

**DETERMINANTS OF CONTRACEPTIVE USE AMONG
FEMALE ADOLESENTS IN NIGERIA**

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DSS/11/0146

**A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF
DEMOGRAPHY AND SOCIAL STATISTICS, FACULTY OF
HUMANITIES AND SOCIAL SCIENCES FEDERAL UNIVERSITY
OYE EKITI**

**IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE
AWARD OF BACHELOR OF SCIENCE (B. Sc.) HONS IN
DEMOGRAPHY AND SOCIAL STATISTICS**

AUGUST, 2015

CERTIFICATION

This is to certify that Onipede Jesutofunmi Oluwaseun of the Department of Demography and Social Statistics, Faculty of Humanities and Social Sciences, Federal University Oye Ekiti, carried out a Research on the Topic "DETERMINANTS OF CONTRACEPTIVE USE AMONG ADOLESCENTS IN NIGERIA" in partial fulfillment of the award of Bachelor of Science (B.Sc) in Federal University Oye-Ekiti under my Supervision

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DEDICATION

I wish to dedicate this work to God, my father Ven E.O Onipede, my late mother and my sisters.

ACKNOWLEDGEMENT

Thanks to God almighty for giving me the opportunity to complete this study.

My most sincere appreciation goes to my dad for inspiring me throughout the accomplishment of this study. I am also grateful to the Department of Demography and Social Statistics, Faculty of Social Science, Federal University Oye Ekiti for allowing me to carry out this study, tapping on the knowledge and wisdom of the lecturers. I appreciate the guidance and mentoring provided through my dedicated supervisor, Mr. Babalola Blessing. Gratitude is extended to all lecturers and staff of Demography and Social Statistics department. I do not forget the financial assistance from Temi Eunimo Austin and Olatunji Salimat. May God continue to enrich you.

I would like to thank MEASURE DHS for allowing and providing me with the Nigeria Demographic Health Survey Data.

My heartfelt appreciation goes to my friends especially Israel Gabice, Caleb Agu, Agha, Temilade, Adeyemi Okikiola and others for the support and motivation they accorded me throughout the study period. I confess that this study would not have been completed without you all.

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ABSTRACT

Adolescents have been treated as a homogeneous group without distinguishing how their specific socio-cultural and economic contexts affect their capacity to access and use contraceptives. Increasing evidence reveals that adolescent girls have very different livelihood concerns, this is dependent on the socioeconomic and cultural factors that shape the contexts in which they live. This study hypothesized that there is no significant relationship between demographic variables and contraceptive use among female adolescents in Nigeria. The dependent variable is the determinant of contraceptive use. Secondary data from the Nigeria Demographic Health Survey (2013) with a study population of 7,965 female adolescents age (15-19) was used. We noted that majority of the female adolescents never used contraceptives. The cross tabulation analysis revealed that contraceptive use among adolescents is significantly associated with age, marital status, place of residence, region, religion, wealth index, exposure. On the other hand, age, marital status, wealth index, region, religion predict their use of contraceptives according to the logistic regression. In conclusion this study found out that the higher the ages and wealth index the higher the odds of contraceptive use among female adolescents. There is also a significant relation in religion, region and marital status (married) with respect to female adolescent contraceptive use. The study recommended that programs and policies which will significantly increase contraceptive use among female adolescents should be instituted.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Scholars have differently defined the term 'adolescence'. It has been referred to as "the state or process of growing up, the period of life from puberty to maturity and the period of transition from childhood to adulthood". It encompasses both the development to sexual maturity, and to psychological and relative economic independence (United Nations, 1987). The problem with the definition is that the age range is vague. While the United Nations (1987) had appeal for the reproductive behaviour of teenagers (Caroline & Barney, 1993), the Population Reference Bureau in its Demographic and Health Surveys data (Yinger, Sherbinin, Ochoa, Morris, & Hirsch, 1992), and the World Health Organization's (WHO, 1975) specified the age range 15 to 19 for adolescents. Some other studies however considered adolescents as those between the ages of 15 and 24. In this study, adolescent is operationally used to refer to females of the 12 to 19 age range.

That sexual activity among adolescents in Nigeria has increased in recent years has been empirically confirmed. According to the NDHS (2013), 56% of adolescents are particularly vulnerable to unsafe abortion with its attendant reproductive health risks such as sexually transmitted diseases (STDs) and HIV (Orji, 2002). This finds further evidence in the report that about 500,000 clandestine induced abortions occurred in 1980 and these accounted for a high proportion of death amongst unmarried women (Uche et al., 1997). The focus of this study is to examine the determinants of contraceptive use among adolescents in Nigeria.

1.2 Statement of the Problem

According to the United Nations statistics, the world has 7 billion inhabitants. Of these, sub-Saharan Africa is a major contributor. With the high rate of global population growth, fertility has been considered the major factor for the high growth rate. Nigeria is the most populated African country with a total fertility rate of 5.7. A major contributor to this is high teenage pregnancy (ICF MACRO, 2013). According to Abdullahi (2012), high teenage pregnancy is a major contributor to the death of young mothers due to abortions and lack of access to sex education. Statistics from the National Demographic Health Survey (2010) reveal that 90% of adolescent women from the age of 14 to 24 in Nigeria have no access to contraceptive while 85% of the women from the age of 25 to 34 cannot access contraceptive. 87% of adolescent women do not engage in the use contraceptive (ICF MACRO 2013).

Furthermore, Ekeng, Samuel and Eshien (2009) estimated that about 16 million adolescent girls give birth every year, they also estimated that 3million girls within the ages 15-19 engage in unsafe abortions every year due to unwanted pregnancies as a result of poor contraceptive use and also there are complications from pregnancies that lead to the death of most girls' age 15-19 years, still birth and new born death which amounts to about 50% higher among infants of adolescent mothers than among infants of women age 20-29 years. Teenage mothers who do not use contraceptives are more likely to suffer from severe complications during delivery. In view of the above, it becomes germane to identify the role of socio-economic and demographic determinants on contraceptive use among adolescents in Nigeria.

1.3 Research Questions

The research questions for this study are:

1. How widespread is contraceptive use among female adolescents in Nigeria?
2. Do socio-economic and demographic factors affect contraceptive use among female adolescents in Nigeria.

1.4 General Objective

The general objective of the study is to examine the demographic determinants of contraceptive use among female adolescents in Nigeria.

Specific Objectives

The specific objectives of the study are:

1. To identify the prevalence of contraceptive use among female adolescents in Nigeria.
2. To evaluate the influence(s) of socio-economic and demographic factors on contraceptive use among female adolescents in Nigeria.

1.5 Justification of Study

This study is to observe the provision of sexual and reproductive health information and service needs of adolescents especially as adolescent girls are disproportionately disadvantaged in terms of these risks including the risk of unintended pregnancies that are associated with poor outcomes such as miscarriages, stillbirths, unsafe abortion, and other complications that might result in infant or maternal deaths.

In addition, the study examines the distribution and use of contraceptives among sexually active adolescents in Nigeria. Family planning programs using community-oriented approaches

and communication programs are also observed. Various contraceptive methods should be available both in public and private sectors. Among the public sectors, oral and injectable contraceptives, condoms and IUD should be available/easy to access. For the private sectors, the contraceptives should be made available through drug shops and private clinics in all cities and villages. In addition, non-governmental organizations (NGO) should also take part in providing contraceptives service with a minimum cost through its franchise network of private general practitioners in some city.

This study also intends to assist policymakers and programme managers in evaluating current existing programmes and strategies for improving health and family planning services among adolescent in Nigeria.

1.6 Definition of Terms

Adolescent: refers to somebody who has reached puberty but is not yet an adult (5-19)

Contraceptives: refers to agents used to prevent the occurrence of pregnancy other than abstinence

Exposure: this is the experience of coming into contact with an environmental condition or social influence that has a harmful or beneficial effect

Residence: is a house, apartment, or other dwelling in which somebody lives

Family planning: this is the use of birth control methods to choose the number and timing of children born into a family

Stillbirth: this is the birth of a dead fetus after the 28th week of pregnancy

Maternal death: this refers to the death of a woman during or after birth

CHAPTER TWO

LITERATURE REVIEW

2.1 UTILISATION OF CONTRACEPTIVES

Nigeria is the most populous country in Africa with a total population of about 160 million (NPC, 2006). Its total fertility rate is estimated at 5.7 per woman. The spread of contraceptive use within a society can be viewed as a diffusion process (Usui, 1987: 6). The use of contraceptives prevents women from unwanted or unplanned pregnancies (Hawlings et al., 1993). Low utilization of modern contraceptives is one of the key determinants of high fertility in Nigeria, modern contraceptives which include hormonal and non-hormonal methods are preferred above the traditional methods like periodic abstinence and coitus interruptus because they are more effective and are associated with lower failure rates. The correlates of low contraceptive use include high rates of unwanted pregnancies, abortions, maternal and perinatal morbidity and mortality. The utilization of modern contraceptives plays a significant role in fertility reduction by facilitating both the spacing and limiting or avoidance of pregnancies among adolescents and young women, limiting, spacing and avoiding pregnancy among sexually active adolescents is vital for the reduction of the risk of maternal, prenatal and other complications from early childbearing, thereby resulting in decrease in infant, child and maternal mortality (Franklin et al., 2011).

Unintended pregnancies are defined as pregnancies that are either mistimed or unwanted at the time of conception and even the wide spread of pandemic AIDS and other sexually transmitted diseases can be abated with an increasing and appropriate use of contraceptives. However, the contraceptive prevalence rate (percentage of women ages 15-49 who are practicing

or whose sexual partner are practicing any form of contraception) in Nigeria was reported at 14.60 percent in 2008 according to the World Bank.

Between 1992 and 1993, an information, education and communication campaign was launched to change Nigerians' attitude towards family planning and to thereby increase their contraceptive use. The campaign was based on evidence that family message relayed through mass media can influence contraceptive use. Clinics identified a television as their source of referral. The knowledge of and use of various types of contraceptives such as pills, condoms, injectable, jelly, Norplant, IUD, periodic abstinence, withdrawal, male sterilization, female sterilization etc. can however be induced through proper dissemination of information which determines the type and method to be adopted as possibly an attitude towards use.

Major factors which influenced the choice of contraceptive for users were convenience and effectiveness, so where users are offered a range of commodities, that effective and convenient usage will likely increase. 88.5 percent were found to be satisfied with current contraceptive methods (Oyediran-Adeniran et al 2006). General belief is that contraceptive "kills" or prevents erection, prevent sexual performance rather than reduce unwanted pregnancy. Involvement in economic activities and the rate of urbanization or modernization has exposed many families to actually plan their family. Caldwell (1981) noted that emerging industrialization process now reduces children's utilities less influential in family formation and parents now consider large family size as drain pipes to family economic resources. As a defensive mechanism, they now plan for smaller family size.(Caldwell 1981)

Page and Lesthaeghe (1981) report important findings on breast-feeding and postpartum abstinence as methods of birth spacing and on fertility limitation in tropical Africa. The

theoretical effectiveness of any method is the maximum effectiveness of that method: its effectiveness when used without error, when used perfectly and when used exactly according to instructions. On the other hand, use effectiveness takes into consideration all users of a method without error and those who are careless (Hatcher et al. 1980-1981).

Partner's communication also influences contraceptive decision of women who communicate less frequently with their sex partners about prevention issues are less likely to use contraceptive consistently. Culture that discourage openness and honest discussion about contraceptive use has been found to limit access to accurate, protective information and therefore increase risk taking by young women (Davies et al 2006). There is need to involve male partners and work on developing communication skill of a young adult in sexual relationship as a solution to limited contraceptive use (MacPhail 2007).

2.2 DETERMINANTS OF CONTRACEPTIVES USE

Contraceptives use among adolescents are determined by so many factors, part of which are the prevention of sexually transmitted diseases like HIV/AIDS, Gonorrhoea, Syphilis, Herpes and so on. The determinant of contraceptives use can also be prevention of pregnancies, adolescent of school age use various contraceptives. (Manlove et al 2004)

The current human immune deficiency virus acquired immune deficiency syndrome (HIV/AIDS) epidemic is easily the most important public health challenge globally, and especially so in developing countries. For countries in sub-Saharan Africa, where about 80% of the 38 million persons infected with HIV globally live, it is a major developmental setback. More worrisome is the fact that about 95% of all new infection globally occur in the sub-Saharan

Africa (Oye-adeniran 2004).

Nigeria has the second highest global HIV burden. Approximately, 3.5 million people are living with HIV infection; over 60% of them are women within the reproductive age. In addition, it accounts for 30% of global prevention of mother-to-child transmission gaps. Available statistics shows that 80% of the people living with HIV/AIDS in Nigeria were infected through sexual intercourse, with high-risk sexual behavior or multiple partnership and non-use of condom as the leading risk factors. Intensive advocacy and introduction of contraception within this group has the potential to increase contraceptive use and reduce transmission of HIV infection (Ezechieta, 2013). Historically, it was recommended that HIV positive women should avoid pregnancy, opt for a permanent form of contraception or terminate the pregnancy to avoid transmitting the virus to their newborn. However, with the introduction of highly active antiretroviral therapy, the subsequent improvement of survival of HIV positive women and significant reduction in the rate of mother to child transmission, the recommendations has changed. Most national HIV treatment guidelines including Nigerians, advised HIV positive women to limit family size and have access to appropriate counseling regarding the use of safe and effective contraceptive methods (Ezechi OC et al 2013).

Paradoxically, many of these HIV positive women live in sub-Saharan Africa where the total fertility rate is high and access to contraceptive services and contraceptive prevalence rates are low. Nigeria has a total fertility rate of 5.9 births per women, yet only 8% of married women use modern contraceptive device, suggesting that HIV positive women in these regions are likely to have a low contraceptive prevalence rate and a high prevalence of unwanted pregnancies. Available evidence from studies outside Nigerian shows that though approximately 70% of HIV positives are sexually active, their use of effective contraception is variable and unplanned

pregnancy and its complications are common. Unfortunately, no published study in Nigeria has evaluated contraceptive use among cohorts of HIV positive women. Establishing the pattern of use, knowledge and associated factors of contraception among the HIV positive women is therefore urgent and necessary. Information generated may serve as a basis for updating guidelines on contraception in this category of women (Ezeani, 2018).

2.3 SEXUAL BEHAVIOUR AMONG ADOLESCENTS.

In 2002, a survey was conducted in European nations about the sexual behavior of teenagers. In a sample of fifteen year olds from 24 countries, it was found that most self-reported that they had not experienced sexual intercourse. Among those who were sexually active, the majority (82%) used contraception (Regnerus 2011). Researchers found that because of the way society frames both female sexuality and virginity, adolescent girls generally think of their loss of virginity in one of the following ways: as a gift, a stigma, or a normal step in development. Researchers found that girls typically think of virginity as a gift, while boys think of virginity as a stigma (Carpenter, 2002). In interviews, girls said that they viewed giving someone their virginity like giving them a very special gift. Because of this, they often expected something in return such as increased emotional intimacy with their partners or the virginity of their partner. However, they often felt disempowered because of this: they often did not feel like they actually received what they expected in return and this made them feel like they had less power in their relationship. They felt that they had given something up and didn't feel like this action was completely worth it (Arizona 2008).

Thinking of virginity as a stigma disempowered many boys because they felt deeply ashamed and often tried to hide the fact that they were virgins from their partners, which for

some resulted in their partners teasing them and criticizing them about their limited sexual techniques. The girls who viewed virginity as a stigma did not experience this shame. Even though they privately thought of virginity as a stigma, these girls believed that society valued their virginity because of the stereotype that women are sexually passive. This, they said, made it easier for them to lose their virginites once they wanted to because they felt society had a more positive view on female virgins and that this may have made them sexually attractive. Thinking of losing virginity as part of a natural developmental process resulted in less power imbalance between boys and girls because these individuals felt less affected by other people and were more in control of their individual sexual experience. Adolescent boys, however, were more likely than adolescent girls to view their loss of virginity as a positive aspect of their sexuality because it is more accepted by peers (Carpenter 2002)

2.4 Theoretical framework

In explaining factors that influence adolescent contraceptive use, two theories are compared. The two theories used in this study are the theory of reasoned action and the benefits-cost perspective.

Theory of Reasoned Action

The theory of reasoned action proposed by Fishbein's and Ajzen (1975 and 1980) postulates that behavior is influenced by several factors among them one's belief about the outcome of an action, one's assessment that a particular behavior is desired by significant others, and a motivation to comply with views of significant others. (Fishbein et al 1975)

A measure of the consistency between attitudes and behavior, Fishbein's model asserts that an adolescent's sexual and contraceptive behavior is a result of his/her attitudes toward performing that behavior (e.g. having protected sex), his/her beliefs about what others think he/she should do (normative beliefs), and his/her motivation to comply with those norms. One critique of this framework is that it uses behavioral intentions as a proxy for actual behaviors, arguing that individuals who intend to perform a particular act are more likely to do so than those who show no tendency toward a particular behavior. The link between behavioral intentions and actual behaviors can be viewed as tenuous, at best, particularly in the realm of sexual and contraceptive behavior. Despite this limitation, however, the theory provides an important starting point from which to understand the link between attitudes and behavior and the role of consistency between attitudes and behavior in eliciting a specific preventative action (Osari, 2013).

According to this theory, adolescents would have to believe that avoiding sex or use of contraceptives would prevent unwanted pregnancy and sexually transmitted infections (STI) and that significant others would not want unplanned pregnancies and STI. Complying with wishes of significant others would mean that adolescents would take action or not take action. Taking action to prevent a pregnancy would influence adolescent abstaining from sex or using a contraceptive method. (Ekstrand 2008)

BARRIERS TO ADOLESCENTS' PROCUREMENT AND USE OF CONTRACEPTIVES

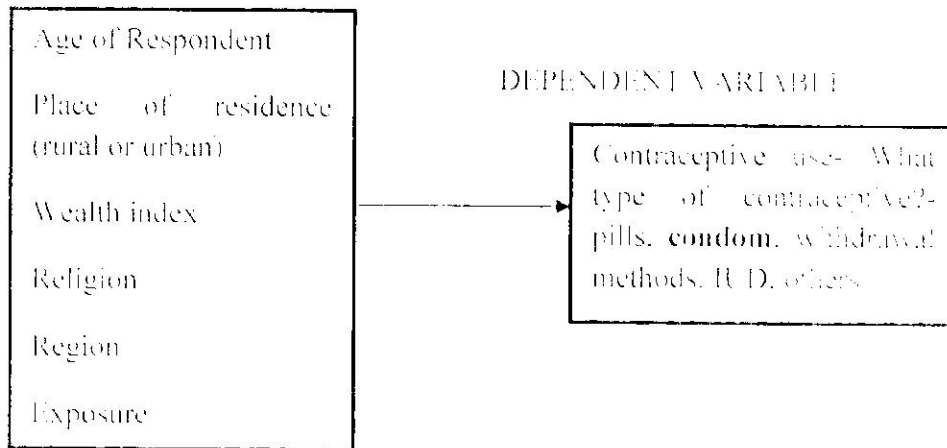
Erratic availability, cost, laws and policies prevent unmarried adolescents in low and middle income countries from accessing contraceptives. Even when there are no legal restrictions, health workers often refuse to provide unmarried adolescents with contraceptives because they do not approve of premarital sex. And when they do provide contraceptives, they

often limit these to condoms, wrongly believing that long-acting hormonal methods and intra-uterine devices are inappropriate for all young women and those who have not had children. (Acosta 2015)

Even when adolescents are able to obtain contraceptive methods, social pressure may prevent their use. First, in many places young women are under pressure to bear children soon after marriage. Contraception is considered after the first child is born. In addition, the stigma surrounding contraception prevents their use by adolescents who are not in stable relationships. A young woman who proposes condom use, for example, runs the risk of being considered 'loose'. Third, adolescents in many places have misconceptions about health effects of contraceptives, including their future ability to bear children. As a result, they tend to prefer traditional remedies or to use ineffective methods such as withdrawal. Fourth, many adolescents have poor understanding of how contraceptive methods work and use them incorrectly. Finally, sporadic and infrequent sex leads to an inconsistent use of contraceptives. But even with stable relationships, the use of condoms tends to decline over time because they suggest a lack of trust. (Chandra-Moulin 2014)

2.5 CONCEPTUAL FRAMEWORK

BACKGROUND VARIABLES



SOURCE:- Author's construct (2015)

2.6 Hypothesis

H₀: Demographic characteristics does not significantly influence the use of contraceptives among female adolescents in Nigeria

H₁: Demographic characteristics significantly influence the use of contraceptives among female adolescents in Nigeria

CHAPTER THREE

METHODOLOGY

3.1 BACKGROUND INFORMATION ABOUT AREA OF STUDY

Nigeria, with a sobriquet 'Giant of Africa', owing to its large population and economy, has approximately 174 million inhabitants. It is the most populous African country and the seventh most populous in the world. With over 500 ethnic groups, Nigeria has one of the largest populations of youth in the world. As regard religion, the country is divided roughly in half between Christians, who live mostly in the southern and central parts of the country, and Muslims, concentrated mostly in the northern and southwestern regions. A minority of the population practice religions indigenous to Nigeria (PRB 2010).

3.2 THE TARGET POPULATION

The target population consists of adolescents from age 15-19 years, who use a form of contraceptive at the time of the interview. The population size is 7905.

3.3 DATA SOURCE

The data used for this study is the NDHS 2013 women recode dataset. The dataset consists of nationally representative stratified, self-weighting probability samples of women (age 15-49 years) as part of the survey were identified using a two-staged cluster design procedure based on type of place of residence: urban and rural.

3.4 SAMPLE DESIGN AND DATA PROCESSING

The sample for the 2013 NDHS was nationally representative and covered the entire population residing in non-institutional dwelling units in the country. The survey used as a sampling frame the list of enumeration areas (EAs) prepared for the 2006 Nigerian population census. The sample was designed to provide population and health indicators. A fixed sample size of 45 households were selected per cluster. All women age 15-49 who were either permanent residents of the households in the 2013 NDHS sample or visitors present in the households on the night before the survey were eligible to be interviewed. In a subsample of 10% of the households, all men age 15-49 that were either permanent residents of the households in the sample or visitors present in the households on the night before the survey were eligible to be interviewed. Also, a subsample of one eligible woman in each household was randomly selected to be asked additional questions regarding domestic violence.

QUESTIONNAIRES

Three questionnaires were used in the 2013 NDHS: the Household Questionnaire, the Women Questionnaire, and the Men Questionnaire. The content of these questionnaires was based on model questionnaires developed by the MEASURE DHS programme. The Women Questionnaire was used to collect information from all women age 15-49. These women were asked questions on the following main topics:

- Background characteristics (age, religion, education, literacy, media exposure, etc.)
- Reproductive history and childhood mortality
- Knowledge, source, and use of family planning methods

- Fertility preferences
- Antenatal, delivery, and postnatal care
- Breastfeeding and infant feeding practices
- Child immunization and childhood illnesses
- Marriage and sexual activity
- Women's work and husbands' background characteristics
- Malaria prevention and treatment
- Women's decision making
- Awareness of AIDS and other sexually transmitted infections
- Maternal mortality
- Domestic violence

3.5 DATA ANALYSIS

The data for the study was processed to formulate ideas and models that will check up earlier stated hypotheses. These will be tested and found either acceptable or acceptable. Weight was applied to the data to correct sampling errors. In addition to the use of the weight variable, the following stata command will be used to correct the use of the data testing in a complex survey design in the NDHS data. The statistical package stata will be used for a number of statistical analyses. This will take the sample design into account by calculating the standard error.

```
clear all
genbw1 = x005 / 1000000
```

```
svyset x021 [fwt=weight], psu(x021) strata (strata)
```

Where *iw*weight is a sampling weight, *psu* (primary sampling unit) = v021 and *v022* is sample stratum number.

The univariate analysis will be presented in frequency and percentage distribution while Chi-square test statistics will be used to test the bivariate analysis. This will show the relationship between independent and dependent variables. Logistic regression will be used to test the multivariate analysis to assess the effect of the independent variables on contraceptive use.

3.6 VARIABLE DESCRIPTION AND MEASUREMENT

The dependent variable in this study is contraceptives use among adolescents. The independent variables are the determinants of contraceptive use. These are age, place of residence, formal education, current method use, region, and wealth status.

These variables are described below:

sn	Variables	Measurement
1	Contraceptives use pattern	This variable is classified into four categories:-
		NO.....v023=1
		YES.....v023=2
2	Education	None.....v024=1 Primary.....v024=2
		Secondary.....v024=3 tertiary.....v024=4
3	Region	North East.....v025=1 South West.....v025=2
		South East.....v025=3 Southwest.....v025=4

4	Age	15-19	
5	Place of residence	Urban-----1	Rural-----2
6	Wealth status	Poor-----1	Average-----2
		Rich-----3	
7	Knowledge of contraceptive methods	no method-----0	folkloric method-----1
		traditional method-----2	modern method-----3

Current use by method: This variable is classified into four categories – no method, folkloric method, traditional method and modern method.

Education: Formal education is measured as the highest level of education attended.

Age: Age is measured in years as at the last birthday of the respondents at the time of the interview.

Place of residence: The two categories of current place of residence are urban and rural.

Wealth status: This variable is measured by ‘are you currently worried?’ And it is a dichotomous variable.

The variables used in this work are stated below as coded by DHS

1. Age - v012
2. Marital status - v502
3. Region - v024- v101
4. Highest educational level - v106
5. Type of place of residence - v102

6. Wealth status (v190)
7. Knowledge of contraceptive methods (v312)
8. Method currently in use (v313)

Data Management

The 2013 NDHS women recode dataset was used to analyze determinants of contraceptive use among adolescents in Nigeria. Stata was used to clean, manage and analyze data. Marital status was categorized while age was categorized into age groups. The age group considering in this study was first (15-19). The dependent variable in this research was use of contraceptive method since last birth and used before last birth (not used). News and information about exposure to mass media such as radio and magazines were merged together to exposure to mass media which can be used to measure their effect on contraceptive use among adolescents. Wealth index was computed to form data on wealth which was formerly poorer, poor, middle, rich, and richer in the NDHS dataset.

CHAPTER FOUR

DATA ANALYSIS

4.0 Introduction

The aim of this study is to examine the background characteristics of adolescent in Nigeria and to determine contraceptives use among adolescent in Nigeria. The present chapter provides the effect of the independent variables on the dependent variable.

Table 4.1 Distribution of adolescents according to their background characteristics

Variables	Frequency	Percentage
Age		
5	2,052	26.6
6	1,497	18.9
7	1,397	17.7
8	1,761	22.3
9	1,198	15.1
10	7,905	100
Marital status		
Never married	5,814	71.0
Married	1,971	24.6
Single or live-in partners	60	0.7
Divorced	60	0.7
Widow	7,905	100
Religion		
Christian	4,123	52.1
Islam	3,700	46.5
Traditional	51	0.6
Other	7,874	99.5
Region		
North-central	1,271	16.1
North-east	1,308	16.6
North-west	1,928	24.3
South-east	888	11.2
South-south	1,376	17.4
South-west	1,134	14.3

Total	7,905	100
Type of place of residence		
Urban	3,164	40.0
Rural	4,741	60.0
Total	7,905	100
Wealth index		
Poor	2,733	34.6
Middle	1,807	22.9
Rich	3,365	42.5
Total	7,820	100
Current contraceptive usage		
Never used	7,244	92.6
Used	661	8.4
Total	7,905	100
Exposure		
Not exposed to mass media	6,216	78.6
Exposed to mass media	1,689	21.4
Total	7,905	100

Source: NDHS 2013

the total respondents in the survey as 7,820, approximately 26% of the adolescents are age 15, 19% in age 16, 18% in age 17, 22% in age 18 and 15% in age 19. The current age which has the highest population is 11% higher than the adolescents in age 19, 73% of the adolescents are never or rarely, 25% of them are married, 1% is living with their partners and the other 1% is either separated, divorced or widowed.

82% of the respondents are Christians while 47% of them are Muslims, 3% are traditionalists, 70% of the adolescents are from north central, 17% of them are from north east, 4% are from north west, south east has the lowest respondent rate which happens to be 1% followed by the adolescents in south west happens to be 14% while that of the south which is 17%. Adolescents in rural area are 10% higher than the adolescents in urban centres.

This analysis shows that 35% of the adolescents are from poor families while 23% are in the middle class. Rich adolescents constitute 42%. The middle class adolescents have the highest percentage in the statistics. Table 4.1 shows that approximately 92% of the adolescents do not use contraceptives while 8% use. 79% of the adolescents are not exposed to mass media while 21% of them are exposed to mass media.

Table 4.2 Distribution of adolescents according to their background characteristics by contraceptives usage

Variables	CONTRACEPTIVE USAGE		Total	
	No	Yes		
Age				
15	2,004 (97.7)	48 (2.3)	2,052 (100)	χ ² = 73.48 p-value = 0.00
16	1,451 (97.0)	46 (3.0)	1,497 (100)	
17	1,275 (91.3)	122 (8.7)	1,397 (100)	
18	1,548 (87.9)	213 (12.1)	1,761 (100)	
19	966 (80.6)	232 (19.4)	1,198 (100)	
Total	7,244 (91.6)	661 (8.4)	7,905 (100)	
Marital status				
Never in union	5,248 (90.3)	566 (8.4)	5,814 (100)	χ ² = 138.7 p-value = 0.00
Married	1,899 (96.4)	72 (3.6)	1,971 (100)	
Living with their partners	38 (63.3)	22 (36.7)	60 (100)	
Others	59 (99.5)	0 (0.5)	59 (100)	
Total	7,244 (91.6)	661 (8.4)	7,905 (100)	
Region				
North central	1,195 (94.0)	76 (6.0)	1,271 (100)	χ ² = 47.7 p-value = 0.00
North east	1,285 (98.0)	23 (2.0)	1,308 (100)	
North west	1,901 (99.0)	27 (1.0)	1,928 (100)	
South east	774 (87.2)	114 (12.8)	888 (100)	
South - South	1,122 (81.5)	254 (18.5)	1,376 (100)	
South west	967 (85.3)	167 (14.7)	1,134 (100)	
Total	7,244 (91.6)	661 (8.4)	7,905 (100)	
Type of place of residence				
Urban	2,838 (89.7)	326 (10.3)	3,164 (100)	χ ² = 15.8 p-value = 0.00
Rural	4,406 (92.9)	335 (7.1)	4,741 (100)	
Total	7,244 (91.6)	661 (8.36)	7,905 (100)	
Wealth index				
No	2,643 (96.7)	90 (3.3)	2,733 (100)	χ ² = 145.67

Middle	1,630 (90.2)	177 (9.8)	1,807 (100)	p-value: 0.000
Rich	2,971 (88.3)	394 (11.7)	3,365 (100)	
Total	7,244 (91.6)	661 (8.4)	7,905 (100)	
Religion				$\chi^2 = 315.44$
Christian	3,560 (86.3)	563 (13.7)	4,123 (100)	p-value: 0.000
Islam	3,606 (97.5)	94 (2.5)	3,700 (100)	
Traditional	49 (96.1)	2 (3.9)	51 (100)	
Total	7,215 (91.6)	659 (8.4)	7,874 (100)	
Exposure				$\chi^2 = 38.7$
Not exposed to mass media	5,759 (92.7)	457 (7.4)	6,216 (100)	p-value: 0.000
Exposed to mass media	1,485 (87.8)	214 (12.1)	1,689 (100)	
Total	7,244 (91.6)	671 (8.4)	7,905 (100)	

Source: NDHS 2013

Out of all the independent variables tested in the uses of contraceptives they are all significantly related. The current ages of the adolescents is significant to the use of contraceptives ($\chi^2 = 473.78$ p-value 0.000) analysis shows that the percentage of adolescents who say no to contraceptive use is high in age 15 (81%) whereas only 2% of adolescents aged 16 said yes. This table shows that the higher the age of the adolescents the higher the use of their contraceptives, the least of the adolescents using contraceptives is 13% less than the adolescents in age 15 (29%).

Marital status is a predictor of the use of contraceptive ($\chi^2 = 138.68$ p-value: 0.000) only 2% of adolescents who are divorced, separated or widowed are using contraceptives, while 3% of those living with their partners are using contraceptives and approximately 78% are not using any methods of contraceptives. It is surprising that those living with their partners happen to not use contraceptives as expected, 96% of married adolescents do not use contraceptives while 90% of those who are never in union are also not using contraceptives. 6% of adolescents who have never been in union are more likely to use contraceptives than those who are married. Region is significantly related to the use of contraceptives ($\chi^2 = 472.04$ p-value: 0.000) This analysis shows that adolescents in North West and North East have the highest percentage of not using

contraceptives followed by adolescents in the North central with 96%. Adolescents in South-south have the highest use of contraceptives than any other region.

The place of residence is significant to the use of contraceptives. A p-value of 0.000 of the adolescents in urban centres and 93% of rural area residents are not using contraceptives. Adolescents in urban centers have the highest likelihood of using contraceptives. The relationship between wealth index and the use of contraceptives is highly significant ($\chi^2=21.40$, p-value=0.000). Rich adolescents are more likely to use a method of contraceptives (71%) while poor, in addition the middle class adolescents using contraceptives are also more likely (72%) while those who cannot afford nor access any method of contraceptives.

There is a significant relationship between religion and the use of contraceptives ($\chi^2=335.4$ p-value=0.000). Adolescent Muslims not using contraceptives are 2% higher than the traditional worshippers (96%) who are not also using contraceptives while the Christians have the lowest percentage (86%) of not using of contraceptives due to the fact that they tend to be more exposed than the others. Exposure to mass media was found as significant to the use of contraceptives ($\chi^2=38.7$ p-value=0.000). the implication of this result is that adolescents who are exposed to the various knowledge of contraceptives through mass media are 8% higher than those who are using it but not exposed to mass media. The percentage of those who are not exposed to mass media and who are not using it are 93% while those who are exposed but not using any kind of contraceptives are 88%.

Table 4.3 Logistic Regression coefficients, odds ratio, standard error, and significant level for contraceptives use among adolescent in Nigeria

Variables	Odds Ratio	p-value	95% Confidence interval	
Age (RC = 15)				
16	1.39	0.123	0.92	2.10
17	4.51	0.000	3.18	6.39
18	7.67	0.000	5.51	10.69
19	11.16	0.000	7.98	15.6
Marital Status (RC = never in union)				
Married	0.84	0.000	0.62	1.15
Living with partner	1.65	0.730	0.82	2.94
Others	omitted		0.322453	0.2709
Region (RC = north central)				
North west	0.42	0.000	0.26	0.69
North east	0.40	0.000	0.24	0.64
South west	1.67	0.000	1.19	2.32
South-south	3.02	0.000	2.25	4.06
South east	2.59	0.000	1.91	3.52
Types of residence (RC = urban)				
Rural	0.99	0.372	0.81	1.21
Wealth Index (RC = poor)				
Average	1.40	0.034	1.05	1.88
Rich	1.38	0.026	1.04	1.84
Religion (RC = Christian)				
Islam	0.50	0.01	0.37	0.66
Traditional	0.46	0.253	0.30	0.75
Exposure (RC = not exposed to mass media)				
Exposed to mass media	0.99	0.936	0.81	1.21
Cens	0.01	0.000	0.000	0.02

Source: NDHS 2013

The odd of using contraceptives in age 17 is 4.51 times more likely compare to adolescent age 15, higher at 95% confidence interval at 3.17-6.39. Adolescents in age 18 is (7.67 OR 95% CI 5.51-10.69) and adolescents in age 19 is (11.16 OR 95% CI 7.98-15.60).

The table shows that at the 5% level of significant, the odds of using contraceptives for respondent north east are 0.42 less likely to use contraceptives compared to those in the north central. Furthermore, the odds of using contraceptives in the South East, South West and South are 1.77, 3.62 and 2.59 more likely compared to the North Central which is the reference category. Another predictor of use of contraceptives is wealth index. Middle class and rich adolescents are 1.40 and 1.38 times more likely to use contraceptives than poor adolescents at the 5% level. There is relationship between religion and use of contraceptives. At 95% confidence interval, the Muslims are 0.50 times less likely and traditional are 0.46 times less likely to use contraceptives compare to the Christians.

4.4 DISCUSSION

The prevalence of contraceptive use is 8 percent among adolescent girls in Nigeria. When we compare this to the 8% rates in the region of 18% for an adolescent using modern contraceptive methods rose from 3% in 1990 to 8% in 2004. The journal also stated that low rate of contraceptive use in Nigeria results in high fertility rates, particularly in the rural areas and the northern part of the country. The reasons for the non-use of contraceptive were fear of side effects, unsupportive partner, religious beliefs, objection from family members, not having sexual intercourse to have a baby, and unplanned sexual debut (Afolayan and Biogun, 2009; Oye-Adeniran et al., 2005; NPC, 2004). The main sources of information about

contraceptive methods are friends/ siblings, radio/television/newspapers, magazines, school, lectures/workshops/seminars and health workers.

This study found out that the adolescent Muslims who are not using contraceptives are higher than the traditional worshippers (96%) who were also not using contraceptives while the Christians have the lowest percentage of non usage of contraceptives due to the fact that they tend to be more exposed than the others. Religion has an influence on contraceptive usage. Adeniran et al (2005) observed that while the Roman Catholics get their contraceptives mostly from patent medicine shops, majority of Christians get from general hospitals. Catholic and Muslim patronage of patent medicine shops and market places may be connected with a religious objection to the use of modern contraceptive methods.

Very few adolescents, who are divorced, separated or widowed, use contraceptives. 37% of those living with their partners use contraceptives while approximately 78% use any method of contraceptives. It is surprising that those living with their partners happen to not use contraceptives as expected. According to Maharaj and Cleland (2004), married women are more likely to use modern contraceptives than their unmarried counterparts. This claim has however been challenged by Teyer (2004) who argued that in some societies the level of contraceptive use among young unmarried women may be as high as that among married women.

In conclusion exposure to mass media is a predictor of contraceptive use among female adolescents in Nigeria. The analysis found out that few people out of those who are not exposed to mass media are likely to be exposed to contraceptive use. According to Traung Minh (2006), in his thesis on impact of mass media on knowledge and use of contraceptive among Vietnamese adolescent, it was found out that exposure to television increases contraceptive knowledge and

increases contraceptive use both directly and indirectly through increased contraceptive knowledge. Exposure to other forms of mass media affects contraceptive knowledge but not contraceptive use.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATION

5.0 Introduction

In this chapter, the findings on each of the objectives are discussed and interpreted. It also provides a comprehensive view of the findings. The validity or otherwise of the hypothesis are examined.

5.1 Summary

The study examined how socio-economic and demographic variables influence the use of contraceptives among Nigerian adolescents. It has also identified the common methods or contraceptives used among them. The result shows that only few of the adolescents in aged 15-19 are using contraceptives. The current prevalence rate for contraceptive usage in Nigeria (11% - 13%) (Ima et al, 2006). Rural area had the highest percentage of adolescent than those in the urban areas are. The proportion of rich adolescents is much greater than that of the poor while only few of them belong to the middle class. A large proportion of adolescents are not exposed to mass media only few are which is being determined by various factors.

Age, region, religion, marital status, wealth and mass exposure are significantly related to use of contraceptives. Adolescents who are using no form contraceptives are only few. Ima et al (2005) explain in their findings that despite that there is high percentage of adolescent who are sexually active, some of them were not bothered concerning contraceptive. Mphahlele (2006) added that adolescent who are married and those living with their husband have used their

first child in a period of their lives in which they are not socially, biologically or emotionally prepared as a result of their poor attitudes towards contraceptive usage. Residence is another reality for the use of contraceptives. Adolescents in urban centers are more likely to use contraceptives than adolescents in the rural area. This is because some communities have more access to health care index and a good development of social amenities. Furthermore it was observed that the adolescents who are poor lack access to contraceptives therefore most of them do not engage in the usage.

In conclusion exposure of adolescents to mass media is very essential due to the fact that those who were exposed to mass media were twice likely to use contraceptives than those adolescents who happened to not be exposed. Odimegwu (2014) confirmed that adolescents' access to the use of contraceptives increased with their exposure to mass media.

5.2 Conclusion

This study found out that the higher the ages and wealth index the higher the odds of contraceptive use among female adolescents. Islam female were less likely to use contraceptive compared to Christians. region and marital status (married) also revealed significant relationship with female adolescent contraceptive use. Adolescents are those within the age range 10-19 who happen to be vulnerable to any kind of diseases or health challenges. Contraceptive use among adolescents in Nigeria is a burning issue that is need to be taken into consideration in respect to controlling population in the country. young population pyramid is carried by adolescents who are turning into unexpected mothers and this was due to their misuse of contraceptives.

There is a regional variation in the use of contraceptives which is not supposed to be so. The rich are supposed to use contraceptives/improve in contraceptive uses if needed at all. However, contraceptives usage is not only for the rich, the poor are also entitled to contraceptive services in their environment. Early marriages should not be encouraged. Education can be used to curb early marriages by making education easy for everyone.

5.3 Recommendation

In support of these findings, the following recommendations are suggested to improve contraceptive use among adolescents.

The government should make contraceptives affordable, accessible and available that is the government should fix the price of contraceptives at a reasonable amount and should be made available at various chemists and health centres. The adolescents both rich and poor should be able to use and buy it, if possible making it free for them across the region so that there would not be reasons for the failure of their non use. Different kinds of orientation programmes should also be conducted from time to time to encourage and enlighten these adolescents about contraceptives usage.

References

- Abera H, Tebeje B. Knowledge, attitudes, and practices towards emergency contraceptives among female Jimma University students, Jimma, Southwest Ethiopia. *Ethiopian Journal of Reproductive Health*, 2009; 3(1):37-43.
- Abiodun O. M. and Balogun O. R. (2009). Sexual activity and contraceptive use among young female students of tertiary educational institution in Ilorin, Nigeria. *Contraception*, 79(1):143-149.
- Atsedo D. Emergency contraceptive: knowledge, attitudes, and practices (KAP) among Bahir Dar University female students [unpublished thesis]. Addis Ababa, 2007.
- Benfanger, L., R. Sieving, J. Ferguson, and V. Sharma. 2007. "Global perspectives on the sexual and reproductive health of adolescents: patterns, prevention, and potential." *Family Planning Perspectives* 39(9):420-423.
- Chandra-Mouli V, Donna R Mr, Sharon J , Nancy F W, and Gwyn H. 2011. Contraception for adolescents in low and middle income countries: needs, barriers, and access. *Reproductive Health*. Published online 2014 Jan 2. doi: 10.1186/1742-4755-11-1
- Cleland, John, Mohammed M. Ali, and Iqbal Shah. 2006. "Trends in protective behavior among single vs. married young women in sub-Saharan Africa." *Reproductive Health Matters* 14(28):17-22.
- Davies SL, DiClemente RJ, Wingood GM, Person SD, Dix LS, Harrington K, et al. 2006. Predictors of Inconsistent Contraceptive Use among Adolescent Girls: Health Services Research Prospective Study. *Journal of Adolescent Health*, 39: 42-49.
- Desa B, Regassa N. On emergency contraception among female students of Haramaya university, Ethiopia: surveying the level of knowledge and attitude. *August 2012*. Addis Ababa: Addis Ababa Institute of Population Studies, Addis Ababa University.
- Johnson C, Evans M, Ferdin S, Leadbetter C, Spears A. *Journal of Obstetrics and Gynaecology*. 2003. Extending the time limit for starting the Yuzpe regimen of emergency contraception to 120 hours. *Obstetrics & Gynecology*; 101(1):68-77.
- Lambourne C, H. Stargen S, Donlinger E (1994). Contraceptive use, efficacy and acceptability of the female condom. *International Journal of Public Health*, 8(1): 199-200.
- Legal. Ministry of Health. Technical and procedural guidelines for safe abortion services in Ethiopia. Addis Ababa: ECHO, 2009.
- Miller EB, Hershaw SK (2006). Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspectives on Sexual and Reproductive Health*, 38: 80-86.

- Franklin et al 2013: Utilization of Modern Contraceptive among Women of Childbearing Age in Resource Constraint Setting: Evidence from 2008 National Demographic and Health Survey in Nigeria.
- Gupta, Neeru and Mary Mahy. 2003. "Adolescent childbearing in sub-Saharan Africa: Can increased schooling alone raise ages at first birth?" *Demographic Research* 7: 8: 31-60.
- International Consortium for Emergency Contraception. Emergency contraceptive pills: Methods and service delivery guidelines. Washington DC, 2nd edition: 2004.
- Katz, K. and C. Nare. 2002. "Reproductive health knowledge and use of services among young adults in Dakar, Senegal." *Journal of Biosocial Science* 34(2):215-231.
- Kaufman, Carol E., Thea de Wet, and Jonathan Stadler. 2001. "Adolescent pregnancy and parenthood in South Africa." *Studies in Family Planning* 32(2):67-100.
- Kenya National Bureau of Statistics (KNBS) and ICF Macro. 2010. *Kenya Demographic and Health Survey 2008-09*. Calverton, MD: KNBS and ICF Macro.
- Lemma DA. Emergency contraception in Addis Ababa: practice of college students. Master's thesis. Pretoria: University of South Africa; 2009.
- Michel, J.Z. 2001. "Unsafe sexual behaviour among secondary school adolescents: a matter of gender and class." *Reproductive Health Matters* 9(17): 82-8.
- Magadi, Monica A. and Siân L. Curtis. 2003. "Trends and determinants of contraceptive method choice in Kenya." *Studies in Family Planning* 34(2): 100-5.
- Melnick, P. and Cleland, J. Condom use, child mortality, and adolescent partnerships in KwaZulu-Natal, South Africa. *Studies in Family Planning* 34(2): 106-124.
- Morison, L. and Kempster, R. Contraceptive use, methods and timing in sexual relationships: a cross-sectional study. Washington DC: The Population Council, Southeastern United States. *Sexual and Reproductive Health Matters* 19(4): 238-246 (2013).
- Ngũgĩ, J. Njoki. 2007. "Sexual initiation and childbearing among adolescents in KwaZulu-Natal, South Africa." *Reproductive Health Matters* 15(29): 14-8.
- Obi, Omikemi. 2003. "Sexual behavior and the risks of HIV/AIDS and other STDs among young people in sub-Saharan Africa: a review." *Research Review* 19(1):15-23.
- Mengistu S. Assessment of level of awareness and utilization of emergency contraception among college female students in Oromia Regional state, Arsi Zone, Asella town, South-East Ethiopia. Master's thesis. Addis Ababa: School of Public Health, Addis Ababa University; 2007.

- Miriam, Kristin N. and Rebecca Magrath. 2005. "Does making climate-based reproductive services more youth-friendly increase service use by adolescents? Evidence from Uganda and Zambia." *Journal of Adolescent Health* 33(4):259-270.
- Nasir, S. Knowledge, attitude and practice of emergency contraception among graduate female students of Dilla University, Southwest Ethiopia. *Ethiop J Health Sci.* 2010;20(1):9.
- National Council for Population and Development (NCPD) [Kenya], Central Bureau of Statistics (CBS) [Kenya], and Macro International Inc. (MI). 1999. *Kenya Demographic and Health Survey 1998*. Calverton, Maryland: NCPD, CBS, and MI.
- National Population Commission (NPC) [Nigeria] and ORC Macro. (2004). *Nigeria Demographic and Health Survey 2003*. Calverton, Maryland: National Population Commission and ORC Macro.
- National Population Commission (NPC). (2006). Nigeria demographic and health survey. Calverton Maryland. NPC and ORC Macro. 45-47.
- National Population Commission (NPC) [Nigeria] and ICF Macro. (2009). *Nigeria Demographic and Health Survey 2008*. Abuja, Nigeria: National Population Commission and ICF Macro.
- Nolen-Hoeksema S, Atkinson and Hilgard's introduction to psychology, 15th ed. Kentucky: Wadsworth Inc; 2009.
- Oye-Adeniran B. A., Adewole I. F., Odeyemi K. A., Ekanem I. F., and Umoh A. V. (2005). Contraceptive prevalence among young women in Nigeria. *Journal of Obstetrics and Gynaecology*, 25:182-185.
- Parker C. Adolescents and emergency contraceptive pills in developing countries. Family Health International Working Paper Series WP05-01, 2005, p. 1-18.
- Reynolds, Heidi W., Emelita L. Wong, and Heidi Tuckey. 2006. "Adolescents' use of maternal and child health services in developing countries." *International Family Planning Perspectives* 32(1):6-16.
- Samire W, Inqueselassie F. Knowledge, attitude, and practice of emergency contraceptives among female university students in Addis Ababa, Ethiopia. *Ethiops J Health Dev.* 2007;21(2):111-116. <http://dx.doi.org/10.4314/ejhd.v21i2.11063>
- Teye, J.K. The use of modern contraceptives for fertility Reduction use control of HIV/AIDS in Ghana: A Case Study of Krobo Odumase. MPhil thesis, Norwegian University of Science and Technology, Trondheim, 2004.
- Varenius, L.J., E.A. Faxelid, P.N. Chishimba, J.O. Musandu, A.V. Ojiambo, and J.B. Njorai. 2006. "Nurse-midwives' attitudes towards adolescent sexual and reproductive health needs in Kenya and Zambia." *Reproductive Health Matters* 14(27):119-128.

- Westoff, Charles F. 2003. "Trends in marriage and early childbearing in developing countries." *DHS Comparative Reports No. 5*. Calverton, MD: ORC Macro.
- Williamson, Lisa M., Alison Parkes, Daniel Wight, Mark Petticrew, and Graham Smith. 2006. "Limits to modern contraceptive use among young women in developing countries: a systematic review of qualitative research." *Reproductive Health* 6:3.
- Wood, K and R. Jewkes. 2006. "Blood blockages and scolding nurses: Barriers to increased contraceptive use in South Africa." *Reproductive Health Matters* 14(27): 109-118.