

Prevalences of Teenage Pregnancy and Sexually Transmitted Infections in Selected Urban Schools: Implementing School Health and Return to School Re-Entry Policy in Kenya

Kishasha Meshack^{1*}, Samuel Thumbi², Alloys Orago³, Miriam Wagoro⁴

¹Ph.D. Student, Institute of Tropical & Infectious, University of Nairobi, Nairobi, Kenya

²Professor, Institute of Tropical Diseases, University of Nairobi & Washington State University, Nairobi, Kenya

³Professor, School of Medicine, Kenyatta University, Nairobi, Kenya

⁴Professor, School of Nursing, University of Nairobi, Nairobi, Kenya

Abstract: **Background:** Teenage pregnancy and sexually transmitted infections (STIs) among teenage school girls are a global social menace of public health importance. The Kenya National School Health Policy of 2022, 2018, & 2009 was developed to mitigate teenage pregnancy and facilitate continued pursuit of education post-pregnancy on a Return-to-School framework. The policy was expected to protect the girls from getting pregnant and support them if it occurred so as to enable them pursue their education on the basis of the Return-to-School Policy. However, despite this government led intervention, the extent of implementation of the National School Health Policy and its impact in reducing teenage pregnancies and sexually transmitted infections among girls in our schools still indicate a high prevalence. **Purpose of the Study:** This study was been designed to determine the prevalences of teenage pregnancy, sexually transmitted infections in relation to the implementation of school health and return to school policy in selected urban schools in Kenya. **Methodology:** This was an analytical cross-sectional study that triangulated mixed methods of study in 57 secondary schools that offered co-education or girls' only that involved 174 pregnant or previously pregnant teenage-girls' participants. The target population consisted of school girls aged 15-19 years, who were pregnant or had had a previous pregnancy in the course of their studies. Multistage followed by cluster sampling techniques were used to identify selected urban towns for study while simple random sampling was used to identify girls or co-education schools. **Data Analysis:** Quantitative data was analyzed using SPSS version 17 while association between variables and hypothesis testing was done by Chi-square test at 95% confidence interval. Findings of Focus Group Discussion and Key informant Interviews were transcribed and analyzed thematically, content by content. **Study Findings:** The prevalence of HIV among the teen pregnant school girls at health urban facilities was highest in Nyeri at 0.23% against 0.3% for Kenyan national figure of adolescents. In terms of prevalence of HIV among the urban school populations, Mombasa recorded 0.012 as the highest among the urban schools. Similarly, Mombasa had the highest figure of 14.37% of incidental sexually transmitted Infections among pregnant girls in the urban schools. **Conclusions:** The prevalence of teenage pregnancy and sexually transmitted infections was relatively high compared to the national figure on adolescents.

Recommendations: There is a need to introduce and establish a national comprehensive sexuality education in schools to address the sexual needs and reproductive rights of the teenagers so as to mitigate against the pregnancies and infections. Stakeholders must be involved in all its processes.

Keywords: prevalences, teenage pregnancy, sexually transmitted diseases, urban, Kenya.

1. Introduction

Teenage pregnancy and sexually transmitted infections rank globally among the top five to ten categories of conditions and diseases respectively which prompt teenagers and adults in developing countries to seek health-care services, with sub-Saharan Africa carrying the highest burden (Dehne, 2020). Indeed, the World Health Organization (WHO) report (2019) indicated that globally, young people aged 15 -24 years accounts for 70% of all gonorrhea and chlamydia – all of which are sexually transmitted infections (STIs) with short- and long-term ramifications on their health, future productivity and career progression. These data prompted the Kenya government to act on mitigating teenage pregnancy and sexually transmitted infections in schools.

School health policy and its guidelines were then developed by the Ministry of Education in conjunction with the Ministry of Health, Public and Sanitation in 2009, revised in 2018 and provided new set of guidelines in the year 2022. The policy was meant to improve the health of school-age going children thus increasing their participation, retention, attendance, reduce absenteeism, improve their cognitive performance and transition rate in the education sector in order to help the country realize the millennium development goals, sustainable millennium goals, the country's vision 2030 and other related international goals. Eight thematic areas namely values and life skills; gender, growth and development; child rights and responsibilities; water, sanitation and hygiene; nutrition;

*Corresponding author: mkishasha@gmail.com

disease prevention and control; special needs, disabilities and rehabilitation; school infrastructure and environmental safeguards formed the comprehensive school health policy document.

A re-entry policy was introduced under the thematic areas of gender, growth and responsibilities regarding pregnancy, Human Immunodeficiency Virus (HIV) and other sexually transmitted diseases. The re-entry policy stated that a pregnant female learner, shall on discovery of pregnancy, be allowed to continue with classes for as long as possible and will be eligible for admission after delivery. Meanwhile the parents of the affected student are supposed to be counselled on the pregnancy, antenatal clinic attendance and medical examination by the school health teacher and matron or school nurse. The school is also supposed to share with the parents on information on circumstances leading to pregnancy and explore the possibility of taking legal action against the father of the child. After delivery, she is supposed to be allowed to go back or be given support to gain admission into another school if she feels there are issues of stigma and discrimination in the previous school. Upon re-admission, the student is supposed to be counselled with emphasis on life-skills.

Since pregnancy is occasioned by and associated with unprotected sexual intercourse, chances of acquiring sexually transmitted infections are quite high among the students. The policy further stated that students are supposed to undergo voluntary medical screening once per term as an early intervention against pregnancies and sexually transmitted diseases. The school health policy was therefore meant to improve opportunities especially for girls to ensure equal access, retention, inclusion, equity and completion in both primary and secondary schools. This was further meant to help the Kenyan girl realize her full productive and academic potential that will in future enhance her meaningful contribution to Kenya's vision 2030 that emphasizes on production in various economic sectors of the country. The Kenya's vision 2030 acknowledges that improved health young learners and through provision of universal primary and secondary education is a critical driver to the achievement of this vision especially in matters of poverty reduction.

The purpose of this study was, therefore, to determine the prevalence of both the teenage pregnancy and sexually transmitted infections among the school cohort of pregnant girls in relationship to the effectiveness in implementation of the school health and re-entry policy on the same.

2. Material and Methods

This study took place in 57 randomly selected co-education and girls' secondary schools within eight major urban areas of Nairobi, Kisumu, Mombasa, Nakuru, Machakos, Kakamega, Nyeri and Garissa. Each of the selected town is found in the older administrative regions of Kenya. The selected towns were chosen for study because previous studies (NASRHP, 2020)) indicated that major urban areas had the highest prevalences of 2.2% among young people aged 15 to 19 years as compared to their rural counterparts with a rate of 0.5 percent. They were also chosen for study because they also had the highest number

of co-education and girls' schools (BESB, 2022). This was an analytical cross-sectional study that triangulated mixed methods of study in 57 randomly selected girls only or co-education secondary schools. A sample size of 174 students was arrived at using Cochran formula of 1977 & 2023. The study was triangulated using multiple sources of data that consisted of 16 Focus Group Discussions (FGD) and 8 Key Informant Interviews (KII) and checklist questionnaires. The target population consisted of school girls aged 13-19 years, enrolled in form 1-4 who were then pregnant or had had a pregnancy in the course of their studies. Multistage cluster sampling was used to identify urban towns while simple random sampling was used to identify girls' only or mixed secondary schools and the heads of the schools. Secondary schools that were boys' only as well as non-pregnant school girls were excluded from the study.

The study took place in public and private health facilities during antenatal clinic attendance. The pregnant school girls were identified on the basis of their bio data such as age, occupation, level of education, school and current residence. Most importantly, the question of student transition rate from primary to secondary schools in Kenya was crucial in identification process. Following the role out of a hundred percent (100%) transition policy in 2003 from primary to secondary, the transition rate increased from 83.3% in 2018 to 95% by the quarter of 2020 (MOEST, 2020). The import of this transition means that the probability of finding a pregnant teenage girl aged 13 – 19 years in antenatal stood at 95 to 100%

Similarly, a focus Group discussion was conducted for parents or guardians and heads of various secondary schools. The aim was to determine if they were aware of the policy, their opinion on the re-entry process and the expected impact on school teenage pregnancy and sexually transmitted infections. Key informant interview was also administered to experts in the areas of reproductive health from the ministry of health as well as to administrative education official experts from the ministry of education. Informed consent was taken from the participants before administration of any questionnaire.

In trying to determine the prevalence of the teenage pregnancy and sexually transmitted infections, the study sought to use existing public and private health facilities for data collection instead of school facilities. This was to prevent stigmatization at school from other students and to secure privacy and anonymity for the pregnant students. The study captured the pregnant student's data from the respective urban facilities during routine antenatal clinic attendance. The study captured antenatal clinic routine laboratory tests data that included the three composite tests of HIV, VDRL and Urinalysis. The other incidental tests included gonorrhoea, chlamydia, vaginal candidiasis, vaginal trichomoniasis, vaginal Gardnerella and herpes genitalia among others. The researcher ensured that the procedures for collecting of specimens for testing in the respective health facilities used the Laboratory Standard Operating Procedure (SOPs) developed by AMREF and the Kenya Ministry of Health (MOH, 2008). The results for HIV, VDRL and Urinalysis were then extracted from the antenatal booklet records and entered into the questionnaire

data checklist for analysis. The checklist had a provision that catered for other Incidental STI findings.

Data obtained through questionnaire was analyzed using descriptive statistics while focus group discussion and key informant interview was transcribed and analyzed by content analysis. Informed consent was obtained from the participants before administration of a questionnaire, interview or any form of focus group discussion. The participants were explained to about the nature of research, benefits, risks and discomforts prior to administration of research data collection instruments.

Key Informant interviews and Focus Group Discussions were conducted by the trained research assistants between 27th November 2023 and 26th February 2024 across the eight urban areas. During the interviews, health and education professionals were asked if they were aware of any school health and return-to-school health policy on teenage pregnancy and sexually transmitted infections in Kenya. Those who could mention any policies and programs were asked further to describe those policies and programs by mentioning some of their key strategies/activities. Those who could mention any of these were probed further to describe the programs. The respondents were further asked to state if the policy was fully implemented and to explain if any measures have been taken to mitigate against the same in schools.

The interviews took place in educational school offices, ministry of health buildings and private offices based on participants' preference. The interviews were conducted in English. A total of eight KII were conducted. The interviews lasted between 30- and 60-min. They were audio-recorded and professionally transcribed and analyzed through content analysis. Similarly, eight groups of FGD consisting of 8 members were also conducted and each of recordings were transcribed and analyzed by content analysis. Informed consent was obtained from both KII and FGD participants after they had been fully informed about the aim of the study, its procedures and all possible risks.

This study was supported by supervisors from the University of Nairobi Institute of Tropical and Infectious Diseases (UNITID), college of Health Sciences of the university of Nairobi, the Kenyatta Hospital-University of Nairobi Research & Ethics Approval Committee and the National Commission for Science, Technology & Innovation through their issuance of research permit.

3. Data Analysis and Results

A. Introduction

This section presents and analyzes the findings of the prevalences of teenage pregnancy sexually transmitted infections among teenage girls in eight selected urban areas. The findings include the geographical and age distribution of the respondents, the types of contraceptives used by the respondents to prevent pregnancies, the outcomes of the pregnancies and trends of the pregnancies in the schools in the past 10 years to date. The section also addressed the opinion of the participants in the focus group discussions and key Informant Interviews on the subject of teenage pregnancy in

schools and sexually transmitted infections.

B. Distribution of female students by the sampled urban areas

Table 1 below indicates the eight urban areas which were each purposely selected from various geographical regions to provide the sample size of 174 students who participated in the study. Proportionally, Garissa (3.4%) had the least number of participants.

Table 1
Distribution of respondents by geographical location n=174

Region	County	No. of Participants	Percentage (%)
Coast	Mombasa	24	13.8
Eastern	Machakos	9	5.2
Nairobi	Nairobi	75	43.1
Central	Nyeri	12	6.9
Rift valley	Nakuru	21	12.1
Western	Kakamega	8	4.6
Nyanza	Kisumu	19	10.9
North Eastern	Garissa	6	3.4
		174	100.0

C. Demographic data of student participants by age category

Table 2 below shows the social demographics of the respondents by age category. The mean age of the respondents stood at about 17 years with a standard deviation of 1.54, standard error of 0.116 and a coefficient variation of 9 percent. The majority of the participants fell within the 18 – 19 age bracket which can be attributed to rapid changes in individual exploration of body identity and sexual learning experiences. This is perhaps why the majority become victims of pregnancy and sexually transmitted infections. This later stage of adolescents is commonly accompanied by high level sexual attraction, cognitive development, testing boundaries and breaking rules.

Table 2
Distribution of respondents by age category, n=174

Age Category	Frequency	Descriptive Statistics
13-14	10	X-bar=16.99
14-15	15	SD=1.54
15-16	19	Se=0.116
16-17	25	CV=9%
17-18	45	
18-19	60	

D. Student participants on previous use and type of contraceptives

The information on previous use and type of contraceptive by the study participant was collected from the data available in the respondent antenatal card at the health facility an entered into the database. Table 3 shows the differentials in the use of contraceptives use by method as captured from the 174 respondents. Slightly over a quarter (34.5%) of the students used emergency contraceptive method which was apparently the preferred method. This was followed by oral combined pill at 28.7 percent and the natural family planning (23%) which was in essence the most popular traditional method. The teens tended to popularly use emergency pill perhaps because they did not, prior to sex intercourse, plan for protected intercourse or do so when they are caught up in a situation of sexual assault without contraceptive coverage.

Table 3

Previous use and type of contraceptives by the respondents, n=174

Contraceptive/Method	Number of users	Percentage users
Oral contraceptive pill	50	28.7
Intrauterine Device (IUD)	0	0
Contraceptive patch	0	0
Contraceptive Implant	1	0.6
Contraceptive injection	2	1.1
Diaphragm	0	0
Condom (male partner)	16	9.2
Natural F/P	40	23
Emergency pill	60	34.5
Other: sterile, pull out, Ring	5	2.9
Total		100%

E. Demographic for student participants on pregnancy outcomes

Table 4 indicates the number of participants who had experienced various pregnancy outcomes during the course of the study. Pregnancy outcomes were rated as post maturity, full time live birth, preterm live pregnancy, late still birth, early still birth, spontaneous abortion, induced abortion and death. Post maturity pregnancy is one that goes beyond a gestational age of 42 weeks while a full term one is between 40 to 42 weeks of gestation. An early still birth is one that occurs between 20 to 27 weeks as compared to a late still birth at 28 to 36 gestational weeks of pregnancy. Abortions, whether spontaneous or induced are defined as loss of pregnancy before 20 weeks of gestational age.

Normal pregnancy is expected to culminate into good obstetric outcomes of a live baby at term. The table below provides evidence that 40 percent of the pregnancies ended as term live birth while 60 percent resulted into either complication of abortions, preterm, death and post maturity. Eight four students, at the time of data collection, had pending pregnancy outcomes. The import of this data is such that teenage pregnancies must be avoided because they are accompanied by several poor obstetrical and gynecological outcomes and other maternal life-threatening conditions such as abortions.

Table 4

Pregnancy outcomes for the respondents, n=174

Pregnancy outcome	No. of Participants	Percentage (%)
Post--datism (post maturity)	4	2.3
Term- live Birth	36	20.7
Preterm-live birth	18	10.3
Early-Still Birth	7	4.0
Late-Still Birth	14	8.0
Spontaneous Abortion	3	1.7
Induced Abortion	6	3.4
Deaths	2	1.1
Pending Outcomes	84	48.3
Totals	174	100.0

F. Trends on school teenage pregnancy in the selected urban areas, last 10 years

Data for trends in teenage pregnancy for the past ten years (2014 -2023) in the sampled urban schools were obtained from the respective school health teachers or the principals of the schools. Some schools did not have clear documentation of this trends and that the researcher settled on the approximate data or memory recall from the teachers. Accurate data was also

affected by transfers of school health teachers and poor hand over from previous holders of the offices. Data obtained from sampled school of a given urban area was aggregated for each year to form a single data for the urban setting and treated as the trend for the area. The results were plotted as a graph in percentages for the ten (10) year period.

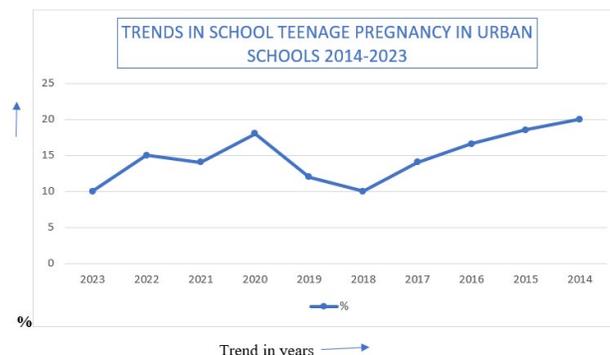


Fig. 1. Trends in school teenage pregnancy in the last 10 years, n=57

Figure 1 indicates trends in teenage pregnancies from 57 co-education and girls' secondary schools in eight urban areas for a period spanning from 2014 to 2023. The figures indicate that there has been a gradual decline in school teenage pregnancy from 20% in 2014 to 10% in 2023. This compares well with the Kenya Demographic and Health Survey of 2022. According to the survey, teen pregnancy rates declined to 15% in 2022 from 18% in 2014. This could perhaps be attributed to the social dynamics created by Covid pandemic of 2020 to 2022 and the benefits of an introduced limited sexuality education in secondary schools for form three students.

G. Testing of HIV for students' participants by urban area health facility

Table 5 indicates the distribution of the respondents who were antenatally tested for HIV on the basis of geographical location in their various antenatal health facilities. The results indicated that the urban area with the highest number of HIV teens was Nairobi (8.62%) followed by Nakuru at 4.02%. The one with lowest recorded percentage was Garissa at 0.57%.

Table 5

HIV Testing of teenage participants by Urban location, n=174

Region	Participants numbers	Test Positives	Positive (%)
Mombasa	24	4	2.30
Machakos	9	5	2.87
Nairobi	75	15	8.62
Nyeri	12	5	2.87
Nakuru	21	7	4.02
Kakamega	8	5	2.87
Kisumu	19	4	2.30
Garissa	6	1	0.57
Total	174	46	26.4

From the study findings of table 5, it appears that the chances of being infected by a secondary school girl with HIV is quite high in Nairobi urban area with 8.2% compared to other urban settings. Based on the same, Garissa urban is the most least risky for the HIV transmission from the student population.

Table 6
Prevalence of HIV among Girls in Urban Areas (school-base population)

Urban Area	Total School Population	Sample Tested	Sample Tested Positive	Prevalence
Mombasa	18324	24	4	0.022
Machakos	63913	9	5	0.008
Nairobi	54639	75	15	0.027
Nyeri	40003	12	5	0.012
Nakuru	84880	21	7	0.008
Kakamega	96287	8	5	0.005
Kisumu	52661	10	4	0.008
Garissa	8646	6	1	0.012
Total	419353	165	46	0.102

Table 7
HIV Prevalence in students' population by Urban health Facilities, n=174

Region	ANC attendance Per Year	Number tested positive	Prevalence %
Mombasa	193,480	4	0.002
Machakos	7,125	5	0.07
Nairobi	819,694	15	0.00001
Nyeri	2,346	5	0.213
Nakuru	9,780	7	0.07
Kakamega	13,398	5	0.04
Kisumu	10,920	5	0.03
Garissa	6,549	2	0.031
Total	1,063,192	48	0.425

H. Prevalence of HIV among student in the selected urban population

Prevalence was calculated by dividing the total number of students who were tested positive for HIV by the total number of female students in the respective urban area multiplied by a hundred percent. The total population of the school girls from the eight urban areas was 419,353. The total population for each urban area is indicated in the table (BES, 2023). The sample size and the number that tested positive for HIV from the respective area are also indicated as shown in the table 6. The results were obtained from 174 female students using their antenatal cards in the eight urban areas at their health facility of attendance. Informed consent was obtained from all respondents after they had been fully informed about the purpose of the study, its procedures and all possible risks.

The results from table 6 indicated that Mombasa had the highest prevalence of HIV from pregnant teenage school girls followed by Garissa based on student population distribution. The import of the results was that the chances of contracting HIV from a secondary school female student in Mombasa schools was higher than the other mentioned urban areas.

I. Prevalence of HIV in students by urban health facilities

The results from table 7 indicates that Nyeri (0.213%) had the highest prevalence of HIV among pregnant teenage girls followed by tie between Nakuru (0.07%) and Machakos (0.002%) among pregnant teenage girls followed by Garissa (0.031). The import of this results is that the chances of contracting HIV from a secondary school female student in Mombasa is higher than the other mentioned urban areas.

J. Incidental tests for sexually transmitted infections in students antenatally

Table 8 shows data of the teenage pregnant mothers who attended antenatal clinics for routine laboratory tests in the eight selected urban areas of study. During antenatal examination they were incidentally found to have features related STI other

than HIV, VDRL meant for routine tests.

Table 8
Laboratory results of incidental tests, n=174

Region	No. of Participants	No Tested Positive	% prevalence
Mombasa	24	6	3.45
Machakos	9	2	1.15
Nairobi	75	25	14.37
Nyeri	12	3	1.72
Nakuru	21	7	4.02
Kakamega	8	4	2.30
Kisumu	19	9	5.17
Garissa	6	1	0.57
Total	174	57	32.76

They were investigated after having taking consent for the laboratory procedure. The results were reflected in their antenatal record cards.

The results indicate that the prevalence is highest in Nairobi followed by Kisumu, Nakuru, Mombasa, Kakamega, Nyeri, Machakos and Garissa in that order of frequency. These results can be interpreted that the chances of being infected with STIs by a female student is likely to be highest in Nairobi as compared to other urban settings of this study. Nairobi needs more public health interventions on the issue than even Garissa.

4. Discussions, Conclusions and Recommendations

A. Teenage Pregnancy

The purpose of re-entry policy was to address the high rates of school dropouts among the girls due to pregnancy and early motherhood. The policy was meant to ensure that the affected students are not permanently excluded from formal education and have the opportunity to complete their schooling. Contextually, teenage pregnancy refers to teens between the ages of 13 to 19 years who were pregnant or had had a pregnancy during the time of this research period.

Teenage pregnancy in secondary schools in Kenya is holding back the gains made as a result of the introduction of the Universal Primary Education (2003) and is also renegeing on our

girls from maximizing their full academic potential as productive future adults and citizens.

The study found out that the majority of the participants (43.1%) were drawn from Nairobi ostensibly due to large number of human inhabitants, increasing population growth, well developed infrastructure, high migration from rural, public investments in education and funding opportunities in the city. The preference for such large areas like Nairobi is supported by GWAHA (2016) that argues that a major pull force for large urban concentration of schools include good road and transport infrastructure, quality of general social facilities and the welfare of the entire

The majority of the participants fell within the 18 – 19 age bracket which can be attributed to rapid changes in individual exploration of body identity and sexual learning experiences. This is perhaps why the majority become victims of pregnancy and sexually transmitted infections. This later stage of adolescents is commonly accompanied by high level sexual attraction, cognitive development, testing boundaries and breaking rules.

Although this study found out that pregnancy rates in urban schools has been declining in the past ten years, the trends has not been very remarkable to demonstrate significant change of improvement. The study found out that there was a change from 18% to 12 percent from 2014 to year 2023 compared to the national figure of 18% to 15% (KDHS, 2023). While school re-entry policy for girls after school pregnancy was meant to increase access to education and bringing social justice and equity in education, very little has been done in terms of social or community sensitization and mobilization over the issue of teenage school pregnancy.

The urban areas that participated in the study show that Nairobi (43.1%) followed by Mombasa (13.8%), Nakuru (12%) and Kisumu (10.9%) in that order of frequency recorded the highest number of school teenage pregnancies against the national pregnancy rate of 15% (KDHS, 2022). Garissa urban area recorded the least percentage.

The study found out that out of 174 student participants only 36 (20.7%) realized a term live birth with good pregnancy outcomes. Even though there was a 10.3% preterm-live birth the study still found out that there were poor pregnancy outcomes of 12% occasioned by both early and late still birth, 6.2% abortions, 1.1% maternal death with pending outcomes for 48.3% pregnancies at the time of data collection. Indeed, from the foregoing findings it can be seen that, young maternal age increases the risk for adverse pregnancy outcomes and it is a stronger predictor for still birth, abortions, low birth weight and preterm delivery than other established risk factors. These finding highlights the need to improve adolescent reproductive health in Kenya and sub-Saharan Africa. The results also tally with the work of Jana *et al* (2023) in which he found out that teen mothers had greater prevalences of preterm deliveries and other neonatal outcomes such as poor APGAR scores. These results indicate that pregnant teenage mothers should be identified as vulnerable groups needing special assistance and actions to reduce the probability of negative pregnancy outcomes.

Teenage pregnancy and particularly in school settings has been recognized as one of the demographic events that negatively affect the future of school girls and the general future of empowerment of women. According to NCPD (2022), most times teenage pregnancy in schools means the beginning of motherhood in childhood and uncertain future for the underage mother and her child for those who survive the health risks associated with the event. Many of the school age teenagers rarely respond to the call of the re-entry school policy regardless of the counselling offered by the parents and the schools.

B. Teenage pregnancy in schools and contraceptives uses

This study indicates that a number of the study participants were already at one time or other been using contraceptives such as combined oral contraceptives (28.7%) and emergency pill (34.5%). Even in the event of using the contraceptives, they still became pregnant. That reflects lack of knowledge on adherence and consistent use of the contraceptives. From the foregoing on the results of the use of contraceptives by the participants, it becomes necessary to re-think of introducing national comprehensive sex and sexual reproductive health education in schools. This is because the students are already aware of contraceptive use from other sources without having received a structured education on the same from school. Therefore, one way of preventing and reducing pregnancy in schools, is not only through re-entry policy process, but enable teenagers have a comprehensive understanding of abstinence, contraceptive techniques and consequences of being pregnant. This can be done through developing and implementing sexuality education curriculum.

The emphasis on sexuality education should be on sex abstinence. According to Aparicio *et al* (2018) abstinence is the only method of contraception that guarantees no risk of getting pregnant and has the capacity to protect the teen from getting sexually transmitted infections. Similarly, sexual abstinence is not associated with public health risks, and therefore, it needs to be presented and promoted as the most effective primary prevention for unplanned pregnancies and sexually transmitted infections. However, although abstinence must be preached as the best way to prevent pregnancy among teens in schools, it is a fact that there are still a significant number of teens who are involved in sexual relations. In that case, the sexuality education must provide them with information on how to obtain the different methods of birth control, how to use various contraceptive techniques and have responsible sexual intercourse. Schools should therefore, be provided through the Ministry of health, with Youth Friendly Health Services (YFHS) as part of school-based health that can avail contraceptives. This is a way to ensure contraceptive use for teens who rather than going to their parents for help in obtaining birth control, choose to have sex without protection simply because that protection is not made available to them.

C. Teenage pregnancy and sexually transmitted infections in schools

The study found out that the HIV prevalence by urban school population was highest in Mombasa by 0.022% as compared to

other areas. That means that, one stands the highest chance of being infected with HIV from a population of school girls more in Mombasa than any other urban areas in Kenya. In terms of other incidental STI's, Nairobi led the pack with 14.37%, Kisumu (5.17%), Nakuru (4.02%) and Mombasa (3.45%) in that order of frequency.

Sexually transmitted infections that were incidentally detected during antenatal profile check-ups that included chlamydia and gonorrhoea are known to be risk factors for HIV transmission in pregnant and non-pregnant mothers. Sexually transmitted infections substantially increase the risk of HIV infections by expanding the portal of entry for the virus. According to MOH (2016), teenagers are less likely to seek information or treatment for STI due to fear, ignorance or inexperience. That is why a large percentage in this study were found to have incidental STI during antenatal routine check-up. This translates as a potential risk for the unborn baby. The MOH (2016) further asserts that teenage females are more susceptible to infections than older women due to their immature reproductive organs.

Schools and other institutions can provide empowerment platforms for setting up youth friendly health services that can empower the youth on matters of sexual and reproductive health. The findings of this study from the focus group perspectives indicate that sexuality education is offered dismally in primary and secondary schools by teachers who are not trained in sexual and reproductive issues. That means, comprehensive sexuality education is not offered in schools as a national program despite global evidence pointing to its effectiveness in empowering adolescents to make informed decisions about their sexuality and sexual health. That means, there has been little investment in the health sector at schools' level to make the health system adolescent friendly, leading to poor access to sexual and reproductive health services by the adolescents. Establishment of youth Friendly health services in school environment based on National Adolescent Sexual and Reproductive Health Policy (2022) can go a long way to mitigate against teenage pregnancies in schools and the transmission of sexually transmitted infections. Programs of these nature will make schools almost teenage-pregnant free environment that will foster and enhance school girls' cognitive development, concentration, participation and retention in schools thus improving re-entry policy goals and reduction in sexually transmitted infections among the girls. Additionally, the programs will provide the teenagers with correct information that will challenge them to look at their own attitudes and their behaviors and help to develop the skills they need to adopt healthy behaviors and to stay safe now and in future from teenage pregnancies and sexually transmitted infections.

D. Analysis of teenage pregnancy through KII & Focus Group Discussions (FGD)

The goal and the mandate of the National Adolescent Sexual and Reproduction Health Policy, NASRHP (2022) under the Ministry of Health is to enhance the sexual reproductive health of the adolescents in Kenya and to contribute towards

realization of their full potential in National development. This mandate, according to the policy, extends to supporting sensitization and implementation of the education re-entry policy for schools' girls after delivery and even to offer social support systems for the victims of pregnancy. This was meant to also scale up social protection for vulnerable girls to delay sexual debut as well as improve their mental health and educational outcomes. This study argues that there is a weak link between mere presence of ministry of Health Policy and the implementation of the policies and the enforcement of the related laws in mitigating school girl pregnancies and promoting and enhancing the re-entry policy. Indeed, among the key roles of the NASRHP (2022) is to promote the provision of accurate information and services to prevent early and unintended pregnancies among adolescents in public and in school settings. This role, according to key informant interviewees and Group Focus Discussions in this study has not been adequately prosecuted in schools to mitigate pregnancies and enhance the school re-entry policy implementation. Though the reproductive health policy is a function of the national government, there lies an opportunity for progress in the devolved systems of government for its implementation in collaboration with schools. This can be done by counties generating data on school pregnancy from educational offices data bank and use it to develop capacity in interventional decision making.

The trends in most African countries are to make it easier for pregnant school girls to continue with their education through use of the re-entry policy because of the realization that teen pregnancy has negative health, social, and economic consequences on girls and national development (KNCPD,2022). Girls who become pregnant tend to drop out of the school and often end up with inadequate education, skills, and opportunities to secure future jobs with subsequent propagation of generational poverty. The chances of a country losing out on the annual income a young woman would have earned over her life time if she had avoided an early pregnancy or positively exploited the re-entry school policy on pregnancy would not have happened. Besides, early child bearing is linked to rapid population growth which puts pressure on the country's available low resources and hampers national development.

According to the National School Health Policy and its Guidelines (2022), the shared responsibility of the Ministry of Education and the National Adolescent Sexual Reproductive Health (2015) is that the ministry is supposed to conduct pre-entry routine screening of students, conduct school-based or community linked research and build capacity of teachers and health workers on school health needs. Indeed, if these policy roles were to be effectively carried out, then there were likely to have the capacity for mitigation against school teenage pregnancy and enhance improvement in implementation of re-entry school policy on pregnancies. Data generated from this medical screening in schools would enhance the role of the National Adolescent Sexual and Reproductive in providing age-appropriate comprehensive sexual education (AASCSE) information and programs in school adolescents.

E. Conclusion

The aim of this study was to investigate the prevalences of the teenage pregnancy and sexually transmitted infections among the pregnancy schools' girls using hospital and health-based facilities with the data extracted from their antenatal cards at the facility. The study also aimed to qualitatively present the voices of the policy formulators and implementors from the ministries of health and education through Focus Group Discussions and Key Informant Interviews forum in order to give them an opportunity to narrate their experiences with school health policy. Finally, the study explored new effective ways that could be adopted for policy implementation on the basis of new findings. The findings of this study, therefore, were intended to contribute to the improvement in implementation of the re-entry policy, the reduction of teenage pregnancies and the mitigation of sexually transmitted infections among teenagers. The conclusions of the study are as under:

The prevalence of teenage pregnancy and sexually transmitted infections in schools is fairly still high with 0.23. % HIV among students as in the case of Nyeri urban area against a national prevalence of 0.3% for adolescents. Secondly, mitigation against teenage pregnancy and improvement in enrollment through the re-entry policy process in schools require the use of ministry of health structures in collaboration with the grass route communities and the ministry of education at policy formulation level and implementation. Thirdly, the ministry of education is yet to succeed with the school re-entry policy in mitigation of teenage pregnancy and sexually transmitted infections.

F. Recommendations

1. Grass root communities and all other stakeholders be involved in designing, developing and implementing the school health re-entry policy. Taking the conversation to the local community would assist in the implementing agents to understand the difficulties of implementing a national policy in a local context. The policy should be inclusive.
2. The Government through the ministries of education and Health to develop a National comprehensive Sexuality Education program that will address the sexual needs and reproductive rights of the Youth as an informed cohort.
3. The ministries of Health in collaboration with Education should mount a sensitization program in schools and establish youth friendly health clinics for the youth.

G. Suggestions for Further Studies

This study suggests that further research needs to be carried out in the following areas on school health and re-entry policy:

1. Assessment on introduction of National Comprehensive sexuality and reproductive health education in secondary schools.
2. Post delivery care for teenage mothers in secondary schools.

References

- [1] Afomachukwu E & Jacinta R (2023). *Influence of social capital on the Health of Individuals*. Open Journal of social sciences, Vol. 11, No. 4. April 2023.
- [2] African Medical and Research Foundation (2008). *The standard operating procedure for collection and examination of specimens*. AMREF, Nairobi.
- [3] African Population and Health Research Centre (APHRC) and Ministry of Health (MOH) (2013). *The Conversation*. Nairobi.
- [4] Ipas, Guttmacher Institute (2013). *Incidence and Complications of Unsafe Abortions in Kenya: Key Findings of a National Study*, Nairobi.
- [5] Alan, Lauren, Neri & Ashley, (2022). *Current diagnosis and treatment: Obstetrics and gynaecology*, 11th edition, McGraw Hill, New York.
- [6] Allen & Collin, (2003). *Peer pressure and teen sex. Psychology today*. Retrieved on 6th April 2020.
- [7] Aparico et al (2018). *Teenage pregnancy in Latino Communities: Young adult experiences and perspectives and socio-cultural factors*. Journal of Families in Society, 97(1) 2018, pp. 50-57.
- [8] Arakawa S (2012): Education for Prevention of Sexually Transmitted Infections to young people. Elsevier, Sanda Hyogo, Japan.
- [9] Bentel, A. (2020): *Rise of teen pregnancy during Kenya's lockdown*. The Borg enproject.orgn
- [10] Besharov, J. & Gardner, K. (1997). Trends in teen sexual behavior. *Children and Youth Services Review*. 19 (5-6): 341- 347
- [11] Birungi, H. et al., (2011). *Sexual and reproductive health needs of adolescents living with HIV in Kenya, Nairobi*: APHIA 11 OR Project in Kenya/Population Council, Nairobi.
- [12] Borg & Pearson (2017). *Education research: An introduction*. New York. Longman Inco.
- [13] Centers for Disease Control and Prevention, CDC (2017). *Sexually transmitted diseases surveillance*. www.cdc.gov, 2017.
- [14] Catherine D (2019). *Introduction to Research Methods*, 5th Edition. Little Brown. Boston
- [15] Chandral, V., McCarragher, D. & Philips, J. (2013). *Contraception for adolescents in low and middle-income countries: needs, barriers and access. Reproductive Health*, 2013; 11:1.
- [16] Cheung A (2021). Structured questionnaires in: Maggino, F(eds) encyclopedia of quality life and well-being Research. Springer, Cham.
- [17] Chinsebu, K. (2009). *Sexually transmitted diseases in adolescents. The Open Infectious Disease Journal*, 3(1): 107-117.
- [18] Christopher, C. (2010). A meta-analysis of the effectiveness of the Health Belief Model variables in predicting behavior. *Health Communication*, 25(8): 661-9
- [19] Cornelius M. et al., (2008). *Body size and intelligence in 6-year-olds: Are offspring of teenage mothers at risk?* Maternal and Child Health Journal.13 (6): 847 – 856.
- [20] Darrow J, Woof V, Bankole A. & Ashford, L. (2016). *Adding up, costs and benefits of meeting the Contraceptive needs of Adolescents*. New York: Guttmacher Institute 2010.
- [21] Dehne, Kari, Riedner & Gabriele, (2020). *Sexually Transmitted Infections among adolescents: The need for adequate services*, WHO, Geneva.
- [22] Duemer & Mendez, (2009). Recovering policy implementation. Understanding implementation through informal communication. *Education Policy Analysis Archives*, 10(39), 1-11.
- [23] Duncun, (2007). What is the problem with teenage pregnancy? And what is the problem with policy? *Critical Social Policy*, 27, 307 – 334.
- [24] East, P. & Jacobson, J. (2001). The younger siblings of teenage mothers: a follow up of their pregnancy risk. *Dev Psychol.*, 37(2):254- 64
- [25] Jana D et al (2023). *Adolescent Pregnancy Outcomes and Risky Factors*. National Library of Medicine, Bethesda, Maryland.
- [26] Ellis, J., Bates, J., Dodge, K., Fergusson, D., Horwood, L., Pettit, G. & Woodrard, L. (2003). Does Father Absence Place Daughters at Risk for Early Sexual activity and Teenage Pregnancy? *Child Development*, 74 (3): 801=821.
- [27] Elvis, E., Tarkeng, F.B. & Zotor, (2015). Application of the Health Belief Model in HIV presentation: A literature review. *Central African Journal of Public Health*, Vol. 1, No. 1, 2015, pp. 1-8.
- [28] Fauci et al., (2022). *Harrison's principles of internal medicine*. International Edition. 14th edition. McGraw- Hill. New York.
- [29] Gatachew, M., Ayodele, A., Akin T. & Worku, A. (2018). *Prevalence and determinants of adolescents' pregnancy in Africa: a systematic review and meta-analysis*. *Reproductive Health*, 15(1).

- [30] Gina, S., Marie, L. & Peter, L. (2000). *Control of sexually transmitted diseases: A handbook for the design and management of programs*. United Nations Program on HIV/AIDS. New York.
- [31] Glanz, B., Rimer, K. & Lewis, M. (2002). *Health behavior and health education, theory research and practice*. NJ USA. John Wiley and Sons Inc.
- [32] Grosskurth, H., Mosha, F. & Todd, J. (1995). *Impact of improved treatment of sexually transmitted diseases on HIV infection in rural Tanzania: randomized control trial*. The Lancet 1995; 346: 530-536.
- [33] Guttmacher Institute, (1999). *Teen sex and pregnancy*. Retrieved on 8th April 2022.
- [34] Hanretty & Miller, (2008). *Obstetrics illustrated, 6th edition*, Church Hill Livingstone. London.
- [35] Helsinki Declaration (Rev) (2013). *Ethical principles for medical research involving human subjects*. The World Medical Association. Fortaleza, Brazil
- [36] INTRA (2015). *Reproductive Health Training for Primary Providers*. University of North Carolina, Columbia.
- [37] Jones & Bartlett (2010). *Theoretical concepts, Health Belief Model*. 2010: 31-36. Retrieved from <http://www.jblearning.com/samples/0763743836/chapter%204.pdf>
- [38] Kassa, G., Arowojulu, A., Odukgobe & Alemayehu, (2018). Prevalence and determinants of Adolescents Pregnancy in Africa: A systematic review and meta-analysis.
- [39] Kennedy, M. & Mtaturu, Z. (2006). Knowledge of sexually transmitted diseases among secondary school students in Dar es Salaam, Tanzania. *Afr Health Science* 2006 Sep; 6(3): 165 – 169.
- [40] Kenya Bureau of Statistics (2022). *Kenya demographic & health survey, Kenya Government*. Nairobi.
- [41] Kenya Bureau of Statistics (2022). *Kenya demographic and health survey, Kenya Government*. Nairobi
- [42] Kenya Human Rights Commission, KHRC (2022). *Teenage pregnancy and unsafe abortion: Case of Korogocho Slums*, KHRC and RHRA, Nairobi.
- [43] Kenya Law Review commission (2001). *The children Act (2001 & 2022)*. Government of Kenya. Government Press. Nairobi.
- [44] Kenya Law Review Commission (2013). *The Basic Education Act (2013). Compulsory primary education*. Government of Kenya. Nairobi.
- [45] Kenya Medical Training College (2016). *Behavior change communication*. Medical Training College, Nairobi.
- [46] Kenya Medical Training College, (2017). *Clinical medicine procedure manual*, VVOB Skills Lab Project, Nairobi.
- [47] Kenya National Bureau of Statistic, (2022). *Kenya demographic & health survey*. Kenya Government. Nairobi
- [48] Kenya Government, (2010). *Vision 2030. Ministry of devolution*. Kenya Government. Nairobi.
- [49] Kingondu et al., (2022). *Communicable Diseases: A manual for health workers in Sub-saharan Africa*. 4th Edition. AMREF. Nairobi
- [50] Kishasha, M. (2016). *Assessing National School health policy on the status of Water, Hygiene and Sanitation in primary schools of Sabatia Sub-County, Kenya*. Kenyatta University Thesis.
- [51] Mubanga P & Hock, (2019). *Research methods*. Kenyatta University Institute of open Learning, Nairobi.
- [52] Kothari & Garg, (2014). *Research Methodology: Methods and Techniques*, 3rd edition, New Age International Publishers, New Delhi.
- [53] Jones C (2015). *Health Belief Model*. United States Health Service. Academia. Edu W432W8784, 1952.
- [54] Panwar Y (2022). *Child Marriage and Early Motherhood in Africa. African Environment*. Global South Studies Series. Haryana India.
- [55] Lauren T (2020). *Cluster sampling-a simple Step by step Guide with example*. Scribbr San Francisco.
- [56] Lohan, M., Aventin, A. & Maguire, L. (2017). *Increasing boys' and girls' intentions to avoid teenage pregnancy: A cluster randomized controlled feasibility trial of an interactive video drama-based interventions in post-primary schools in Northern Ireland*. Dublin.
- [57] Mayor, S. (2004). *Pregnancy and child birth are leading causes of death in teenage girls in developing countries*. PMID1542897.
- [58] Luseno, S. & Wario, M. (2020). *Achieving 100 percent transition from primary to secondary school: status, challenges and opportunities for sustainability*. Ministry of education. Nairobi.
- [59] McKay & Norman, (2009). *Gynecology illustrated, 6th edition*, Churchill Livingstone, London.
- [60] Milchai, I. (2001). Trans-cultural adaptation, health belief model scales. *Journal of Nursing Scholarship*, Vol. 33(2), pp. 159 – 165, 2001.
- [61] Miller and Henretty, (2008). *Obstetrics illustrated, 6th edition*. Churchill Livingstone. London.
- [62] Ministry of Education Science and Technology, MOEST (1994). *School health policy (SHP)*. Government of Kenya: Nairobi.
- [63] Ministry of Education Kenya (2020). *National Guidelines for School Re-entry in Early Learning and Basic Education*. Ministry of Education. Nairobi.
- [64] Ministry of Youth and Gender, (2005). *National guidelines for provision of Youth-Friendly Services*, in Kenya. Government of Kenya: Nairobi.
- [65] Ministry of Health, (2016). *Adolescent sexual and reproductive health development (ASRHD)*. Government of Kenya: Nairobi.
- [66] Ministry of Health, (2006). *National guidelines for reproductive tract infections services (NGRTIS)*, 1st edition. Government of Kenya: Nairobi.
- [67] Ministry of Health, (2021). *Focused antenatal care: Malaria in pregnancy, Prevention of mother- to – child transmission of tuberculosis*, 5th edition. Government of Kenya: Nairobi.
- [68] Ministry of Health, (2016). *National reproductive health strategy 2016 – 2020*. Government of Kenya: Nairobi.
- [69] Ministry of Health, (2018). *National family planning guidelines for service providers*. Government of Kenya: Nairobi.
- [70] Ministry of Health, (2014). *National guidelines on management of sexual national guidelines on management violence in Kenya*, 3rd edition. Government of Kenya: Nairobi.
- [71] Ministry of Health, (2022). *National adolescent sexual and reproductive health policy*. Government of Kenya: Nairobi.
- [72] Ministry of Health, (2016). *National guidelines for maternal and perinatal death surveillance and response*. Government of Kenya: Nairobi.
- [73] Ministry of Health, (2016). *Reproductive health communication strategy 2016 2021*. Government of Kenya.
- [74] Ministry of Health, Family & Human Resource Development, India (2018). *Operational guidelines on school health programs*. Ministry of Health, New Delhi: India.
- [75] Ministry of Health, Kenya (2016). *National guidelines for provision of Youth Friendly Services in Kenya*. Government of Kenya: Nairobi.
- [76] Ministry of Health, Kenya (2016). *National Guidelines for reproductive tract infections*. Kenya Government: Nairobi
- [77] Ministry of Health, Kenya (2022). *National Adolescent sexual and reproductive health policy*. Government of Kenya: Nairobi.
- [78] Ministry of Public Health & Ministry of Education, (2022, 2018 & 2009). *National school health policy*. Government of Kenya: Nairobi.
- [79] Ministry of Public Health & Ministry of Education, (2022, 2018 & 2009). *National school health guidelines*. Government of Kenya: Nairobi.
- [80] Ministry of Public Health and Sanitation and Ministry of Medical Services, Kenya (2011). *National cancer control strategy 2011 – 2016*, Government of Kenya, Nairobi.
- [81] Ministry of Public Health and Sanitation/NASCOP, Kenya (2011). *National orientation package for HIV testing and counselling in Kenya*, Nairobi.
- [82] Ministry of Youth Affairs, MOYAS (2011). *Youth dialogue tool*. Government of Kenya, Nairobi.
- [83] Monga, A. & Dobbs, S. (Ed) (2021). *Gynecology by ten teachers*, 19th edition. CRC Press: London.
- [84] Mubanga P & Hock, (2019). *Harnessing Technical and Vocational Education Training and Employment and entrepreneurship Education to address unemployment in Lusaka, Zambia*. Open journal of social science Vol. 7, No. 5, May 2019.
- [85] Mugenda, A. & Mugenda, O. (2003). *Research methods: Quantitative and qualitative approaches*. 2nd edition. Acts publications. Nairobi.
- [86] Mumah, J., Kabiru, W., Izugbara, C. & Mukkira, (2014). *Coping with unintended pregnancies: Narratives from adolescents in Nairobi's slums*. STEP UP Research Report Nairobi. African Population and Health Research Centre. Nairobi.
- [87] Mwambele, K. & Mtaturu, Z. (2006). Knowledge of sexually transmitted diseases among secondary school students in Dare-salaam, Tanzania. *African Health Science* 2006 Sep; 6(3): 165 – 169.
- [88] National AIDS & STI Control Program (NASCOP) (2022). *Kenya aids indicator survey estimates, 2022*. Government of Kenya: Nairobi.
- [89] National Coordinating Agency for Population and Development (NCPAD) (2022). *Research agenda on population and development in Kenya*, NCPAD, Nairobi.
- [90] National Coordinating Agency for Population and Development, NCPAD (2009). *What is new and cool for youth*, Government of Kenya: Nairobi.

- [91] National Council for Population & Development, NCPD (2022). *Impact of teenage Pregnancies on Women Empowerment in Kenya. National Council for Population Development*. Nairobi.
- [92] Ndege S et al (2016). *HIV prevalence and Antenatal Care Attendance among Pregnant Women in a large Home-Based HIV counseling and Testing Programs in Western Kenya*. National Library Medicine, Bethesda, Maryland.
- [93] Neal, S., Mathews, Z. & Frost, M. (2015). *Child bearing in adolescent aged 12 – 15 years in low resource countries: A neglected issue. ActaObstetGynecolScand* 2012; 91:114-18.
- [94] Nordberg, E. (Ed) (2017). *Communicable diseases*. African Medical and Research Foundation: Nairobi.
- [95] Obiero, J.A. (2004). *Development of a vaginal microbial contraceptive gel (Uniprol) for prevention of sexually transmitted infections and unwanted pregnancies*. PhD Thesis in reproductive health, school of medicine, University of Nairobi.
- [96] Ochola, P. & Mwangi, B. (2000). *Methods in health research*. Kenyatta University Institute of Open Learning: Nairobi.
- [97] Orodho and Kombo, (2002). *Research methods*. Kenyatta University Institute of Open Learning: Nairobi.
- [98] Park & Alice, (2008). *Sex on TV increases teen pregnancy*. Published Report on London Times Magazine.
- [99] Parry et al., (2004). *Teenage pregnancy and social disadvantage: Systemic review integrating controlled trials and qualitative studies*. BMJ (on line) 339 (7731). b4254.
- [100] Philip, N. (Ed) (2021). *Obstetrics by ten teachers, 21st edition*, Hodder Arnold, London.
- [101] Raj, A. & Boehmer, U. (2013). *Girl child marriage and its association with national rates of HIV, maternal health, and infant mortality across 97 countries. Violence against women* 2013 19 (4).
- [102] Resource center for Adolescent pregnancy prevention (RCAPP) (2007). *Adolescents' pregnancy in Kenya*. Nairobi.
- [103] Rosenstock, I. (1974). *Health belief model. Health education monographs. Sage Journals*, 2 (4), 328 -335, 1974
- [104] Rutstein & Rojan (2023). *Guide to Demographic Health Survey Statistics*. USAID. Washington DC.
- [105] Sadiq, A., Abraham, C., Denford, S. & Susan, B. (2016). *School-based sexual education Interventions to Prevent STI/HIV in Sub-Saharan Africa: A systematic review and met analysis*. BMC Public Health (2016).
- [106] Saunders, M., Lewis, P. & Thornhill, A. (2017). *Research methods for business students*, 6th edition. Pearson Education Limited. London.
- [107] Slater & Jon, (2000). *Sex Education under Fire. The UNESCO Courier*. Retrieved 9th April 2019.
- [108] Smith, C. (1996). *The link between childhood maltreatment and teenage pregnancy*. Social Work Research, 20 (3): 131- 141.
- [109] Speizer et al., (2009). *Sexual violence and reproductive health outcomes among South African female youth: A contextual Analysis. American Journal of Public Health*, 99 suppl 2: S425 – 3.
- [110] The National Campaign to Prevent Teenage Pregnancy, (2002). *Not just another issue: Teen Pregnancy Prevention's link to other Critical Social Issues*. Retrieved 8th April 2019.
- [111] UNAIDS & WHO, (2011). *Saving lives, leaving no one: UNAIDS Education*. Strategy 2016- 2021.
- [112] UNFPA, (2006). *The power of choice: Reproductive Rights and Demographic Transition*. United Nations. New York.
- [113] UNICEF, (2001). *A league table of teenage births in rich nations*. Retrieved on 10th April 2019.
- [114] United Nations General Assembly, (2006). *Conventions on the rights of the child (CRC/UCRC)*. United Nations. New York.
- [115] United Nations General Assembly (1979). *Conventions on the elimination of all forms of discriminations against women (CEDAW)*. Resolution 24/180 of the December 1979. United Nations. New York.
- [116] United Nations General Assembly, (2015). *Sustainable Millennium Development Goals of 2015 2030*. New York.
- [117] United Nations Family Planning Association, (UNFPA) (2013). *Adolescent pregnancy*. UNFPA, New York
- [118] United States Agency for International Development, USAID (2000). *Control of sexually Transmitted Diseases: A Handbook for the design and management of programs*. New York.
- [119] United States Agency for International Development, USAID (2023). *Namibia National Policy for HIV/AIDS for the Education Sector: Health Policy Initiative*. USAID. Washington DC
- [120] University of Twente (2005). *Health Belief Model*. The Netherlands: TCW, 2005. From <http://www.utwente.nl/theory%clusters/Health%communication/HealthBeliefModel.doc>
- [121] Wasonga, J, Ojeny, B. Oketch. B. & Oluoch, G. (2014). *The Comprehensive school health policy: Lessons from pilot program*. PubMed.gov. New York.
- [122] World Health Organization (2020). *Global Prevalence of selected curable STI's: Overview and estimates*, Geneva.
- [123] WHO, (2021). *Prevalence and incidence of sexually transmitted infections, UNAIDS/WHO working group on global HIV/AIDS and Sexually Transmitted Infections Surveillance*. World Health Organization, Geneva.
- [124] WHO, (2012). *Global estimates of the prevalence and Incidence of four curable sexually transmitted infections in 2012 based on systematic review and global reporting*. Geneva.
- [125] WHO, (2021: Guidelines for the management of sexually transmitted Infections. World Health Organization, Geneva.
- [126] World Bank, (2022). *World development indicators. World Bank Report*. Washington.
- [127] World Health Organization (2001). *Program of maternal and child health and family planning, division of family health: Report of a WHO Consultation on maternal and perinatal infection*. WHO/MCH/01.0, December, 2001, pp 1 121.
- [128] World Health Organization, (1978). *Primary health care: Almata Declaration*. Geneva.
- [129] World Health Organization, (2014). *Sexually transmitted infections among adolescents*. World Health Organization. Geneva.
- [130] World Health Organization, (2019). *Sexually transmitted infections in adolescents*. Geneva.
- [131] World Health Organization, (2020). *Sexually transmitted infections among adolescents: The need for adequate health services*. Geneva.