IMPACT OF TEENAGE PREGNANCIES AND CHILDBIRTH ON
THE HEALTH STATUS OF YOUNG MOTHERS IN BUSIA
DISTRICT, EAST AFRICA

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DECLARATION

I Sekiwunga Richard, hereby declare that this Dissertation was personally done by me, and that it has not been published or submitted to any university, college or academic institution for the award of any degree.

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DEDICATION

This is dedicated to my father Mr. GW Mukiibi, children Winfred, Kevin, Christine and Paul for all their support and encouragement they gave during the course of my study.
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I wish to acknowledge the invaluable guidance rendered to me by my Supervisors, the late Dr. E. Sekatawa and Dr. J. Jitta for their patience in reading through the versions of this dissertation, the constructive criticisms and suggestions.

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ABSTRACT

A cross sectional descriptive study was carried out in Busia district, eastern Uganda focused on assessing the extent to which teenage pregnancies affect the health status of teen age mothers. Specifically, the study assessed morbidity among young mothers, their health seeking behavior and the impact of these pregnancies to young mothers. Quantitative methods of data collection using semi structured questionnaires collected the data on an individual basis. The respondents were young mothers aged 15 – 24 years, who had had their first pregnancy between ages 13-19 years. Respondents were purposively selected from four sampled sub counties in the district.

Results show that majority of the teen mothers had poor health seeking behaviour, attending ANC only once and very late in the second and third trimester. Further more, majority (64%) of the children born by teen mothers were not attended to by trained medical personnel with another 10% of these deliveries being not attended to at all, not even by untrained person. Teen mothers residing in rural areas (68%) developed more pregnancy related complications than those in urban areas. Chi square tests show that age and residence of young mothers had a significant association with pregnancy outcome (p <0.05), while marital status, education and occupation did not have significant association with pregnancy outcome (p >0.05).
There is need for the district to provide good-high quality affordable youth friendly health care and information to these mothers. These services take into account the teenagers different age groups and should be spread to rural areas so as to benefit teenage mothers residing there.
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ACRONYMS

ANC         Antenatal clinic
MOH         Ministry of Health
SPSS        Statistical Package for Social Scientists
TBA         Traditional Birth attendant
UBOS        Uganda Bureau of Statistics
UDHS        Uganda Demographic Health Survey
UNFPA       United Nations Fund for Population Agency
UNICEF      United Nation Children Fund
WHO         World Health Organization
CHAPTER ONE
INTRODUCTION

1.1 Background

Literature available indicate that by 1999 (UNFPA, 1999), nearly one-third of the world’s total population was aged between 10 and 24 years, with the vast majority living in developing countries (Creel et al, 2003). This age group presents many challenges to society and health care provision since major changes in social and sexual behavior that occur during this period of growth may if not well handled adversely affect the well being of the individual person, family and society. By 1999, UNFPA reported that approximately 15 million young women aged 10-24 were becoming mothers annually, world-wide. Of these, 87% lived in developing countries, Uganda inclusive. Becoming pregnant and bearing children in their teens has serious implications to the young mother and the born child, some of which are life threatening. It is reported that pregnancy-related complications are a major cause of death and illness among young girls worldwide (Senderowitz, 1995) and that for every woman who dies of pregnancy related complications, between 30 and 100 more women suffer from acute complications that are painful and debilitating. WHO estimates that more than 20 million women per year suffer from such untreated injuries that occur during pregnancy and childbirth (Ashford, 2001). Ashford further indicates that all pregnancies involve some risks, even for the healthy women and that an estimated 15% of pregnancy result in complications requiring medical care. In life-threatening cases, women need emergency obstetric care, which includes
surgery, anesthesia, blood transfusions, and other specialized care. Special medical care is also needed for complications of abortions such as incomplete abortions, infections, hemorrhage, and injuries to the cervix and uterus.

It is further indicates that by 2001, more than half of the women were giving birth before the age of 20 in Sub Saharan Africa as compared to one-third in Latin America and the Caribbean (K-2 Consult, 2001). These figures can be related to those of Uganda which is one of the countries with the highest rate of teenage pregnancy and childbearing in the world. In Uganda, young people aged 10 to 24 form a big proportion of the total population (33.5%) and according to Census figures, more than 50 percent of the women become mothers by age 18 (UBOS, 2005). This practice carries with it important health, social and economic complications. Women who begin their fertility careers in their adolescent years face increased risks to their health and that of their children. Maternal mortality and pregnancy related complications occur disproportionately at early ages and children born to very young mothers are at higher risks of premature birth, low birth weight and infant mortality. The problem of teenage pregnancy and childbearing in Uganda is further complicated by the fact that health services are of low quality and access extremely limited (UNFPA – Uganda 1995); and where they exist, most mothers do not attend antenatal clinics as required and that less than fifty percent of all deliveries are supervised by a person with formally recognized midwifery skills. Consequently, these young mothers miss out on important knowledge and care that is acquired during antenatal clinics and on the
expertise assistance during delivery. This often results into unfavorable pregnancy outcomes, poor nutritional status and increased morbidity and mortality of the mother and her child. Owing to this early childbirth, teenage mothers in most cases miss the necessary skills required for self-sustenance and suffer social stigma, rejection and abandonment in some cases.

1.2 STATEMENT OF THE PROBLEM

Teenage pregnancies and child bearing which is detrimental to the health of the mother and child, is a common public health problem world wide, affecting both developed and developing countries. Uganda had one of the highest pregnancies in the world, which was recorded at 43% in 1995. This has since reduced to 31% in 2000/01 and to 26% in 2006 (UDHS, 1995; 2001; and 2006). Much as this proportion has had a downward trend, teenage pregnancies and child bearing still remain a big problems and according to UBOS and ORC Macro (2001) age specific rates have not changed much since 1998. More so these proportions are likely to go up again as has been the case with the USA, especially that children in Uganda continue to engage in sexual intercourse at a lower age whereas use of contraception is very low at 33% for young women (UDHS, 2006).

Furthermore, while fertility levels for the general population is higher in rural (7.2) than in urban (6.5), this is not the case for adolescents where the figures are the same irrespective of location. Child bearing begins too early in the teen age and rises rapidly to reach its peak in the 20-24 age group, with some records further
indicating that one in five teenagers will give birth every year. Pregnancy and childbearing, including unsafe abortion account for the largest health burden for women in their reproductive years and are a leading cause of disability and death among women aged 15 to 19 worldwide (UNFPA, 1995).

It is further noted that in spite of Uganda government putting in place a supportive policy environment for reproductive health and rights, there has been little improvement in the number of health indices in recent years. Very often young mothers who become pregnant for the first time always delay to seek help and once they do so, the existing health systems are ill equipped to address their needs (UNICEF, 1999). They tend to be neglected by the existing health system, their family and society.

According to the 2000/01 UDHS (UBOS, 2000/01), the eastern region experiences the highest levels of teenage pregnancies and child bearing of 37%, with Busia district having the highest teenage pregnancy rates in the country. Thus there was need to study and document the impact of this phenomenon on teenage mothers so that planners and policy makers’ interventions are based on reliably researched data. Several studies have been conducted on adolescents’ health, pregnancy outcome and child bearing, but there is little information on its impact on the health of young mothers.
1.3 OBJECTIVES

The main objective of this study was to assess the extent to which teenage pregnancies affect the health status of young mothers in Busia district.

Specific objectives
1. To assess maternal morbidity among young mothers during teenager pregnancy.
2. To examine the maternal seeking behavior of teen age mothers in the district
3. To establish the impact of teenage pregnancy and child birth on the health of young mothers

1.4 Hypotheses

- Teenage mothers develop serious ill conditions during pregnancies and child birth.
- Teenage mothers have poor health seeking behaviour during pregnancy and child birth.
- Teenage mothers get serious long term health problems as a result of child birth.

1.5 Justification of the Study

The study will provide information on the impact of teenage pregnancies and childbearing on young mothers in the district that will inform policy and assist program managers as well as the district to come up with interventions to reduce teenage pregnancies and severity of other complications associated with it. This will greatly help the country to address and improve upon three millennium goals namely: improve on maternal health, reduce child mortality and eradicating
poverty and hunger. The information generated will also be used by different stakeholders including scholars and other interested agencies and organizations for further reference. In addition, it will give direction to future research and provide information for improving the existing service delivery approaches for young mothers.
1.6 The Conceptual Framework

The independent variables include maternal age, marital status, education, occupation/access to resources and residence – that is whether rural or urban. The dependent variables examined was pregnancy outcome (increased maternal morbidity).

Maternal age of the mother influences the outcome of the pregnancy which in turn might lead to increased morbidity and mortality. It is reported that girls who become pregnant in their early teens tend to conceal the pregnancy until much later in the second or third trimester. Consequently, they miss out on antenatal care and if they do go for it, they always report very late. They take a poor diet, and even if they are to go for abortion, they always do it very late when it is most unsafe. The effect of maternal age is also related to the type of family support that teenage mothers get since a big proportion of them tends to be outside marriage. Secondly, teenager’s bodies are still growing (not yet mature) and are thus physiologically unprepared to handle and deal with stress of pregnancy and...
increasing nutritional, growth and development demands. This is usually associated with low birth weights of infants and increased morbidity of the young mother (MOH, 2003).

Marital status is another independent variable, which is assumed to influence pregnancy outcome, and maternal morbidity. Usually single young mothers are known to lack enough resources for accessing health services. This is especially so when the mother has been rejected by the husband or parents and lacks financial support. Failure to access health services implies that this mother misses out on treatment and health education which is vital during pregnancy. This greatly affects the pregnancy outcome and might lead to increased morbidity and risks of death both to the mother and child (MOH, 2003). There is the need to establish whether this is the case with the vulnerable teen managers.

It is also conceptualized that the level of education of both the young mother and her spouse determine the way the mother access and utilizes health care services. Maternal education and education of the spouse is also known to influences ANC attendance, choice of place delivery and assistance during delivery, and the type of care the mother gets during pregnancy. The level of education of the mother and that of her family in most cases influences the type of support the mother gets while pregnant and during childbearing. There is need to establish whether this has an impact on the pregnancy outcomes and
determines the morbidity and mortality patterns among teen mothers (Behm, 1993).

Occupation/income of the mother and her family empowers mothers economically, and this enables them to make their own decisions as regards attending ANC services and on the choice of place of delivery. There is need to establish whether this economic empowerment leads to the teen mother’s intake of nutritious foods during and after pregnancy, seeking ANC services in time thereby minimizing on pregnancy complications and consequently to their morbidity and mortality patterns.

It is assumed that the residence of a mother (whether rural or urban) influences access to ANC services, the place and assistance during delivery with the comparative advantage in favor of urban areas due to the availability of better health facilities, health workers and transport which is more available unlike in rural areas. It is necessary to establish whether it also the case with teen mothers.

1.7 Pregnancy outcome

In this study, pregnancy outcome was defined into three ways: maternal morbidity (health complication) of the young mother during pregnancy, child birth and after delivery; birth weight of the baby and death of infants. These required the respondents to recall past experience and since childbearing is an important
event in the mothers’ history; young mothers easily recalled what happened during this period.

Maternal morbidity
This study considered maternal morbidity as the health complications teenage mothers got while pregnant, during and after child birth. It is observed that data here is also scanty and mostly hospital based, however Murray SF (1998) in his assessment of safe motherhood in Uganda identified fever, excessive headache, pale anemia, severe vomiting and yellow vomiting as some of the ill-health conditions that mothers get while pregnant. Others illnesses included malaria, HIV/AIDS/STDs, hypertension, pre-eclampsia and diabetes.

Birth weight
Birth weight is a factor associated with child survival particularly in the first year and according to the UDHS (2006), low birth weight is related to poor nutrition, anemia, malaria, smoking, experience of violence, and physically demanding work during pregnancy, among other things. Because of the poor conditions most teenage mothers leave in, they are most likely to have poor nutrition, to suffer from malaria and become anemic. Children whose birth weight is less than 2.5 kilograms are considered to have a higher risk of early childhood death and or morbidity. The issue of birth weight in Uganda is complicated by the fact that majority of mothers do deliver from a health facility, which means that birth
weight for majority of children is not recorded. The 2006 UDHS indicate that only one in three children (35%) in Uganda are weighed at birth. For the records that were available, 13% of children born to mothers below 20 years had their children’s birth weight lower than 2.5 kilograms, higher than the national rate of 11%. During the study area in Busia majority of the teen mothers delivered outside a health facility and thus there was no reliable data to be used for further analysis.

Deaths of infants
According to the UDHS (2006), majority of the infant deaths were highest among children born to mothers below the age of 20 years (neonatal – 47%, postnatal 57%, infant mortality 103% and child mortality 77%). The data indicates that children born to mothers 15 to 19 had a 57% higher risk of dying before one month than those born to mothers 20 to 29 years of age. Likewise, children born to mothers aged 15 to 19 had a 27% higher risk of dying before one year than those born to mothers 20 to 29 years of age. The survey further indicate that even child born after the age of 40 years was associated with a 19 percent increase in the child’s risk of death before one year compared with the risk of children born to mothers aged 20 to 29 years of age. In this study, further analysis could not be done on deaths of infants because most of these deaths occurred outside a health facility and thus were not recorded.
1.8 Organization of the study

In this report, Chapter one gives the background of the study. Chapter two presents literature review while the methodology of the study is presented in chapter three. Chapter four and five presents the study findings and the summary, conclusions and recommendations are presented in chapter six.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Teenage pregnancies and childbearing is a common phenomenon all over the world carrying with it the risk of increased morbidity and mortality to the mother and the child. It is a problem that affects nearly every society, including both developed and developing. To date, this phenomenon is on the increase and information available indicates that 10% of all births in the world occur among young girls. UNFPA reports indicate that approximately 15 million young women become mothers annually of whom 13 million live in developing countries (UNFPA 2003). In Sub Saharan Africa, teenage pregnancies and childbearing (before 20 years) accounts between 50% - 60% as compared with one-third for Latin America and the Caribbean (Alan Guttmacher Institute). Within the developed countries, United States of America has the highest levels of teenage pregnancies and childbearing with 19% of the young women giving birth below age 20. This is almost three times the level of France and nine times as high as Japan. These young mothers, particularly in developing countries where health care is limited, are at a greater risk of experiencing negative consequences because of their physical immaturity, vulnerability to older men, and limited education, skills, finances, and other resources (UNFPA, 2003).

Having a baby during teen age is much more complicated and potentially hazardous than having a baby as an adult. Alan Guttmacher Institute reports
that the risk of death during childbirth is 2 - 4 times higher among young mothers than among those aged 20 to 24 years. Mortality and morbidity rates were higher among infants born to young mothers, by 30% or more among babies whose mothers were aged 15 –19 years than among those born to mothers aged 20 to 29. Studies (Guttmacher Institute) indicated that childbearing among teenagers was most common among the poor. As a result of poverty, these young mothers were most likely to be malnourished, a factor that contributes to poor pregnancy outcomes, because some female receive less nutritious food and lower quality health care.

Teenage pregnancies and childbearing disrupts a girl’s normal process of development, from childhood through adolescence to maturity. Teenage pregnancy and childbearing leads to the poor socio-economic status of the young women in that they tend to drop out of school early and thus acquire fewer skills for self sustenance. They also lack adequate financial resources and are less experienced about parenting (Ayiga, 2000). Other studies have indicated that these young mothers are always rejected by the family, denied and/or abandoned by the husbands thereby increasing on their problems (Sekiwunga et al 2003). Lack of access to resources and family support lead these young mothers into object poverty and increased poor health conditions.
This study considered five different variables that affect pregnancy outcomes of teenage mothers. These were maternal age, marital status, maternal education, residence/location and occupation/income.

2.2 Maternal age

The age of the mothers at which she delivers her first child is very important since in most cases it influences the pregnancy outcomes. Several studies (Simoes et al 2003; De Silva et al 20003) have pointed out that teenagers aged 18 years and below were observed to have the highest proportions of low birth weight, pre-term deliveries and infant mortality rates due to their biological immaturity. Oboro et al (2003) have further argued that teenage mothers of 15 years and below were at higher risk of poor pregnancy outcomes, such as being anaemic, premature labour, low birth weight and operation deliveries than their counterparts who were aged 16 to 19 years. However, there is a serious debate whether age per se is responsible for the poor pregnancy outcomes. Scholars such as Negussie and Obare (2003) in their study on pregnancy and child health outcomes among adolescents in Ethiopia have argued that studies that emphasises maternal age in influencing teenage pregnancies are Hospital-based, which he refers too as employing less-rigorous analytical methods. Negussie and Obare also concurs with Oboro that the independent effect of maternal age on the frequency of preterm delivery, low birth weight and neonatal mortality was only significant as age if first childbirth falls below 16 years of age. Moore et al (1995) have concluded that early childbearing and poor health outcomes is due
not to age, but rather to the numerous risk factors associated with being young such as inadequate prenatal care and nutrition. Scholars like Gordon et al (2005) have further argued that first teenage births are not independently associated with an increased risk of adverse pregnancy outcomes but that it was the second teenage births that are associated with an almost threefold risk of preterm delivery, still birth and other STDs. There is scanty information on maternal age and teenage pregnancies and child birth in Uganda, however, it is indicated that children born to very young women suffer higher mortality rates than those born to older women (UBOS and ORC Marco, 2001) and infant mortality rates were observed to be higher at 105 deaths per 1,000 births under 20 years compared to 82 per 1,000 for births to women aged 20 to 29.

2.3 Marital status

In a study in Southern Nyanza Kenya, Magadi (2004) pointed out that pregnancies outside marriage are significantly more likely to result in pregnancy waste, such as abortion or stillbirth than those in marriage. This view is also supported by Reichman et al (1997) who said that other social factors associated with poor birth outcomes included unmarried status among others. In Uganda, young mothers are more likely to be unmarried and less educated both of which tend to result in fewer financial resources which could lead to poorer health care for their children (ORC Marco, 2001). However scholars such as Ventura et al (1999) found little difference in outcomes for teenage mothers who were married at the time of delivery and those not married.
2.4 Maternal education

Maternal education is associated with pregnancy outcomes in that the higher the level of educational attainment of the teenage mother, the less risk of having poor pregnancy outcome. Education is believed to promote a woman’s knowledge and skills that enable her overcome some of the negative physiological effects associated with maternal factors. This is through enhanced utilization of health services, better hygienic practices and ability to provide adequate health care and challenging her traditional notions of disease (UBOS, 1995). Gebremariam (2005) found out that mother’s education, among other factors was strongly and significantly associated with prenatal care and attended delivery. Negussie et al (ibid) also noted that in poor countries such as Ethiopia, factors like education greatly influenced the disparity in service utilization and hence the probability of survival for children born to teenage and adult mothers. This has also been observed to be true of Uganda. There are no divergent views as regards to education and pregnancy outcomes.

2.5 Residence/location

Residence as a risk factor in teenage pregnancy has been cited by several scholars including Mahy (2003), Marcela (1998) and Monica (ibid). All of these studies found higher incidences of poor pregnancy outcomes among rural teenage mothers than their urban counterparts. Negussie (ibid), and others blames this on poverty, social isolation, shortage of medical services, and other
basic services in rural areas. Information regarding residence/ location and pregnancy outcomes in Uganda is still scanty.

2.6 Occupation

Occupation is associated with pregnancy outcome due to its contribution to income and thus the ability to afford maternal health services; although it is also argued that some employed mothers may fail to get time to seek maternal care especially when pregnant. Negussie (ibid) found out that most teenage mothers in Ethiopia were largely uneducated and poorer. Gebremariam (ibid) also reports that the effect of the teenage household income, among other factors is strongly associated with prenatal care and attended delivery. There is a general agreement among different scholars that being poor highly influences the pregnancy outcomes of teenagers. ORC Marco also note that young mothers who were less educated were less likely to utilize the available health services thereby leading to poor health outcomes to them selves and their children.

2.7 Teenage/adolescent pregnancy prevalence in Uganda

Teenage pregnancy prevalence in Uganda has of recent shown a down trend from a record 43% in 1995 to 31% in 2002 and 25% in 2006 (UBOS and Marco, 2002, 2006). Teenage pregnancy is singled out because of its association with higher morbidity and mortality for both the mother and the child. In addition to the physiological risks under the current school practice, pregnant girls have to terminate their education, which may indirectly affect the health of the mother
and the child through loss of socio-economic opportunities. According to the 2000/01 UDHS, the percentage of young mothers who have ever been pregnant increases with age, from 32% for 15 to 19 year-olds to 88% for the 20-24 year olds. By 2001, 31% of the teenagers had begun childbearing with 26% having had a baby. Rural teenage women are more likely to start parenthood earlier than their urban counterparts, 34% and 23% respectively in 2001/2, and 20% and 26% in 2006. In Uganda, teenage pregnancy also varies greatly with the woman's education, being higher among the less educated (at 50% in 2006). According to the 2006 UDHS report, teenage pregnancy was also highest among the poor (41%)

Adolescent pregnancy in Busia district
Several studies conducted in the district indicate high levels of adolescent pregnancies and early marriages in the district (Sekiwunga et al, 2003, Katahoire 1998). Teenage pregnancy in eastern region and in Busia district was higher than the national figure at 37% (against 31% national in 2000/01 -2000/01 UDHS), being one of the highest in the country. Although, the rate reduced to 31% (2006 UDHS), the number of teen age girls exposed to the problems of early pregnancies and childbirth in this district is still high compared to other districts in Uganda. This is why this study was undertaken to find out the long term effect of these pregnancies to young mothers.
CHAPTER THREE
METHODOLOGY

3.1 Study design and site
This was a cross sectional study which used quantitative methods of data collection. Primary data was collected from four sub counties in Busia district using questionnaires to gather information on health complications of teenagers during pregnancy and childbirth. The study population was young mothers in Busia district aged 15 – 24 years, who had their first pregnancy between ages 13-19 years. Busia district is located in the eastern part of Uganda. The district was separated from Tororo district in 1997. It is bordered by Tororo district in the north, Bugiri to the west, the Kenya border to the east and Lake Victoria to the south (sees map attached). Busia district had a total population of 228,181 by 2005 (Uganda District Information Handbook, 2005). The main economic activity is subsistence farming, with a few cross-border trade. This study was carried out in four, of the nine sub counties which included the Municipality, Buhehe, Masafu and Bulumbi.

3.2 Sampling
Two types of sampling methods were used in selecting the sample, that is, random and purposive sampling. Sampling of the four sub counties was done randomly, except for the Municipality which was purposively chosen due to its
uniqueness as an urban area. One parish was randomly selected for the study from each sub county. Due to the uniqueness of the study population (young mothers 15 to 24 having had a first pregnancy or childbirth during the age 13 to 19 years), respondents were purposively selected in each of the parishes sampled by the study team together with the local leaders. All young mothers included in the study had had their birth at least one year prior to the study in order to enable the researcher assess the impact of this pregnancy and childbirth on young mothers' health. The study team contacted local leaders and together identified young mothers who were meeting the set criteria for the study. Every mother who was identified and met the study criteria was included in the sample. A total of 398 young mothers were interviewed during the study.

**Inclusion criteria**

The inclusion criteria were having had a first childbirth between during the teen ages, and having a child one year and above.

**Exclusion criteria**

The exclusion criteria were having had a first childbirth during teen ages but this event being less than a year.

**Sample size estimation**

The sample size was estimated using the formula for prevalence studies according to Leslie Kish (1965).
The sampling Formula used was:

\[ n = \frac{Z^2 \times p \times q}{e^2} \]

Where;

- \( n \) is the derived sample size,
- \( Z \) = the value that corresponds to the 95% confidence level = 1.96 (Test statistic)
- \( P \) = is the proportion of the variable of interest (teenager’s having had a child)
- \( q = 1 - p \) = probability that the outcome did not occur
- \( e \) = is the acceptable error to be committed (+/- 4.6%)

Where; \[
\begin{align*}
n &= \frac{1.96^2 \times 0.31 \times 0.69}{0.04.6^2} \quad = 391
\end{align*}
\]
3.3 Data collection and analysis

Questionnaires were used to collect data on social economic and demographic characteristics of the respondents. The variables included maternal age, marital status, residence, levels of education and occupation. It also addressed intermediate factors such as access to antenatal care, place of delivery, type of assistance during delivery, child birth complications and pregnancy outcomes (maternal morbidity).

Quality Control
A two-day training of research assistants was organized to acquaint them with the subject under study and the instruments to be used. The Research assistants were recruited from the district and were fluent in the local language. Tools used were translated into the local language (Samia) and pre-testing of the research instruments was carried out in a sub county outside the study area. Field editing of the data collected was carried out at the end of each day to ensure quality and completeness and plans for the next day’s activities were made.

Data analysis
The data was analyzed at three levels: univariate, bivariate and at multivariate level using SPSS computer program (Version 10). At the univariate level, frequencies on the key study variables were established and presented using tables, and graphs. The Bivariate analysis lead to cross tabulation of the independent and the dependent variables and their association using the chi
square statistical test. The level of significance used was 0.05. All variables with p values less or equal to 0.05 implied that the variables under consideration were significantly associated while variables with p value greater than 0.05 were considered insignificant. The Chi- Square takes the form of,

\[ X^2 = \sum_{i=1}^{r} \sum_{j=1}^{c} \frac{(0_{ij} - E_{ij})^2}{E_{ij}} \]

Where;

- \( X^2 \) is the chi-square.
- \( 0_{ij} \) is the observed frequency
- \( E_{ij} \) is the expect frequency of the independent variables,
- \( r \) is the number of categories of independent variables, maternal age, marital status, parity, residence, occupation and level of education.
- \( c \) is the number of categories of dependent variables, pregnancy outcome (abortion, birth weight and type of delivery) and maternal morbidity.

### 3.4. Logistic Regression Model

In order to confirm the results, a binary logistic regression model was fitted to establish the relationship between impact of teenage pregnancies/childbearing and one or more explanatory or independent variables. It was used to estimate the parameters and test the hypotheses. Before fitting the model, preliminary analyses were done to check for any violation of basic assumptions. The logistic regression model takes the form of
\[ Y = \frac{1}{1 + e^{-z}} \]

Where;

\( Y \) is the probability of an event.

\( Z \) is the linear combination of the independent variables:

\[ Z = b_0 + b_1X_1 + b_2X_2 + \ldots + b_kX_k \]

\( X_1 \) is the independent variable

\( b_0 \) is the coefficient of the constant

\( b_1, b_2 \) are the regression parameters

\( k \) the probability of getting a positive response.

The probability of an event not occurring is estimated as:

\[ \text{Prob (no event)} = 1 - \text{Prob (event)} \]

The sum of the probability adds up to 1 therefore all the values of \( z \) will be between 0 and 1. The partial effect of each independent variable will be measured using the \( r \) statistic and this will be ranging between \(-1\) to \(+1\).

The logistic regression model was used to predict the probability that a respondent had a health problem because of becoming pregnant during teenage given her socio-economic and demographic characteristics. The model used binary logistic regression and it was found to be the most suitable tool given the nature of the dependent variable. The model was found to be the best procedure for presenting the association between the factors and the dependent variables.
because of its ability to estimate the probability of an event occurring for a
dichotomous outcome. The dependent variable pregnancy outcome is
dichotomous in nature taking on the value ‘1’ for having had a childbirth
complication and ‘0’ for not having had a childbirth complication. The dependent
dichotomous variable was regressed on dummy indicator variables representing
the independent variables, which are categorical in nature. For the dependent
variable, pregnancy outcome, dummy variables were created to represent those
who did not develop a complication and those who had a complication and were
assigned the values ‘0’ and ‘1’ respectively.

In order to use the above independent variables in the logistic regression model,
it was found necessary to create dummy variables to enable multivariate
analysis. For each of the mentioned independent variables, one of the original
categories was taken as the reference category in the analysis. The reference
category was the one expected to have the least likelihood effect of pregnancy
outcome. The probability of young mothers getting health problems and not
going them due to teenage pregnancy was analyzed in relation to the selected
reference category.
3.4.1 Description of variables

Marital status

Marital status was hypothesized to have an impact on pregnancy outcomes of young mothers because of the influence it has on the utilization of maternal health services. It was observed that although single women tend to make independent decisions about when and where to seek health services, teen mothers might not have enough information and resources to do so, unlike married women who depend on their spouses’ support in seeking health care. Marital status was categorized into: married and single. The married was taken as the reference category (least likely to be affected) and the likelihood of teenage mothers developing health complications due to pregnancy was analyzed in relation to this category.

Education level

It was hypothesized that maternal education enhances mothers’ utilization of health services, better hygienic practices and the ability to provide adequate health care. In this model, maternal education was categorized into: no education, primary one to primary four, primary five to primary seven and secondary education and above. The secondary and above education was taken as the reference category and the likelihood of developing health complications related to teenage pregnancy was analyzed in relation to this reference category.
Residence

It was also hypothesized that young mothers living in urban areas were less likely to develop health problems related to teenage pregnancy because of the availability and easy access to quality health care. Residence was categorized into: rural and urban. The urban was taken as the reference category; the most unlikely category to get health complications due to teenage pregnancy and the probability of rural mothers developing health problems was analyzed in reference to the urban category.

Further analysis for age was not possible because the study recorded respondent’s age at the time of data collection and not at the time of pregnancy or child birth. Likewise there was no further analysis for occupation.

Summary
The study used primary data collected from four sub counties in Busia district. These sub counties were randomly selected except for the Municipality which was chosen due to its being the only urban area in the district. One parish was randomly selected from each sub county. A total of 398 young mothers aged from 15 to 24 years were purposively selected for the study. Statistical package for social scientists (SPSS) version 10 was used to analyze the data.
CHAPTER FOUR

BACKGROUND CHARACTERISTICS OF THE RESPONDENTS

4.1 Introduction

This chapter presents the respondents’ background characteristics which include maternal age, marital status, education, residence and occupation. These characteristics are important in influencing the health status of young mothers, especially as far as childbirth complications are concerned. The primary objective here was to establish different categories of young mothers basing on these factors in order to form a basis upon which further statistical analyses could be done.

4.2 Distribution of mothers by socio-demographic factors

Age of the respondents
Age is an important demographic factor that influences the pregnancy outcomes and morbidity of young mothers. Data in this section relates to the current age of the young mothers during the time of the survey, and was classified into: young mothers aged 15 to 19 years (32%) and the 20 to 24 (68%) years as shown in Figure 4.1. The 15 to 19 covers the teenage mothers and the 20 to 24 the other young mothers who had been pregnant during teen age. In the Figure, the majority of the respondents (68%) were mothers aged 20 to 24 years and thus could easily relate their teenage pregnancy experience very well.
Figure 1: Age of respondents at the time of the survey

Marital status of the respondents
The marital status of pregnant mothers influences her access to health services which in turn has an effect on the pregnancy outcome and maternal morbidity. The survey revealed that the majority (86%) of the respondents interviewed were married by the time of the study, 12% were single while only 2% were either divorced or separated, as shown in Figure 4.2:

Figure 2: Marital status of respondents

Among the married mothers, 20% reported that they were in a polygamous
marriage while the majority (80%) was in a monogamous marriage. For those who reported to be single, 77% indicated that they were still staying with their parents, while the rest (33%) were staying with their relatives or friends.

**Respondents’ education levels**

In this study education was categorized into four: never been to school, attended primary one to four, primary five to primary seven and secondary and above. Figure 4.3 shows that the majority of the respondents had attended between primary four and seven (47%), with 22% reporting that they had acquired secondary school education and above. Only 9% reported that they had never been to school.

**Figure 3: Maternal education of respondents**

![Bar chart showing maternal education levels](image)

The effect of maternal educational levels and morbidity is shown in Table 4.1; teenager mothers with educational levels of primary five to seven reported to have had more pregnancy complications (first trimester (42%), second trimester (51%), and third trimester (43%), during delivery (43%) and after delivery (44%)
than the rest of mothers in other educational categories. It is interesting to note that mothers who have never been to school had less pregnancy complications than the rest of the respondents. Most of these mothers lived in the rural area and reported that they had used local herbs during pregnancy.

Table 1: Respondents reporting pregnancy complications by education level

<table>
<thead>
<tr>
<th>Period</th>
<th>None</th>
<th>P1 – P 4</th>
<th>P5 – P 7</th>
<th>S+</th>
</tr>
</thead>
<tbody>
<tr>
<td>First trimester</td>
<td>6.2</td>
<td>25.9</td>
<td>42.0</td>
<td>25.9</td>
</tr>
<tr>
<td>Second Trimester</td>
<td>5.3</td>
<td>24.6</td>
<td>52.6</td>
<td>17.5</td>
</tr>
<tr>
<td>Third trimester</td>
<td>6.1</td>
<td>20.4</td>
<td>42.9</td>
<td>30.6</td>
</tr>
<tr>
<td>During delivery</td>
<td>14.3</td>
<td>21.4</td>
<td>42.9</td>
<td>21.4</td>
</tr>
<tr>
<td>After delivery</td>
<td>4.3</td>
<td>13.0</td>
<td>43.5</td>
<td>39.1</td>
</tr>
</tbody>
</table>

Respondents’ area of residence
Residence was categorized into urban and rural. Figure 4.4 shows that 28% of the respondents were from the urban area (Busia Town Council). The rest of the respondents (72%) were from rural sub counties of Buhehe (19.8%), Bulumbi (25.1%) and Masafu (27.8%).

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Occupation of respondents
Table 2 shows that majority of the mothers were subsistence farmers (82%), 8% business women, with very few (2%) reporting to be in salaried employment. Only 13% of the young mothers reported to be having a second source of income, with less than 10% having access to credit facilities.

Table 2: Percentage of respondents by occupation

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Number of mothers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsistence farmers</td>
<td>326</td>
<td>82.3</td>
</tr>
<tr>
<td>Business women</td>
<td>32</td>
<td>8.0</td>
</tr>
<tr>
<td>None</td>
<td>20</td>
<td>5.0</td>
</tr>
<tr>
<td>Others</td>
<td>18</td>
<td>4.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>398</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
4.2 Respondents’ health seeking behaviour

The study looked at young mothers’ health seeking behaviour in terms of attendance to ANC, type of assistance during delivery and place of delivery.

Antenatal attendance

For purposes of this study, antenatal attendance was considered for mothers during the first pregnancy. Ninety-six percent of the mothers reported that they had attended ANC, with 87% reporting to have gone to a health centre, and the rest to private clinics and TBAs. There was only a slight difference in ANC attendance between rural (97%) and urban (95%) residents and attendance did not differ by marital status (96% respectively). Asked at what age of the pregnancy they first thought ANC services only 10% of the young mothers reported to have started ANC in the first trimester as recommended by Ministry of Health, with the majority (70%) starting ANC late in the second trimester. This meant that most young mothers started ANC services late during their teenage pregnancy, thereby missing to start as recommended. Attendance of ANC by young mothers reflects the national figures whereby most mothers attend ANC once and very late (UBOS, 2001/2, 2006). Table 4.3 shows young mothers’ starting ANC by gestation period.
Table 2: Attendance of ANC by gestational period

<table>
<thead>
<tr>
<th>Age of pregnancy (in months)</th>
<th>Number of respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 3</td>
<td>38</td>
<td>9.9</td>
</tr>
<tr>
<td>4 – 6</td>
<td>268</td>
<td>69.8</td>
</tr>
<tr>
<td>7 – 9</td>
<td>78</td>
<td>20.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>384</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

On the number of times that each mother attended ANC, 51% of the mothers reported that they had attended at least four times during their first pregnancy. Almost half (49%) reported attending ANC less than the recommended four times. For those who did not attend ANC during pregnancy, they reported long distances to health facilities and to the fact that they remained health therefore saw no need to attend ANC.

Place of delivery and type of assistance

Results indicate that although 87% of the mothers reported to have attended ANC, a big proportion (62%) did not deliver from the places where they had attended antenatal clinic. The study further found out that only 31% of the young mothers’ children were delivered in a health facility, with another 5% being delivered at private clinics and/or TBAs. The majority of the children born to young mothers (64%) were delivered at home. It was further noted that 10% of the total deliveries by teenage mothers were not assisted at birth, not even by
an untrained person. The majority of young mothers who delivered without any assistance were residing in rural area (86%).

**Pregnancy outcome**

Maternal morbidity

Table 3 shows the distribution of teenage mothers who had experienced complications by marital status. It shows that a small proportion (15%) of single mothers reported having had complications during the first pregnancies/childbirth as compared to married teenage mothers (85%).

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Had problems (n=250)</th>
<th>No problems (n=148)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>84.8</td>
<td>87.8</td>
</tr>
<tr>
<td>Single</td>
<td>15.2</td>
<td>12.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>62.8</strong></td>
<td><strong>37.2</strong></td>
</tr>
</tbody>
</table>

Morbidity during pregnancy

Table 4 shows that 162 mothers specified the type of illnesses they had suffered from. Teenage pregnancy complications reported did not differ very much from those known to occur among pregnant women and were easily treated within a short time, both at home and at health facility. According to the results majority of respondents suffered from fever/vomiting in the first and second trimesters and headache in the third trimester.
Table 4: Illnesses during the first pregnancy (first trimester) by maternal age

<table>
<thead>
<tr>
<th>Illnesses</th>
<th>N= 162</th>
<th>Age (years)</th>
<th>Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body weakness/lack appetite</td>
<td>26</td>
<td>38.5</td>
<td>61.5</td>
</tr>
<tr>
<td>Fever/vomiting</td>
<td>102</td>
<td>35.3</td>
<td>64.7</td>
</tr>
<tr>
<td>Headache</td>
<td>24</td>
<td>33.3</td>
<td>66.7</td>
</tr>
</tbody>
</table>

Morbidity during delivery
Only 14% of the teenage mothers reported to have had some complications during and soon after delivery and they mostly included loss of blood, stitches and prolonged labour. More respondents residing in urban areas (15%) reported to have experienced complications during and after delivery than those in rural areas (10%). Respondents in the rural areas attributed this to use of local herbs which were perceived to have helped them to deliver without getting serious problems.

Birth weight
This study considered the weight of the child of teenage mothers at the time of delivery. Young mothers reported that their children weighed between 2 to 5 kilograms at birth. However, this information was not supported by documentary evidence like health card; and because the majority of these mothers reported to have delivered from home with no documentary evidence, this information could not independently be verified. Records seen at the different health units in the study area corresponded with what the young mothers had reported because it
showed that birth weight for children born by teenage mothers ranged from 2 to 5 kilograms but could not be used for further analysis because it referred to different respondents other than the one under study.

Death of infant

Study findings revealed that 12% of the children born by teenage mothers had died by the time of the survey. The study was not in a position to establish at what age these children died neither the cause but more deaths were reported among rural young mothers (30/39) than those in urban area (9/39). It was also observed that more deaths occurred among children belonging to married young mothers (38/39) than for those who were single (1/39).

Summary
This chapter has presented a descriptive analysis of the background characteristics of the respondents’ age, marital status and their socio-economic status and teenagers’ health seeking behaviour. The results revealed that majority of the respondents were aged between 20 to 24 years (68%), and that most of them (86%) were already married by the time of the study. Almost ¾ of the respondents lived in the rural area. Sixty-eight percent of the respondents had attained primary five level of education, with less than 10% of the respondent indicating that they had never been to school. The majority of the mothers (82%) were subsistence farmers, with very few in salaried employments. It was observed that attendance to ANC differed greatly from place of delivery whereby
majority of teenage mothers delivered without the assistance of a trained health provider.
CHAPTER FIVE
A BIVARIATE ANALYSIS OF THE DEMOGRAPHIC AND SOCIO-ECONOMIC FACTORS AFFECTING YOUNG MOTHERS

5.1 Introduction

This chapter examines the association between background characteristics of the respondents and pregnancy outcome (morbidity) of the young mothers. Since child mortality and birth weight could not be analyzed further, morbidity was considered as the pregnancy outcome and formed the basis for this analysis. Chi-square test was used to test for any statistical association between the dependent variable and independent variables. Basing on the findings of the bivariate analysis, multivariate analysis was performed to determine the actual effect of each of the contributing factors in influencing the dependent variable.

5.2 Bivariate Analysis

Effect of maternal age on pregnancy outcome for young mothers
Age affects pregnancy outcomes among young mothers mainly because it is assumed that their bodies are still growing by this time (and not yet mature) and are thus not physiologically prepared to handle and deal with the stress of pregnancy and its increased demand including nutrition, growth and development demands (MOH 2003). This was tested at bivariate level, to estimate the effect of maternal age on pregnancy outcome of young mothers. Age in single years of the young mothers was categorized into 5-year age groups for the young mothers 15 to 24 years. Pregnancy outcome was categorized into the three
trimesters (first, second and third), and then during and after delivery for the first pregnancy. The study found no significant association between age and pregnancy outcome in the first trimester (p value = 0.313), but there was a significant association in the second and third trimester, (p= 0.000), (p= 0.001) respectively, as shown in Table 5 below. Majority of the mothers (67.3%) suffered from fever/vomiting in the second trimester and headache (28.6%) in the third/last trimester. Since most of these illnesses were for a short time period, they had no long term effect on the health status of young mothers. The fact that most teenage mothers experienced problems in the second and third trimester partly explains why they usually report late for ANC as seen earlier.

Table 5: Effect of age on pregnancy outcome by trimester (N=398)

<table>
<thead>
<tr>
<th>Period</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First trimester</td>
<td>0.313</td>
</tr>
<tr>
<td>Second Trimester</td>
<td>0.000</td>
</tr>
<tr>
<td>Third Trimester</td>
<td>0.001</td>
</tr>
<tr>
<td>Delivery</td>
<td>0.002</td>
</tr>
<tr>
<td>After delivery</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The study shows a significant association between age and seeking medical treatment during the first pregnancy (p= 0.000). Sixty-four percent of the mothers’ aged 20-24 years sought medical assistance as opposed to 37% for age group 15 to 19 years. There was no significant association between age and attendance of antenatal care clinic during the first pregnancy (p= 0.531).
The study showed a significant association of young mothers developing health complications related to teenage pregnancies and age (p= 0.010).

**Effect of marital status on pregnancy outcome of respondents**

In the Nairobi Birth Survey of 1981, it was observed that marital status influences the utilization of maternal health services because married women tend to be dependent on their spouses for resources including seeking health care, and are more likely to utilize these health services. In this study, marital status was categorized into two: married as those who were currently married or in form of consensual union and single as those mothers who did not have a husband/or not in any consensual union, and the separated, divorced or widowed by the time of the survey. Furthermore, pregnancy outcome (morbidity) was considered according to the three trimesters. The study showed that there was no significant association between marital status and pregnancy outcome in the first trimester and second trimester (p= 0.283), (p= 0. 704) respectively, but a significant association was noted in the third trimester (p= 0. 018). Table 6 further shows that there was no significant association between marital status and morbidity during and after delivery (p= 0.423), (p= 0.201) respectively.
### Table 6: Effect of marital status by trimester (N=398)

<table>
<thead>
<tr>
<th>Period</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First trimester</td>
<td>0.283</td>
</tr>
<tr>
<td>Second trimester</td>
<td>0.704</td>
</tr>
<tr>
<td>Third trimester</td>
<td>0.018</td>
</tr>
<tr>
<td>Delivery</td>
<td>0.423</td>
</tr>
<tr>
<td>After delivery</td>
<td>0.201</td>
</tr>
</tbody>
</table>

On whether young mothers were still experiencing health complications, the study shows that there was a significant association between marital status and morbidity (p= 0.000) and that more married mothers (88%) were still experiencing complications as opposed to those that were not married (12%).

The study shows a significant association between marital status and seeking medical treatment (p= 0.007), but there was no significant association between marital status and attendance of antenatal care (p= 0.843) during the first pregnancy. The overall cross tabulation of marital status and getting health problems during the first pregnancy/childbirth shows that the association was not significant (p= 0.686).

**Effect of education on pregnancy outcome of respondents**

Table 7 shows that there was a significant association between education status of young mothers and pregnancy outcomes (morbidity) in the first trimester, second trimester and during delivery (p = 0.039), (p =0.012), (p =0.000) respectively. However, there was no significant association between maternal
education and morbidity in the third trimester and after delivery (0.134), (0.146) respectively.

Table 7: Effect of education on morbidity of respondents by trimesters (N=398)

<table>
<thead>
<tr>
<th>Period</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First trimester</td>
<td>0.039</td>
</tr>
<tr>
<td>Second trimester</td>
<td>0.012</td>
</tr>
<tr>
<td>Third trimester</td>
<td>0.134</td>
</tr>
<tr>
<td>During delivery</td>
<td>0.000</td>
</tr>
<tr>
<td>After delivery</td>
<td>0.146</td>
</tr>
</tbody>
</table>

Overall, the study showed no significant association between education and young mothers developing health complications related to teenage pregnancies/childbirth (p= 0.376).

Effect of residence on pregnancy outcome of respondents
Differences in place of residence are expected to affect the health seeking behaviour of young mothers and it was hypothesized that residence of the young mother (rural/urban) influences access to maternal health services, and thereafter the pregnancy outcome. There are more health facilities, health workers and easy means of transport to health facilities in the urban areas than the rural places. In the study, residence was categorized into rural and urban to see whether it has any effect on the young mothers’ pregnancy outcome. Table
8 shows that there was a significant association between the mothers’ residence and morbidity in the first trimester of the young mothers’ first pregnancy (p = 0.000). Fever and vomiting (63%) were the major illnesses during this period. However, there was no significant association between residence of young mothers and morbidity in the second trimester and third trimester (p = 0.099), (p = 0.249) respectively. A cross tabulation between location and morbidity during and after delivery was done. The results showed that there was a significant association during (p = 0.023) and after delivery (p = 0.000).

Table 8: Effect of residence on pregnancy outcomes (N=398)

<table>
<thead>
<tr>
<th>Period</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First trimester</td>
<td>0.000</td>
</tr>
<tr>
<td>Second trimester</td>
<td>0.099</td>
</tr>
<tr>
<td>Third trimester</td>
<td>0.249</td>
</tr>
<tr>
<td>During delivery</td>
<td>0.023</td>
</tr>
<tr>
<td>After delivery</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Overall, the study showed that there was a significant association between residence and pregnancy outcome (p = 0.000).

**Effect of occupation on morbidity during first pregnancy**

Occupation was categorized into five: the subsistence farmers, business, salaried, students and those who reported that they were not employed. Study findings in Table 9 shows that there was a significant association between occupation and pregnancy outcome in the second and third trimester and during
delivery \( (p = 0.006) \), \( (p =0.000) \), \( (p =0.026) \) respectively. However, there was no significant association between these variables in the first trimester and after delivery \( (p = 0.750) \) and \( (p =0.166) \) respectively.

**Table 9: Effect of occupation on pregnancy outcome**

<table>
<thead>
<tr>
<th>Period</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First trimester</td>
<td>0.750</td>
</tr>
<tr>
<td>Second trimester</td>
<td>0.006</td>
</tr>
<tr>
<td>Third trimester</td>
<td>0.000</td>
</tr>
<tr>
<td>During delivery</td>
<td>0.026</td>
</tr>
<tr>
<td>After delivery</td>
<td>0.166</td>
</tr>
</tbody>
</table>

Overall, the study shows no significant association between occupation and pregnancy outcome \( (p = 0.55) \).
5.3 Logistic regression model

The independent variables considered in this model include marital status, maternal education and residence. These variables were used to formulate the Logistic Regression Model where the dependent variable was regressed on all the independent variables. The contribution of all the dummy variables representing the independent variables is displayed in Table 10. The Table depicts the Beta co-efficient (B), significance level (sig) and the odds ratio (Exp (B)). The e raised to the power Bi (Exp (B) is the factor by which the odds change when the ith independent variable increases by one unit. The odds of the event occurring are defined as the ratio of the probability that the event will occur to the probability that the event will not occur. If Bi is positive, this factor will be greater than one, which means that the odds are increased. If Bi is negative the factor will be less than one, which means that the odds are decreased.
Table 10: Results of the Multivariate analysis on respondents by socio-economic and demographic factors

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>S.E</th>
<th>Df</th>
<th>Sig</th>
<th>Exp (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married (ref)</td>
<td>0.000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Single</td>
<td>0.159</td>
<td>0.314</td>
<td>1</td>
<td>0.613</td>
<td>1.172</td>
</tr>
<tr>
<td>Maternal education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>0.704</td>
<td>0.422</td>
<td>1</td>
<td>0.095</td>
<td>2.022</td>
</tr>
<tr>
<td>P1 – P4</td>
<td>0.455</td>
<td>0.321</td>
<td>1</td>
<td>0.156</td>
<td>1.576</td>
</tr>
<tr>
<td>P5 – P7</td>
<td>0.177</td>
<td>0.282</td>
<td>1</td>
<td>0.530</td>
<td>1.194</td>
</tr>
<tr>
<td>S1+ (ref)</td>
<td>0.000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Urban (ref)</td>
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<tr>
<td>Rural</td>
<td>-0.826</td>
<td>0.232</td>
<td>1</td>
<td>0.000</td>
<td>0.438</td>
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Ref = Reference Category

5.4 Discussion of results of the Logistic regression model

Table 10 shows the results of the multivariate regression model. It shows that residence was significantly associated with pregnancy outcome (childbirth complication) (p < 0.05). On the other hand, there was no statistically significant association between marital status, maternal education and pregnancy outcome. It should be observed that these variables had odds ratios that are greater than one. This implies that the variables increased by the same value and were therefore positively correlated.

Marital status
Marital status was believed to have an impact on young mothers’ health due to teenage pregnancy was categorized into: married and single. Table 10 shows that marital status was not significantly associated with developing a childbirth complications (p>0.05). The logistic regression shows that the odds of single mothers developing complications after childbirth were higher (OR=1.17) than those of that were married. This could be explained by the fact that teenager mothers who are single tend to lack enough support for health care and feeding. This finding corresponds with those of Magadi (2004) and Reichman et al (1997) who reported that among other social factors that were associated with poor birth outcomes among teenagers included marital status.

Maternal education

It is believed that maternal education enhances mothers’ utilization of health services, better hygienic practices and the ability to provide adequate health care. This was categorized into: no education, primary one to primary four, primary five to primary seven and secondary education and above. The logistic regression shows that maternal education was not significantly associated with pregnancy outcomes among teenager mothers (p>0.05). The odds of teenager mothers with no education developing complications after childbirth were twice those with education as shown in Table 10. It was however observed that the odds of developing complication at childbirth reduced by the level of education attainment. This is likely to be related to the knowledge and skills education imparts to the mother. This finding is supported by Gebremariam (2005) and
Negussie et al (2003) who reported that education had strong and significant association with service utilization and hence favorable pregnancy outcomes.

Residence

It was generally believed that teenagers living in urban areas were less likely to develop childbirth complications and was categorized into: rural and urban. The model in Table 10 shows that residence was significantly associated with pregnancy outcome for teen age mothers (p< 0.05). It shows that respondents residing in rural areas were less likely to develop health complications due childbirth than those in urban areas. Much as health facilities and services are known to be limited in rural areas, respondents reported that the use of herbal medicine when pregnant, during after delivery greatly reduced health complications that they would have got. This claim could however not be verified by the study team. This finding diverged from what most scholars had reported that urban residents were less likely to develop pregnancy complications because most of the health services are urban based and easily accessible by urban residents than rural based residents (Mary (2003), Marcela (1998)).
Summary

In this chapter, cross tabulations were run between the dependent and independent variables. The Chi-square test was used to get the statistical association between the dependent and independent variables. The study found out that residence had a significant association with the dependent variable (p < 0.05), while marital status, education and occupation were not statistically significant (p > 0.05). However, the study showed a significant association between marital status and seeking medical treatment (p < 0.05).

Multivariate analysis was carried out using the binary logistic regression model, to explain the determinants of pregnancy outcome associated with developing childbirth complications by teenage mothers. Residence was found to be significantly associated with pregnancy outcome (p <0.05). The other variables in the model, that is, marital status and education were not significantly associated with pregnancy outcome (p>0.05). Interestingly, respondents residing in rural areas had less odds of developing childbirth complications than those in urban areas.
CHAPTER SIX
Summary, Conclusions and Recommendations

Summary
Teenage pregnancy and childbearing is a worldwide problem affecting both developed and developing countries. Uganda has had very high adolescent pregnancy rates for a long time and in spite of having had a downward trend of recent; age specific rates are still high with little difference between rural and urban areas. The study used quantitative methods of data collection and the respondents were purposively selected in the parishes due to their uniqueness. The study showed that much as majority of the respondents (70%) attended ANC; they did so late in the second trimester and third trimester, and that majority of their babies (64%) were delivered at home; with 10% of the mothers 10% of these young mothers delivering without any form of assistance, not even from untrained person.

Conclusions
It is observed that teenage pregnancies and child birth is still a big problem which affects the young mothers and their children’s good health in the study area. Furthermore young mothers have been noted to have poor seeking behaviour both in terms of ANC and delivery. This has very serious implications in that by not seeking professional help these mothers miss out on important knowledge and care that is provided both at ANC and during delivery, which is important for a good growth and development of both the mother and the baby. The study has
also revealed that a proportion (10%) of these delivered without any form of assistance or attendant be it even untrained person. This puts these young mothers in great danger, especially in case she develops complications during delivery which requires specialized care.

Teen mothers’ illnesses were the same as those suffered by other women and could be treated from home and nearby health facilities and these did not have a long time effect on the health of teen mothers in the study area. The fact that teen age mothers residing in rural areas were associated with getting pregnancy complications calls the district to ensure equitable distribution of health services both in urban and rural areas where majority of these mothers leave. This will enable Uganda to improve on three of the Millennium Development goals’ (MDG) achievement namely; improving maternal health, reduce child mortality and eradication of extreme poverty and hunger.

**Recommendations**

Strategies designed to reduce the health effects of teenage childbearing should address both maternal age and behavioral factors. The government and in particular the district should ensure that teenagers get tailored information and messages so as to help them avoid bad behavior that could lead them into early sex and thus pregnancies. It is important that different messages should address different age groups. For example children below 14 years, messages should emphasize good communication with parents, formed and familiar goals and
dreams, self awareness, making good choices and dangers of alcohol and drug abuse. For the 15 to 14, the major messages would be on drug, self awareness, abstinence, communication, violence, goals and dreams, sex and gender roles, HIV, STI, understanding sexuality and sexual rights, making good choice, safe mother hood and faithfulness for the married. This information should reach mothers residing in the rural areas. IEC materials should be developed and translated into the local language that is understandable to all and should be circulated in both urban and rural areas where majority of these teen girls leave.

Secondly, there is need for the district to avail good-quality and affordable youth friendly health care to teenagers so that teenage mothers are attracted to access these services. These should also as a matter of fact be taken to rural areas so as to benefit the rural population. This calls for addressing issues of the provider, availability of drugs, opening and closing hours and distance.

Supportive laws to reduce on teenage pregnancies such as the defilement law should be vigorously enforced to protect the girl child from early childbearing and its associated problems. This law should not be used by the parents to get money from the culprit but should instead protect the young girl.

Future research could be considered in the areas of the nutrition status of teen mothers and their children, their postnatal health seeking behavior, birth weight, and death of infants.
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APPENDIX

QUESTIONNAIRE

Form No. [ ]

IMPACT OF TEENAGE PREGNANCIES ON THE HEALTH OF YOUNG MOTHERS IN BUSIA DISTRICT

QUESTIONNAIRE

Interviewer’s name………………………………………………
Date……………………………………

District………………………… S/County…………………………
Parish…………………………

Section A

(Circle the correct response)

Background characteristics
1. Name of the respondent…………………………………………………………

2. Age……………………..(Complete years).

3. Religious affiliation

4. a) Marital status

   b) If married, state nature of marriage
      1. Polygamous  2. Monogamous

   c) If not married, whom are you currently staying with?
      1. Both parents  3. Father/Mother  4. Sister/Brother
      5. Friends  6. Relative  7. Others (Specify)……………………………………

5. State number of children you have produced so far…………………………..
6. Tell us the of people who normally live and eat together in this household
(Start with the name of the household, then the head of household)

<table>
<thead>
<tr>
<th>Name</th>
<th>Sex</th>
<th>Age</th>
<th>Highest level of education</th>
<th>Relationship to respondent</th>
<th>Main occupation</th>
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b) Do you have any other sources of income?
1. Yes  2. No

c) If yes, please name them (Probe for land, piggery, cows, goats, chicken, any income generating activity, business, etc)…………………………………………………………………………………………………………………………
………………………………………………………………………………………………………………………………………………

7. a) Do you belong to any credit organization or group (Probe for formal and informal)?
1. Yes  2. No

b) If yes, which one?........................................................................................................
........................................................................................................................................

c) When did you last access credit (or get any benefits) from this organization (s)....................................................................................................

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Section B

Maternal health
8. a) During the first pregnancy, did you attend antenatal care clinic?
   1. Yes  2. No

   b) If yes, where did you go for Antenatal Care?
   6. Others (specify)…………………………………………………..

   c) How many months of pregnancy did you start to attend ANC?………..

   d) How many times did you attend?………………………………………

   e) If no, Why not?…………………………………………………………

   f) Did you deliver at the same place where you had attended ANC?
   1. Yes  2. No

10. a) Are you still experiencing the same complications?
    1. Yes  2. No

    b) If no, for how long did these complications last?……………………
        ………………………………………………………………………………………

Section C

Maternal morbidity

Try to remember
11. For the problems or illnesses you had during the first pregnancy, when
did you get them?
    a) Early pregnancy (1-3 months)?…………………………………………
        ………………………………………………………………………………………

    b) Mid pregnancy (4-6 months)?…………………………………………
        ………………………………………………………………………………………

    c) Late pregnancy (7-9months)?…………………………………………
        ………………………………………………………………………………………
d) During delivery?.................................................................
..........................................................................................

e) After delivery?........................................................................
..........................................................................................

12.  a) Did you seek any treatment outside the home?
   1.    Yes  2.    No
   b) If yes, where did you seek treatment from?..............................
   c) If no, what prevented you from seeking treatment?....................
..........................................................................................

THANK YOU VERY MUCH

END