/fb_teen_sex.html

Chimombo, J.P.G. & Chonzi, R.G. 1999. School Drop out and Teenage Pregnancy - its Magnitude and Causes in Malawi Primary Schools: A research report prepared for Rockfeller Foundation, Zomba: University of Malawi.

Chonzi, E. 2000. Factors Contributing to Low Utilization of Family Planning Services among Secondary School Students in Zomba Municipality: Mzuzu University.

Clements S. & Madise Y. 2004. "Who is being Served Least by Family Planning Providers? A Study of Modern Contraceptive Use in Ghana, Tanzania and Zimbabwe". ***African Journal of Reproductive Health. Vol. 8, No. 2, pp. 124-136.***

Crawford, K.E. 2003. Teenage Pregnancy: Trends and Consequences of Teenage Childbearing. Milwaukee: University of Wisconsin.

Dunkle, K.l., Jewkes, R K., Brown, H.C., Gray G E, McIntryre J.A. & Harlow S.D. 2004. "Gender Based Violence, Relationship Power and Risk of HIV Infection in Women Attending Antenatal Clinic in South Africa". ***Lancet; vol. 5, no.1, pp. 1415–1421.***

Ehlers, V.J. 2003. "Adolescent mothers' utilization of contraceptive services in South Africa". ***International Nursing Review; Vol. 50, No. 4, pp. 229-241.***

Facts sheets. 2003. http://www.teenagepregnancy.org/resources/reading/fact_sheets /drugsondcp.asp

Facts Sheets, 2004. http://www.un.org/millenniumgoals /index.html

Hickley, C. 1997. Factors Influencing Teenage Motherhood. Centre for Social Research, Zomba: University of Malawi.

Hickley, C. 1999. Factors Explaining Observed Pattern of Sexual Behaviour Phase 2: Longitudinal Study Final Report. Centre for Social Research, Zomba: University of Malawi.

Hoosain, R. 2003. The Psychosocial Experiences Associated with Pregnancy among Black South African Teenagers (Thesis). Unpublished, University of the Witwatersrand.

Jewkes, R. Vundule, C. Maforah, F. & Jordaan, E. 2001. "Relationship Dynamics and Teenage Pregnancy in South Africa". ***Social Science and Medicine, vol. 91, no. 52, pp. 733-744.***

Jewkes, R. & Wagman, J. 2004. "Ethical Controversies in Domestic Violence in South Africa; ethical issues" in Lavery J.V., Wahl, E. Grad, C. & Emmanuel, E.J. ***International Biomedical Research***: A casebook. Oxford University Press: New York.

Katzenellenbogen, J.M., Joubert, G. & Karim, S.S.A. 1997. Epidemiology; A manual for South Africa. Oxford Universty Press; Cape Town.

Kmietowicz, Z. 2002. "United States and United Kingdom are top in teenage pregnancy rates". ***British Medical Journal, vol. 324, no. 8, p. 1354.***

Maluwa-Banda, D. 2001. Baseline Survey Report on the Sexual and Reproductive Health Programme for out of School Young People. Lilongwe: Department of Youth, National Youth Council of Malawi and UNFPA.

Maluwa-Banda, D. & Lunguzi J. 2002. Baseline Survey Report on Meeting Development and Participation Rights of Adolescents Girls in Malawi. Lilongwe: UNFPA.

Malawi Demographic Health Survey Education Data for Decision Making. 2002. National Statistical Office Zomba: Malawi.

Malawi Demographic Health Survey (MDHS). 2000. National Statistical Office Zomba: Malawi.

Malawi Demographic Health Survey (MDHS). 2004. National Statistical Office Zomba: Malawi.

Magadi, M. 2004. Poor Pregnancy Outcomes among Adolescents in South Nyanza Region of Kenya: University of Southampton: United Kingdom.

Martin, L. & Curtis, S. 2004. "Commentary: Gender-based Violence and HIV/AIDS: Recognizing Links and Acting on Evidence". ***Lancet, vol. 363, no. 1, pp. 1410***

Mbizvo, M.T., Bounduelle, M.M.J., Chadzuka, S. Lindmark, G. & Nystrom, L. 1997. "Unplanned Pregnancies in Harare: What Are the Social and Sexual Determinants?" ***Social Science and Medicine, vol. 45, no. 6, pp. 937-942.***

Medical dictionary online http://-www.online-medical-dictionary.org

Mtimavyale, L.A.R. 1997. Sharpening the Malawian Youth on Issues Related to Abortion: Paper presented at Demographic Society Seminar in Lilongwe, Malawi

Munthali, A.C. & Chimbiri, A. 2003. Adolescent Sexual and Reproductive Health: A Synthesis Report for Malawi. Centre for social research, Zomba: University of Malawi. pp. 1-5.

National Statistical Office (NSO). 2002. Malawi Population and Housing Census 1998: Analytical Report. Government print, Zomba: Malawi.

Oye-Adeniran B.A., Adewole I.F., Umoti A.V., Ekanem E.E., Gbadegesin A. and Iwere N. 2004. "Adolescent Health." ***Journal of reproductive health vol. 8, no. 3, pp. 103-115.***

Palamuleni, M. 2002. Needs Assessment Report on Preventing Sexually Transmitted Infections, HIV/AIDS and Teenage Pregnancy among People in Dowa District in Malawi.Zomba?

Paz Soldan, V.A. 2004. "How Family Planning Ideas are spread Within Social Groups in Malawi." ***Studies in Family Planning. vol. 35, no. 4, pp. 275-290.***

Population Reference Bureau. 2001. Malawi Collection, Centre for Social Research, Zomba: University of Malawi. pp. 1-4.

Progress in Reproductive Health Research. 2004. Sexual health- a New Focus for WHO. Geneva, World Health Organization, Switzeland.

Rasch V., Silberschmidt M., Mchumvu Y., Mmary V. 2000. ' Adolescent Girls with Illegally Induced Abortion in Dar-es-lam, The Discrepancy Between Sexual Behaviour and Lack of Access to Contraceptive.' ***Reproductive Health matters. Vol. 8, no. 15, pp. 52-62.***

Saewye, E.M., Magee, L.L. and Pettingell S.G. 2004. 'Teenage Pregnancy and Associated Behaviours among Sexually Abused Adolescents.' ***Perspective Sexual Reproductive Health. Vol. 36, no. 3, pp. 98-105.***

Saur, M., Semu, L. & Ndau, S.H. 2005. Nkhanza Listening to Peoples Voices, A Study of Gender-based Violence *Nkhanza* in Three Districts of Malawi. Zomba. ***Kachere series pp. 11 & 44.***

SADC Epidemiology Network on Drug Use (SENDU). 2002. Statistics From Psychiatric Hospital.

Student Alliance for Rural Youth Development (SARYD). 1997. Report on Knowledge and Attitudes about Teenage Pregnancy in Malawi.

Treffers, P.E. 2003. "Teenage Pregnancy, A Worldwide Problem." ***Amsterdam Ned Tijschr, vol. 22, no. 147, pp. 2320-2325.***

Varga C.A. 2003. "How Gender Roles Influence Sexual and Reproductive Health among South African Adolescent." ***Studies in family planning, vol. 34, no. 3, pp. 160-172.***

Visser M. & Moleko A.G. 2005. High Risk Behaviours of Primary school Learners. South Africa Health Information Department of psychology, University of Pretoria. htt://www.sahealthinfor.org/admodule/highrisk.htm

Vundule, C. Maforah, F. Jewkes, R. & Jordaan E. 2001. "Risk Factors for Teenage Pregnancy among Sexually Active Black Adolescents in Cape Town." ***South African Medical Journal, vol. 91, no.1, pp. 73-80.***

World Health Organisation (WHO), 2004. Adolescent Sexual and Reproductive Health; Asking Young People about Sexual and Reproductive Behaviours-illustrative Core Instruments. www.who.int/reproductive-health.adolescent/questionnaire.

Wood, K. & Jewkes, R. 2006. "Blood blockages and scolding nurses: Barries to adolescent contraceptive use in South Africa." ***Reproductive health matters. Vol. 14, no. 27, pp.*** 109-118.

APPENDIX A. Map of Malawi

APPENDIX B.

QUESTIONNAIRE FOR FACE-TOFACE INTERVIEWS WITH PREGNANT TEENAGE WOMEN ATTENDING ANTENATAL CLINICS IN ZOMBA DISTRICT, MALAWI

Questionnaire No	[ ] [ ] [ ]
Date	____/____/_____ Dd/ mm/ yr
Time	Start: ___h____ Finish: _____h____
Health facility	Clinic1……..…..……1 Clinic2……2 Clinic3…..…….…….3 Rural Hospital: Domasi……..4 Central Hospital: Zomba……5
Research assistant	1…….. 5…….. 2…… 3…….. 4……..
Language of interview	Chichewa……..1 Other……..……2 Specify _____
Place of interview	Hospital/clinic…….1 Interviewees home…….2 Other _____……3
Supervisor checked Date data 1st entered Date data 2nd entered	____/____/_____ Dd/ mm/ yr ____/____/_____ Dd/ mm/ yr ____/____/_____ Dd/ mm/ yr

SOCIO-DEMOGRAPHIC

The first questions I want to ask you are about yourself and your home. Please try and relax, there are no right or wrong answers. Remember that everything you tell me will be kept secret. If there is a question you do not want to answer please tell me and we will skip to the next question.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	Which language do you speak at home?	Chewa..... 1 Yao ..... 2 Lomwe……...…….3 OTHER..... 4 SPECIFY:_____	
2	What is your date of birth?	[ ] [ ] [ ] [ ] 19 [ ] [ ] D D M M Y Y	
3	What is your religion?	Catholic ……...……1 CCAP……...…….2 Seventh day……...…3 Moslem……...……..4 None …… 5 Other specify……....6 _____	
4	Have you ever attended school?	YES .....1 NO 0	If no, Skip → 7

5	What is the highest standard or form you have completed? [if yes to form 4 check whether this is the highest level]	STANDARD 1 ……..…..…….....……1 STANDARD 2…….....…...2 STANDARD 3…….....……3 STANDARD 4…….....……4 STANDARD 5…….....……5 STANDARD 6…….....……6 STANDARD 7…….....…..…7 STANDARD 8…….....…..…8 FORM 1…….....…….9 FORM 2…….....…….10 FORM 3…….....…….11 FORM 4…….....……12 INCOMPLETE PROF. CERTIFICATE ……..13 COMPLETE CERTIFICATE ……..14 INCOMPLETE FURTHER DEGREE OR QUALIFICATION…….15 COMPLETED FURTHER DEGREE OR QUALIFICATION……..…….16	
6	Are you currently attending school or college?	YES .....1 NO 0	

7	Have you done anything to earn money in the last 12 months?	YES ……1 NO……..…… …….0	If yes go to→9
8	If no, have you ever done anything to earn money?	YES ……1 NO……..…… …….0	
9	What have you done mostly to earn money in the last 12 months?	1. Professional/ managerial (nurse/teacher/social worker) 2. Police/army /security guard 3. Shop work/ Restaurant/ Waiting/ Office Work (secretarial/clerk/ reception)/ Garage /messenger 4. Factory work / mine work/ labouring 5. Child care / domestic work/ gardening 6. Farm work 7. Trading/ selling/ small business /own small farm 8. Skilled artisan/electrician/plumber/ mechanic 9. Other _____ 0. DON'T KNOW	
10	Does your home have a television?	YES .....1 NO 0	
11	Does your home have a radio?	YES .....1 NO…… ……0	
12	Does your home have a car?	YES .....1 NO…… ……0	
13	Does your home have a bicycle?	YES .....1 NO…… ……0	
14	Does your home have a motor cycle?	YES .....1 NO…… ……0	

15	Would you say that the people in your home often, sometimes, seldom or never go without food?	OFTEN……..…… ……..……1 SOMETIMES…… ……2 SELDOM……..…… ……..……..3 NEVER…….…….. ……..….4	
16	Would you say that people in your home have meat to eat often (daily), sometimes, seldom or never?	OFTEN HAS MEAT……..…..……1 SOMETIMES…… ……2 SELDOM……..…… ……..……..3 NEVER HAS MEAT……...…..……..….4 VEGETARIAN…… …….5	
17	If a person became ill in your home and K500 was needed for transport to the hospital or medicines, would you say it would be very easy, easy, quite difficult or very difficult to find the money?	VERY DIFFICULT……..…….…….. …….1 QUITE DIFFICULT…….…… …..…2 EASY…… …….3 VERY EASY…… …….4	
18	What is your marital status?	Never married ……..……1 Married …… …2 Divorced …… ..3 Widowed…….. ……4 Separated ……..…… …5	

19	Who do you live with? (circle yes for all those that participant lives with)	Parents……..yes…..1 no…..0 Husband …… yes …..1 no…0 Boyfriend …… yes …..1 no…..0 Aunts/uncles …… yes …..1 no…..0 Grandparents ..…….. yes …..1 no…..0 By myself …… yes …..1 no…..0 Siblings …… yes …..1 no…..0 Other _____ ___	
20	How old was your husband/partner/boyfriend on his last birthday?	Years: [ ] [ ] IF DON'T KNOW, ENTER 99	
21	Did he ever attend school?	YES ..... 1 NO ..... 2 DON'T KNOW 9	→23

22	What is the highest level of education that he achieved?	STANDARD 1 ……..…....……1 STANDARD 2…….....…..2 STANDARD 3…….....……3 STANDARD 4…….....….4 STANDARD 5……...……5 STANDARD 6…….....……6 STANDARD 7…….....….7 STANDARD 8…….....….8 FORM 1…….....…….9 FORM 2…….....…….10 FORM 3…….....…….11 FORM 4…….....…….12 INCOMPLETE PROF. CERT. ……...…13 COMPLETE CERTIFICATE ……..14 INCOMPLETE FURTHER DEGREE OR QUALIFICATION…….……..15 COMPLETED FURTHER DEGREE OR QUALIFICATION……..…….16 DON'T KNOW……..……99	

23	Is he currently working, looking for work, unemployed, retired or studying?	WORKING ..... 1 SEEKING WORK/UNEMPLOYED ..... 2 RETIRED ..... 3 STUDENT……4 DON'T KNOW……9	 →25 →25
24	What kind of work has he mainly done? RECORD RESPONSE BELOW. SUPERVISOR WILL CODE. _____ _____ _____ _____ _____ _____	2. Professional/ managerial (nurse/teacher/social worker) 2. Police/army /security guard 9. Shop work/ Restaurant/ Waiting/ Office Work (secretarial/clerk/ reception)/ Garage /messenger 10. Factory work / mine work/ labouring 11. Child care / domestic work/ gardening 12. Farm work 13. Trading/ selling/ small business /own small farm 14. Skilled artisan/electrician/plumber/ mechanic 9. Other 0. DON'T KNOW	
25	Has he ever drunk alcohol?	Yes……1 No……2 Don't know……3	→ 27 → 27
26	How often does/did your husband/partner drink alcohol?	EVERY DAY/NEARLY EVERY DAY ..... 1 ONLY AT WEEKENDS ..... 2 A FEW TIMES IN A MONTH3 LESS THAN ONCE A MONTH ..... 4 DON'T KNOW……...9	

27	Has he ever used Chamba/Marijuana? mandrax? any drug that is injected? any other drug?	CHAMBA ... YES =1 NO=2 DK=9 MANDRAX YES =1 NO=2 DK=9 IDU..... YES =1 NO=2 DK=9 OTHER DRUGYES =1 NO=2 DK=9 SPECIFY:

REPRODUCTIVE AND SEXUAL HEALTH

The next set of questions are about different aspects of your reproductive and sexual health

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
28	Which year did you first see your period?	15 [ ] [ ] [ ] [ ] [ ] [ ] M M Y Y Y Y WRITE 06 IF MONTH NOT KNOWN	
29	When did you first have sexual intercourse?	15 [ ] [ ] [ ] [ ] [ ] [ ] [ ] M M Y Y Y Y	
30	Which of the following statements most closely describes your experiences the first time you ever had sexual intercourse? I was willing; I was persuaded; I was tricked; I was forced; I was raped.	I was willing……1 I was persuaded……2 I was tricked ……3 I was forced ……4 I was raped ….……5	
31	Who was this with?	BOYFRIEND……..1 FATHER OR FAMILY MEMBER……2 TEACHER……..….3 BOY FROM SCHOOL/AREA……4 MAN FROM AREA……5 STRANGER/UNKNOWN PERSON…….6 FRIEND OF THE FAMILY……..7 OTHER……8	

I am going to ask you questions about your current partner (husband or boyfriend).

33	In what month and year did you first have sex with this partner?	MONTH [ ] [ ] DON'T KNOW MONTH = 99 YEAR [ ] [ ] [ ] [ ] DON'T KNOW YEAR = 99	

34	In what month and year did you last have sex with this partner?	MONTH [ ] [ ] DON'T KNOW MONTH = 99 DON'T KNOW YEAR = 99	
35	Is this partner the father of this child?	Yes……1 No …….2	
36	Have you ever used a condom?	YES.....1 NO…… ….0	→38
37	Can you remember the month and year when you first had sex with a condom?	15 [ ] [ ] [ ] [ ] [ ] [ ] [ ] M M Y Y Y Y	
38	Have you ever used contraception?	YES..... 1 NO..... 0	→42
39	Which method did you use?	INJECTION…… ……1 PILL…… ……2 CONDOM…… ……3 IUD…… ……4 HERB/OTHER TRADITIONAL METHOD…….5 CONDOM & PILL/INJECTION…..…….6 OTHER_____ _____ 7 (specify)	
40	When did you first use contraceptives?	15 [ ] [ ] [ ] [ ] [ ] [ ] [ ] M M Y Y Y Y	

41	Where did you hear about the contraceptive methods?	Newspapers……1 Church/Mosque……..2 Radio……..3 Parents…….…4 Health facility……..5 School ……..….6 Relative…….…7 Friend……8 Other specify……9	
42	Why have you never used contraceptives?	Was not sexually active before ……1 I did not know……..2 It is against my religion…….3 My boyfriend/partner did not want me to….4 I was scared my parents would find out…….5 I am scared of nurses at the clinic……..……6 I did not have money…….……7 The clinic is too far away……..8 Wanted to have a baby……..9 Other specify…….……..10 _____	
43	Is this your first pregnancy?	Yes……1 No …….0	→ 47

44	Which year did you first become pregnant?	15 06 [ ] [ ] [ ] [ ] YEAR	
45	What happened to that pregnancy?	I am currently pregnant……..1 I had the baby…….2 I miscarried…….3 I aborted…….4 Other (specify)……..5	
46	How many children have you given birth to?	CHILDREN [ ] If none, enter 0	
47	How many months pregnant are you now?	Months [ ]	
48	Were you at school when you became pregnant?	YES..... 1 NO……0	
49	Did you want to become pregnant now, did you want to wait until later, or did you not want to have any children at all?	NOW……..1 LATER……2 NOT WANT ANY CHILDREN…….3	

RELATIONSHIP CONTROL AND DURATION OF SEXUAL RELATIONS

I would now like to ask you some questions about your relationship with your CURRENT/MOST RECENT husband or main boyfriend and for each I would like you to tell me if you strongly agree, agree, disagree or strongly disagree

50	If I asked my partner to use a condom, he would beat or hit me.	SA..1	A..2	D..3	SD..4
51	If I asked my partner to use a condom, he would get angry.	SA..1	A..2	D..3	SD..4
52	My partner has more to say than I do about important decisions that affect us.	SA..1	A..2	D..3	SD..4
53	If I asked my partner to use a condom, he would think I am having sex with other people.	SA..1	A..2	D..3	SD..4

54	I feel trapped or stuck in our relationship.	SA..1	A..2	D..3	SD..4
55	My partner does what he wants, even if I don't want him to.	SA..1	A..2	D..3	SD..4
56	When my partner and I disagree, he gets his way most of the time.	SA..1	A..2	D..3	SD..4
57	Because my partner buys me things I want to please him.	SA..1	A..2	D..3	SD..4
58	Would you say you have a good relationship with this partner?	Yes……1 No ……..…….2			
	Which statements best describes your circumstances when you became pregnant this time				
59	I was actively trying to get pregnant	SA..1 A..2 D..3 SD..4			
60	I was trying not to get pregnant	SA..1 A..2 D..3 SD..4			
61	I did not mind if I became pregnant but I was not actively trying	SA..1 A..2 D..3 SD..4			

KNOWLEDGE AND SOURCES OF INFORMATION ON REPRODUCTIVE AND SEXUAL HEALTH

	I would like to ask you a few questions about reproductive health and HIV. I am going to read out some statements and for each I would like to know if it is true, probably true, probably false or false.				
		True	Probably true	Probably false	False
62	The most common cause of fertility is a sexually transmitted disease	1	2	3	4
63	A woman who is not using contraception and has sex during her period will probably get pregnant	1	2	3	4
64	A woman can become sterile if she uses depo	1	2	3	4
65	If a woman does not menstruate the dirt will build up in her body and make her ill	1	2	3	4
66	Having intercourse while in water cannot	1	2	3	4

	prevent pregnancy				
67	If a man uses a condom it can disappear into the woman's body	1	2	3	4
68	Having sex frequently prevents pregnancy	1	2	3	4
69	A woman who takes contraceptive pills after she discovers she is pregnant will have an abortion	1	2	3	4
70	A woman who uses contraceptives is promiscuous	1	2	3	4
71	Most women get pregnant right in the middle of their menstrual cycle (between their periods)	1	2	3	4
72	If a woman has not got pregnant within 4 months after she stops contraception the couple are probably sterile	1	2	3	4
73	Pregnancy can occur at first sexual intercourse	1	2	3	4
74	Washing genitals soon after intercourse prevents pregnancy	1	2	3	4

75	From whom did you learn about sex and sexuality?	Mother……..…..1 Nankungwi (counselor)…….2 Father…….3 School……..…..4 Grandparent……..…..5 Radio……..6 Peers ……..……..7 Books ……..……..8 Other relative……..……..9	

	ATTITUDES TOWARDS SEXUAL ACTIVITY I am now going to ask you a few questions sexual activities tell me if you strongly agree, agree, disagree or strongly disagree		
76	I believe that girls should start having sexual intercourse as soon as they start menstruating	SA..1 A..2 D..3 SD..4	
77	I think the right age for a girl to have a child is 20	SA..1 A..2 D..3 SD..4	
78	I think that a girl who gets married at age 18 is too young	SA..1 A..2 D..3 SD..4	
	If I say teenage girls are prompted to get married because of ……. Would you strongly agree, agree, disagree, or strongly disagree :		
79	Money	SA..1 A..2 D..3 SD..4	
80	Culture	SA..1 A..2 D..3 SD..4	
81	Pregnancy	SA..1 A..2 D..3 SD..4	
82	Being forced by parents	SA..1 A..2 D..3 SD..4	
83	Love	SA..1 A..2 D..3 SD..4	
	SEXUAL VIOLENCE PERPETRATED BY PARTNER I am now going to ask you a few personal questions		
84	Has your current boyfriend/partner or husband or any other partner ever failed to provide money to run the house or look after the children, but had money for other things/	Yes…… ……1 No…… …..2	->93
85	Has this happened in the last 12 months	YES ..... 1 NO 0	
86	Has he or any other partner ever taken your earnings or pay packet from you?	YES ..... 1 NO 0	
87	Has this happened in the past 12 months?	YES ..... 1 NO 0	
88	Has he or any other partner ever pushed you or shoved you?	YES ..... 1 NO 0	
89	Has this happened in the past 12 months?	YES ..... 1 NO 0	

90	Has he or any other partner ever hit you with his first or with something else that could hurt you?	YES ..... 1 NO 0	
91	Has this happened in the past 12 months?	YES ..... 1 NO 0	
92	Has he or any other partner ever physically forced you to have sex when you didn't want to?	YES ..... 1 NO 0	
93	Has this happened in the past 12 months?	YES ..... 1 NO 0	
94	Have you ever become involved with casual boyfriend because he provided you with or you expected that you would: Have a good time? Be provided with food? Be provided with cosmetics? Be provided with clothes? Be provided with money? Be provided with school fees? Be married?	 GOOD TIME... YES =1 NO=2 FOOD ..... YES =1 NO=2 COSMETICS .. YES =1 NO=2 CLOTHES ..... YES =1 NO=2 MONEY ..... YES =1 NO=2 SCHOOL FEESYES =1 NO=2 MARRIAGE ... YES =1 NO=2 NEVER HAD CASUAL PARTNER ☐	

	SUBSTANCE USE		
95	Have you ever drunk alcohol?	YES……..1 NO……..0	→ 97
96	How often do you have a drink containing alcohol?	MONTHLY OR LESS……...2 2-4 TIMES A MONTH……3 2-3 TIMES A WEEK……4 4 + TIMES A WEEK……5	→ 97 → 97
97	Have you drunk alcohol in the past 12 months?	YES……..1 NO……..0	→ 98 → 102

98	How many drinks containing alcohol do you have on a typical day when you are drinking?	1 OR 2……1 3 OR 4……2 5 OR 6……3 7 OR 9……4 10 OR MORE……5	
99	How often in the past year did you find you were not able to stop drinking once you started?	NEVER ……..……1 LESS THAN MONTHLY ……...2 MONTHLY……...3 WEEKLY……4 DAILY OR ALMOST DAILY…….5	
100	How often in the past year were you unable to remember what happened the night before because of your drinking?	NEVER ……1 LESS THAN MONTHLY ……2 MONTHLY…….…….3 WEEKLY……4 DAILY OR ALMOST DAILY……..5	
101	How often in the past year did you have sex without a condom because of your drinking? Was it once, a few times or many times?	NEVER …….……1 ONCE…….……..2 FEW TIMES…….……3 MANY TIMES……4	

102	Have you ever used … Chamba/marijuana? mandrax? Drugs that you inject? Any other drug?	CHAMBA .... YES =1 NO=0 MANDRAX . YES =1 NO=0 INJECTED DRUG..... YES =1 NO=0 OTHER DRUGYES =1 NO=0	
	CULTURAL PRACTICES		
103	Did you go through any initiation ceremony while you were growing up?	YES……..1 NO……..0	→ 112
104	Did you attend any of these initiation ceremonies READ OUT	Chiputu……. YES =1 NO=0..... Nsondo ..... YES =1 NO=0 Mkangali..... YES =1 NO=0 OTHER..... YES =1 NO=0	
105	Did you go through any church initiation?	YES……..1 NO……..0	
106	If yes, what lessons did you learn from these ceremonies	Sexual and sexuality..... YES =1 NO=0 Reproductive health..... YES =1 NO=0 Good behaviourYES =1 NO=0 Respecting eldersYES =1 NO=0 Ways of dressingYES =1 NO=0 To be obedient or subservient to men ..... YES =1 NO=0 Other…… ☐	
	Influence of initiation ceremonies on behaviour I would like you to tell me if you strongly agree, agree, disagree or strongly disagree with the following statements.		
107	Attending an initiation ceremony made me feel respected	SA..1 A..2 D..3 SD..4	
108	Attending an initiation ceremony did no made feel as a woman	SA..1 A..2 D..3 SD..4	

109	Attending an Initiation ceremony made me respect elders	SA..1 SD..4	A..2	D..3	
110	Attending an Initiation ceremony made me feel that I had to get married	SA..1 SD..4	A..2	D..3	

Thank you very much for agreeing to participate in this study. We appreciate the time you have given us to answer these questions. Your answers together with all the answers from the other people we are interviewing will help us to understand the circumstances of pregnancy better and will hopefully help to make recommendations to government on how health services should be improved.

APPENDIX C

APPENDIX D

APPENDIX E

APPENDIX F Clearance from Human Research Ethics Committee

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
R14/49 Kaphagawani

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER M040927**
PROJECT	Risk Factors for Unwanted/Unplanned Teenage Pregnancy in Zomba District Malawi
INVESTIGATORS	Ms NC Kaphagawani
DEPARTMENT	School of Public Health
DATE CONSIDERED	04.10.01
DECISION OF THE COMMITTEE*	Approved unconditionally

Unless otherwise specified this ethical clearance is valid for 5 years and may be renewed upon application.

DATE 04.11.25 **CHAIRPERSON** .....
(Professor PE Cleaton-Jones)

*Guidelines for written 'informed consent' attached where applicable

cc: Supervisor : Christofides

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10005, 10th Floor, Senate House, University.
I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to a completion of a yearly progress report.**

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

APPENDIX G. Informed consent

Dear participant, my name is Nanzen Kaphagawani, I am currently studying at Witwatersrand University in Republic of South Africa. I am conducting a research study on "Risk factors for unwanted teenage pregnancy in Zomba district, Malawi". I would be grateful if you would help by participating in this study. The aim of the study is to understand the circumstances that are related to pregnancy in women less than 20 years of age. It is hoped that the results from this study will help to make recommendations to relevant authorities to help improve health services especially for adolescents.

You have been selected to participate in this study because you are pregnant and under the age of 20. By participating in this study, you will be requested to answer questions about you, your pregnancy and things that have happened in your life. It is anticipated that it will take 30-40 minutes of your time. We will make sure that you do not lose your place in the queue by agreeing to be interviewed and when you are finished you can go back to your place. If you decide not to participate in this study or to stop the interview at any time, the service that you get at this clinic/hospital will not be affected in any way. There will be no compensation for your participation. Your participation is entirely voluntary and you are free to withdraw your consent and discontinue from participating in the study any time you wish. Information that you give will be treated with utmost confidentiality and numbers will be used instead of names to ensure anonymity. In addition there will be no link between individuals and questionnaires. When we analyse your answers we will put them together with answers from other participants. All the questionnaires will be kept locked away.

I (the undersigned) have read the above information or had it read to me, understood it fully and wish to participate in this study.

Signature……

(Or thumb print)

Place……..

Date …….

Witness……

APPENDIX H. Participant information sheet

Good Day, my name is …….. Currently I am conducting a research study to get information on factors for unwanted/unplanned teenage pregnancy in Zomba district. I hope that the information will help in improving the health services especially for adolescents.

I want to ask you to give me some of your time to answer a number of questions about yourself, your pregnancy and things that have happened in your life.

I have a questionnaire that I would like to complete with you. Most of the Questions ask you to tell me about your reproductive and sexual health. I will be asking you to choose between a number of options in the questionnaire. It will take about 30-40 minutes to complete the questionnaire.

All the information that is given will be treated with utmost confidentiality. Instead of using your name a code will be used and your responses will be put together with the responses of the other participants so that no one knows apart from my colleagues and myself that it is you who gave me the information.

I have selected you to give me information because I am collecting information from pregnant women who are under the age of 20 and are attending antenatal clinic.

If you decide not to be interviewed or to answer any questions there will be no problems and it will not affect the care you are going to receive. I will not tell anyone that you did not want to be interviewed. If you agree to answer questions I will read out a consent form to you and ask you to sign it to say that you agree to be interviewed.

If you feel that you require counselling and you agree I will refer you to a clinical psychologist. If you have any further questions now or after the research please contact my supervisor or myself at the address below.

Nanzen Kaphagawani,
Malawi College of Health Sciences
P.O. Box 122
Zomba.

Do you have any questions? Or is there anything that you would like me to explain in more detail?