HIV/AIDS Awareness and Sexual Behavior in South Sudan:

Analysis of SSHHS 2010

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Preface

South Sudan Household Health Survey 2010 is the second comprehensive survey to measure awareness on HIV/AIDS in the country. The first was conducted in 2006. Reports from both surveys have been published. This report uses the data collected in the second survey. To help explain the observed sexual behaviour, focus group discussion sessions were conducted in some selected counties in the country.

The main objective of this study is to measure the implications of awareness of HIV/AIDS on the sexual behaviour of the population.

In doing this, it relates the awareness to number of non-regular sexual partners and use of condoms in such a relation.

It is the hope of National Bureau of Statistics that South Sudan AIDS Commission, Ministry of Health and other key players in the prevention of HIV infection will find these findings useful in their programming.

The Bureau is committed in preparing thematic reports on issues of national concerns.

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Table of Contents

List of Tables

List of Figures

List of appendices

Abbreviations and Acronyms

ABC	:	Abstinence, Being faithful or Use condom
AIDS	:	Acquired Immune Deficiency Syndrome
ANC	:	Antenatal Care
ANOVA	:	Analysis of Variance
ART	:	Anti-retroviral Therapy
ARV	:	Anti-retroviral drugs
BES	:	Behavioral and Epidemiological Survey
CDC	:	Center for Disease Control and Prevention
CES	:	Central Equatoria State
CSPro	:	Census and Survey Processing System
EES	:	Eastern Equatoria State
$F_{\nu_1,\nu_2,p}$	:	Fisher's Statistic
FGD	:	Focus Group Discussion
HIV	:	Human Immunodeficiency Virus
HMIS	:	Health Management Information System
JS	:	Jonglei State
LS	:	Lakes State
NBGS	:	Northern Bahr el Ghazal State
PLWHA	:	People living with HIV/AIDS
PMTCT	:	Prevention from mother-to-child transmission
STD	:	Sexually Transmitted Disease
STI	:	Sexually Transmitted Infections
SPLA	:	Sudan People's Liberation Army
SPLM	:	Sudan People's Liberation Movement
SPSS	:	Statistical Package for Social Scientists
SSAC	:	South Sudan AIDS Commission
SSHHS	:	South Sudan Household Health Survey
US	:	Unity State
UNAIDS	:	United Nations Programme on HIV/AIDS
UNGASS	:	United Nations General Assembly Special Session on HIV/AIDS
UNS	:	Upper Nile State
VCT	:	Voluntary Counseling and Testing
WS	:	Warrap State
WBGS	:	Western Bahr el Ghazal State
WES	:	Western Equatoria State
$X^2_{df,p}$	:	Chi-Square Statistic

Indicators for monitoring HIV/AIDS awareness and sexual behaviour

		Indicator	Males	Females	Unit
		Knowledge about HIV/AIDS			
		Ever heard about AIDS	73.0	53.9	Percent
		Can avoid AIDS by having one uninfected partner	75.5	69.3	Percent
		Can avoid AIDS by consistently using condoms	58.3	41.2	Percent
		Can a healthy-looking person have AIDS	56.1	49.6	Percent
		Can a mother infect her child during pregnancy	41.9	42.5	Percent
		Can a mother infect her child during delivery	64.7	61.7	Percent
		Can a mother infect her child during breastfeeding	60.1	59.1	Percent
		Persons with completely no knowledge of HIV/AIDS	27.0	46.2	Percent
		Persons with comprehensive knowledge of HIV/AIDS	30.5	17.0	Percent
		Level of knowledge by state			
		Upper Nile	44.8	29.3	Percent
		Jonglei	34.8	22.2	Percent
		Unity	34.6	23.9	Percent
		Warrap	25.1	10.4	Percent
		Northern Bahr el Ghazal	51.6	20.2	Percent
		Western Bahr el Ghazal	51.6	40.2	Percent
		Lakes	35.6	25.1	Percent
		Western Equatoria	67.7	61.1	Percent
		Central Equatoria	72.4	64.6	Percent
		Eastern Equatoria	52.1	38.5	Percent
		South Sudan	49.2	33.4	Percent
		Views about male condoms			
		Heard of male condom	60.9	25.5	Percent
		Knows where to get condoms	59.4	40.3	Percent
		Can get condoms	54.3	27.2	Percent
		Sexually transmitted infections			
		Had abnormal genital discharge	9.8	12.6	Percent
		Ever had genital sores or ulcers	7.7	10.1	Percent
		Ever had a sexually transmitted infection	11.2	14.4	Percent
		Whether sought treatment	58.8	48.0	Percent
		Percentage distribution of respondents who had sexually transmitted diseases by state			
		Upper Nile	5.9	8.4	Percent
		Jonglei	12.9	16.8	Percent
		Unity	6.5	11.4	Percent
		Warrap	6.8	13.8	Percent
		Northern Bahr el Ghazal	5.2	13.1	Percent
		Western Bahr el Ghazal	9.6	12.3	Percent
		Lakes	6.6	14.9	Percent
		Western Equatoria	16.2	13.7	Percent
		Central Equatoria	18.2	25.4	Percent
		Eastern Equatoria	16.6	14.2	Percent
		South Sudan	11.2	14.4	Percent

		Indicator	Males	Females	Unit
		Percentage distribution of respondents who sought treatment for STDs by state			
		Upper Nile	40.0	36.8	Percent
		Jonglei	63.9	41.0	Percent
		Unity	23.1	52.5	Percent
		Warrap	35.3	34.7	Percent
		Northern Bahr el Ghazal	54.5	47.6	Percent
		Western Bahr el Ghazal	77.1	40.2	Percent
		Lakes	41.7	44.0	Percent
		Western Equatoria	58.7	50.8	Percent
		Central Equatoria	68.2	64.2	Percent
		Eastern Equatoria	60.5	55.8	Percent
		South Sudan	68.8	40.0	Percent
		Mean number of non-regular sexual partners by state by sex			
		Upper Nile	3.0	1.5	Mean
		Jonglei	3.0	1.1	Mean
		Unity	2.9	2.3	Mean
		Warrap	3.0	1.2	Mean
		Northern Bahr el Ghazal	2.8	1.6	Mean
		Western Bahr el Ghazal	2.8	2.4	Mean
		Lakes	2.6	1.5	Mean
		Western Equatoria	3.7	2.2	Mean
		Central Equatoria	2.4	1.7	Mean
		Eastern Equatoria	2.4	1.4	Mean
		South Sudan	3.1	1.9	Mean
		Mean number of non-regular sexual partners by education by sex			
		No education	3.0	1.9	Mean
		Primary	3.2	2.1	Mean
		Secondary	3.2	1.7	Mean
		University	2.0	1.0	Mean
		Mean number of sexual partners by level of knowledge			
		No knowledge	2.7	1.8	Mean
		Some knowledge	3.8	2.0	Mean
		Enough knowledge	2.9	1.7	Mean
		Comprehensive knowledge	3.2	2.3	Mean
		Mean number of non-regular sexual partners by number of wives in the union by sex			
		1 wife	2.1	1.5	Mean
		2 wives	3.0	1.8	Mean
		3 wives	2.7	1.4	Mean
		4 or more wives	2.8	2.0	Mean
		Percentage distribution of respondents who consistently used condom by education			
		No education	9.8	5.2	Percent
		Primary	15.1	11.3	Percent
		Secondary	34.6	36.4	Percent
		University	33.3	0.0	Percent

		Indicator	Males	Females	Unit
		Percentage of respondents who consistently used condom by level of knowledge			
		No knowledge	3.1	2.2	Percent
		Some knowledge	2.6	5.5	Percent
		Enough knowledge	16.0	6.1	Percent
		Comprehensive knowledge	26.6	17.0	Percent
		Percentage of respondents who consistently used condom by state by sex			
		Upper Nile	10.9	0.0	Percent
		Jonglei	1.6	6.7	Percent
		Unity	10.9	0.0	Percent
		Warrap	2.0	0.0	Percent
		Northern Bahr el Ghazal	6.8	0.0	Percent
		Western Bahr el Ghazal	12.5	6.7	Percent
		Lakes	7.7	4.2	Percent
		Western Equatoria	23.1	12.2	Percent
		Central Equatoria	44.9	16.0	Percent
		Eastern Equatoria	20.0	8.1	Percent
		South Sudan	16.6	7.9	Percent

Executive Summary

1.0 Introduction

Acquired Immune Deficiency Syndrome (AIDS) is caused by a human immunodeficiency virus (HIV) that weakens the immune system making the body susceptible to opportunistic diseases that leads to death through these secondary infections. The body would not be able to recover from these secondary infections. HIV is spread through contact with the blood, semen, vaginal fluid or breast milk of a person infected with HIV. In Africa, the predominant mode of transmission is through heterosexual contact and the peri-natal transmission.

This study tried to evaluate the level of knowledge of HIV transmission. This knowledge is key in prevention of HIV transmission. The study also evaluated the impact of the knowledge on the sexual activities.

This report is based on the second South Sudan Household Health Survey conducted in 2010 by the Ministry of Health and National Bureau of Statistics.

2.0 Objectives of the study

The primary objective of the study is to identify factors that affect sexual behaviour of the population. Specifically the study tries to:

i. Establish the extent of the knowledge of HIV/AIDS awareness
ii. Identify factors that influence the knowledge
iii. Establish the impact of the knowledge on the number of non-regular sexual partners
iv. Establish the impact of knowledge on consistent condom use with the non-regular sexual partners

3.0 Methodology

The sample was selected in two stages within each state. Forty enumeration areas were randomly selected as primary sampling units. After a household listing was carried out within the selected enumeration areas, a sample of 25 households was randomly drawn from each sampled enumeration area.

The study utilized data collected using the men's and the women's questionnaires. Specifically, it utilized data collected on HIV/AIDS, STI and sexual behaviour.

4.0 Background characteristics

Warrap had the largest number of women followed by Upper Nile, Lakes, Western Bahr el Ghazal and Western Equatoria. The lowest percentage was recorded in Unity State. The largest number of male respondents was recorded in Central Equatoria followed by Western Equatoria, Western Bahr el Ghazal and Upper Nile. The lowest was recorded in Lakes followed by Unity and Eastern Equatoria.

About 79% of the female respondents and 47.2% of the males did not attend school. Over 49% of the males did not attain formal education. Over 34% attained primary level and 14.8% had secondary education. For females, 79.1% did not have any formal education. Over 17% got primary education and 3.1% had secondary education.

About 43% of the women and 29.6% of the men were in polygamous relations. About 67% of the females were married and 14.4% were in consensual union. About 55% of the men were married and over 10% were in consensual union.

5.0 Knowledge about HIV/AIDS

Up to 75.5% of the males knew that one can avoid infection with HIV by having sex with only one uninfected partner. The corresponding figure for females was 69.3%. Only 41.2% of the women knew that one can avoid AIDS by using a condom correctly every time one has sexual intercourse. The corresponding figure for males was 58.3%. Only 49.6% of the women knew that healthy-looking person may have AIDS virus. About 56% of the male respondents knew that a healthy-looking person may have AIDS.

About 43% of the female respondents knew that the virus can pass from infected mother to her unborn child during pregnancy. Only 41.9% of male respondents knew this. On transmission during delivery, 17.9% of the female respondents reported that it cannot be passed. The corresponding figure for males was 20.0%. Over 24% of the male respondents reported that it cannot pass during breastfeeding. The corresponding figure for females was 19.1%.

Misconception that AIDS can be got through supernatural means was reported by 6.4% of the women and 7.7% of the male respondents. On getting infection from the mosquitoes, up to 24.8% of the women reported that it can happen. The percentage of men who think that one can get infection from mosquito bites is very close to that of women. On sharing foods with a person with AIDS, 15.8% of the women and 14.1% of the male respondents reported that AIDS can be transmitted through sharing foods.

Overall, 46.2% of the women did not have any correct knowledge about transmission of the virus. These are the women who have not even heard of AIDS. Only 2.0% had complete knowledge about AIDS. The corresponding figures for males were 27.0% having absolutely no correct knowledge about AIDS and 4.2% having comprehensive knowledge.

Overall, the males knew on average only 49.2% of the different issues that were asked. This was lowest in Warrap (25.1%) followed by Unity (34.6%) and Jonglei (34.8%). The highest level of knowledge of HIV/AIDS was recorded in Central Equatoria (72.4%) followed by Western Equatoria (67.7%), Eastern Equatoria (52.1%) and Western Bahr el Ghazal (51.6%).

The overall level of knowledge for females was 33.4% of the listed issues. The level of knowledge was lowest in Warrap (10.4%) followed by Northern Bahr el Ghazal (20.2%) and Jonglei (22.2%). The highest rate was recorded in Central Equatoria (64.6%) followed by Western Equatoria (61.1%) and Western Bahr el Ghazal (40.2%).

Correct knowledge of HIV transmission significantly depends on education. About 44% of the male respondents with no formal education had no knowledge about HIV transmission. But we also see that 6.4% of those with university education did not have any knowledge of AIDS. Only 17.0% of the males with no education had comprehensive knowledge of AIDS. Over 69% of those with university education have comprehensive knowledge.

About 55% of the females without education had no knowledge. Up to 6.3% of those with university education had completely no knowledge.

6.0 Views about male condoms

Only 60.9% of the male respondents reported they had heard of male condoms. The corresponding figure for females was 25.5%. Only 59.4% of the male respondents knew places where to get them. The corresponding figure for females was 40.3%.

Over 54% of the male respondents reported they could get them. The corresponding figure for females was 27.2%. Only 29.1% of the women with no knowledge of HIV/AIDS could get condoms. Even lower percentage (13.7%) of the women with some knowledge said they could get condoms. About 24% of the respondents with enough knowledge reported that they could get condoms. The corresponding figure for those with comprehensive knowledge was 33.7%.

Over 36% of the male respondents with no knowledge reported that they could get condoms. The corresponding figure for those with some knowledge 33.0%. About 49% of the respondents with enough knowledge could get condoms and 66.3% of those with comprehensive knowledge reported that they could get condoms.

7.0 Sexually Transmitted Diseases

About 10% of the male respondents had ever had abnormal discharge from their penis. The corresponding figure for females was 12.6%. This reveals that a higher percentage of females had ever had abnormal discharges.

On having ever had genital sores or ulcer, 7.7% of the male respondents reported that they had ever had. The corresponding figure for female respondents was 10.1% again revealing that women are more likely to have genital sores or ulcer.

Asked whether they ever sought treatment or advice for their illnesses, 58.8% of the male respondents reported having sought treatment. The corresponding figure for females was 48.0%. Overall, 11.2% of the male respondents had infection. The figure for females was 14.4%. The highest prevalence of STI for men was recorded in Central Equatoria (18.2%) followed by Eastern Equatoria (16.6%), Western Equatoria (16.2%) and Jonglei (12.9%).

STI prevalence for females was highest in Central Equatoria (25.4%) followed by Jonglei (16.8%), Lakes (14.9%), Eastern Equatoria (14.2%), Warrap (13.8%), Western Equatoria (13.7%), Northern Bahr el Ghazal (13.1%) and Western Bahr el Ghazal (12.3%). The highest percentage of women who got infected and sought treatment came from Central Equatoria (64.2%) followed by Eastern Equatoria (55.8%), Unity (52.5%) and Western Equatoria (50.8%). Treatment was least sought in Warrap where only 34.7% of those who got infections sought treatment. This was followed by Unity (36.8%) and Western Bahr el Ghazal (40.2%).

For men who sought treatment the highest percentage came from Western Bahr el Ghazal (77.1%) and is followed by Central Equatoria (68.2%), Jonglei (63.9%) and Eastern Equatoria

(60.5%). Treatment was least sought in Unity (23.1%), Warrap (35.3%), Upper Nile (40.0%) and Lakes (41.7%).

Over 78% of the male respondents who sought treatment did not consistently use condoms with their non-regular partners. The corresponding figures for those who even never sought treatment was higher (87.5%). None of the women who never sought treatment was using condoms consistently. Over 10% of those who sought treatment was consistently using condoms with their non-regular partners.

8.0 Knowledge of HIV transmission and sexual behaviour

Most women started sexual activity before marriage. About 82% of the women who ever had sex had their first sex before marriage. Only 18.1% had sex with their husbands/partners. The issue of abstinence until marriage does not seem to relate to AIDS concerns.

The respondents with stable sexual partners were asked whether they had sex with other people in the twelve months prior to the survey. About 7% of the female respondents had sex with other men other than their regular spouses in the last twelve months. The corresponding figure for male respondents was even higher (26.8%).

The proportion of women having sex with another man continued to increase from 3.3% for women in the poorest class to 5.7% in the second class and 7.8% for women in the middle quintile and further to 8.7% for those in the fourth quintile. Thereafter, it fell slightly to 7.5% for women in the richest class. These findings reveal that motivation to have sex with many men is not driven by poverty. This might arise from values the communities attach to having sex or the right of access to a wife.

Just over 25% of the men from the poorest quintile had sex with non-regular partners. The figure for those in the second quintile was 25.0%. From here, it steadily rose to 25.3% for those in the middle quintile and further to 26.2% for those in the fourth quintile and it reached 29.9% for the respondents in the richest quintile.

Only 4.6% of the women without any knowledge of HIV transmission had sex with other men in the last twelve months of the survey. The figure increased to 9.1% of the women with some knowledge. It was 7.3% for women who had enough knowledge. Interestingly, 9.5% of the women with comprehensive knowledge had sex with other men.

About 20% of the male respondents with completely no knowledge had sex with non-regular partners in the twelve months prior the survey. This figure increased to 24.6% for those with some knowledge and then to 28.0% for those with enough knowledge and further to 31.8% for those with comprehensive knowledge of HIV prevention.

8.1 Number of non-regular partners

The highest number of non-regular sexual partners for male respondents was exhibited in Western Equatoria (3.7) and was followed by Upper Nile, Jonglei and Warrap each with an average of 3.0 partners. For females, the highest mean number of sexual partners was recorded by Western Bahr el Ghazal (2.4) followed by Unity (2.3) and Western Equatoria (2.2).

Education has not significantly influenced the number of non-regular sexual partners of the respondents. Men without formal education had on average 3.0 women in the study period. It was 3.2 for those with primary education and 3.2 for the respondents with secondary education. Men who completed university had on average 2.0 women in the twelve months. Women without education had on average 1.9 non-regular sexual partners. The figure for those with primary was 2.1 and it was 1.7 for women with secondary education. The highest number of sexual partners was recorded by those without formal education.

A man who is in monogamous union would have on average 2.8 non-regular sexual partners. The corresponding figure for men in polygamous relation was 2.7 women. There is no difference between the men in either union as far as the extra-marital sexual relationships are concerned. Being in polygamous union does not help to limit the number of non-marital sexual partners.

Women in monogamous unions had on average 1.9 non-regular male partners. The corresponding figure for those in polygamous union was 1.7 men. Again women in monogamous unions equally desire sex from outside as those in a polygamous union.

Men with only one wife had on average 2.1 non-regular sexual partners. It was 3.0 for those with two wives and 2.7 for those with 3 wives. Those with four or more wives had on average 2.8 non-regular sexual partners. We see from here that having many wives does not stop a man from having a non-regular sexual relation. The women who are alone were still not any different from those in polygamous unions in terms of non-marital sexual partners.

Men in the richest group had the highest mean non-regular sexual partners (3.3) followed by those in the middle group (3.2) and those in the fourth group (3.0). But the differences are not statistically significant. For the female respondents, the highest mean number of non-regular sexual partners was recorded by those in the fourth and fifth quintiles (2.2) followed by those the poorest (2.1). The well-to-do women have tended to have more non-regular sexual partners. So their having extra-marital sexual relations may not be for monetary gains.

Men who had some knowledge had on average 3.8 partners and was followed by those comprehensive knowledge (3.2) and those with enough knowledge (2.9). The men without any correct knowledge had the lowest mean number of sexual partners (2.7). For women, those with comprehensive knowledge had on average 2.3 sexual partners during the study period. This was followed by those with some knowledge (2.0) and then those with no knowledge at all (1.8). The women who had enough knowledge had on average 1.7 sexual partners. This relationship is not significant implying that having knowledge about HIV transmission does not help a women to limit the number of non-regular sexual partners. If anything, better knowledge seems to be associated with higher number of sexual partners.

8.2 Condom use with non-regular partners

Respondents were asked with whom they had the last sexual intercourse to the survey and whether they used a condom in that sexual act. None of the men who had sex with their ex-spouses used a condom. Only 8.3% of the men who had sex with their ex-cohabiting partners

used condoms. Only 17.0% of those who had sex with girlfriends or fiancé used condoms. Even in causal relationship, only 11.1% used condoms. Only 35.3% of the men who reported the last sex with sex workers reported using condoms even when this is obviously a risky relation.

For female respondents, only 1.3% used condoms with their ex-spouses and only 4.4% of those who had sex with ex-cohabiting partners used condoms. About 7% of the respondents who had sex with boyfriends or fiancé used condoms. All the respondents who had sex with casual acquaintance did not use condoms. Also all the sex workers did not use condoms. This might arise from a situation where some of the customers demand for unprotected sex

Overall, only 7.9% of the female respondents consistently used condoms with non-regular partners in the last twelve months prior to the survey. Also 16.6% of the male respondents reported that they consistently used condoms with their non-regular partners. Consistent use was more common among those who stopped in secondary level. We see that 36.4% of female respondents with secondary education consistently used condoms. Only 11.3% of those with primary education did so and the figure for those without education was only 5.2%. For males, 34.6% of those with secondary education used condoms consistently. The figure for those with primary education was 15.1% and it was 9.8% for those with no formal education. The proportion of the men with university education who consistently used condom was lower than that for those with secondary education.

Respondents with more knowledge were more likely to consistently use condoms than those with no or less knowledge about HIV/AIDS.

Combining these two variables reveal that the more educated can take up condom use and the more the people are made aware about the HIV prevention mode, the more people will take up consistent condom use. Consistent use of condom was more likely with respondents with better education and more knowledge of HIV/AIDS. But this use was insufficient to avert HIV/AIDS. One would expect 100% consistent use of condoms with non-regular partners. We only realize 16.6% consistent use of condoms for males and even lower (7.9%) for females.

No female respondents from Upper Nile, Unity, Warrap and Northern Bahr el Ghazal who had non-regular sexual partners used a condom. Only one of the 26 women from Lakes who had non-regular sexual partners consistently used condoms.

9.0 Conclusions

The men were more likely to hear about HIV/AIDS. They were also more likely to know the correct modes of HIV transmission.

Knowledge of male condoms is low. Not all those that heard about male condoms knew where to get them. Even fewer people are ready to go and get condoms when they need them. The level of acceptance to get condoms increases with education but this level is low.

Education influences the level of knowledge of HIV/AIDS. But education has not influenced the reduction of the number of non-regular sexual partners. Also knowledge about HIV/AIDS does not seem to influence the number of non-regular sexual partners

Education and level of knowledge somehow influences the consistent use of condoms. The only problem is the level of use is low. The better educated respondents have consistently used condoms with their non-regular sexual partners.

The level of knowledge of HIV/AIDS was very low in Greater Upper Nile and Greater Bahr el Ghazal except in Western Bahr el Ghazal. Warrap had the lowest level of knowledge. The level was highest in Central Equatoria, Western Equatoria, Western Bahr el Ghazal and Eastern Equatoria in that order.

A higher percentage of women reported having had abnormal genital discharge and/or genital sores or ulcer than men. But the lower percentage of them reported seeking treatment meaning they remained untreated. Prevalence of STI for females was higher than for men in all the states except for Western Equatoria and Eastern Equatoria.

High percentage of respondents who got sexually transmitted infections did not consistently use condoms with non-regular partners.

Although education tended to influence the level of knowledge of HIV/AIDS, the educated have tended to have sexual intercourse with non-regular sexual partners although the percentage decreases with increasing level of education. It may mean that education has power to inform the people but it is not powerful enough to change their behaviour.

The number of non-regular sexual partners does not seem to depend on the type of marriage. Being in a polygamous union does not help to limit the number of non-marital sexual partners for the men.

Respondents of all ages had engaged in multi-partner non-regular sexual relations. Education, with its power to identify the risk factors, has not helped in reducing the number of sexual partners. Respondents from more affluent families have tended to have more sexual partners.

This means that there are a lot of non-regular sexual activities in the old age also. Therefore, any program for awareness and life skills development should be such that everybody is targeted. As the policy document of SSAC stated, the program should be appropriate and appealing to cultural considerations. We may, also, add that it should challenge and change some of the bad cultural practices.

Condom use is very low. Out of 777 male respondents who had sex with non-regular sexual partners, only 127 consistently used condoms. It should be noted that these partners were many and that expands the sexual networking.

10.0 Recommendations

This study brings out one big challenge that faces South Sudan. Education determines the extent of correct knowledge of HIV/AIDS. This level of awareness is expected to influence sexual behaviour in terms of number of non-regular sexual partners and condom use. Knowledge of the

modes of transmission should have encouraged use of condoms as well as reduction of number of non-regular sexual partners. But this is not happening.

It is important to launch a campaign about seeking treatment for any sexually transmitted infections and it would be good to encourage them to come with their partner to help reduce the prevalence of STIs. There may be need for mobile clinics in areas not well served by traditional health facilities.

While the international commitment is for the young to have information, education, services and life skills that enables them to reduce their vulnerability to HIV infection, it is important to know that these young people do not engage in sex with their fellow young people only. So the information, education, services and life skills should be extended to all sexually active as these are the likely sexual partners of these young people. This is especially so in a country where polygamy is very common.

Chapter One

Introduction

1.1 Background

Acquired Immune Deficiency Syndrome (AIDS) is caused by a human immunodeficiency virus (HIV) that weakens the immune system making the body susceptible to opportunistic diseases that leads to deaths through these secondary infections. The body would not be able to recover from these secondary infections. HIV is spread through contact with the blood, semen, vaginal fluid or breast milk of a person infected with HIV. In Africa, the predominant mode of transmission is through heterosexual contact and the peri-natal transmission; the mother passing the virus to the child during pregnancy, delivery or breastfeeding. Other modes are through infected blood and injection which is unsafe. The human immunodeficiency virus and the acquired immune deficiency syndrome have been a major problem in many parts of the world. AIDS was first recognized as a distinct syndrome in 1981 (Mann, 1997).

Sub-Saharan Africa has the most serious HIV and AIDS epidemic in the world. In 2012, roughly 25 million people were living with HIV accounting for nearly 70% of the global total. In the same year, there were an estimated 1.6 million new infections and 1.2 million AIDS-related deaths (UNAIDS, 2013).

In sub-Saharan Africa (SSA), like in many parts of the world, the HIV epidemic disproportionately affects women often as a result of social and economic inequality. In 2012, 59% of all people living with HIV in the region were females (UNAIDS, 2013). Women and girls often face discrimination in terms of access to education, employment and health care. In SSA, men often dominate sexual relationships. As a result, women cannot always practice safer sex even when they knew the risks that are involved. Gender-based violence has been identified as a key driver of HIV transmission in SSA (Ellsberg and Betron, 2010).

Women have constituted approximately half of all adults living with HIV/AIDS globally and women are more likely to be infected than men. It is estimated that for every 10 men who are infected, there would be 13 infected women. Of the many factors that manifest unequal prevalence of the disease among women in Africa are economic dependence, feminization of poverty, unequal distribution of sexual power (sexual violence and coercion) and limited educational opportunities (Wodi, 2005). SSA remains the region hardest hit by HIV epidemic (UNAIDS, 2010).

Social norms that accept extra-marital and pre-marital sexual relationships among men combined with women's inability to negotiate safe sex practices with their partners makes HIV infection a risk even in women who have only had one partner in her entire lifetime (WHO, 2003). Men tend to dominate women's sexuality in Africa. In all these situations, the inability of the women to insist on condom is a trade off of their inalienable right for economic advantage.

Biologically, women are more likely than men to contract HIV during vaginal intercourse (UNAIDS and WHO, 2007) and this may be attributed to differences in the anatomical structures of genito-urinary tract which makes females more susceptible to STIs (Abdulazeez et al., 2008).

Across sub-Saharan Africa, more women are infected with HIV than men with 13 women infected for every 10 men. Throughout the region, women are being infected with HIV at earlier ages than men. The difference in infection levels between women and men are most pronounced among young people 15-24. In this age group, there are 36 women infected with HIV for every 10 men.

Ways of reducing infection are to abstain from sex until marriage, be faithful to your uninfected partner, limiting the number of sexual partners or use of condom in a sexual relation with a non-regular partners. The virus call also be prevented from mother to child.

This study tries to evaluate the level of knowledge of HIV transmission. This knowledge is key in prevention of HIV transmission. The study also evaluated the impact of the knowledge on the sexual activities. The type of sexual activities considered here is the number of non-regular partners encountered in the twelve months prior to the survey. These were those involved in causal sexual relations and the commercial sex workers

This report is based on the second South Sudan Household Health Survey conducted in 2010 by the Ministry of Health and National Bureau of Statistics. The objective of the report is to establish the extent of knowledge of HIV transmission and its influence on sexual behaviour of the people of South Sudan. These findings can inform policy and programs of behavioural change.

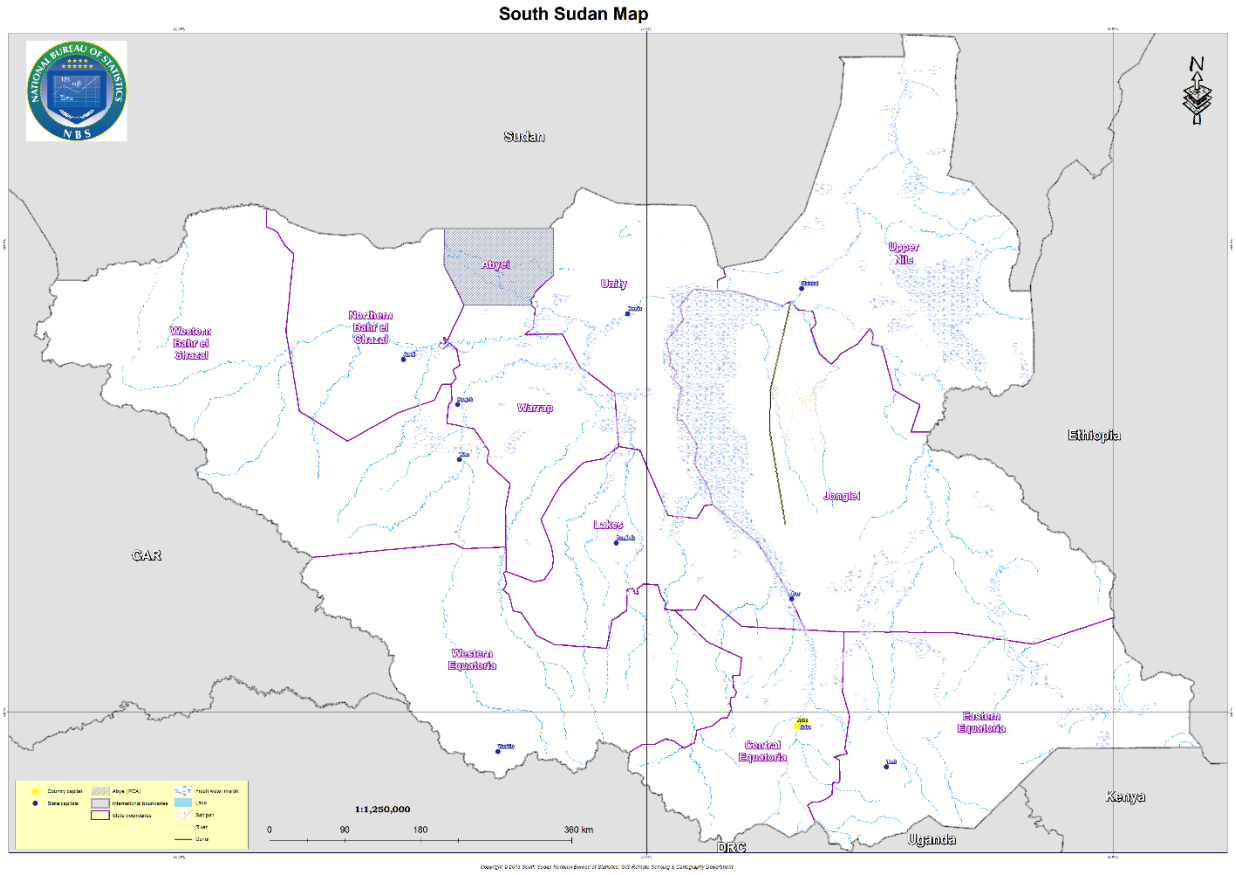
1.2 History of South Sudan

By the 1980s, the civil war in Sudan caused serious economic and social problems which resulted in a lack of infrastructure, human rights issues and the displacement of a large part of its population. And because of the wars, education was neglected. War broke out again in 1983 when Sudan was declared a Muslim state, ruled by Shariah. In response, southern rebels formed the Sudan People's Liberation Army (SPLA) and fought the government for more than two decades. A ceasefire was declared between the Sudanese government and the SPLA in July 2002. During peace talks, the government agreed to a power-sharing government for six years, to be followed by a referendum on self-determination for the south.

After working with the United Nations Security Council, the Government of Sudan and the SPLM signed the Comprehensive Peace Agreement on 9thJanuary, 2005. On 9th January, 2011 Sudan held an election with a referendum regarding South Sudan's secession. It passed with nearly 99% of the vote and on 9th July, 2011 South Sudan officially seceded from Sudan, making it the world's 196th independent country.

1.3 Geography of South Sudan

South Sudan is a landlocked country located in Eastern Africa with plains in the north and center and highlands in the south, along the border with Uganda and Kenya. South Sudan is bordered by Central African Republic, Democratic Republic of the Congo, Uganda, Kenya, Ethiopia and the Sudan.



Since South Sudan is located near the Equator in the tropics, much of its landscape consists of tropical rainforest and its protected national parks are home to a plethora of migrating wildlife. South Sudan also has extensive swamp and grassland regions. The White Nile, a main tributary of the Nile River, also passes through the country. The climate of South Sudan varies but it is mainly tropical. Juba, the capital and largest city in South Sudan, has average yearly high temperature of 34.5˚C and an average yearly low temperature of 21.6˚C. The most rainfall in South Sudan is between the months of April and October and the average yearly total for rainfall is 953.7 mm.

1.4 Economy of South Sudan

South Sudan's economy is based main on the export of its natural resources. Oil is the main source of revenue. Timber resources like teak, also represent a major part of the region's economy and other natural resources include iron ore, copper, chromium ore, zinc, tungsten, mica, silver and gold.

South Sudan depends largely on imports of goods and services. Despite these disadvantages, South Sudan does have abundant natural resources. South Sudan also holds one of the richest agricultural areas in Africa in the White Nile valley, which has very fertile soils and more-than-adequate water supplies.

The Republic of South Sudan became the world's newest nation and Africa's 55th country on 9th July, 2011, following a peaceful Referendum in January, 2011. The referendum was foreseen as part of the 2005 Comprehensive Peace Agreement (CPA) signed by the Government of the Republic of the Sudan and the then southern-based rebel group, the Sudan People's Liberation Movement, after decades of conflict.

South Sudan has vast and largely untapped natural resources and opportunities abound for visible improvements in the quality of peoples' lives, but there are also many challenges. Geographically large, South Sudan is sparsely populated and the quality of the population is generally low with very low rate of school attendance.

1.5 HIV/AIDS in South Sudan

The first AIDS case was reported in the then Sudan in 1986. This was a period when South Sudan was still part of the greater Sudan and therefore this date of first exposure to the virus is common to both countries. In 2002, a behavioral and epidemiological survey (BES) carried out by Sudan National AIDS Program found that the prevalence of HIV among the general population of the then Sudan at that time was 1.6% (SSAC, 2013).

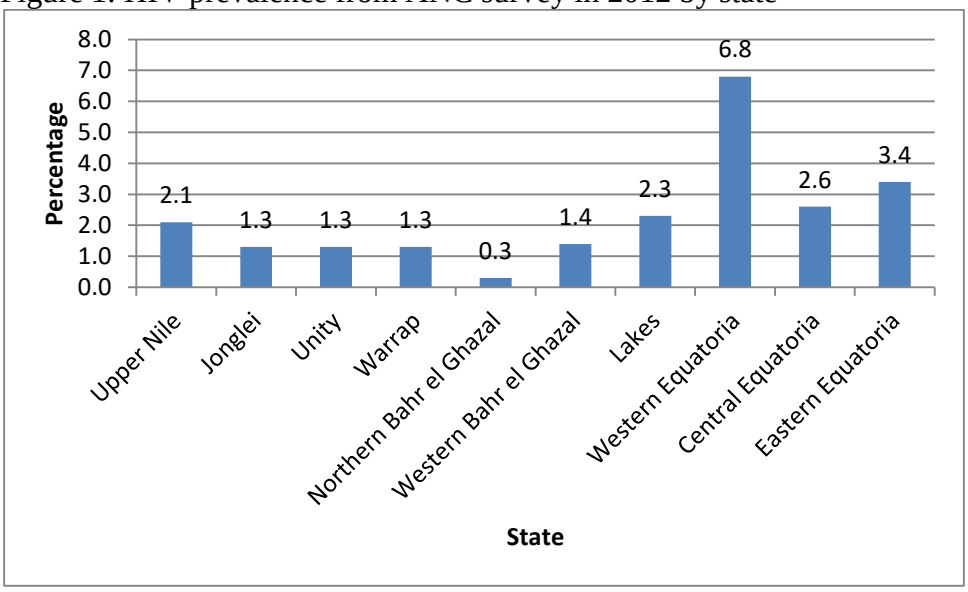
Provision of HIV testing and counseling is an important component of HIV prevention programmes. This has helped people to learn their sero-status and those that test positive, learn about the options for treatment, care and support. It is widely noted that individuals living with HIV who are aware of their status are less likely to transmit HIV to others. VCT has become very popular in SSA as a way of someone learning their sero-status (UNAIDS and WHO, 2009).

In 2000, a survey of 500 adult subjects in each of Tambura, Ezo and Yambio counties in Western Equatoria found an HIV sero-prevalence of 1.6%, 2%, and 7.2% respectively (SSAC, 2013). The prevalence of HIV of 3% was found in peri-urban areas of Yambio Town and 8.7% in Yambio Town. Surveys in 2002 and 2003 in Yei and Rumbek presented great contrasts in HIV prevalence, with a prevalence of 2.7% in Yei County and 4.4% in Yei Town; but only 0.4% in Rumbek Town. These surveys showed differences between villages close to the roads versus villages further away from the roads with higher prevalence in the villages closer to the roads as would be expected.

Almost all participants (90%) in the 2006 BSS had heard of diseases being transmitted through sexual intercourse (SSAC, 2013). Symptoms of a sexually transmitted disease in the past 12 months were reported by 7.9% of women and 1.7% of men. UNAIDS estimated that in 2010, the HIV prevalence in South Sudan was 3.54% (SSAC, 2013). There were 35,038 new infections in 2010 and 7,731 AIDS-related deaths. Total number of persons living with HIV/AIDS was estimated as 180,540.

Three ANC surveys have been conducted to determine the prevalence of HIV. They were done in 2007, 2009 and 2012 (SSAC, 2013). Figure 1 presents the prevalence as estimated in 2012.

Figure 1: HIV prevalence from ANC survey in 2012 by state



Source: South Sudan HIV Prevention Response and Modes of Transmission Analysis

The figure shows that the prevalence was highest in Western Equatoria (6.8%) followed by Eastern Equatoria (3.4%), Central Equatoria (2.6%) and Lakes (2.3%). Northern Bahr el Ghazal has the lowest prevalence rate (0.3%) followed by Jonglei, Unity and Warrap each at 1.3%.

One of the ways a person can take a test is when a woman is pregnant and goes for ANC services. It is mandatory that a pregnant woman should take a test for HIV. There are many advantages for taking these tests. Testing a pregnant mother will help put the mother on treatment to protect the unborn baby (PMTCT). Testing an expectant mother at the time of delivery helps to make the medical personnel assist her knowing her sero-status. This will help her/him avoid infection. Another option is voluntary counseling and testing. Whether or not they pick the results, it helps government to gauge the prevalence of HIV.

The number of women who took HIV test for the first time in 2012 was got from Ministry of Health. Also got was the number of those women who tested positive. This was tabulated by state. Other data points got were VCT clients who did their first tests in 2012 and 2013 as well as the results of the tests.

Table 1 presents the number of persons who took their first test in 2012 and 2013. The table also gives the number that tested positive. It can be seen from the table that there is a general increase in the number going for VCT services from 32,524 in 2012 to 49,462 in 2013. Combining all the clients of ANC and VCT for 2012 and VCT for 2013 gives the last two columns of Table 1. Getting the percentage who were positive gives the last column of Table A.1 and is presented in Figure 2.

The table also reveals that very many women are not going for ANC services. This is especially so in Greater Upper Nile and Greater Bahr el Ghazal. Northern Bahr el Ghazal has the lowest number of new attendees of ANC. The number for Warrap was very low noting that the state

has many women. These women who do not visit ANC risk passing the virus to their children if they are HIV-positive. MoH and NBS (2013) reveals that only 41.8% of the women who had live births during two years preceding the survey received ANC meaning 58.2% did not visit ANC. Such women cannot know their sero-status. This can be bad for their children as well as the TBAs attending to them. This is over and above the benefits they miss by not attending ANC.

Table 1: Number of people tested for the first time by state by service types by year of test

	2012				2013		2012/2013	
	ANC tested	ANC positive	VCT tested	VCT positive	VCT tested	VCT positive	Total tested	Total positive
Upper Nile	1377	43	1861	179	1469	97	4707	319
Jonglei	2254	73	1315	114	3814	139	7383	326
Unity	1103	233	277	47	524	171	1904	451
Warrap	390	154	312	88	250	11	952	253
Northern Bahr el Ghazal	153	4			502	77	655	81
Western Bahr el Ghazal	4232	354	2266	252	2457	322	8955	928
Lakes	929	107	914	129	8672	840	10515	1076
Western Equatoria	7169	1230	7673	695	9312	1587	24154	3512
Central Equatoria	10978	1524	9617	1696	15670	1542	36265	4762
Eastern Equatoria	5680	534	8289	583	6792	387	20761	1504
South Sudan	34112	4252	32524	3783	49462	5173	116098	13208

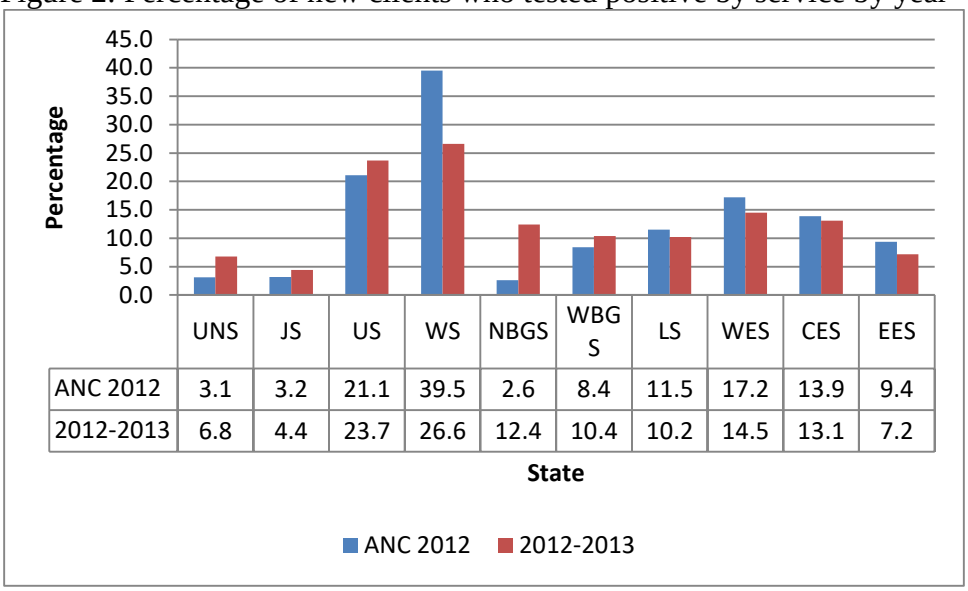
Source: HMIS, Ministry of Health

As a result of low attendance of ANC in South Sudan, the majority of the mothers carry their pregnancies and deliver their babies assisted by TBAs or other persons. The babies of such women may be at risk of getting HIV from their mothers should they be positive. It also does not help her to manage their life.

Figure 2 shows that 39.5% of the women from Warrap who did their first HIV test in 2012 tested positive. The corresponding figure for Unity was 21.1%. This was followed by Western Equatoria (17.2%), Central Equatoria (13.9%), Lakes (11.5%) and Eastern Equatoria (9.4%). The figure of Western Bahr el Ghazal was 8.4%. The other two states; Jonglei and Upper Nile had their rates just above 3%.

The percentage of the first time clients from Warrap who visited ANC and VCT and tested positive was 26.6%. This was followed by clients from Unity (23.7%), Western Equatoria (14.5%), Central Equatoria (13.1%), Northern Bahr el Ghazal (12.4%), Western Bahr el Ghazal (10.4%) and Lakes (10.2%). Other states had their rates below 10%. These are Eastern Equatoria (7.2%), Upper Nile (6.8%) and Jonglei (4.4%). We should note that VCT was for both males and females. The only relation is that they were all tested for the first time. We should also note that these are new clients and may not reflect the prevalence of HIV in the country.

Figure 2: Percentage of new clients who tested positive by service by year

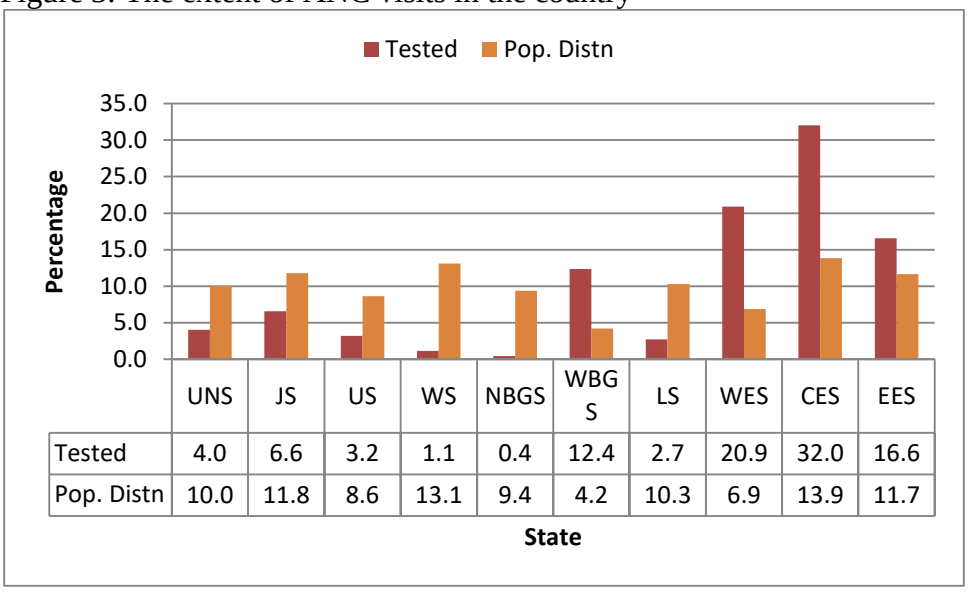


	UNS	JS	US	WS	NBGS	WBGS	LS	WES	CES	EES
ANC 2012	3.1	3.2	21.1	39.5	2.6	8.4	11.5	17.2	13.9	9.4
2012-2013	6.8	4.4	23.7	26.6	12.4	10.4	10.2	14.5	13.1	7.2

To gauge the extent of ANC visits in the country, the percentage distribution of the women who received ANC was got by state. The expected number of pregnant women in one year was got using Census 2008 data. This was done by establishing the percentage of the women who had births in the last twelve months to Census Night. This was done by state. These percentages were used to compute the expected number of women who would be pregnant in one year. The question on fertility was asked to a sample of women not all the women 12 to 49 and this is the reason for this process. Percentage distribution of these women was done by state.

If all the women were visiting ANC, the percentage distribution of women visiting ANC by state would be similar or the same as the percentage distribution of the pregnant women. These percentages are presented in Figure 3 and it shows that most women who went for ANC were from Central Equatoria, Western Equatoria, Eastern Equatoria and Western Bahr el Ghazal. The state with the poorest ANC attendance was Northern Bahr el Ghazal followed by Warrap and Lakes.

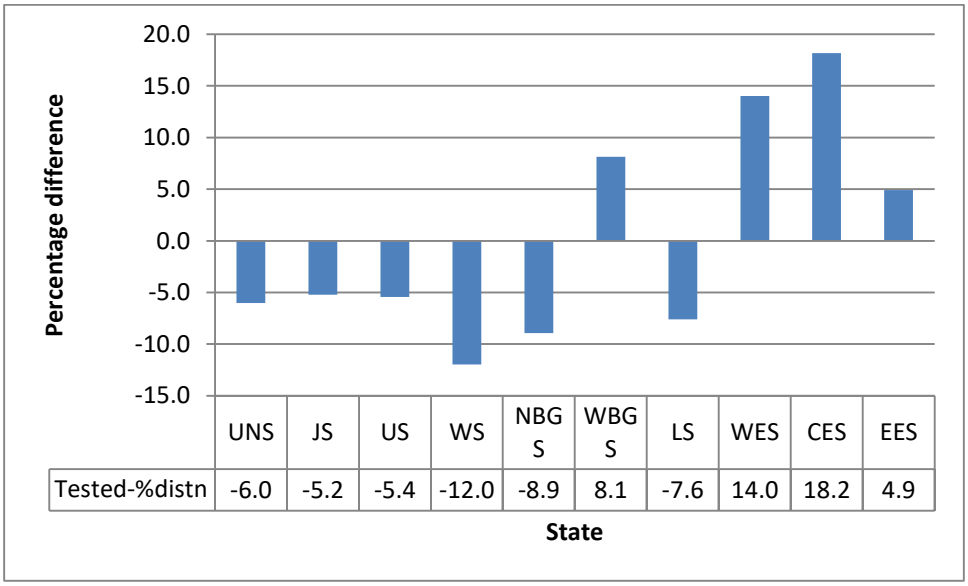
Figure 3: The extent of ANC visits in the country



	UNS	JS	US	WS	NBGS	WBGS	LS	WES	CES	EES
Tested	4.0	6.6	3.2	1.1	0.4	12.4	2.7	20.9	32.0	16.6
Pop. Distn	10.0	11.8	8.6	13.1	9.4	4.2	10.3	6.9	13.9	11.7

The percentage of women who would be attending ANC was subtracted from the one that actually attended ANC and this is presented in Figure 4. The figure shows that attendance was very good in the Greater Equatoria and Western Bahr el Ghazal. The other states had their percentages below zero meaning the expected pregnant women were more than those who attended ANC. There is need to make women aware of the benefits of ANC attendance.

Figure 4: Percentage difference between women who attended ANC and the expected number who should attend ANC



	UNS	JS	US	WS	NBGS	WBGS	LS	WES	CES	EES
Tested-%distn	-6.0	-5.2	-5.4	-12.0	-8.9	8.1	-7.6	14.0	18.2	4.9

1.6 Policy framework

In 2008, the then Government of Southern Sudan prepared Southern Sudan HIV/AIDS Policy (SSAC, 2008). The policy document recognized a number of factors that make South Sudanese highly vulnerable to HIV infection.

Among them are:

i. Extremely low level of knowledge about HIV/AIDS
ii. Extremely high level of misconception about HIV/AIDS
iii. Low status of women and girls which encourages polygamy, widespread sexual and gender-based violence
iv. Inadequate attention to child rights

The policy statements are designed around six thematic priority areas:

i. Enabling environment
ii. Prevention,
iii. Care, treatment, support and impact mitigation
iv. Post-conflict focus
v. Capacity building
vi. Monitoring, evaluation and research

Two themes are important for this study. One is enabling environment to ensure that advocacy and awareness campaigns address misconceptions that contribute to stigma, denial and discrimination. The other is prevention with the following strategies:

- Develop and implement culturally appropriate behavioural change communication strategies based on evidence from behavioural surveillance
- Undertake culturally appropriate intensive HIV awareness raising and STI prevention, management and promotion of care-seeking behaviour.
- Involve the media in HIV prevention, grounded on ethical reporting
- Promote prevention of mother-to-child transmission of HIV

1.5 Objectives of the study

The primary objective of the study is to identify factors that affect sexual behaviour of the population. Specifically the study tries to:

i. Establish the extent of the knowledge of HIV/AIDS awareness
ii. Identify factors that influence the knowledge
iii. Establish the impact of the knowledge on the number of non-regular sexual partners
iv. Establish the impact of knowledge on consistent condom use with the non-regular sexual partners

1.7 Methodology

The sample size for the survey was determined by the degree of precision required for survey estimates for each state. Since a similar level of precision was required for the survey results from each state, it was decided to draw 40 clusters from each state and 25 households from each cluster. The total sample was finally 9,950 households or 398 clusters (enumeration areas)

The sample was selected in two stages. Forty enumeration areas were randomly selected from each state as primary sampling units. After a household listing was carried out within the selected enumeration areas, a sample of 25 households was randomly drawn in each sampled enumeration area. Of the 11,568 women who were identified in the selected households, only 9,069 were successfully interviewed. For men, 8,656 were listed and out of them, only 4,345

were successfully interviewed. This came because some men were hard to find home during the fieldwork. The study utilized data collected using the men's and the women's questionnaires. Specifically, it utilized data collected on knowledge of HIV/AIDS, STI and sexual behaviour.

Chapter Two

Background Characteristics

2.1 Introduction

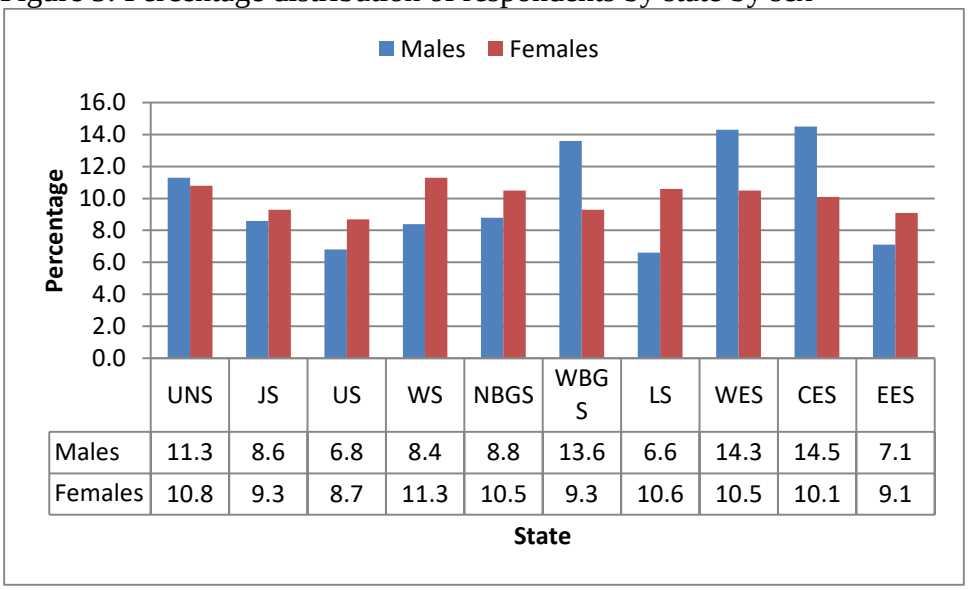
In trying to know the reasons for some behaviour, it is important to identify socio-demographic factors which lead to those. This chapter presents background variables of the respondents. These are used in the subsequent chapters to determine reasons for reactions. These are good for interventions by government. The variables presented here are the state of residence, rural-urban residence, age group, education and marriage variables.

2.2 Socio-demographic variables

2.2.1 State of residence

Figure 5 shows that the highest percentage of females were from Warrap State (11.3%) followed by Upper Nile (10.8%), Lakes (10.6%) and Western Bahr el Ghazal and Western Equatoria each with 10.5%. The lowest percentage was recorded in Unity State (8.7%) possibly because one EA was not covered in the state.

Figure 5: Percentage distribution of respondents by state by sex



	UNS	JS	US	WS	NBGS	WBGS	LS	WES	CES	EES
Males	11.3	8.6	6.8	8.4	8.8	13.6	6.6	14.3	14.5	7.1
Females	10.8	9.3	8.7	11.3	10.5	9.3	10.6	10.5	10.1	9.1

The figure also shows that the highest percentage of the male respondents was recorded in Central Equatoria (14.5%) followed by Western Equatoria (14.3%), Western Bahr el Ghazal (13.6%) and Upper Nile (11.3%). The lowest percentage was recorded in Lakes (6.6%) followed by Unity (6.8%) and Eastern Equatoria (7.1%). This distribution is so because, as it was reported in the methodology section, men were hard to find home in some states.

Table 2 presents the distribution of the respondents by residence. The table also shows availability of the respondents by residence. It may also reveal the household structure, that there are more women in rural households than in the urban ones. Inversely, it may also reveal

that men in the urban areas were more available for interview than those in the rural areas. About 27% of the females were from urban areas. The corresponding figure for males was 30.5%.

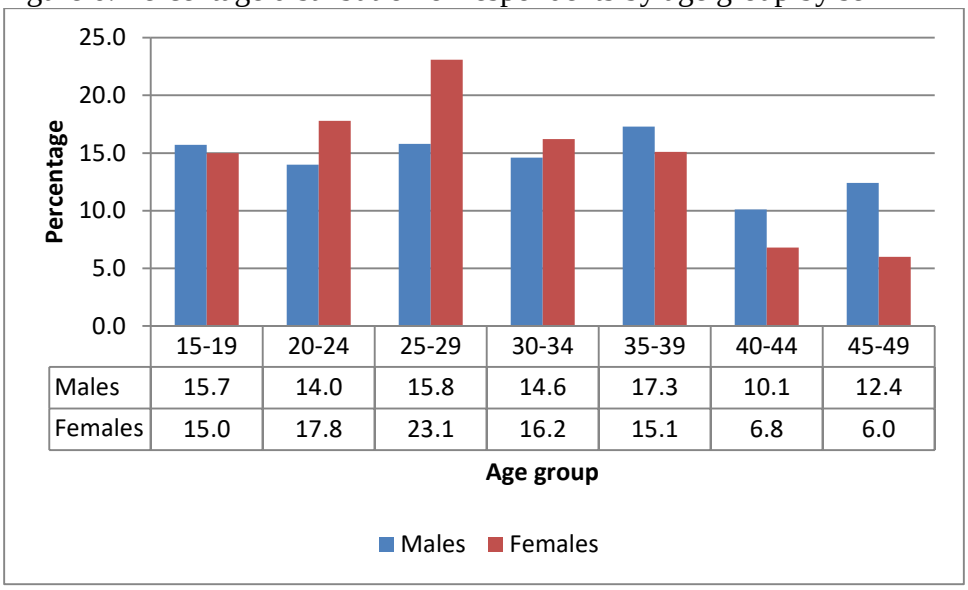
Table 2: Distribution of the respondents by residence by sex

	Male		Female	
	Freq.	%		%
Urban	1,324	30.5	2,438	26.9
Rural	3,021	69.5	6,631	73.1
Total	4,345	100.0	9,069	100.0

2.2.2 Age group of respondents

Figure 6 presents the distribution of the respondents by age group and sex. The largest percentage of females were of the 25-29 years old (23.1%) and is followed by those 20-24 (17.8%) and 30-34 (16.2%). For males, the largest percentage came from 35-39 age group (17.3%) followed by 25-29 (15.8%) and 15-19 (15.7%). The lowest percentage was from age group 40-44 (10.1%) and is followed by those 45-49 years old (12.4%). This abnormal pattern might have arisen from the selection criteria.

Figure 6: Percentage distribution of respondents by age group by sex



2.2.3 Educational attainment of respondents

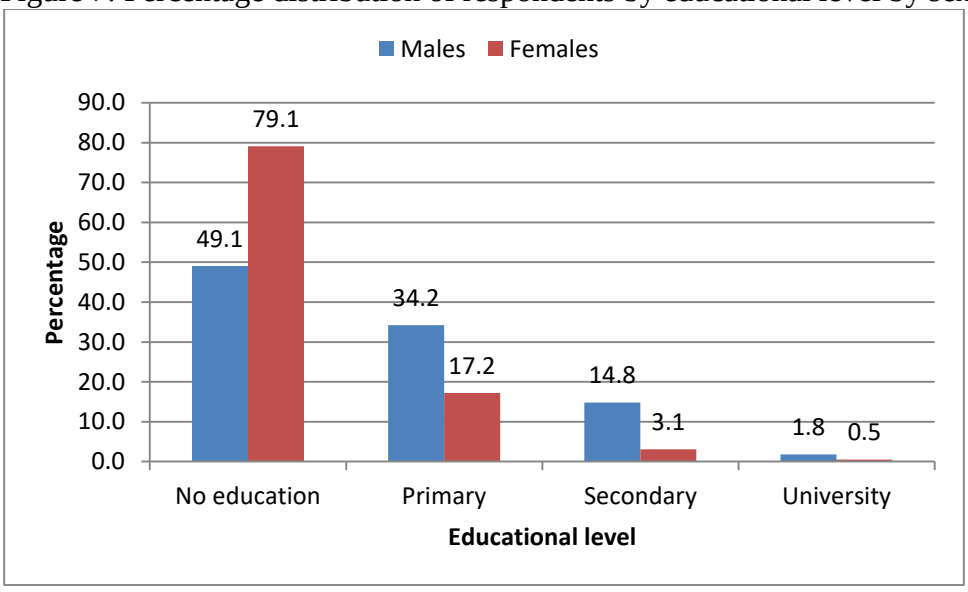
Table 3 presents the distribution of the respondents by whether they had ever attended school. It shows that 78.6% of the female respondents reported that they never attended school. The corresponding figure for males was 47.2%. Only 21.4% of the female respondents reported that they ever attended school. The corresponding figure for males more than doubles this (52.8%). This means that males are twice as likely to attend school compared to females. This low attendance of school arises from low value attached to girl child education and in some cases looking at a girl as a source of wealth when she is married. This lack of education aggravates the economic dependence of women on men.

Table 3: Percentage distribution of respondents by whether they ever attended school by sex

	Male		Female	
	Freq.	%	Freq.	%
Yes	2,295	52.8	1,941	21.4
No	2,050	47.2	7,118	78.6
Total	4,345	100.0	9,059	100.0

Asked their highest level of education, 49.1% of the males did not attain formal education. Over 34% attained primary level and 14.8% had secondary education while 1.8% got university education. For females, 79.1% did not have any formal education. Over 17% got primary education and 3.1% had secondary education while only 0.5% got university education. This shows that the level of education of women is very low compared to men. This is presented in Figure 7. This also implies that the drop out rate for girls is higher than for boys.

Figure 7: Percentage distribution of respondents by educational level by sex



2.2.4 Marital status of respondents

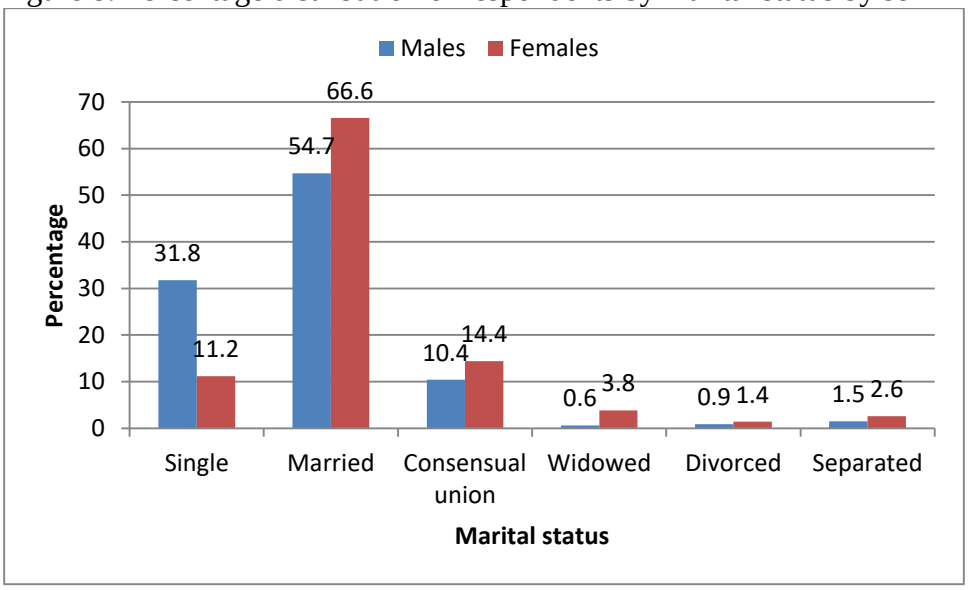
The respondents were asked the type of marriage they were in. Table 4 shows that 43.2% of the women were in polygamous relations. The corresponding percentage for males was 29.6%. This implies that 838 men have married the 3,056 women giving an average of 4.8 women per man in polygamous union.

Table 4: Distribution by type of marriage by sex

	Males		Females	
	Freq.	%	Freq.	%
Polygamous union	838	29.6	3,056	43.2
Monogamous union	1,993	70.4	4,023	56.8
Total	2,831	100.0	7,079	100.0

Over 11% of the women were single, 66.6% were married and 14.4% were in consensual union while 3.8% were widowed, 1.4% were divorced and 2.6% were separated (Figure 8). About 55% of the men were married and 10.4% were in consensual union. About 32% were still single. The figure also shows that women were more likely to be divorced or separated. This might be because in polygamous societies, a man who has divorced one wife would still have others to keep him in the category of the married. Higher proportion of widowed female respondents is expected because of the demographic conditions.

Figure 8: Percentage distribution of respondents by marital status by sex



Chapter Three

Knowledge about HIV/AIDS

3.1 Introduction

Since there is no cure for HIV/AIDS, the main strategy for combating the disease has been prevention through practicing abstinence, being faithful to one faithful sexual partner and using condoms; what is commonly called ABC strategy. This strategy depends largely on the level of knowledge of the population and their perception of the problem. The perception of the problem refers to how a person looks at the risk of infection between spouses and how the progression to AIDS affects such a family, the community and the country. This study tries to gauge the level of knowledge of HIV/AIDS and its association with other socio-demographic factors.

This chapter presents the extent of the awareness about HIV/AIDS. It starts by measuring the correct understanding of the modes of transmission of the virus. It also presents the extent of misconception about HIV transmission. These variables were combined to give the extent of knowledge of HIV transmission. The chapter also presents the views of the respondents on male condoms.

3.2 Level of knowledge about HIV/AIDS

Knowing about AIDS is the first step in protection from infection. The respondents were asked if they had ever heard of AIDS. Table 5 shows that 73.0% of the male respondents had heard of AIDS. The corresponding figure for female respondents was 53.9%. Male respondents were more likely to hear about AIDS. This may imply that there are no generalized avenues for awareness. It could mean that those who have heard hear from restrictive sources. There is, therefore, need to develop public sources so that more people can be made to hear about AIDS.

3.2.1 Knowledge of HIV prevention

As already stated, the most effective way to avoid HIV infection is the comprehensive knowledge of the ways of the infection and to practice them. The respondents were asked questions that would help assess their level of knowledge of HIV prevention. One question was whether one can avoid AIDS by having only one uninfected sexual partner. Males had slightly better knowledge. Up to 75.5% knew that one can avoid infection with HIV by having sex with only one uninfected partner. The corresponding figure for females was 69.3%. Strangely, 15.7% of the males and 16.9% of the females did not believe. There may be need for an in-depth study to establish why one does not believe that having only one uninfected sexual partner will protect one from getting AIDS. But those in polygamous unions may be responding with their status in their mind.

Another question was whether one can avoid AIDS by consistently and correctly using condoms in any sexual act. Only 41.2% of the women knew that one can avoid AIDS by using a condom correctly every time one has sexual intercourse. The corresponding figure for males was 58.3%. Over 25% of the females reported that it cannot help while 33.7% did not know. The corresponding figures for males were 23.8% and 17.8% respectively.

The most serious thing with HIV is that the latent period to manifestation of AIDS is very long. During this period, a person may infect others because a person who has got infected stays for some time looking healthy. But at a certain level of viral load, this person can infect the partners if he/she has sex without protection. Respondents were asked whether a healthy-looking person may have AIDS. Only 49.6% of the women knew that healthy-looking person may have AIDS virus. Up to 28.7% thought that healthy-looking person cannot have the virus and another 21.7% did not know that such a person may have AIDS. About 56% of the male respondents knew that a healthy-looking person may have AIDS. Up to 28.9% reported that such a person may not have AIDS. These views ignore two things; that an infected person has stages of sero-conversion and progression to AIDS. At all these stages, a person can infect a partner. It also ignores that a person on ARV will look healthy but is positive and may, depending on the level of the viral load, infect a partner. This calls for a very serious awareness campaign.

Table 5: Percentage distribution of respondents by ways to avoid AIDS virus

	Males		Females	
	Freq.	%	Freq.	%
Ever heard of AIDS				
Yes	3,172	73.0	4,883	53.9
No	1,173	27.0	4,180	46.1
Total	4,345	100.0	9,063	100.0
Can avoid AIDS by having one uninfected partner				
Yes	2,388	75.5	3,376	69.3
No	498	15.7	826	16.9
Don't know	279	8.8	672	13.8
Total	3,165	100.0	4,874	100.0
Can avoid AIDS by using a condom correctly every time you have sex				
Yes	1,845	58.3	2,002	41.2
No	753	23.8	1,221	25.1
Don't know	564	17.8	1,638	33.7
Total	3,162	100.0	4,861	100.0
Healthy-looking person may have AIDS				
Yes	1,770	56.1	2,414	49.6
No	912	28.9	1,396	28.7
Don't know	473	15.0	1,053	21.7
Total	3,155	100.0	4,863	100.0

3.2.2 Mother-to-child transmission of HIV

Prevention of mother-to-child transmission creates another window of hope. If the mothers know their sero-status and take up treatment, the children will be born free of HIV. But this begins with acceptance that these stages are sources of infection. Respondents were asked whether an HIV-positive mother can pass the virus to her child during these three stages of development. Over 40% of the male respondents reported that the mother cannot pass the virus to her child during pregnancy. The corresponding figure for females was 34.7%.

About 43% of the female respondents knew that the virus can pass from infected mother to her unborn child during pregnancy. Only 41.9% of male respondents knew this. And it is the only time women had better knowledge of HIV/AIDS than men possibly because of counseling during ANC visits..

Table 6: Percentage distribution of respondents by ways transmission can happen between mother and child

	Males		Females	
	Freq.	%	Freq.	%
From mother to child during pregnancy				
Yes	1,321	41.9	2,061	42.5
No	1,275	40.4	1,685	34.7
Don't know	558	17.7	1,103	22.7
Total	3,154	100.0	4,849	100.0
From mother to child during delivery				
Yes	2,041	64.7	2,994	61.7
No	632	20.0	868	17.9
Don't know	482	15.3	991	20.4
Total	3,155	100.0	4,853	100.0
From mother to child during breastfeeding				
Yes	1,893	60.1	2,866	59.1
No	759	24.1	928	19.1
Don't know	500	15.9	1,058	21.8
Total	3,152	100.0	4,852	100.0

On transmission during delivery, 17.9% of the female respondents reported that it cannot be passed. The corresponding figure for males was 20.0%. This is a real danger point because the child may get bruises as it is coming out and the open skin will get into direct contact with the mother's fluids. This may result into infection.

Another stage of transmission is during breastfeeding. This can happen when the baby develops sores in the mouth. This will allow the virus in the milk to enter the blood system of the baby and may result in infection. The respondents were asked whether the virus can pass from mother to child during breastfeeding. Over 24% of the male respondents reported that it cannot pass. The corresponding figure for females was 19.1%. These findings reveal that the level of knowledge of prenatal HIV transmission is low.

3.3 Misconceptions about HIV/AIDS

Misconception can result to a misplaced strategy. Misconceptions of the spread of HIV will leave its mode of transmission unchecked because of wrong controls. Misconception may also lead to neglect or isolation of people living with HIV/AIDS and yet the people living with HIV/AIDS (PLWHA) need the support of the general population so as to help control the spread of HIV in what may be termed positive living. Addressing misconception is a very strong weapon in fighting HIV infection especially in a low level education country. This, with appropriate behavioral change can lead to control of HIV spread.

One misconception is that AIDS can be got through supernatural means. This was reported by 6.4% of the women and 15.8% did not know. Men were not very different from women in regards to extent of misconception about HIV/AIDS. Over 7% of the male respondents reported that one can get AIDS virus through supernatural means. Comparing this with women's responses, we realize that a higher percentage of men believe in supernatural means of HIV infection. These are the people who will, instead of seeking modern medical treatment, go to witchdoctors. This leaves the mode of HIV infection unchecked.

Another misconception is getting infection from the mosquitoes. Up to 24.8% of the women reported one can get infection from mosquito bites. Another 20.4% did not know it is true. The percentage of men who think that one can get infection from mosquito bites is very close to that of women; 24.7% for men and 24.8% for women.

Table 7: Percentage distribution of respondents by misconceived ways of transmission of HIV

	Males		Females	
	Freq.	%	Freq.	%
Can get AIDS virus through supernatural means				
Yes	224	7.1	309	6.4
No	2,610	82.5	3,778	77.8
Don't know	328	10.4	767	15.8
Total	3,162	100.0	4,854	100.0
Can get AIDS virus from mosquito bites				
Yes	780	24.7	1,202	24.8
No	1,958	62.1	2,651	54.8
Don't know	417	13.2	989	20.4
Total	3,155	100.0	4,842	100.0
Can get AIDS by sharing food with a person who has AIDS				
Yes	446	14.1	767	15.8
No	2,386	75.5	3,273	67.6
Don't know	329	10.4	804	16.6
Total	3,161	100.0	4,844	100.0

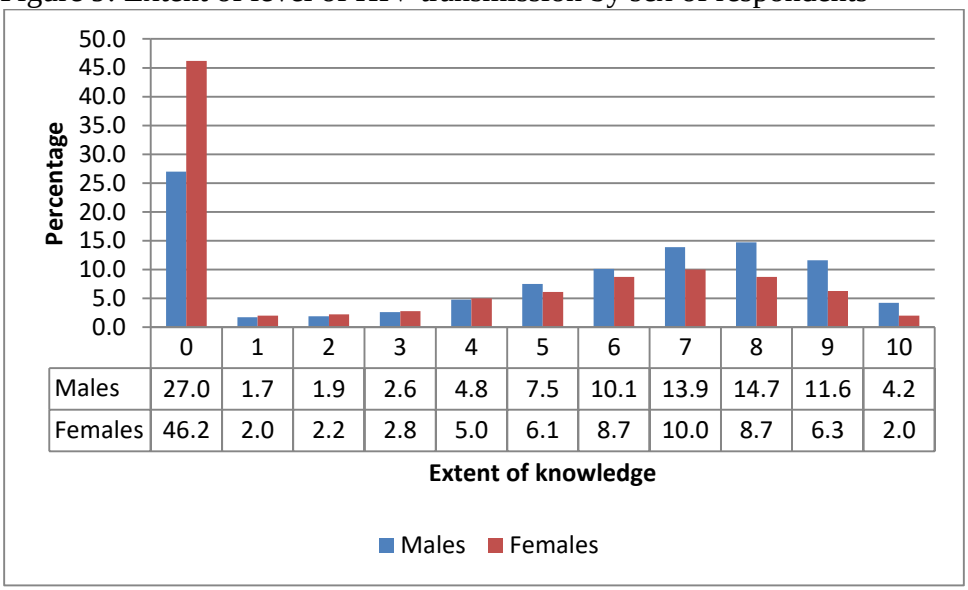
On getting infection by sharing food with a person who has AIDS, 14.1% of the male respondents felt so. The corresponding figure for females was 15.8%. We see that both men and women have about the same level of misconception. Men were not very different from women in regards to extent of misconceptions about HIV spread. This particular belief in the spread of HIV may lead to isolation and discrimination of people with AIDSs especially when the people have the habit where people eat foods from the same bowls.

3.4 Extent of knowledge about HIV/AIDS

The awareness variable was computed from ten HIV/AIDS knowledge variables. For the misconception questions, one who answered a definite "No" was taken as having correct knowledge of the prevention. The correct response was coded "1" and the others were coded "0". These variables were added together to give the knowledge variable. The sum ranged from 0 for a person without any correct knowledge on protection against AIDS to 10 for a person who had correct answers for all the ten questions.

Overall, 46.2% of the women did not have any correct knowledge about transmission of the virus. These are the women who have not even heard of AIDS. Only 2.0% had complete knowledge about AIDS. These are women who have heard about AIDS and know about all the modes of HIV transmission. The corresponding figures for males were 27.0% having absolutely no correct knowledge about AIDS and 4.2% having comprehensive knowledge. This is presented in Figure 9.

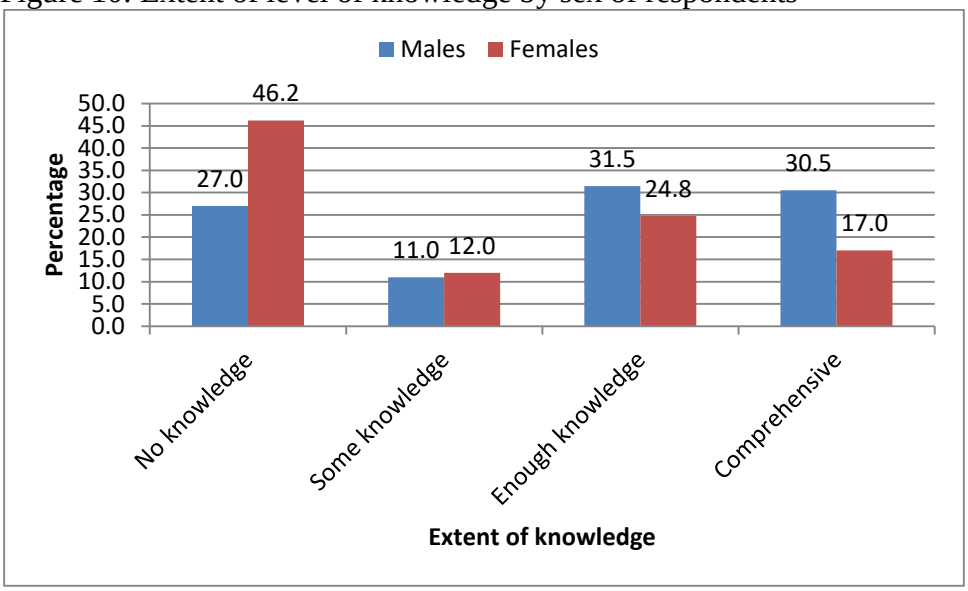
Figure 9: Extent of level of HIV transmission by sex of respondents



	0	1	2	3	4	5	6	7	8	9	10
Males	27.0	1.7	1.9	2.6	4.8	7.5	10.1	13.9	14.7	11.6	4.2
Females	46.2	2.0	2.2	2.8	5.0	6.1	8.7	10.0	8.7	6.3	2.0

This variable was regrouped into four categories; those with 1–4 correct responses as having some knowledge, those with 5–7 correct responses as having enough knowledge and those with 8–10 correct responses as having comprehensive knowledge. Those without any correct responses as having no knowledge. This is presented in Figure 10 which shows that higher percentage of female respondents had no knowledge. Higher percentage of male respondents had enough knowledge and comprehensive knowledge than the females. You will note that the bar representing female responses are higher than for males from 0-4. Thereafter, the bar representing male responses are higher than those for females. This means that in general, men have more knowledge about HIV/AIDS. As stated earlier, those with no knowledge are those who have not even heard of AIDS. The figure shows that 46.2% of the females did not have any knowledge of HIV/AIDS. The corresponding figure for the male respondents was 27.0%. The figure also shows that only 17.0% of the females have comprehensive knowledge. The corresponding figure for the male respondents was 30.5%. Men were also more likely to have enough knowledge about HIV/AIDS.

Figure 10: Extent of level of knowledge by sex of respondents

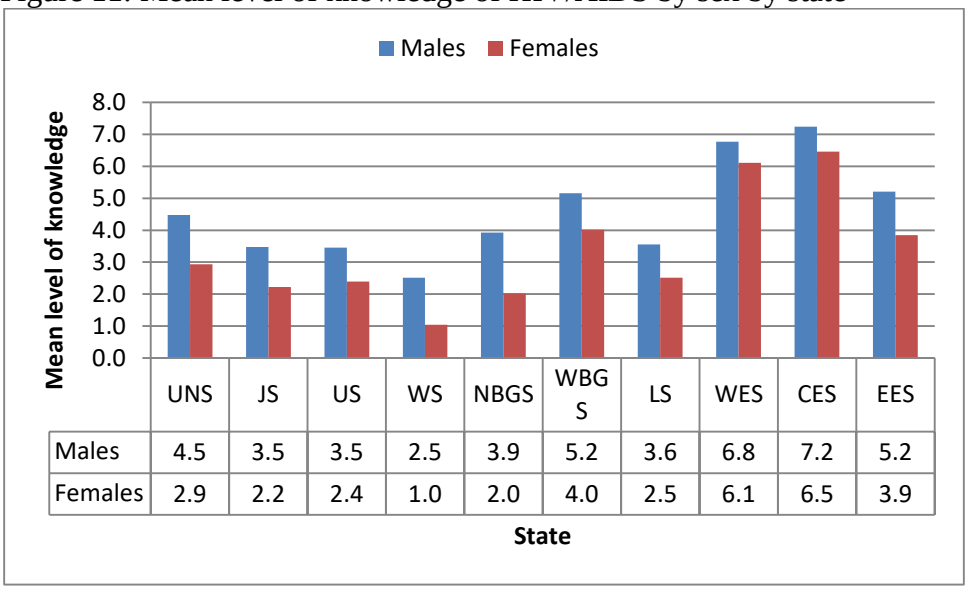


Level of knowledge was also estimated by state. This time, the mean of the extent of correct knowledge of HIV/AIDS was calculated using one way ANOVA. This is presented in Figure 11. Overall, the males know only 49.2% of the different issues that were asked. This was lowest in Warrap (25.1%) followed by Unity (34.6%) and Jonglei (34.8%). The highest level of knowledge of HIV/AIDS was recorded in Central Equatoria (72.4%) followed by Western Equatoria (67.7%), Eastern Equatoria (52.1%) and Western Bahr el Ghazal (51.6%).

For females, the overall mean level of knowledge was 33.4% of the listed issues. The level of knowledge was lowest in Warrap (10.4%) followed by Northern Bahr el Ghazal (20.2%) and Jonglei (22.2%). The highest rate was recorded in Central Equatoria (64.6%) followed by Western Equatoria (61.1%) and Western Bahr el Ghazal (40.2%). These average levels of knowledge was significantly different between states.

The level of knowledge is very low in Greater Upper Nile and Greater Bahr el Ghazal except in Western Bahr el Ghazal. The state with the lowest level of knowledge in Warrap.

Figure 11: Mean level of knowledge of HIV/AIDS by sex by state



Level of knowledge of HIV/AIDS was also crosstabulated with education and is presented in Tables 8 and 9. The tables show that correct knowledge of HIV transmission significantly depends on education. Table 8 shows that 43.7% of the male respondents with no formal education had no knowledge about HIV transmission. But we also see that 6.4% of those with university education did not have any knowledge of AIDS. This is strange. Only 17.0% of the males with no education had comprehensive knowledge of AIDS. Over 69% of those with university education have comprehensive knowledge.

Table 8: Percentage distribution of male respondents by level of education by level of knowledge of HIV transmission

	No knowledge	Some knowledge	Enough knowledge	Comprehensive knowledge
No education	43.7	14.6	24.6	17.0
Primary	13.2	9.4	41.1	36.2
Secondary	5.7	3.7	33.2	57.3
University	6.4	1.3	23.1	69.2
Total	27.0	11.0	31.5	30.5
Statistic	$X^2_{9,0.000} = 923.7$			

Table 9 shows that 54.9% of the females without education had no knowledge. The table also shows that 6.3% of those with university education had completely no knowledge. For those with comprehensive knowledge, 11.2% had no education and 56.3% had university education. The table shows that correct level of knowledge depends on the level of education.

Table 9: Percentage distribution of female respondents by level of education by level of knowledge of HIV transmission

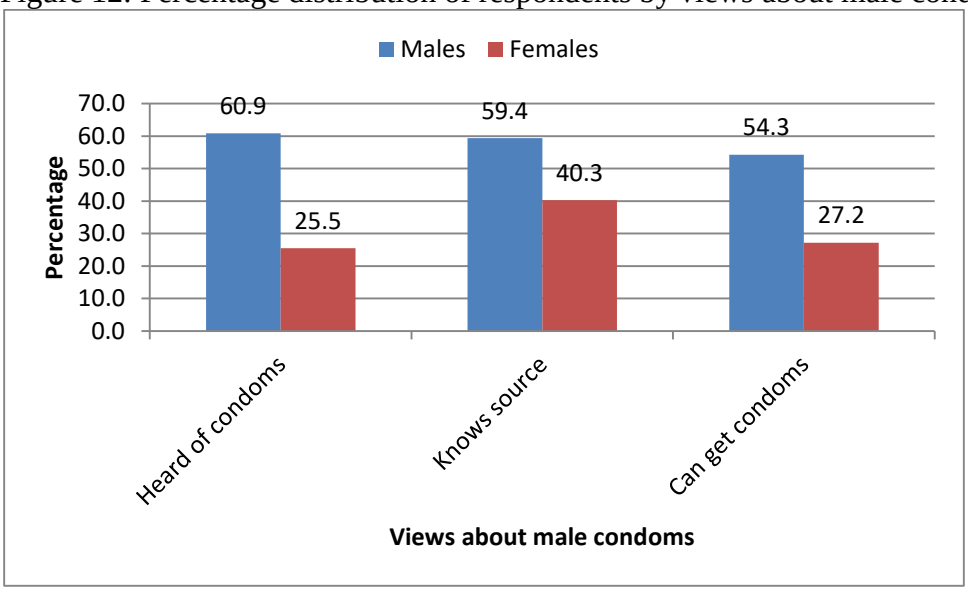
	No knowledge	Some knowledge	Enough knowledge	Comprehensive knowledge
No education	54.9	12.8	21.0	11.2
Primary	14.7	10.3	39.7	35.3
Secondary	3.9	3.5	35.7	56.9
University	6.3	2.1	35.4	56.3
Total	46.2	12.0	24.8	17.1
Statistic	$X^2_{9,0.000} = 1558.9$			

3.5 Views about male condoms

Condom use and distribution play a key role in preventing HIV transmission around the world. Over the last decade, condom use in SSA has generally been on the rise. However, in some countries like Ivory Coast, Niger, Senegal and Uganda, condom use has actually declined (UNAIDS, 2013). While the supply of condoms increases year on year, this does not guarantee an increase in their use. Poverty, peers and partners, limited HIV information and education, gender dynamics and beliefs and attitudes about HIV have all been found to work against condom use in SSA (Maticka-Tyndale, 2012). But also reduction in the non-stable sexual relation may be a reason. A person who is zero-grazing does not need to use a condom unless they are positive. Their condom use may be for pregnancy prevention or delay.

Male condom is one of the methods of delaying pregnancy or avoiding a partner getting pregnant. Its most important use is the prevention of transmission of infections of sexually transmitted diseases including HIV. If a person cannot abstain from sex until marriage or if a person in marriage cannot remain faithful to the partner, then it is important that such a person consistently and correctly uses condoms with those non-regular sexual partners. For this matter, questions about male condoms were asked of the respondents. This was to help establish their knowledge and views on the use of condoms. The results are presented in Figure 12.

Figure 12: Percentage distribution of respondents by views about male condoms by sex

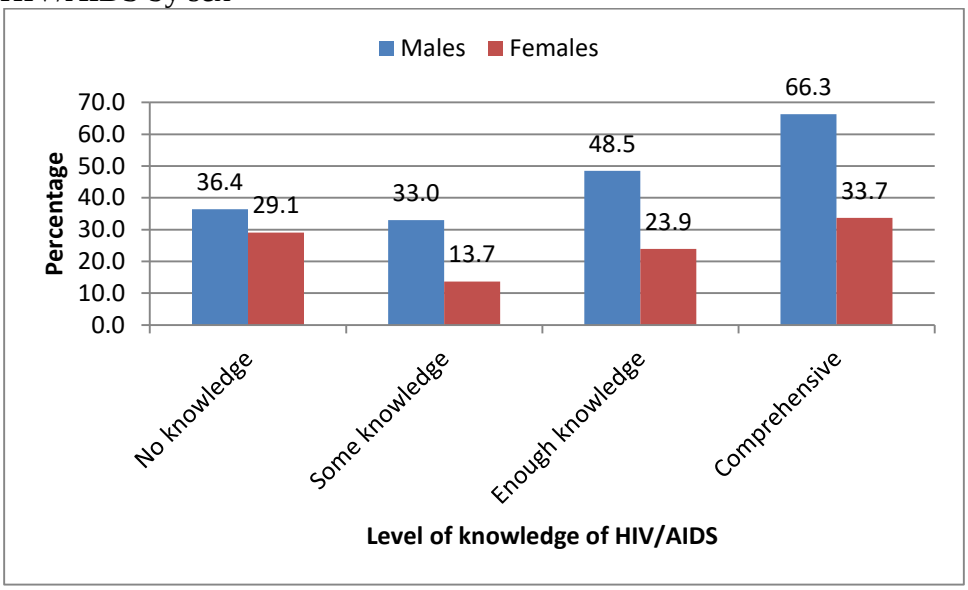


Asked whether they have ever heard of male condoms, only 60.9% of the male respondents reported they have heard of it. The corresponding figure for females was 25.5%. This shows that knowledge of male condom is not universal and it is worst with females and yet they are the ones at higher risk of infection during intercourse. Those who have heard about condoms were asked whether they knew where to get them. Only 59.4% of the male respondents knew places where to get them. The corresponding figure for females was 40.3%. This means that even if they know that condoms can help reduce the risk of infections, 40.5% of the males and 59.7% of the females would not be able to use them because they cannot find them.

Knowing where to get a condom is important in getting to use it. But one must get it in order to use it. For that they were asked whether they, themselves, could go and get a condom. Over 54% of the male respondents reported they could get them. The corresponding figure for females was 27.2%. This means that 45.7% of the males and 72.8% of the females who know that male condoms are useful in the prevention of HIV and other sexually transmitted diseases would not get them when they prepare for sexual relations. This might be caused by perceptions towards male condoms or the outlet where one can get condoms may not be conducive to many people. This is very challenging. This implies that a lot of sexual activities will go unprotected.

Getting a condom was also checked against level of knowledge of HIV/AIDS. It is expected that a person who knows a lot about AIDS should always use a condom if having sex with a non-regular sexual partner. This is presented in Figure 13. As shown in Figure 12, men are twice as likely to get condoms as women. Figure 13 shows that only 29.1% of the women with no knowledge of HIV/AIDS could get condoms. Even lower percentage (13.7%) of the women with some knowledge said they could get condoms. About 24% of the respondents with enough knowledge reported that they could get condoms. Imagine 29.1% of the respondents with no knowledge could get condoms and only 23.9% of those with enough knowledge reporting they could get condoms. About 34% of the women with comprehensive knowledge reported that they could get condoms. Not getting condoms may be caused by the religious objection or some cultural views as well as the unfriendly sales points.

Figure 13: Percentage distribution of respondents who can get condoms by level of knowledge of HIV/AIDS by sex



The figure shows that men were more likely to get condoms. Over 36% of the male respondents with no knowledge reported that they could get condoms. Thirty three percent of those with some knowledge reported that they could get condoms. Again as for women, those who did not have any knowledge were more likely to get condoms compared to those with some knowledge. About 49% of the respondents with enough knowledge could get condoms and 66.3% of those with comprehensive knowledge reported that they could get condoms. Although acceptance to get condoms increases with increase in the level of knowledge, the level of acceptance is very low because one would expect 100% acceptance to buy a condom. But this might have also arisen from the non-filtration of the question of getting a condom. A person who will not indulge in a non-regular sexual relation may answer that he/she would not get a condom because such a person will need condoms only to delay or prevent a pregnancy..

Chapter Four

Sexually Transmitted Diseases

4.1 Introduction

Four conditions must be present for HIV transmission to occur. One is the virus must be present in an infectious body fluids from the HIV-positive person and must be at sufficient levels to cause infection. There must be an effective route of transmission and it must reach susceptible cells in another person. The effective route of transmission is enhanced by the presence of sexually transmitted diseases. A person with STDs develops sores and wounds in the sexual organs. The virus then enters the blood system through these wounds. The study tried to find if the respondents had these conditions. It also tried to establish if those with these conditions sought treatment. It further tried to find if the respondents with these conditions used condoms every time they had sexual intercourse.

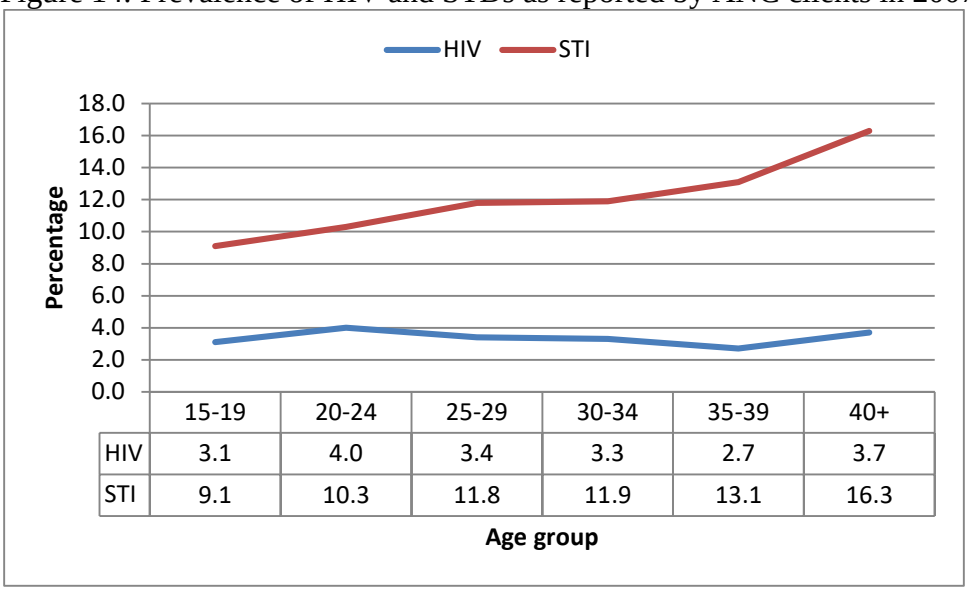
4.2 Sexually transmitted diseases

The predominant mode of transmission of both HIV and other STIs is sexual intercourse. Measures for preventing sexual transmission of HIV and STIs are the same, as are the target audiences for interventions. In addition, strong evidence supports several biological mechanisms through which STIs facilitate HIV transmission by increasing both HIV infectiousness and HIV susceptibility. Thus, detection and treatment of individuals with STIs is an important part of an HIV control strategy. Therefore, if the incidence/prevalence of STIs is high in a country, then there is a possibility of high rates of sexual transmission of HIV. Monitoring trends in STIs provides valuable insight into the likelihood of the importance of sexual transmission of HIV within a country, and is part of second generation surveillance. These trends also assist in assessing the impact of behavioural interventions, such as delaying sexual debut, reducing the number of sex partners and promoting condom use.

Clinical services offering STI care are an important access point for people at high risk for both STIs and HIV. Identifying people with STIs allows for not only the benefit of treating the STI, but for prevention education, HIV testing, identifying HIV-infected persons in need of care, and partner notification for STIs or HIV infection. Consequently, monitoring different components of STI prevention and control can also provide information on HIV prevention and control activities within a country.

Presence of STI predisposes a person to HIV infection. This is especially so for women. Figure 14 shows a progressive increase in the prevalence of STIs by age group. The HIV prevalence for the 15-19 year old women was 3.1% and it was 4.0% for those 20-24. This may suggest an early debut of sexual intercourse. The figure shows that 9.1% of the clients 15-19 had STI. This figure rises to 10.3% for those in 20-24. The prevalence continued to rise to 11.8% for those in 25-29 and further to 11.9% for 30-34. It was 13.1% for clients 35-39 and 16.3% for clients who were 40 years or older. This may not mean that the older women are getting more new infection. It has been found that 41.2% of the male respondents and 52.0% of the female respondents who had STDs did not seek treatment. Some of them got infected earlier but because of not seeking treatment, they still have the diseases. Also new infections come because of sexual networking.

Figure 14: Prevalence of HIV and STDs as reported by ANC clients in 2007



Source: SSAC (2013), Table 3.6 and Figure 3.13

The respondents were asked if they ever had abnormal discharge or whether they ever had genital sores or ulcer. Those who had these experiences were asked if they ever sought advice or treatment. These responses are presented in Table 10. About 10% of the male respondents had ever had abnormal discharge from their penis. The corresponding figure for females was 12.6%. This reveals that a higher percentage of females had ever had abnormal discharges.

Table 10: Percentage distribution of respondents by some sexually transmitted diseases by sex

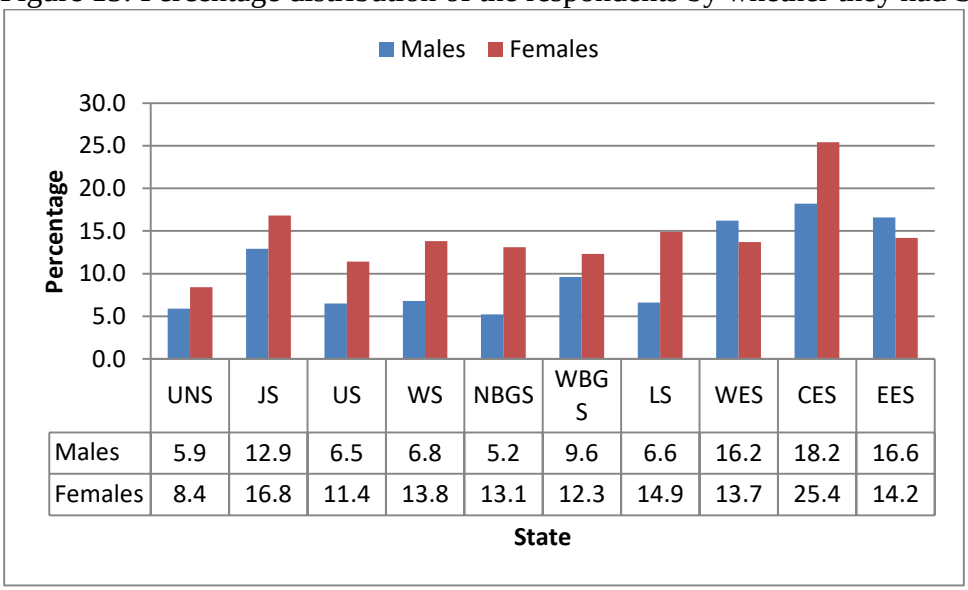
	Men		Women	
	Freq.	%	Freq.	%
Whether they had ever had abnormal discharge				
Yes	287	9.8	1,009	12.6
No	2,653	90.2	6,986	87.4
Total	2,940	100.0	7,995	100.0
Whether they ever had genital sores				
Yes	225	7.7	806	10.1
No	2,711	92.3	7,184	89.9
Total	2,936	100.0	7,990	100.0
Whether they ever sought treatment or advice				
Yes	190	58.8	535	48.0
No	133	41.2	579	52.0
Total	323	100.0	1,114	100.0

On having ever had genital sores or ulcer, 7.7% of the male respondents reported that they had ever had sores. The corresponding figure for female respondents was 10.1% again revealing that women are more likely to have genital sores or ulcer.

Asked whether they ever sought treatment or advice for their illness, 58.8% of the male respondents reported having sought treatment. The corresponding figure for females was 48.0%. It can be seen that in reporting the illnesses, a higher percentage of the women reported having the illnesses but when it comes to treatment seeking, a lower proportion of the women did so.

The respondents who had either abnormal discharge or genital sores or wounds were coded as "Infected". Those who did not experience these problems were coded as "Not infected". This variable was crosstabulated with state and the results are presented in Figure 15. Overall, 11.2% of the male respondents had infection. The figure for females was 14.4%. The highest prevalence of STI for men was recorded in Central Equatoria (18.2%) followed by Eastern Equatoria (16.6%), Western Equatoria (16.2%) and Jonglei (12.9%).

Figure 15: Percentage distribution of the respondents by whether they had STDs by state by sex



	UNS	JS	US	WS	NBGS	WBGS	LS	WES	CES	EES
Males	5.9	12.9	6.5	6.8	5.2	9.6	6.6	16.2	18.2	16.6
Females	8.4	16.8	11.4	13.8	13.1	12.3	14.9	13.7	25.4	14.2

STI prevalence for females was highest in Central Equatoria (25.4%) followed by Jonglei (16.8%), Lakes (14.9%), Eastern Equatoria (14.2%), Warrap (13.8%), Western Equatoria (13.7%), Northern Bahr el Ghazal (13.1%) and Western Bahr el Ghazal (12.3%). We also see that in all the states except for Western Equatoria and Eastern Equatoria, the prevalence for women is higher than for men.

4.3 Treatment of STDs

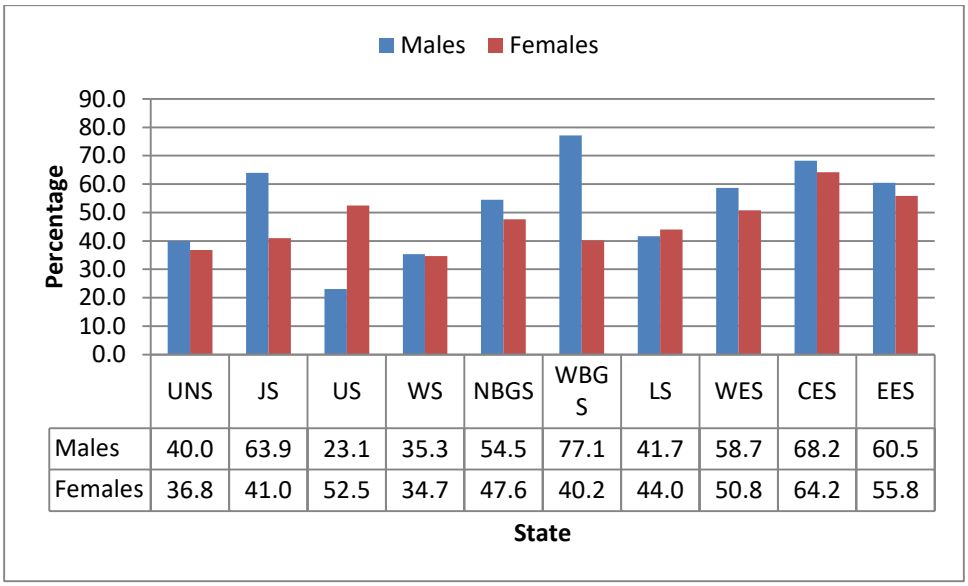
It was also important to note the health seeking behaviour in the treatment of STDs. The treatment of STDs reduces the risk of HIV infection as it removes some of the effective routes of HIV transmission. Those who had sexually transmitted diseases were asked whether they sought treatment for their infection. The results are displayed in Figure 16. Overall, 58.8% of the males who got infection sought treatment. The corresponding figure for females was 48.0%. We may note here that a higher percentage of the women got infections but lower percentage of them

compared to men sought treatment. This means that the prevalence of STIs will remain high in women. But because of the heterosexual relations, these women will infect the men they love.

Figure 16 shows that of the female respondents that got infections, the highest percentage who sought treatment came from Central Equatoria (64.2%) followed by Eastern Equatoria (55.8%), Unity (52.5%) and Western Equatoria (50.8%). Treatment was least sought in Warrap where only 34.7% of those who got infections sought treatment. This was followed by Upper Nile (36.8%) and Western Bahr el Ghazal (40.2%).

The figure also shows that the highest percentage of men who sought treatment was from Western Bahr el Ghazal (77.1%) and was followed by Central Equatoria (68.2%), Jonglei (63.9%) and Eastern Equatoria (60.5%). Treatment was least sought in Unity (23.1%), Warrap (35.3%), Upper Nile (40.0%) and Lakes (41.7%).

Figure 16: Percentage distribution of respondents who got STDs and sought treatment by state by sex



	UNS	JS	US	WS	NBGS	WBGS	LS	WES	CES	EES
Males	40.0	63.9	23.1	35.3	54.5	77.1	41.7	58.7	68.2	60.5
Females	36.8	41.0	52.5	34.7	47.6	40.2	44.0	50.8	64.2	55.8

There is need to advice the population on the importance of promptly seeking treatment for any suspected sexually transmitted infections and to inform them that this reduces their risk of HIV infection. It is also important to encourage the couples to go together for treatment. One problem that may arise here is access to health facility. It may be necessary to have mobile clinics in areas not well served by traditional health facilities.

4.4 Sexually transmitted infections and consistent condom use

Having wounds or sores in the genital parts predisposes the person to higher risk of getting HIV infection because the virus would have got an effective route of transmission. For such a person to avoid infection, he/she needs to consistently use a condom whenever he/she is having sex with non-regular sexual partners. The respondents who had sexually transmitted diseases were asked

whether they sought treatment. This response was crosstabulated with whether the respondents consistently used condoms with non-regular partners. The results are presented in Table 11.

Over 78% of the male respondents who sought treatment did not consistently use condoms with their non-regular partners. The corresponding figures for those who even never sought treatment was higher (87.5%). The table also shows that none of the women who never sought treatment was using condoms consistently. Over 10% of those who sought treatment was consistently using condoms with their non-regular partners.

Table 11: Percentage distribution by whether they consistently used condoms in the past 12 months by whether they sought treatment for STI by sex

	Yes		No	
	Freq.	%	Freq.	%
Male respondents				
Sought treatment	10	21.7	36	78.3
Never sought treatment	4	12.5	28	87.5
Total	14	17.9	64	82.1
Female respondents				
Sought treatment	3	10.3	26	89.7
Never sought treatment	0	0.0	27	100.0
Total	3	5.4	53	94.6

This behaviour may result from ignorance of level of risk of HIV infection with these conditions. People should be informed that having STDs enhances the risk of infection. It may also be important to advice the couple with these conditions to both seek treatment so as to reduce the prevalence of STDs.

SSAC(2013) reports that condoms are plentiful and inexpensive. It reports that the sex workers reported that condoms were plentiful and inexpensive. No one reported not using a condom because of cost or in-availability. In places like Juba, sex workers reported that they bought condoms from government facilities. Although condoms were said to be readily available, sex workers at all the sites emphasized that clients did not like using them, especially South Sudanese clients. Sex workers at all the sites reported that South Sudanese clients were highly resistant to using condoms.

Chapter Five

Knowledge of HIV transmission and Sexual Behaviour

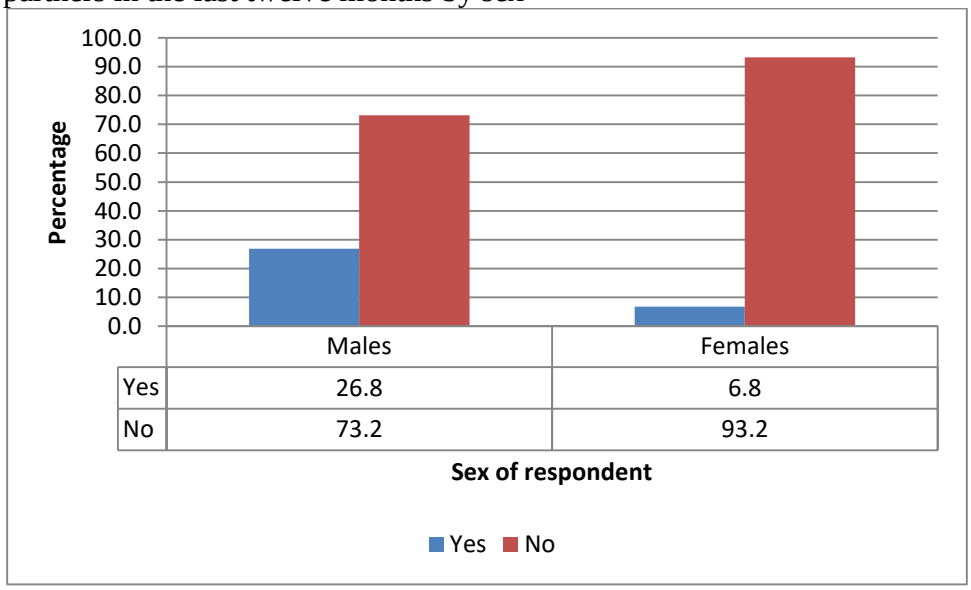
5.1 Introduction

Chapter Three has shown that the correct awareness of HIV/AIDS depends on education and it is expected that a persons with correct knowledge of HIV transmission will act in a way that will ensure that he/she avoids getting AIDS virus. Three sure ways of avoiding infection are abstaining from sex until marriage, having one faithful uninfected partner or consistent correct use of condom every time one has sexual intercourse with a non-regular partner. This chapter presents the sexual activities of the respondents by some background variables. These variables are education, socioeconomic status of the households, state, age of respondents and knowledge of HIV/AIDS. Variable being studied are having sex with a non-regular partner in the last twelve months, number of those non-regular partners and consistent use of condoms during those sexual relations.

Most women started sexual activity before marriage. About 82% of the women who ever had sex had their first sex before marriage. Only 18.1% had sex with their husbands/partners. The issue of abstinence until marriage does not seem to relate to AIDS concerns. As we shall see ahead, the women who abstained from sex till marriage had on average 1.7 non-regular sexual partners as compared to 1.9 partners for those who started earlier. This difference is not statistically significant ($F_{1,236,0.610} = 0.261$).

The respondents with stable sexual partners were asked whether they had sex with other people in the twelve months prior to the survey. Figure 17 shows that 6.8% of the female respondents had sex with other men other than their regular spouses in the last twelve months. The corresponding figure for male respondents was even higher (26.8%). This is a risky behaviour in the era of AIDS.

Figure 17: Percentage distribution of respondents by whether they had sex with non-regular partners in the last twelve months by sex



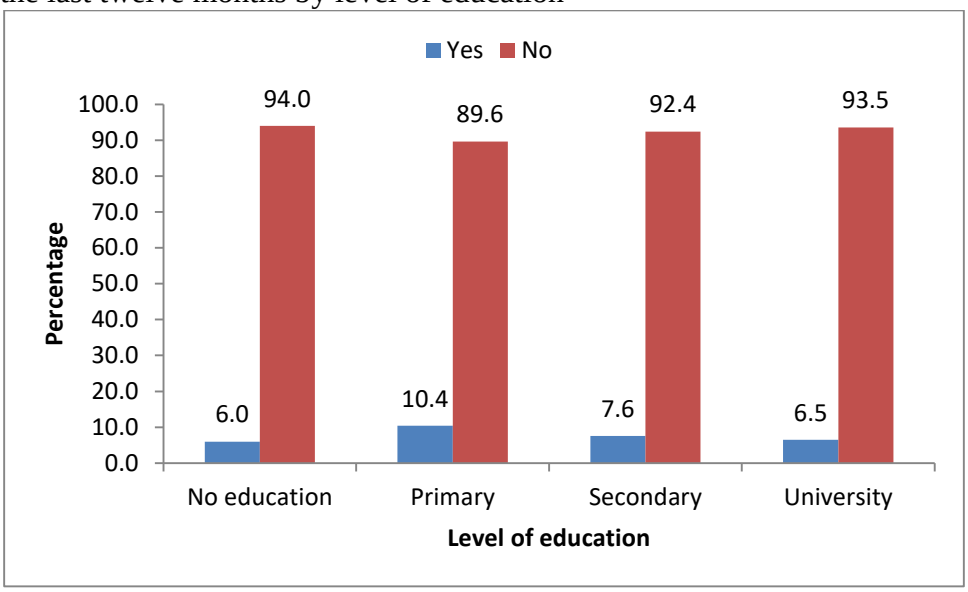
5.2 Sex with non-regular partner

Having sex with non-regular partners was crosstabulated with some background variables. These are education, socioeconomic status and level of knowledge of HIV transmission.

5.2.1 Education and sex with non-regular partners

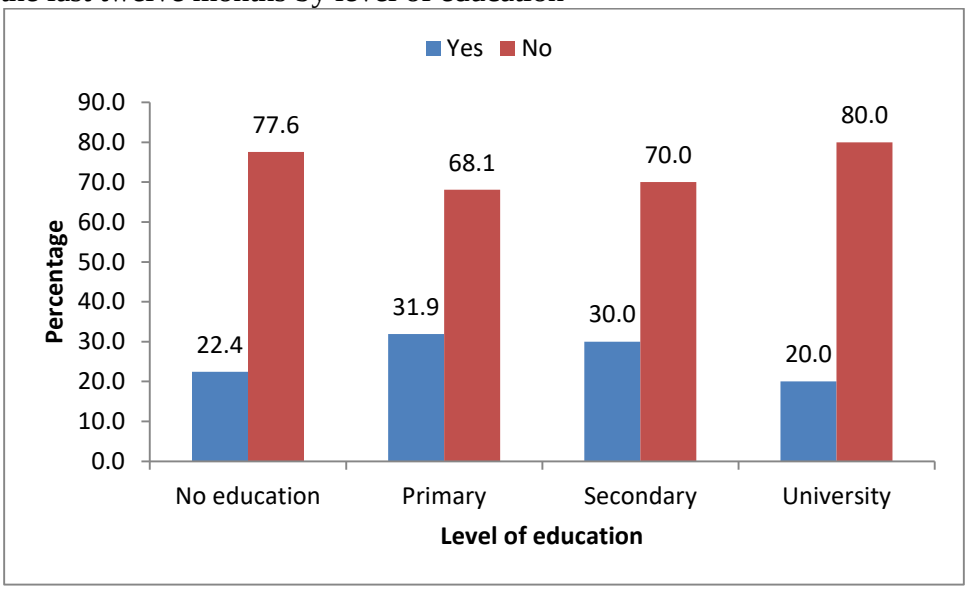
In trying to know the effect of education on having extramarital sex, education was crosstabulated with having sex. The women who were educated were more likely to have multiple relationships in the last twelve months of the survey although this was more common with the lower levels of education (Figure 18). Over 10% of women with primary level of education had sex with another man while 7.6% of those with secondary education did so and 6.5% of those with university education had sex with other men. The figure for those without education was 6.0%. This relation is highly significant ($X^2_{3,0.000} = 24.4$).

Figure 18: Percentage distribution of the women by whether they had sex with another man in the last twelve months by level of education



Having sex with a non-regular partner was more common with men compared with women as 26.8% of the men had sex with other women other than the stable ones. Figure 19 shows that as with women, the men with primary and secondary levels of educations were more engaged in non-regular sexual relations.

Figure 19: Percentage distribution of the men by whether they had sex with another woman in the last twelve months by level of education



We may recall that we found that education tended to influence level of knowledge of HIV/AIDS. And here we are seeing the educated although progressively better, having sexual intercourse with non-regular partners than the uneducated. This may mean that there is some linking factor which has not come out. This means education has power to inform the people but it is not powerful enough to change their behaviour.

5.2.2 Wealth index and sex with non-regular partners

Having sex with another partner was also crosstabulated with wealth index and the results are presented in Figures 20 and 21. The proportion of women having sex with another man continued to increase from 3.3% for women in the poorest class to 5.7% in the second class and 7.8% for women in the middle quintile and further to 8.7% for those in the fourth quintile. Thereafter, it fell slightly to 7.5% for women in the richest class. These findings reveal that motivation to have sex with many men is not driven by poverty. This relationship is also highly significant ($X^2_{4,0.000} = 26.8$). This might arise from values the communities attach to having sex or the right of access to a wife.

Figure 20: Percentage distribution of the women by whether they had sex with another man in the last twelve months by wealth index

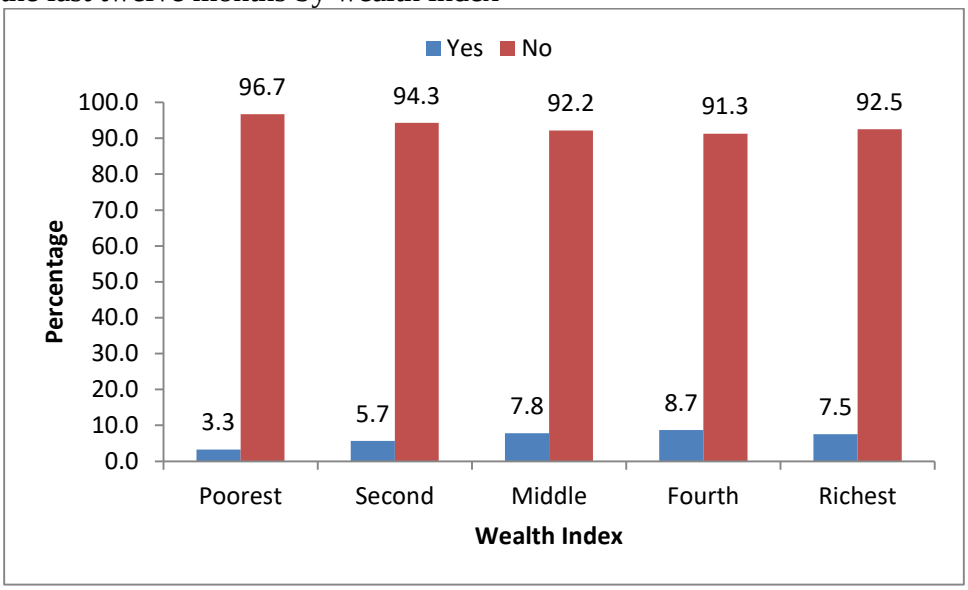
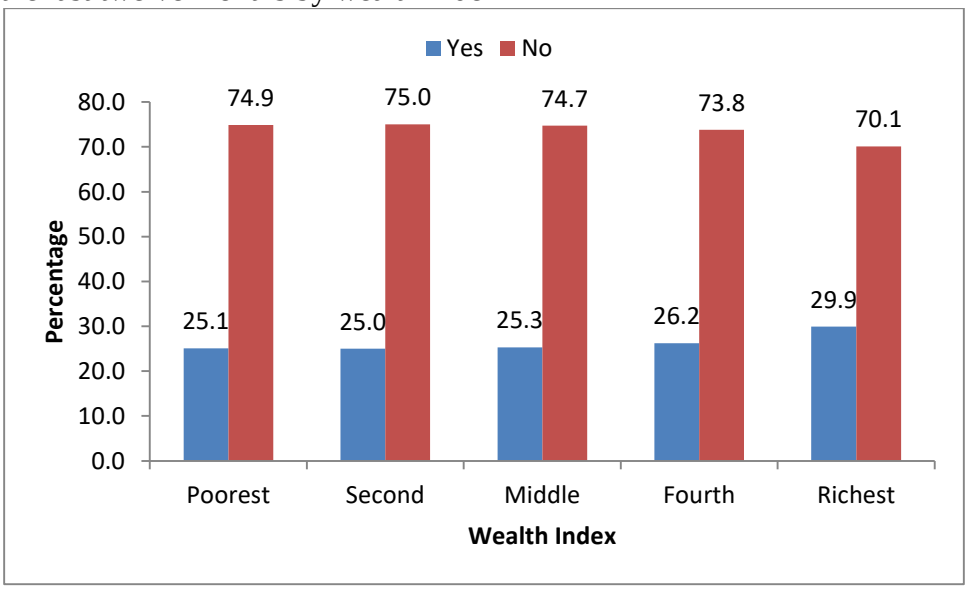


Figure 21 shows that men from higher socioeconomic status tended to engage in non-regular sexual relations. Just over 25% of those from the poorest quintile had sex with non-regular partners. The figure for those in the second quintile was 25.0%. From here, it steadily rose to 25.3% for those in the middle quintile and further to 26.2% for those in the fourth quintile and it reached 29.9% for the respondents in the richest quintile. Although not statistically significant, this shows that higher socioeconomic status tended to influence upwards the number of non-regular sexual partners in South Sudan.

Figure 21: Percentage distribution of the men by whether they had sex with another woman in the last twelve months by wealth index



5.2.3 Knowledge of HIV transmission and sex with non-regular partners

Having sex was crosstabulated by level of awareness of the mode of transmission of the virus. The findings show that only 4.6% of the women without any knowledge of HIV transmission had sex with other men in the last twelve months of the survey (Figure 22). The figure increased to 9.1% of the women with some knowledge. It was 7.3% for women who had enough knowledge. These are women who had the right knowledge in 5-7 items out of 10 items. Interestingly, 9.5% of the women with comprehensive knowledge had sex with other men. This is disturbing. There seems to be some forces which are more powerful than education and correct knowledge of HIV transmission. This relationship is highly significant ($X^2_{3,0.000} = 34.2$).

Figure 22: Percentage distribution of female respondents by whether they ever had sex with another man in the last twelve months by level of awareness

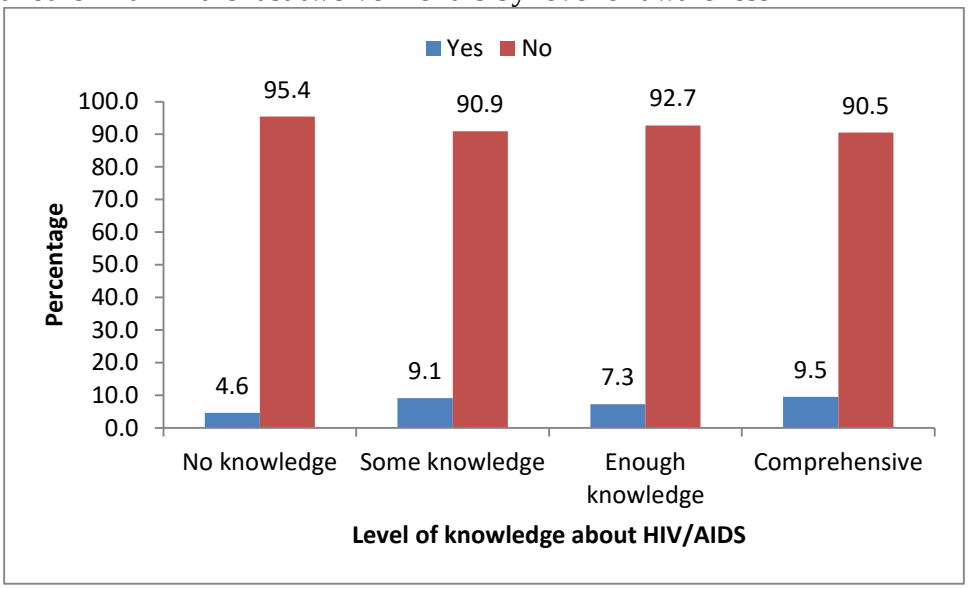
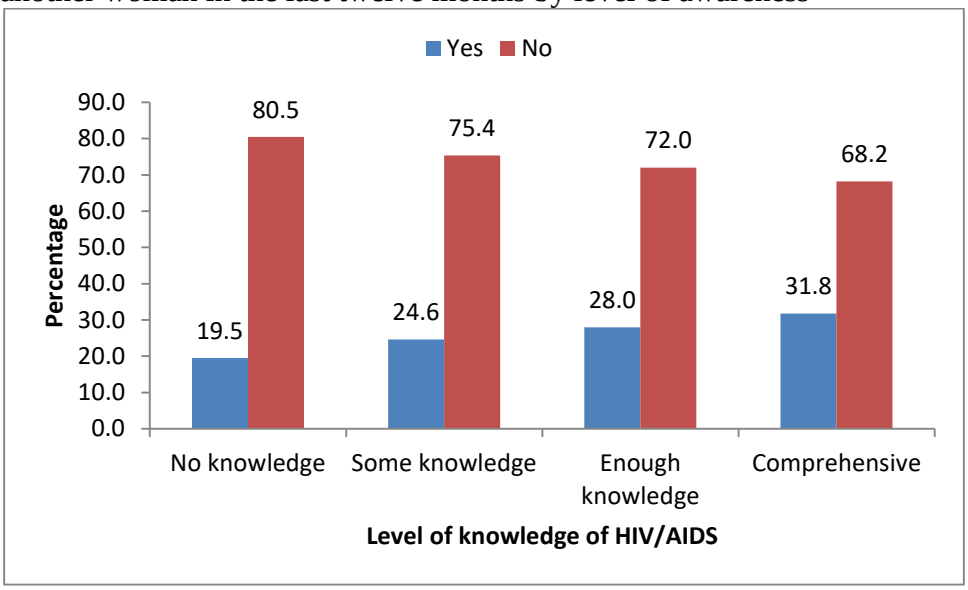


Figure 23 shows that men with better knowledge tended to engage in sexual relation with non-regular sexual partners. About 20% of the respondents with completely no knowledge had sex with non-regular partners in the twelve months prior the survey. This figure increased to 24.6% for those with some knowledge and then to 28.0% for those with enough knowledge and further to 31.8% for those with comprehensive knowledge of HIV prevention. The relationship was highly significant (p=0.000). If we combine this with condom use, it becomes very disturbing. We have shown that even those who have heard of male condoms and knew where to get them do not want to get them.

Figure 23: Percentage distribution of male respondents by whether they ever had sex with another woman in the last twelve months by level of awareness



5.3 Number of non-regular partners

Having a non-regular sexual partner is likely to place the person into a sexual network. Sexual networks are groups of persons who are connected to one another sexually. The way a person selects partners influences how quickly HIV/STDs can spread. Exclusively monogamous persons are not part of a sexual network. If both are HIV-negative, they will remain so. Concurrent relationships involves having more than one sexual partner in a given period and going back and forth between them. This increases the probability for transmission. Concurrency alone can fuel an epidemic even if the average number of partners is relatively low (Morris, 1997). This network plays a crucial role in the transmission of STDs. A person who goes out of the network and has sex with a person in another network acts like a bridge and can transmit HIV from his/her network to persons in another network or vice versa. A good example is the person who engages with a sex worker and then gets out to casual sexual partners. The sexual encounters carry the same risk of HIV transmission if they proceed unprotected.

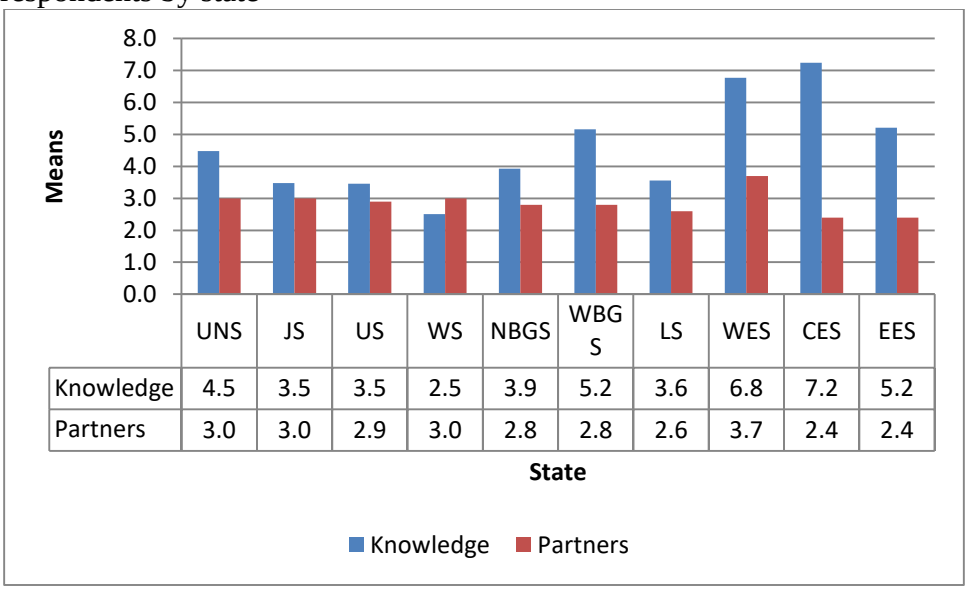
The higher the number of non-regular sexual partners, the higher the risk of HIV infection. It is expected that a person who has good knowledge of HIV transmission will reduce the number of non-regular partners as this will reduce his/her risk of infection. The study tries to establish the mean number of non-regular sexual partners by a number of factors. These sexual partners is the sum on not paid sexual relations and the paid for relations.

5.3.1 Number of non-regular sexual partners by state

Mean number of non-regular sexual partners was also estimated by state and is presented in Figure 24 for female respondents. Also included are the levels of awareness of HIV/AIDS. The highest number of non-regular sexual partners for male respondents was exhibited in Western Equatoria (3.7) and was followed by Upper Nile, Jonglei and Warrap each with an average of 3.0

partners. The lowest mean number was recorded in Central Equatoria and Eastern Equatoria each with 2.4 partners and is followed by Lakes (2.6).

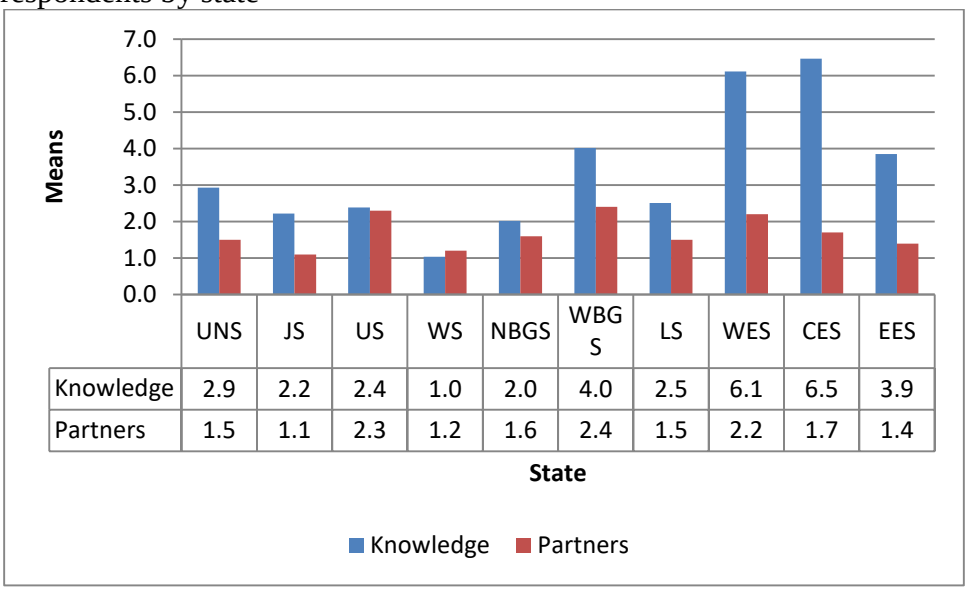
Figure 24: Mean level of knowledge of HIV transmission and sexual partners of male respondents by state



	UNS	JS	US	WS	NBGS	WBGS	LS	WES	CES	EES
Knowledge	4.5	3.5	3.5	2.5	3.9	5.2	3.6	6.8	7.2	5.2
Partners	3.0	3.0	2.9	3.0	2.8	2.8	2.6	3.7	2.4	2.4

For females, the highest mean number of sexual partners was recorded in Western Bahr el Ghazal (2.4) followed by Unity (2.3) and Western Equatoria (2.2). The lowest mean number of non-regular sexual partners was recorded by Jonglei (1.1) followed by Warrap (1.2) and Eastern Equatoria (1.4) (Figure 25).

Figure 25: Mean level of knowledge of HIV transmission and sexual partners of female respondents by state

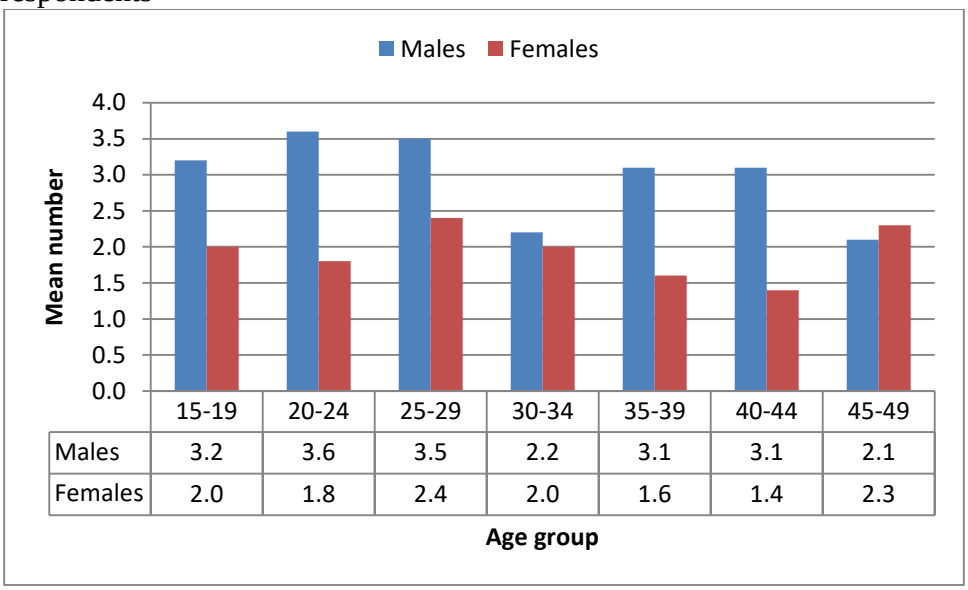


	UNS	JS	US	WS	NBGS	WBGS	LS	WES	CES	EES
Knowledge	2.9	2.2	2.4	1.0	2.0	4.0	2.5	6.1	6.5	3.9
Partners	1.5	1.1	2.3	1.2	1.6	2.4	1.5	2.2	1.7	1.4

5.3.2 Number of non-regular sexual partners by age group

Overall, the mean number of sexual partners for male respondents was 3.1 women. Women had a lower average number of non-regular sexual partners (2.0). Men who were 20-24 had on average 3.6 partners in the twelve months under study. This was followed by those 25-29 (3.5) and 15-19 (3.2). Men who were 35-39 and 40-44 also had on average 3.1 partners in the twelve months. This relationship is statistically significant. The highest number of sexual partners was recorded by those 25-29 (21 partners) followed by those who were 35-39 (17 partners).

Figure 26: Mean number of sexual partners in the last twelve months by age group of respondents



	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Males	3.2	3.6	3.5	2.2	3.1	3.1	2.1
Females	2.0	1.8	2.4	2.0	1.6	1.4	2.3

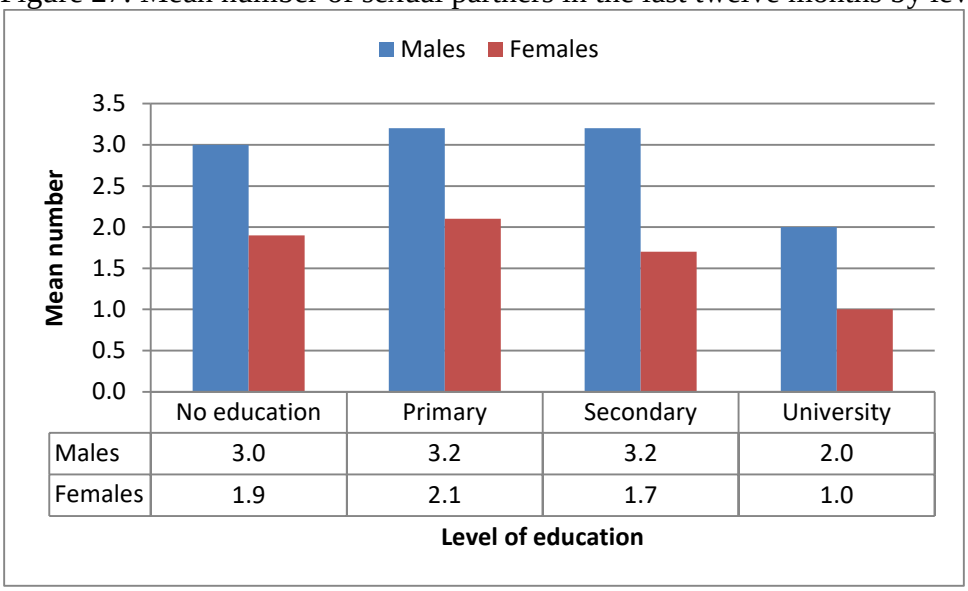
There was no significant difference between the mean number of non-regular sexual partners for female respondents. The highest mean number was recorded by women 25-29 (2.4) followed by those 45-49 (2.3) and 15-19 (2.0). The largest number of sexual partners was recorded by women who were 25-29 (15 partners).

5.3.3 Number of non-regular sexual partners by education

Education has not significantly influenced the number of non-regular sexual partners of the respondents. Figure 27 shows that men without formal education had on average 3.0 women in the study period. It was 3.2 for those with primary education and 3.2 for the respondents with secondary education. Men who completed university had on average 2.0 women in the twelve months.

Women without education had on average 1.9 non-regular sexual partners. The figure for those with primary was 2.1 and it was 1.7 for women with secondary education. The highest number of sexual partners was recorded by those without formal education.

Figure 27: Mean number of sexual partners in the last twelve months by level of education



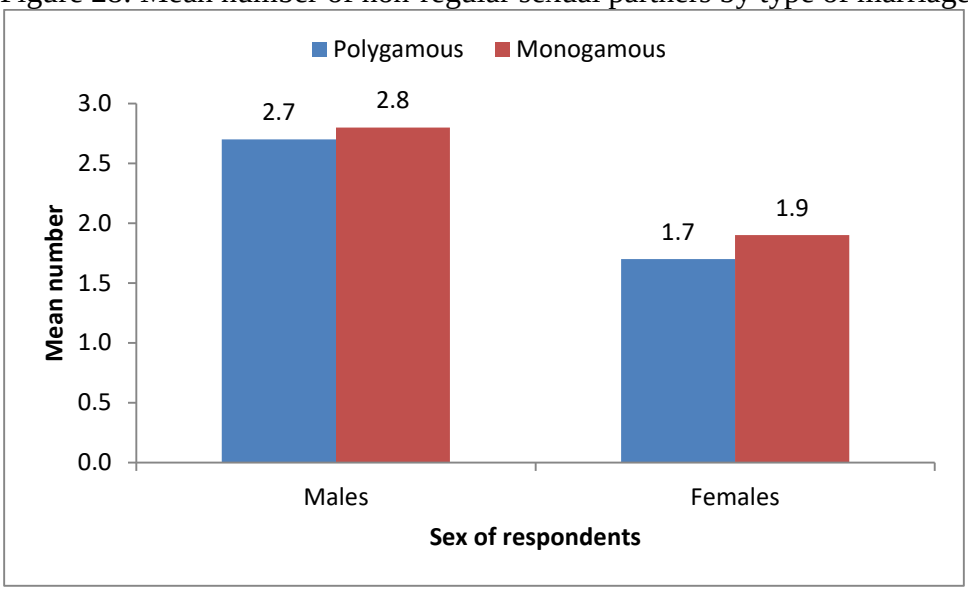
5.3.4 Number of non-regular sexual partners by marital status

In a natural situation, a person with many wives should stay within the home as he would take some time to sexually satisfy the wives. In the same vain, women in polygamous unions, because of the desire for sexual satisfaction, may get a non-regular sexual partner. In trying to find whether being in a polygamous relation may influence the number of non-regular sexual partners, one way ANOVA was run for two variables; the type of union the respondents was in and the number of wives in the union.

Figure 28 shows that on average, a man who is in monogamous union would have on average 2.8 non-regular sexual partners. The corresponding figure for men in polygamous relation was 2.7 women. There is no difference between the men in either union as far as the extra-marital sexual relationships are concerned. Being in polygamous union does not help to limit the number of non-marital sexual partners.

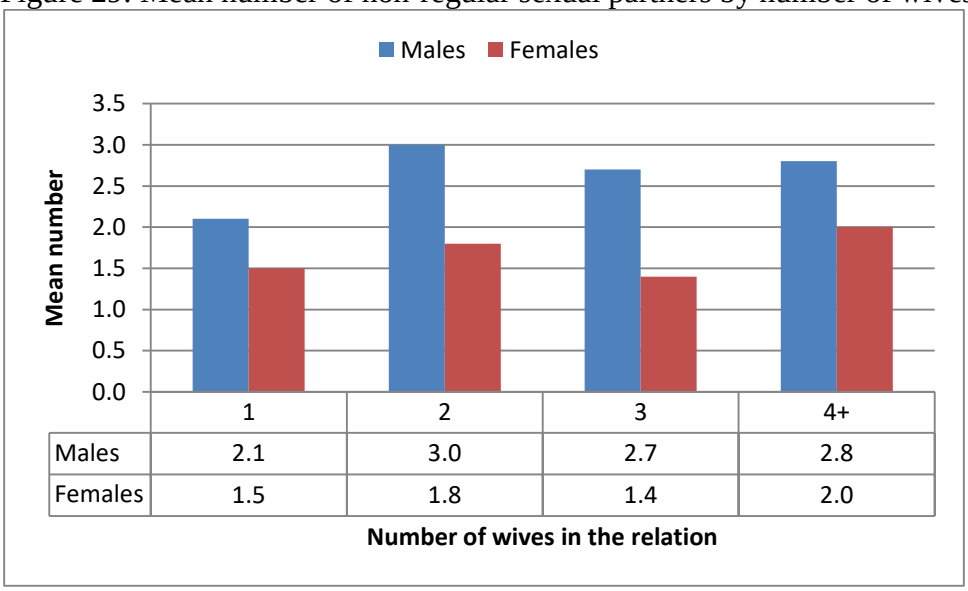
When we look at women, those in monogamous unions had on average 1.9 non-regular male partners. The corresponding figure for those in polygamous union was 1.7 men. Again women in monogamous unions equally desire sex from outside as those in a polygamous union.

Figure 28: Mean number of non-regular sexual partners by type of marriage



The study also looked at the number of non-regular sexual partners in relation to the number of wives a man has. This is presented in Figure 29 which shows that men with only one wife had on average 2.1 non-regular sexual partners. It was 3.0 for those with two wives and 2.7 for those with 3 wives. Those with four or more wives had on average 2.8 non-regular sexual partners. We see from here that having many wives does not stop a man from having a non-regular sexual relation. The figure also shows that women who are alone were still not any different from those in polygamous unions in terms of non-marital sexual partners.

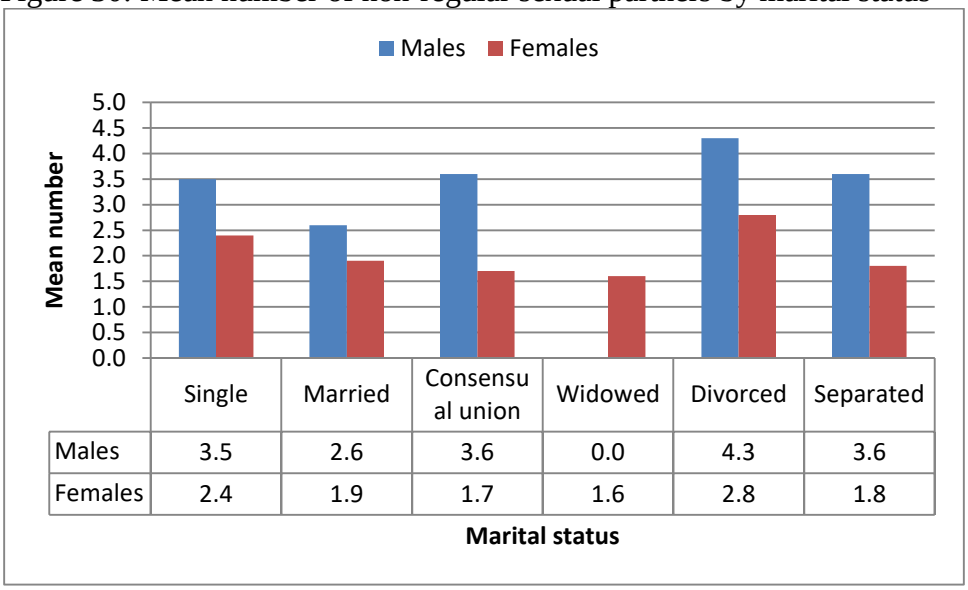
Figure 29: Mean number of non-regular sexual partners by number of wives in the union



	1	2	3	4+
Males	2.1	3.0	2.7	2.8
Females	1.5	1.8	1.4	2.0

The mean number of sexual partners was also estimated by marital status and the results are presented in Figure 30. The results show that those respondents who were divorced had the highest number of non-regular sexual partners (4.3 women per man and 2.8 men per woman). The males in consensual union and the separated had on average 3.6 women and is followed by the singles (3.5). The female respondents who were single had on average 2.4 partners.

Figure 30: Mean number of non-regular sexual partners by marital status



5.3.5 Number of non-regular sexual partners by time of start of sexual activity

Females were also asked at what age they had their first sexual intercourse. Some answered that they started sex at the time they got marriage. If the abstinence was in protection from HIV infection, this would be a sure way of staying safe if the partner were uninfected and if the woman does not indulge into sex with other men. There was interest in knowing their sexual behaviour after getting married. One way ANOVA was used to estimate the mean number of sexual partners in the twelve months prior to the survey and the results are presented in Table 12 which shows that women who started sex before marriage had on average 1.9 men in the twelve months. Those who started sex in marriage had on average 1.7 men. These results show that there is no difference in terms of average number of sexual partners between those who started sex earlier or in marriage. The only difference is that those who started sex earlier had higher mean number of sexual partners.

Table 12: Mean number of non-regular sexual partners by time of start of sexual activity

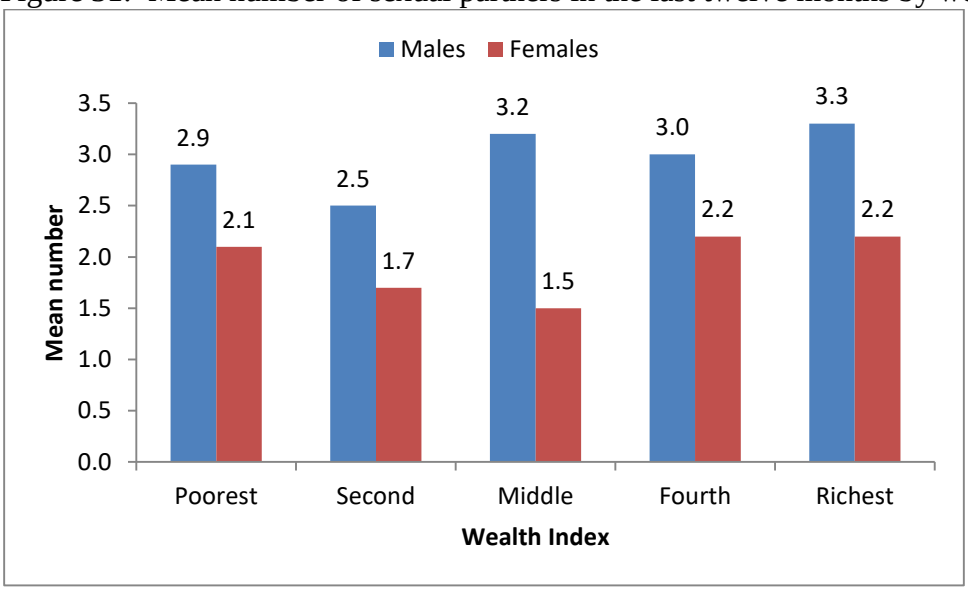
	N	Mean	Maximum
Before marriage	223	1.9	11
In marriage	15	1.7	6
Total	238	1.9	11
	$F_{1.236,0.610} = 0.261$		

5.3.6 Number of non-regular sexual partners by wealth index

The number of non-regular sexual partners was also computed for wealth index and this is presented in Figure 31 which shows that men in the richest group had the highest mean non-regular sexual partners (3.3) followed by those in the middle group (3.2) and those in the fourth group (3.0). But the differences are not statistically significant.

For the female respondents, the highest mean number of non-regular sexual partners was recorded by those in the fourth and fifth quintiles (2.2) followed by those the poorest (2.1). These variations are statistically significant (p=0.035). The well-to-do women have tended to have more non-regular sexual partners. So their having extra-marital sexual relations may not be for monetary gains. There may be some factors that drive this behaviour.

Figure 31: Mean number of sexual partners in the last twelve months by wealth index by sex

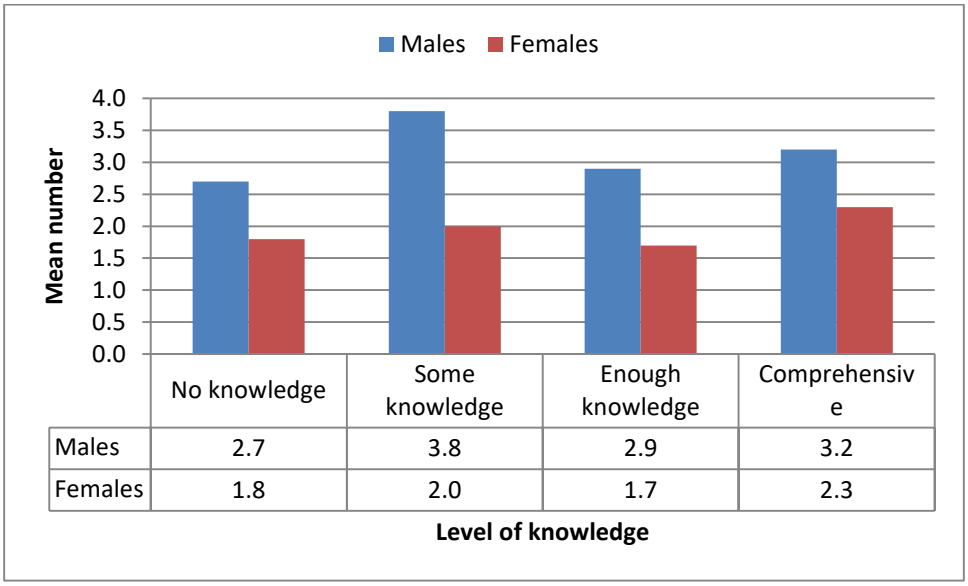


5.3.7 Number of non-regular sexual partners by level of knowledge of HIV/AIDS

The main objective of this study was to assess the impact of HIV/AIDS awareness on the sexual behaviour of the people of South Sudan. For that matter, the mean number of non-regular sexual partners was computed for the level of knowledge of HIV transmission and is presented in Figure 32. Men who had some knowledge had on average 3.8 partners and was followed by those comprehensive knowledge (3.2) and those with enough knowledge (2.9). The men without any correct knowledge had the lowest mean number of sexual partners (2.7). This relation is significant at 10% level of significance.

When we look at the female respondents, those with comprehensive knowledge had on average 2.3 sexual partners during the study period. This was followed by those with some knowledge (2.0) and then those with no knowledge at all (1.8). The women who had enough knowledge had on average 1.7 sexual partners. This relationship is not significant implying that having knowledge about HIV transmission does not help a women to limit the number of non-regular sexual partners. If anything, better knowledge seems to be associated with higher number of sexual partners.

Figure 32: Mean number of sexual partners in the last twelve months by level of knowledge of HIV transmission



	No knowledge	Some knowledge	Enough knowledge	Comprehensive
Males	2.7	3.8	2.9	3.2
Females	1.8	2.0	1.7	2.3

These findings reveal that all respondents of all ages had engaged in multi-partner non-regular sexual relations. It also shows that education with its power to identify the risk factors have not helped in reducing the number of sexual partners. Even the standard of living has not influenced the number of non-regular sexual partners. If anything, respondents from more affluent families have tended to have more sexual partners.

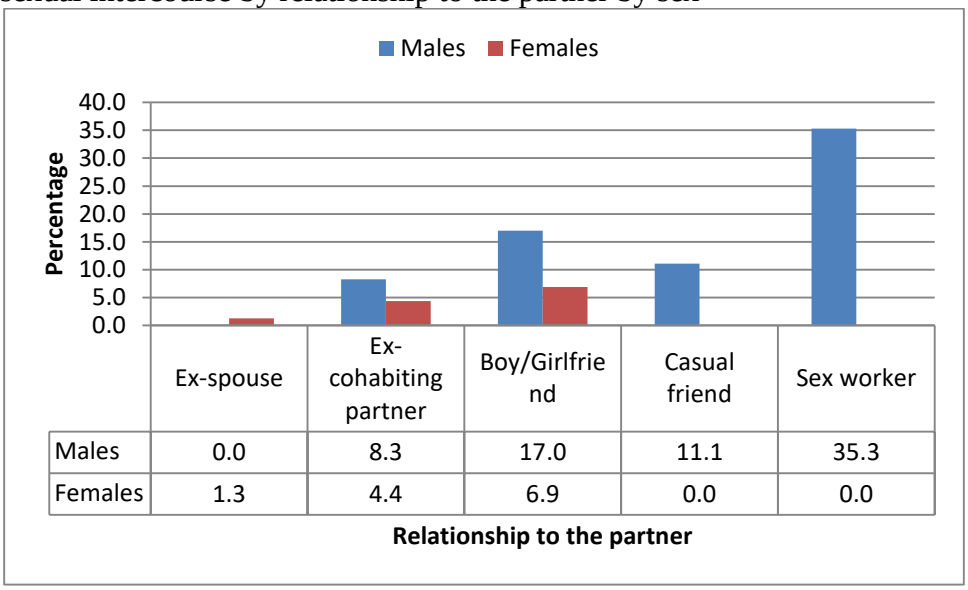
5.4 Condom use with non-regular partners

We have seen that good knowledge of the mode of HIV transmission has tended to increase the number of sexual partners. One thing that can help is such a situation is the correct, consistent use of condoms. There were two questions on use of condoms in the survey. One was in the last sexual act to the survey. They were also asked with whom they had that sexual intercourse. For this study, we have excluded marital and consensual union sexual activity since these are regular sexual relationships.

5.4.1 Condom use in the last sexual relation

Respondents were asked with whom they had the last sexual intercourse to the survey. They were also asked whether they used a condom in that sexual act. This analysis excludes those who had sex in a stable relation defined here as those in marriage or those in consensual unions. A cross tabulation of the relationship of the partner and whether a condom was used is presented in Figure 33 which shows that none of the men who had sex with their ex-spouses used a condom. Only 8.3% of the men who had sex with their ex-cohabiting partners used condoms. The figure also shows that only 17.0% of those who had sex with girlfriends or fiancé used condoms. Even in casual relationship, only 11.1% used condoms. Only 35.3% of the men who reported the last sex with sex workers used condoms even when this is obviously a risky relation.

Figure 33: Percentage distribution of respondents by whether they used condoms in their last sexual intercourse by relationship to the partner by sex



	Ex-spouse	Ex-cohabiting partner	Boy/Girlfriend	Casual friend	Sex worker
Males	0.0	8.3	17.0	11.1	35.3
Females	1.3	4.4	6.9	0.0	0.0

For female respondents, only 1.3% used condoms with their ex-spouses. Only 4.4% of those who had sex with ex-cohabiting partners used condoms. About 7% of the respondents who had sex with boyfriends or fiancé used condoms. All the respondents who had sex with casual acquaintance did not use condoms. Also all the sex workers did not use condoms. This might arise from a situation where some of the customers demand for unprotected sex. All these relations may connect one to a series of networks and non-use of condoms can be very risky behaviour. We have seen in Figure 30 that the mean number of non-regular sexual partners was highest for those who divorced for both sexes. For men, this was followed by those who separated. Having sex with these persons and without using a condom means you are connected to all these persons. If one is infected, this means some of the people in the network may get infected.

5.4.2 Consistent condom use in the last twelve months

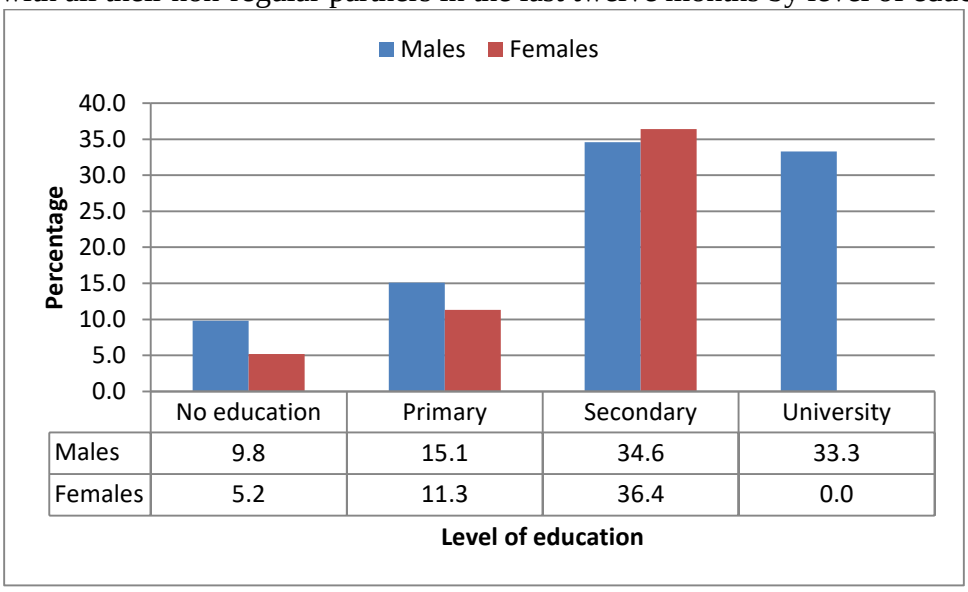
Since abstinence is low and the possibility of zero-grazing is remote, the only way to curb the spread of HIV is by consistently and correctly using condom on every non-regular sexual relation. In case a person cannot abstain until entry into a stable relation or cannot stay faithful to a partner, a sure way to avoid getting infected is to consistently and correctly use a condom for every sexual act with a non-regular sexual partner. The question of consistent use of condoms was asked of the respondents. This section presents findings on consistent use of condoms with non-regular partners with education, level of knowledge of HIV/AIDS and the state.

5.4.2.1 Consistent condom use by education

Figure 34 presents the results of use of condom by educational level. Overall, only 7.9% of the female respondents consistently used condoms with non-regular partners in the last twelve months prior to the survey. Also 16.6% of the male respondents reported that they consistently used condoms with their non-regular partners. Consistent use was more common among those who stopped in secondary level (Figure 34). We see that 36.4% of female respondents with secondary education consistently used condoms. Only 11.3% of those with primary education

did so and the figure for those without education was only 5.2%. For males, 34.6% of those with secondary education used condoms consistently. The figure for those with primary education was 15.1% and it was 9.8% for those with no formal education. The proportion of the men with university education who consistently used condom was lower than that for those with secondary education.

Figure 34: Percentage distribution of respondents by whether they consistently used condoms with all their non-regular partners in the last twelve months by level of education by sex



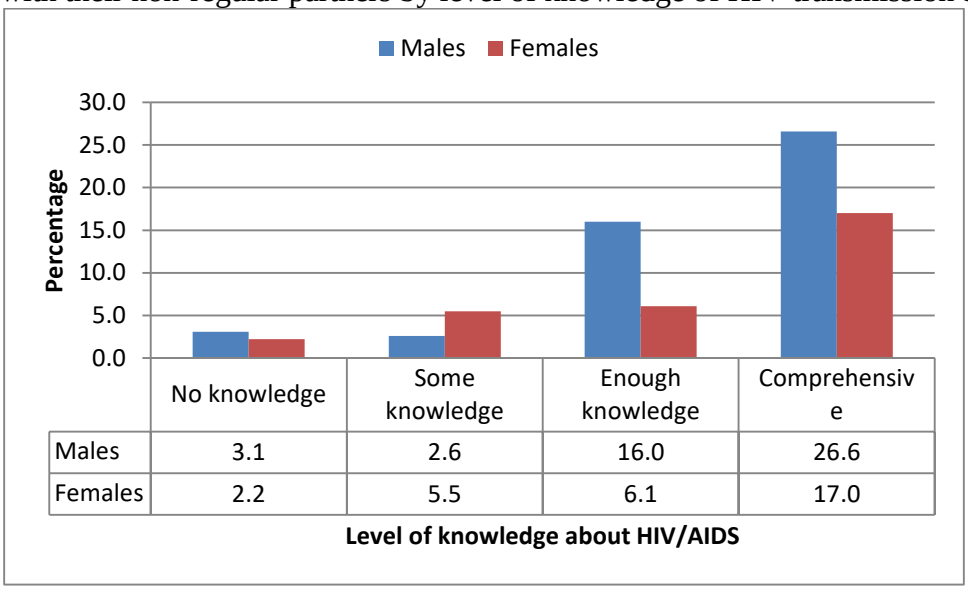
	No education	Primary	Secondary	University
Males	9.8	15.1	34.6	33.3
Females	5.2	11.3	36.4	0.0

We see that no woman who attained university education consistently used condoms. These are the women we expect to have better bargaining power on sexual activities. We have seen in Tables 8 and 9 that education influences the level of knowledge of HIV/AIDS. These awareness lists the methods of prevention of infections and one would expect the person to apply the methods. We see here that the level of consistent use of condoms is very low and cannot help control infection with HIV.

5.4.2.2 Consistent condom use by level of HIV/AIDS awareness

Consistent condom use was also crosstabulated by level of awareness of HIV/AIDS and is presented in Figure 35 which shows that the respondents with more knowledge were more likely to consistently use condoms than those with no or less knowledge about HIV/AIDS. But we see that this level of awareness has not driven people to use condoms. We see that only 26.6% of the males and 17.0% of the females with comprehensive knowledge consistently used condoms in the last twelve months.

Figure 35: Percentage distribution of respondents by whether they consistently used condoms with their non-regular partners by level of knowledge of HIV transmission by sex



	No knowledge	Some knowledge	Enough knowledge	Comprehensive
Males	3.1	2.6	16.0	26.6
Females	2.2	5.5	6.1	17.0

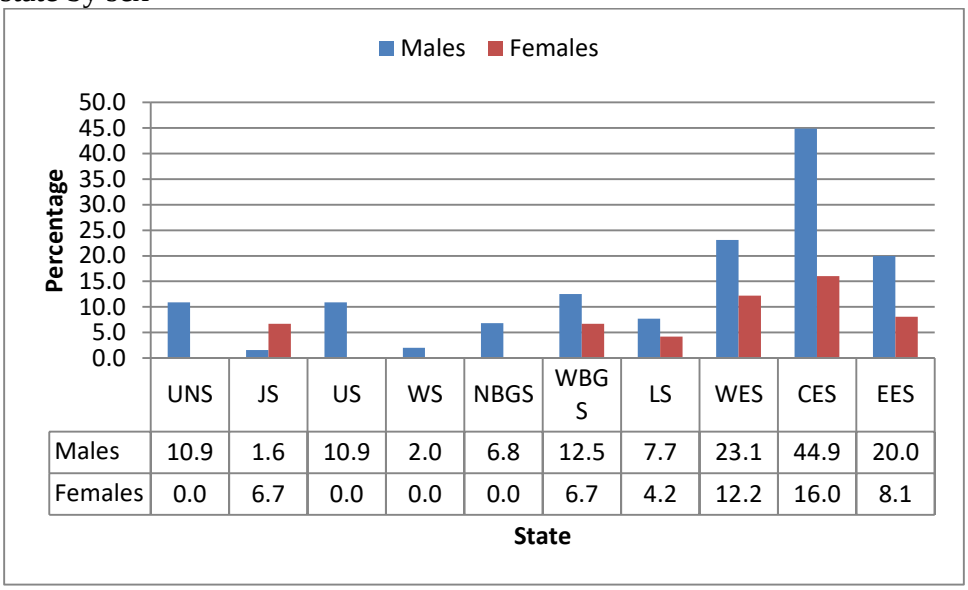
Combining these two variables reveal that the more the educated can take up condom use and the more the people are made aware about the HIV prevention mode, the more people will take up consistent condom use. Consistent use of condom was more likely with respondents with better education and more knowledge of HIV/AIDS. But this use was insufficient to avert HIV/AIDS. One would expect 100% consistent use of condoms with non-regular partners. We only realize 16.6% consistent use of condoms for males and even lower (7.9%) for females.

5.4.2.3 Consistent condom use by state

Consistent condom use is low (Figure 36). Overall, only 16.6% of male respondents and 7.9% of female respondents consistently used condoms in the last twelve months with non-regular sexual partners in the last twelve months. No female respondents from Upper Nile, Unity, Warrap and Northern Bahr el Ghazal consistently used condoms. Only 4.2% of those from Lakes used condoms consistently.

Jonglei had the lowest percentage of male respondents who consistently used condoms (1.6%) and is followed by Warrap (2.0%), Northern Bahr el Ghazal (6.8%) and Lakes (7.7%). Consistent condom use was highest in the Greater Equatoria with all their levels above other regions.

Figure 36: Percentage distribution of respondents by whether they consistently used condoms by state by sex



It also gives the number of the respondents who consistently used condoms in the same period. The table shows that condom use is very low. Out of 777 male respondents who had sex with non-regular sexual partners, only 127 consistently used condoms. It should be noted that these partners were many and that expands the sexual networking. The table also shows that only 27 women out of the 359 who had sex with non-regular partners consistently used condoms.

Table 13: Number of respondents who had non-regular partners and those who consistently used condoms in the last twelve months

	Males		Females	
	Had sex	Used condoms	Had sex	Used condoms
Upper Nile	46	5	5	0
Jonglei	62	1	15	1
Unity	56	6	37	0
Warrap	51	1	7	0
Northern Bahr el Ghazal	74	5	32	0
Western Bahr el Ghazal	90	11	33	2
Lakes	56	4	26	1
Western Equatoria	221	51	133	16
Central Equatoria	80	35	31	4
Eastern Equatoria	41	8	40	3
Total	777	127	359	27

To better demonstrate the gravity of the issue, these data points are displayed in Figure 37 for males and in Figure 38 for female respondents. Of the 62 men in Jonglei and 51 in Warrap who had non-regular sexual relationship, only one person from each state consistently used condoms.

These findings reveal that consistent condom use in very low in South Sudan but is extremely very low in Greater Upper Nile and Greater Bahr el Ghazal.

Figure 37: Number of men who had sexual intercourse with non-regular partners and consistently used condoms

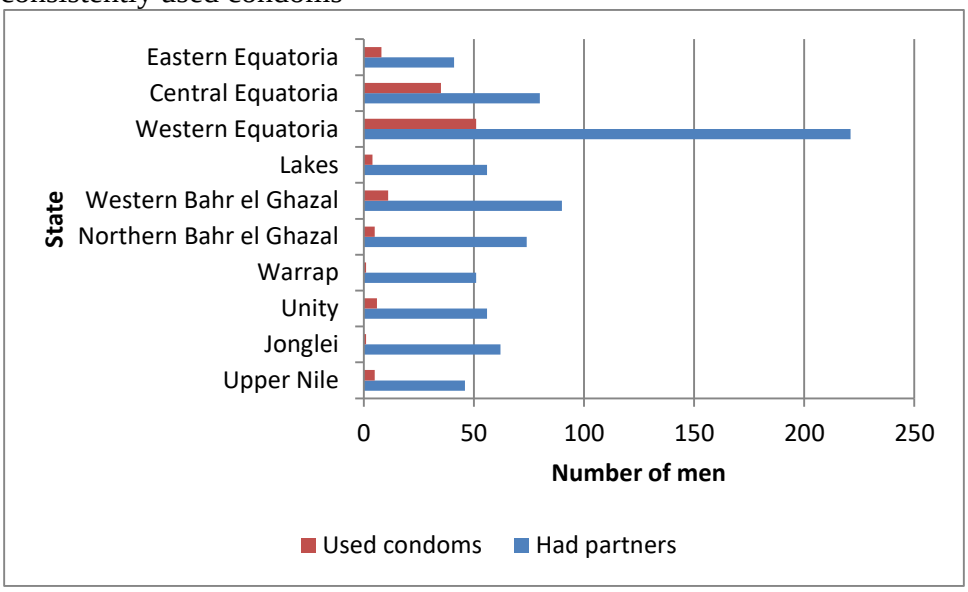
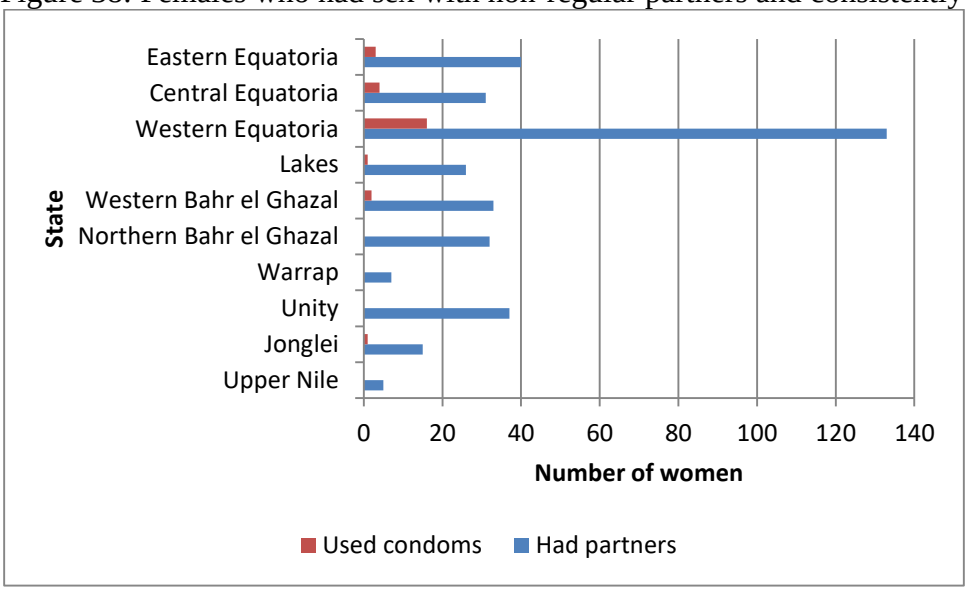


Figure 38 also shows that no respondents from Upper Nile, Unity, Warrap and Northern Bahr el Ghazal who had non-regular sexual partners used a condom. Only one of the 26 women from Lakes who had non-regular sexual partners consistently used condoms. This is very serious with all the risk factors that women have in as far as HIV transmission is concerned.

Figure 38: Females who had sex with non-regular partners and consistently used condoms



5.5 Who to target in the awareness campaign

UNGASS target proposed by UNAIDS is that by 2010, 95% of youth aged 15-24 years have information, education, services and life skills that enable them to reduce their vulnerability to HIV infection. This is with assumption, justifiably, that this is the age range with high frequency of sexual relations. This also assumes that the sexual relations are between the youth which is not always true at least in communities with high level of polygamy. Table 14 presents the mean age of sexual partners of the respondents at the last intercourse to the survey. These are non-regular sexual relations.

Table 14: Mean age of sexual partner by age group of respondents by sex

	Males				Females			
	N	Mean	Min	Max	N	Mean	Min	Max
15-19	150	15.8	10	20	66	21.0	14	49
20-24	151	17.1	10	25	50	25.9	15	60
25-29	103	19.1	12	49	43	28.5	16	49
30-34	60	20.5	13	37	26	33.0	16	52
35-39	29	20.8	14	38	25	34.0	15	50
40-44	11	26.2	15	44	12	39.3	19	53
45-49	17	30.5	16	47	7	41.6	25	53
Total	521	18.3	10	49	229	27.9	14	60

The table shows that the mean age of the female non-sexual partners progressively increased as the age group of the respondents increased. The table also shows that it is only the mean age of the partners of those in 15-19 which is within their age group (15.8). The respondents 20-24 had sex with women who were on average 17.1 years old and this is below their age range. And this continues for the subsequent age groups. The mean age sexual partners of the respondents 35-39 was 20.8 years old. This age is with the 15-24 which is within the UNGASS target but the male partners were 35-39 years old which is above the target. This means that the youth are mixing with older men. We also see that the mean age of the sexual partners of the female respondents were higher. Again implying that the younger women were having sex with generally older men. At the same time, some older women are having sex with very young men and vice versa. The maximum age of the partners of the female respondents range from 49 for those in 15-19 to 60 for those in 20-24 meaning that there was a lot of mixing of ages. The table also shows that the age of the youngest sexual partners for the men ranged from 10 to 16 and these are all children.

The figure for female respondents shows that the mean age of the sexual partners for 15-19 was 21.0 and it was 25.9 for the 20-24 and these are above their age ranges. The table also shows that the youngest sexual partners for the female respondents in each age group ranged from 14 to 25 and the oldest sexual partners ranged from 49 to 60.

This means that there is a lot of non-regular sexual activities in the old age also. Therefore, any program for awareness and life skills development should be such that everybody is targeted. As the policy document of SSAC stated (SSAC, 2008), the program should be appropriate and appealing to cultural considerations. We may also add that it should challenge and change some of the bad cultural practices.

Chapter Six

Summary of findings, Conclusions and Recommendations

6.1 Introduction

The study aimed at establishing the influence of HIV/AIDS awareness on sexual behaviour of the people of South Sudan. Factors studied are the relation of the last sexual partner, the number of non-regular sexual partners in the last twelve months and condom use in such relationship.

6.2 Summary of findings

This section gives the summary of findings. These are the background characteristics of the respondents, knowledge of HIV/AIDS, views about male condoms, STI and sexual behaviour.

6.2.1 Background characteristics

Warrap had the largest number of women followed by Upper Nile, Lakes, Western Bahr el Ghazal and Western Equatoria. The lowest percentage was recorded in Unity State.

The largest number of male respondents was recorded in Central Equatoria followed by Western Equatoria, Western Bahr el Ghazal and Upper Nile. The lowest was recorded in Lakes followed by Unity and Eastern Equatoria.

The majority of the female respondents were 25-29 years old followed by those 20-24 and 30-34. For males, the largest percentage came from 35-39 age group followed by 25-29 and 15-19.

About 79% of the female respondents and 47.2% of the males did not attend school. Over 49% of the males did not attain formal education. Over 34% attained primary level and 14.8% had secondary education. For females, 79.1% did not have any formal education. Over 17% got primary education and 3.1% had secondary education.

About 43% of the women and 29.6% of the men were in polygamous relations. About 67% of the female respondents were married and 14.4% were in consensual union. For men, 54.7% were married and 10.4% were in consensual union.

6.2.2 Knowledge about HIV/AIDS

Up to 75.5% of the males knew that one can avoid infection with HIV by having sex with only one uninfected partner. The corresponding figure for females was 69.3%. Only 41.2% of the women knew that one can avoid AIDS by using a condom correctly every time one has sexual intercourse. The corresponding figure for males was 58.3%. Only 49.6% of the women knew that healthy-looking person may have AIDS virus. About 56% of the male respondents knew that a healthy-looking person may have AIDS.

Over 40% of the male respondents reported that the mother cannot pass the virus to her child during pregnancy. The corresponding figure for females was 34.7%. About 43% of the female respondents knew that the virus can pass from infected mother to her unborn child during pregnancy. Only 41.9% of male respondents knew this. On transmission during delivery, 17.9% of the female respondents reported that it cannot be passed. The corresponding figure for males

was 20.0%. Over 24% of the male respondents reported that it cannot pass during breastfeeding. The corresponding figure for females was 19.1%.

Misconception that AIDS can be got through supernatural means was reported by 6.4% of the women and 7.1% of the male respondents reported so. On getting infection from the mosquitoes, up to 24.8% of the women reported that it can happen. The percentage of men who think that one can get infection from mosquito bites is very close to that of women. And yet another misconception is getting AIDS virus by sharing food with a person who has AIDS. This was reported by 15.8% of the women and 14.1% of the male respondents.

Overall, 46.2% of the women did not have any correct knowledge about transmission of the virus. These are the women who have not even heard of AIDS. Only 2.0% had complete knowledge about AIDS. The corresponding figures for males was 27.0% having absolutely no correct knowledge about AIDS and 4.2% having comprehensive knowledge.

Overall, the males know only 49.2% of the different issues that were asked. This was lowest in Warrap (25.1%) followed by Unity (34.6%) and Jonglei (34.8%). The highest level of knowledge of HIV/AIDS was recorded in Central Equatoria (72.4%) followed by Western Equatoria (67.7%), Eastern Equatoria (52.1%) and Western Bahr el Ghazal (51.6%).

For females, the overall mean level of knowledge was 33.4% of the listed issues. The level of knowledge was lowest in Warrap (10.4%) followed by Northern Bahr el Ghazal (20.2%) and Jonglei (22.2%). The highest rate was recorded in Central Equatoria (64.6%) followed by Western Equatoria (61.1%) and Western Bahr el Ghazal (40.2%). We see that the level of knowledge of HIV/AIDS is very low for both males and females in Warrap, Unity, Jonglei and Northern Bahr el Ghazal.

Correct knowledge of HIV transmission significantly depends on education. About 44% of the male respondents with no formal education had no knowledge about HIV transmission. But we also see that 6.4% of those with university education did not have any knowledge of AIDS. Only 17.0% of the males with no education had comprehensive knowledge of AIDS whereas 69.2% of those with university education have comprehensive knowledge.

About 55% of the females without education had no knowledge. Only 6.3% of those with university education had completely no knowledge.

6.2.3 Views about male condoms

Only 60.9% of the male respondents reported they have heard of male condoms. The corresponding figure for females was 25.5%. Only 59.4% of the male respondents knew places where to get them. The corresponding figure for females was 40.3%.

Over 54% of the male respondents reported they could get them. The corresponding figure for females was 27.2%. Only 29.1% of the women with no knowledge of HIV/AIDS could get condoms. Even lower percentage (13.7%) of the women with some knowledge said they could get condoms. About 24% of the female respondents with enough knowledge reported that they

could get condoms and 33.7% of the female respondents with comprehensive knowledge reported that they could get condoms.

Over 36% of the male respondents with no knowledge reported that they could get condoms. Thirty three percent of those with some knowledge reported that they could get condoms. About 49% of the respondents with enough knowledge could get condoms and 66.3% of those with comprehensive knowledge reported that they could get condoms.

6.2.4 Sexually transmitted diseases

The respondents were asked if they ever had abnormal discharge or whether they ever had genital sores or ulcer. Those who had these experiences were asked if they ever sought advice or treatment. About 10% of the male respondents have ever had abnormal discharge from their penis. The corresponding figure for females was 12.6%. This reveals that a higher percentage of females had ever had abnormal discharges.

On having genital sores or ulcer, 7.7% of the male respondents reported that they have ever had sores. The corresponding figure for female respondents was 10.1% again revealing that women are more likely to have genital sores or ulcer.

Asked whether they ever sought treatment or advice for their illness, 58.8% of the male respondents reported having sought treatment. The corresponding figure for females was 48.0%. Overall, 11.2% of the male respondents had infection. The figure for females was 14.4%. The highest prevalence of STI for men was recorded in Central Equatoria (18.2%) followed by Eastern Equatoria (16.6%), Western Equatoria (16.2%) and Jonglei (12.9%).

STI prevalence for females was highest in Central Equatoria (25.4%) followed by Jonglei (16.8%), Lakes (14.9%), Eastern Equatoria (14.2%), Warrap (13.8%), Western Equatoria (13.7%), Northern Bahr el Ghazal (13.1%) and Western Bahr el Ghazal (12.3%). The highest percentage of women who got infected and sought treatment came from Central Equatoria (64.2%) followed by Eastern Equatoria (55.8%), Unity (52.5%) and Western Equatoria (50.8%). Treatment was least sought in Warrap where only 34.7% of those who got infections sought treatment. This was followed by Unity (36.8%) and Western Bahr el Ghazal (40.2%).

For men who sought treatment the highest percentage came from Western Bahr el Ghazal (77.1%) and was followed by Central Equatoria (68.2%), Jonglei (63.9%) and Eastern Equatoria (60.5%). Treatment was least sought in Unity (23.1%), Warrap (35.3%), Upper Nile (40.0%) and Lakes (41.7%).

Over 78% of the male respondents who sought treatment did not consistently use condoms with their non-regular partners. The corresponding figures for those who even never sought treatment was higher (87.5%). None of the women who never sought treatment was using condoms consistently and over 10% of those who sought treatment was consistently using condoms with their non-regular partners.

6.2.5 Knowledge of HIV transmission and sexual behaviour

Most women started sexual activity before marriage. About 82% of the women who ever had sex had their first sex before marriage. Only 18.1% had their first sexual intercourse with their husbands/partners. The issue of abstinence until marriage does not seem to relate to AIDS concerns.

The respondents with stable sexual partners were asked whether they had sex with other people in the twelve months prior to the survey. About 7% of the female respondents had sex with other men other than their regular spouses in the last twelve months. The corresponding figure for male respondents was even higher (26.8%). This is a risky behaviour in the era of AIDS.

The women who were educated were more likely to have multiple sexual relationships in the last twelve months of the survey although this was more common with the lower levels of education. Over 10% of women with primary level of education had sex with another man while 7.6% of those with secondary education did so and 6.5% of those with university education had sex with other men. The figure for those without education was 6.0%.

Having sex with a non-regular partner was more common with men compared with women as 26.8% of the men had sex with other women other than the stable ones. Men with primary and secondary levels of educations were more engaged in non-regular sexual relations.

The proportion of women having sex with another man continued to increase from 3.3% for women in the poorest class to 5.7% in the second class and 7.8% for women in the middle quintile and further to 8.7% for those in the fourth quintile. Thereafter, it fell slightly to 7.5% for women in the richest class. These findings reveal that motivation to have sex with many men is not driven by poverty. This might arise from values the communities attach to having sex or the right of access to a wife.

Just over 25% of the male respondents from the poorest quintile had sex with non-regular partners. The figure for those in the second quintile was 25.0%. From here, it steadily rose to 25.3% for those in the middle quintile and further to 26.2% for those in the fourth quintile and it reached 29.9% for the respondents in the richest quintile.

Only 4.6% of the women without any knowledge of HIV transmission had sex with other men in the last twelve months of the survey. The figure increased to 9.1% of the women with some knowledge. It was 7.3% for women who had enough knowledge. Interestingly, 9.5% of the women with comprehensive knowledge had sex with other men.

About 20% of the male respondents with completely no knowledge had sex with non-regular partners in the twelve months prior the survey. This figure increased to 24.6% for those with some knowledge and then to 28.0% for those with enough knowledge and further to 31.8% for those with comprehensive knowledge of HIV prevention.

6.2.5.1 Number of non-regular partners

The highest number of non-regular sexual partners for male respondents was exhibited in Western Equatoria (3.7) and was followed by Upper Nile, Jonglei and Warrap each with an

average of 3.0 partners. The lowest mean number was recorded in Central Equatoria and Eastern Equatoria each with 2.4 partners and is followed by Lakes (2.6). For females, the highest mean number of sexual partners was recorded by Western Bahr el Ghazal (2.4) followed by Unity (2.3) and Western Equatoria (2.2). The lowest mean number of non-regular sexual partners was recorded by Jonglei (1.1) followed by Warrap (1.2) and Eastern Equatoria (1.4).

Men who were 20-24 had on average 3.6 partners in the twelve months under study. This was followed by those 25-29 (3.5) and 15-19 (3.2). Men who were 35-39 and 40-44 also had on average 3.1 partners in the twelve months. This relationship is statistically significant. The highest number of sexual partners was recorded by those 25-29 (21 partners) followed by those who were 35-39 (17 partners).

There was no significant difference between the mean number of non-regular sexual partners for female respondents by their age. The highest mean number was recorded by women 25-29 (2.4) followed by those 45-49 (2.3) and 15-19 (2.0). The largest number of sexual partners was recorded by women who were 25-29 (15 partners).

Education has not significantly influenced the number of non-regular sexual partners of the respondents. Men without formal education had on average 3.0 women in the study period. It was 3.2 for those with primary education and 3.2 for the respondents with secondary education. Men who completed university had on average 2.0 women in the twelve months.

Women without education had on average 1.9 non-regular sexual partners. The figure for those with primary was 2.1 and it was 1.7 for women with secondary education. The highest number of sexual partners was recorded by those without formal education.

On average, a man who is in monogamous union would have on average 2.8 non-regular sexual partners. The corresponding figure for men in polygamous relation was 2.7 women. There is no difference between the men in either union as far as the extra-marital sexual relationships are concerned. Being in polygamous union does not help to limit the number of non-marital sexual partners.

Women in monogamous unions had on average 1.9 non-regular male partners. The corresponding figure for those in polygamous union was 1.7 men. Again women in monogamous unions equally desire sex from outside as those in a polygamy.

Men with only one wife had on average 2.1 non-regular sexual partners. It was 3.0 for those with two wives and 2.7 for those with 3 wives. Those with four or more wives had on average 2.8 non-regular sexual partners. We see from here that having many wives does not stop a man from having a non-regular sexual relation. Women who were alone were still not any different from those in polygamous unions in terms of non-marital sexual partners.

The respondents who were divorced had the highest number of non-regular sexual partners (4.3 women per man and 2.8 men per woman). The males in consensual union and the separated had

on average 3.6 women and were followed by the singles (3.5). The female respondents who were single had on average 2.4 partners.

Women who started sex before marriage had on average 1.9 men in the twelve months. Those who started sex in marriage had on average 1.7 men. Men in the richest group had the highest mean non-regular sexual partners (3.3) followed by those in the middle group (3.2) and those in the fourth group (3.0). But the differences are not statistically significant. For the female respondents, the highest mean number of non-regular sexual partners was recorded by those in the fourth and fifth quintiles (2.2) followed by those the poorest (2.1). The well-to-do women have tended to have more non-regular sexual partners. So their having extra-marital sexual relations may not be for monetary gains.

Men who had some knowledge had on average 3.8 partners and was followed by those comprehensive knowledge (3.2) and those with enough knowledge (2.9). The men without any correct knowledge had the lowest mean number of sexual partners (2.7).

For women, those with comprehensive knowledge had on average 2.3 sexual partners during the study period. This was followed by those with some knowledge (2.0) and then those with no knowledge at all (1.8). The women who had enough knowledge had on average 1.7 sexual partners. This relationship is not significant implying that having knowledge about HIV transmission does not help a women to limit the number of non-regular sexual partners. If anything, better knowledge seems to be associated with higher number of sexual partners.

6.2.5.2 Condom use with non-regular partners

None of the men who had sex with their ex-spouses used a condom. Only 8.3% of the men who had sex with their ex-cohabiting partners used condoms and 17.0% of those who had sex with girlfriends or fiancé used condoms. Even in causal relationship, only 11.1% used condoms. Only 35.3% of the men who reported the last sex with sex workers used condoms even when this is obviously a risky relation.

For female respondents, only 1.3% used condoms with their ex-spouses and only 4.4% of those who had sex with ex-cohabiting partners used condoms. About 7% of the respondents who had sex with boyfriends or fiancé used condoms. All the respondents who had sex with casual acquaintance did not use condoms. Also all the sex workers did not use condoms. This might arise from a situation where some of the customers demand for unprotected sex

Overall, only 7.9% of the female respondents consistently used condoms with non-regular partners in the last twelve months prior to the survey. Also 16.6% of the male respondents reported that they consistently used condoms with their non-regular partners. Consistent use of condoms was more common among those who stopped in secondary level. We see that 36.4% of female respondents with secondary education consistently used condoms. Only 11.3% of those with primary education did so and the figure for those without education was only 5.2%. For males, 34.6% of those with secondary education used condoms consistently. The figure for those with primary education was 15.1% and it was 9.8% for those with no formal education. The proportion of the men with university education who consistently used condom was lower than that for those with secondary education.

Respondents with more knowledge were more likely to consistently use condoms than those with no or less knowledge about HIV/AIDS.

Combining these two variables reveal that the more the educated can take up condom use and the more the people are made aware about the HIV prevention mode, the more people will take up consistent condom use. Consistent use of condom was more likely with respondents with better education and more knowledge of HIV/AIDS. But this use was insufficient to avert HIV/AIDS. One would expect 100% consistent use of condoms with non-regular partners. We only realize 16.6% consistent use of condoms for males and even lower (7.9%) for females.

No female respondents from Upper Nile, Unity, Warrap and Northern Bahr el Ghazal who had non-regular sexual partners consistently used condoms in the last twelve months. Only one of the 26 women from Lakes who had non-regular sexual partners consistently used condoms.

6.3 Who to target in the awareness campaign

The mean age of the female non-sexual partners progressively increased as the age group of the respondents increased. The respondents 20-24 had sex with women who were on average 17.1 years old and this is below their age range. And this continues for the subsequent age groups. The table also shows that the age of the youngest sexual partners for the men ranged from 10 to 16 and these are all children.

The mean age of the sexual partners for females for 15-19 was 21.0 and it was 25.9 for the 20-24 and these are above their age range. The youngest sexual partners for the female respondents in each age group ranged from 14 to 25 and the oldest sexual partners ranged from 49 to 60. This means that there is cross-generational sexual relationship. To save the youths demands making the older persons who are their sexual partners aware of the ways to protect from HIV infection.

6.4 Conclusions

The men were more likely to hear about HIV/AIDS. They were also more likely to know the correct modes of HIV transmission.

Knowledge of male condoms is low. Not all those that heard about male condoms knew where to get them. Even fewer people are ready to go and get condoms when they need them. The level of acceptance to get condoms increases with education but this level is low.

Men are not very different from women in regards to extent of misconceptions about HIV transmission. The belief that AIDS virus can spread when sharing food bowls may lead to isolation and discrimination of the people with HIV/AIDS especially in South Sudan when communities have the habit of sharing food bowls.

Education influences the level of knowledge of HIV/AIDS. But education has not influenced the reduction of the number of non-regular sexual partners. Also knowledge about HIV/AIDS does not seem to influence the number of non-regular sexual partners

Education and level of knowledge somehow influences the consistent use of condoms. The only problem is the level of use is low. The better educated respondents have consistently used condoms with their non-regular sexual partners.

The level of knowledge of HIV/AIDS was very low in Greater Upper Nile and Greater Bahr el Ghazal except in Western Bahr el Ghazal. Warrap had the lowest level of knowledge. The level was highest in Central Equatoria, Western Equatoria, Western Bahr el Ghazal and Eastern Equatoria in that order. While men in Eastern Equatoria have higher level of knowledge, the women in Western Bahr el Ghazal lead those in Eastern Equatoria by a large margin.

PMTCT knowledge is very low in South Sudan especially among the mothers even when we expect that as they go for ANC visits, they are told about the possibility of infecting the baby.

Knowledge about male condoms is not universal. Many respondents did not know where to get them. Also many respondents who had heard about condoms and may know where to get them would not, themselves, go and get them. This leaves a lot of sexual activities to go unprotected.

A higher percentage of women reported having had abnormal genital discharge and/or genital sores or ulcer than men. But a lower percentage than men reported seeking treatment meaning they remained untreated. Prevalence of STI for females was higher than for men in all the states except for Western Equatoria and Eastern Equatoria.

High percentage of respondents who got sexually transmitted infections did not consistently use condoms with non-regular partners. This is a risk factor for them and may flame the spread of HIV.

Although education tended to influence the level of knowledge of HIV/AIDS, the educated has tended to have sexual intercourse with non-regular sexual partners although the percentage decreases with increasing level of education. It may mean that education has power to inform the people but it is not powerful enough to change their behaviour.

The motivation of the women to have sex with many men is not driven by poverty. Although not statistically significant, the higher socioeconomic status of men tended to influence upwards the number of non-regular sexual partners. Both men and women with better knowledge tended to have more non-regular sexual partners.

The number of non-regular sexual partners does not seem to depend on the type of marriage. Being in a polygamous union does not help to limit the number of non-marital sexual partners. There is no difference in term of average number of sexual partners between the women who started sex earlier or in marriage. The only difference is that those who started earlier had a higher mean number of men.

Respondents of all ages had engaged in multi-partner non-regular sexual relations. Education, with its power to identify the risk factors, has not helped in reducing the number of sexual partners. Respondents from more affluent families have tended to have more sexual partners.

This means that there is a lot of non-regular sexual activities in the old age also. Therefore, any program for awareness and life skills development should be such that everybody is targeted. As the policy document of SSAC stated, the program should be appropriate and appealing to cultural considerations. We may also add that it should challenge and change some of the bad cultural practices.

Condom use is very low. Out of 777 male respondents who had sex with non-regular sexual partners, only 127 consistently used condoms. It should be noted that these partners were many and that expands the sexual networking. Of the 359 women who had non-regular sexual partners in the last twelve months to the survey, only 27 reported consistent use of condoms.

6.5 Recommendations

This study brings out one big challenge that faces South Sudan. Education determines the extent of correct knowledge of HIV/AIDS. This level of awareness is expected to influence sexual behaviour in terms of number of non-regular sexual partners and condom use. Knowledge of the mode of transmission should have encouraged use of condoms as well as reduction of non-regular sexual partners. But this is not happening.

There is need to launch extensive campaign on condom awareness and use. The campaign should as well target educational institutions.

It is important to launch a campaign about seeking treatment for any sexually transmitted infections and it would be good to encourage them to come with their partner to help reduce the prevalence of STIs.

While the international commitment is for the young to have information, education, services and life skills that enables them to reduce their vulnerability to HIV infection, it is important to know that these young people do not engage in sex with their fellow young people only. So the information, education, services and life skills should be extended to all sexually active as these are the likely sexual partners of these young people. This is especially so in a country where polygamy is very common.

There is need to mount awareness in media to inform people on the modes of transmission of HIV and how one can protect from getting infection.

There is need to advice the population on the importance of promptly seeking treatment for any suspected STI and that treating STI reduces the risk of HIV infection. They should be encouraged as a couple to go for treatment. There may be need for mobile clinics in areas not well served by traditional health facilities.

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Appendices

Table A. 1: Percentage distribution of new clients tested positive

	ANC 2012	VCT 2012	VCT 2013	2012/2013
Upper Nile	3.1	9.6	6.6	6.8
Jonglei	3.2	8.7	3.6	4.4
Unity	21.1	17.0	32.6	23.7
Warrap	39.5	28.2	4.4	26.6
Northern Bahr el Ghazal	2.6		15.3	12.4
Western Bahr el Ghazal	8.4	11.1	13.1	10.4
Lakes	11.5	14.1	9.7	10.2
Western Equatoria	17.2	9.1	17.0	14.5
Central Equatoria	13.9	17.6	9.8	13.1
Eastern Equatoria	9.4	7.0	5.7	7.2
South Sudan	12.5	11.6	10.5	11.4

Source: Derived from HMIS

Table A. 2: Mean number of non-regular sexual partners by sex by state

	Males		Females	
	N	Mean	N	Mean
Upper Nile	24	3.0	4	1.5
Jonglei	51	3.0	10	1.1
Unity	36	2.9	29	2.3
Warrap	41	3.0	6	1.2
Northern Bahr el Ghazal	57	2.8	26	1.6
Western Bahr el Ghazal	63	2.8	28	2.4
Lakes	36	2.6	22	1.5
Western Equatoria	177	3.7	120	2.2
Central Equatoria	38	2.4	26	1.7
Eastern Equatoria	26	2.4	34	1.4
Total	549	3.1	305	1.9
Statistics	$F_{9,5349,0.092} = 1.67$		$F_{9,295,0.033} = 2.06$	