

# THE IMPACT OF PRIOR KNOWLEDGE ON ADOLESCENTS' SEXUAL AND REPRODUCTIVE HEALTH BEHAVIOR AMIDST THE COVID-19 PANDEMIC: THE CASE OF KAKAMEGA COUNTY, KENYA

Ooko S<sup>1</sup>, Okoth A<sup>2</sup>, Njeru F<sup>3</sup>, Kariage G<sup>4</sup>, Barasa B<sup>5</sup>, Achoka J<sup>5</sup>, Opiyo R<sup>5</sup>, Omukunda E<sup>5</sup>, Dipondo J<sup>5</sup>, Samoei U<sup>5</sup> and Namazzi E<sup>6</sup>

<sup>1</sup>*Department of Pure and Applied Chemistry, School of Natural Sciences, Masinde Muliro University of Science and Technology (MMUST), Kenya*

<sup>2</sup>*Department of Mathematics, School of Natural Sciences, Masinde Muliro University of Science and Technology (MMUST), Kenya*

<sup>3</sup>*Department of Criminology and Social Work Masinde Muliro University of Science and Technology (MMUST), Kenya*

<sup>4</sup>*Department of Agriculture and land use management, Masinde Muliro University of Science and Technology (MMUST), Kenya*

<sup>5</sup>*Masinde Muliro University of Science and Technology (MMUST), Kenya*

<sup>6</sup>*Uganda Martyrs University, Kampala, Uganda*

---

**Abstract:** Adolescents (aged between 10 and 19 years) go through significant physical, physiological, and psychosocial changes from childhood to adulthood during this period. There are indications that during the COVID-19 pandemic, adolescents experienced a myriad of challenges as reported by various forms of media. These challenges included teenage pregnancies/ motherhood and early marriages amongst girls, drug and substance abuse, and other social deviancies that came with devastating consequences, notably a surge in school dropout, which shuttered their dreams for a better future. During the outreach activities by the African Women in Science and Engineering (AWSE), MMUST chapter, a gap for research in the realm of Sexual and Reproductive Health of adolescents was established, necessitating this study. The objective guided the study: To establish how prior Knowledge on Sexual and Reproductive Health (ASRH) shaped their behavior in the wake of the COVID-19 Pandemic. The study adopted a Mixed Methods Research (MMR) approach, drawing on the strengths of both quantitative and qualitative paradigms, with a sample of 340 adolescents. The sampling techniques employed were multi-stage, purposive, stratified, and simple random sampling. The data collection tools included questionnaires, interviews schedules, and Focus Group Discussions (FGDs). Quantitative data were analyzed descriptively and inferentially using SPSS version 20 while qualitative data were analyzed thematically and used in triangulating quantitative findings. Results showed that 90% of adolescents had Knowledge of sexual and reproductive health, an indication that there was a 10% knowledge gap. Significant differences were recorded

\*Corresponding Author's Email: [sellineooko@yahoo.co.uk](mailto:sellineooko@yahoo.co.uk)



across gender (Chi=4.715, p=0.030); age (Chi=8.775, p=0.012); religion (Chi=10.204, p=0.017) and education level (Chi=14.338, p=0.008), among others. Results further showed that Knowledge on ASRH had a positive impact on adolescents' behavior as a smaller proportion (34.3%) of those with the Knowledge engaged in sexual relationships, compared to 42.9% of those without the Knowledge. This however, did not translate to better behavior as manifested in a surge in unsafe abortions, failure to embrace contraception, and inability to seek appropriate medical care. The study therefore recommends development and implementation of appropriate regulatory frameworks and policies to empower youth through appropriate education programs in order to mitigate the risks and challenges encountered by adolescents.

**Keywords:** adolescent, sexual & reproductive health knowledge, behavior, COVID-19 pandemic

---

## **Introduction**

COVID-19 was referred to as "the uninvited guest that brought the world to a standstill," A virus of the group, Severe acute respiratory syndrome Corona virus group (SARS-2), causing Pneumonia and general fatigue and killing its culprits in less than two weeks (Corona virus disease, 2019). The disease was first reported in Kenya on 15<sup>th</sup> March 2020. The President, Uhuru Kenyatta, announced a raft of measures to prevent the further spread of the disease. These included the closure of all learning institutions, travel restrictions, the constitution of the work from home policy for public servants and business people, and the banning of public gatherings, among others. (Jaguga & Kwobah, 2020) Also, face masks, hand washing, and sanitization were encouraged as often as possible. Ultimately there was a general lockdown in the country, which restricted people and social interactions. This affected individuals and families in different ways, including adolescents. According to WHO (2006), adolescents as persons between the age of 10 and 19 years; a majority fit the age-based definition of a "child" by the Convention on the Child's Rights. According to the Convention on the Rights of the Child, a child is a person under 18 years (Munro et al., 2011). Adolescents go through significant physical, physiological, and psychosocial changes during this period as they transition from childhood to adulthood. As of 2019 latest statistics from Global, Childhood Kenya had the third-highest teen pregnancy rates with 82 births per 1,000 births. According to the United Nations Population Fund Report, there was a surge in teenage pregnancies/ motherhood and early marriages amongst girls, drug and substance abuse, and other social deviancies (Bouma, 2016). This occasioned unprecedented school dropout, which shuttered dreams for a better future for hundreds of children.

During the outreach activities by the African Women in Science and Engineering (AWSE) Masinde Mauiro University, it was established that there was a surge in illicit sexual relationships among teenagers which resulted in to early pregnancies, early marriages and other associated vices. This behavior was obviously accelerated by closure of schools for long periods due to the COVID-19 pandemic and children were home with nothing meaningful to do. This therefore brought up a research gap in the area of Sexual and Reproductive Health among adolescents which needed to be addressed urgently; hence the need for this study. The study aimed at establishing how the adolescents' prior Knowledge on Sexual and Reproductive Health (ASRH); and shaped their behavior in the wake of the COVID-19 Pandemic.

## **Methodology**

The study adopted a Mixed Methods Research (MMR) approach., in which quantitative and qualitative data were collected and analyzed in parallel to answer the same research questions but with complimentary effects (Onwuegbuzie, A. J., & Teddlie, C., 2002) . A mixed methods study involves the collection or analysis of both quantitative and qualitative data in a single study in which the data are collected concurrently or sequentially and it involves the integration of the data at one or more stages in the research process (Creswell, J. W. et, al. 2003). A sample of 340 adolescents was computed using the sample size formula for finite populations (Czyz et al., 2016). Other respondents who formed the category of critical informants and were either directly interviewed or part of the FGDs comprised the local administration, the medical staff in the health facilities, and the teachers in the education institutions sampled in the study.

The sampling techniques employed were multi-stage, purposive, and simple random sampling. In multistage sampling, out of twelve sub-counties in Kakamega county, four were sampled and selected schools in those four sub-counties purposively sampled. The sampled schooled were distributed as boarding/day, boys/girls only or mixed, rural/urban or peri-urban. Simple random sampling was then used to select respondents from those schools where each respondent had the same probability of being sampled. Data collection tools included questionnaires, interviews, and Focused Group Discussions (FGDs). A split-half test technique was used to test the reliability of the instruments using data obtained from the pilot study. Cronbach's Alpha Reliability Index of 0.84 was considered high compared to the set minimum threshold of 0.7, according to Mugenda, O. and Mugenda A. (1999). Content validity was used to validate the instruments. This entailed assessing the instruments to ensure relevance, meaningfulness and appropriateness to respondents through critical examination of the items. This was meant to ascertain that the instrument contained adequate traits expected to measure the domain under study.

On ethical considerations, matters of anonymity of respondents, informed consents, confidentiality, value for human dignity and data protection formed the foundation of professional practice and conduct of the research. Ethical approval to conduct the research was obtained from the Institutional Ethics and Review Committee (IERC) MMUST and National Council of Science, Technology and Innovation (NACOSTI). Authorizations to conduct the research from all stake holders were sought from various departments such as health, administration, social and children's services. Written informed consents were obtained from parents/guardians. Confidentiality of the respondents was ensured by not including any form of identification on the research tools and participation was on voluntary basis. Hard copies of the completed data collection tools were kept under key and lock, while computerized data was pass-word protected.

The Socio-Demographic Information of Adolescents is laid out in Table 1 below:

*Table 1: Socio-demographic of adolescents*

Characteristic	Frequency (%)
Age-range (N=268)	
10-14	10(3.7)
15-19	236(88.1)
20-24	22(8.2)

Gender (N=277)	
Male	122(44)
Female	155(56)
Religion (N=278)	
Christian	255(91.7)
Muslim	18(6.5)
Hindu	3(1.1)
Other (Atheist & Pegan)	2(0.7)
Highest/current educational level (N=278)	
None	
Primary	1(0.4)
Secondary	6(2.2)
College/University	250(89.9)
Vocational /technical inst.	6(2.2)
	15(5.4)
Type of school (N=274)	
Public	246(89.8)
Private	28(10.2)
Parenting /living status (N=272)	
Living with one parent	66(24.3)
Living with both parent	155(57)
Living with guardian	46(16.9)
Living with friends/siblings	5(1.8)

Data were collected on the ASRH knowledge base and behavior from a cross-section of respondents in the shortest time available and within the COVID-19 Standard Operating Procedures (SOPs) as laid out by the Ministry of Health (MOH) 2020 (Meherali et al., 2021). This was done cognizant of the various demographic parameters that are likely to influence the Knowledge and behavior of adolescents, such as parents' level of education and occupation, Faith of the family and the gender, age range, parenting or guardianship, and the kinds of schools (private or public) the adolescents attended (Arnet, 2014).

Quantitative data were analyzed descriptively and inferentially using SPSS version 20. Qualitative data were analyzed thematically and triangulated quantitative findings in line with the aforesaid demographic constructs.

## **Findings**

The study's main objective was to establish how adolescents prior Knowledge on Sexual and Reproductive Health (ASRH) shaped their behavior in the wake of the Covid-19 Pandemic. The data are analyzed as follow;

### ***Socio-Demographic Characteristics of Adolescents***

The study's findings indicated that socio-demographic factors have a bearing on who the adolescents interact with and their source of information on ASRH. For example, socio-demographic characteristics of adolescents are influenced by the general socio-economic status of families, thereby impacting who the adolescents interact with.

Results in Table 1 show that two hundred and eighty (280) adolescents participated in the study, a response rate of 82%. The majority of the respondents, 236(88.1%), were aged between 15-19 years, while 155(56%) were female. The majority were Christians at 255(91.7%), Muslims at 6.5%, and others at 1.8%. Regarding education, the highest proportion of the adolescents, 250(89.9%), were in secondary school, 2.2% in primary (elementary), 2.2% in Universities/Colleges, and 5.4% in vocational/technical institutions. 246(89.8%) were in public schools among those in school. More than half of the adolescents, 155(57%), lived with both parents; and about 20% lived with guardians and friends. All these would impact the adolescents' knowledge of sexual and reproductive health.

Other respondents who formed the category of key informants and were either directly interviewed or part of the FGD comprised the local administration, the medical staff in the health facilities and the teachers in the education institutions sampled in the study.

### ***Relationship between Socio-Demographic Characteristics and Knowledge of Adolescents on Sexual and Reproductive Health***

Demographic factors play a pivotal role in determining people's level of knowledge and behavior. These include the way households are organized, the size of the family, and gender, among others. This study computed a correlation between adolescents having heard about various SRH concepts or terminologies vis-a-vis their respective demographics. The findings are as detailed in Table 2 below. The SRH concepts considered were: if the adolescents had heard about menstruation, pubic hair, wet dreams, use of contraceptives, the prevalence of STIs, and if they had embraced safe abortion. The study also sought to understand their keenness to attend guidance and counseling sessions; and their understanding of developmental changes in their bodies at adolescence.

*Table 2: Relationship between Socio-demographic Characteristics and Adolescents' Knowledge on Sexual and Reproductive Health*

Characteristic	Heard of ASRH		Chi-square	p-value
	Yes	No		
Age-range				
10-14	6(66.7%)	3(33.3%)	8.775	0.012
15-19	216(93.1%)	16(6.9%)		
20-24	19(95%)	1(5.0%)		
Gender				
Male	105(88.2%)	14(11.8%)	4.715	0.030
Female	144(95.4%)	7(4.6%)		
Religion				
Christian	231(92.8%)	18(7.2%)	10.204	0.017
Muslim	17(94.4%)	1(5.6%)		

Hindu	1(50%)	1(50%)		
Other	1(50%)	1(50%)		
Education level				
None	0(0%)	1(100%)		
Primary	6(100%)	0(0%)		
Secondary	224(92.2%)	19(7.8%)	14.338	0.008
College/university	5(83.3%)	1(16.7%)		
Vocational/technical	15(100%)	0(0%)		
Type of school				
Public	220(91.7%)	20(8.3%)	2.522	0.243
Private	28(100%)	0(0%)		
Parenting/living status				
One parent	61(95.3%)	3(4.7%)		
Both parents	134(88.7%)	17(11.3%)	5.754	0.124
Guardian	45(97.8%)	1(2.2%)		
Friends/sibling	5(100%)	0(0.0%)		

### *Age Range*

A significant relationship was observed between age range and Knowledge of sexual and reproductive health ( $p < 0.05$ ). The proportion of those who have heard about sexual and reproductive health increased with an increase in age range, with those at 20-24 years of age at 95% followed by 15-19 at 93.1%; then 10-14 at 33.3%.

Findings from key informants revealed that adolescents aged 10-15 years did not have much knowledge about SRH than those aged 16-25 years. Ages 10 to 15 did not have much Knowledge, but 16 - 25 knew a lot' (In-depth interview with the facility in charge, 2021).

In a study by the WHO done on adolescents knowledge on SRH (WHO report, 2011), it was established that to establish: adolescents' knowledge on accuracy and inaccuracy of beliefs about pregnancy, STIs including HIV and AIDs; use of condoms and other contraceptives; their awareness on where to obtain condoms; HIV testing and counselling; and their sources of information, it was established that there was alarmingly lack of knowledge about such topics as: whether a girl can become pregnant the first time they have sexual intercourse; how to use condom correctly; and knowledge of STIs rather than HIV (Mohammadi et al 2006; Vuttanont, 2006 & Temin et al 1999). In this study, in spite of being quite knowledgeable about SRH, the adolescents are not comprehensively informed on how to handle the practical aspects. These include not knowing safe and unsafe days and correct use of condoms. The reasons for increase sexuality amongst them are varied as considered in various sections of this study. Some parents were of the view that adolescents portray a know-it-all attitude but in the actual sense they do not know much

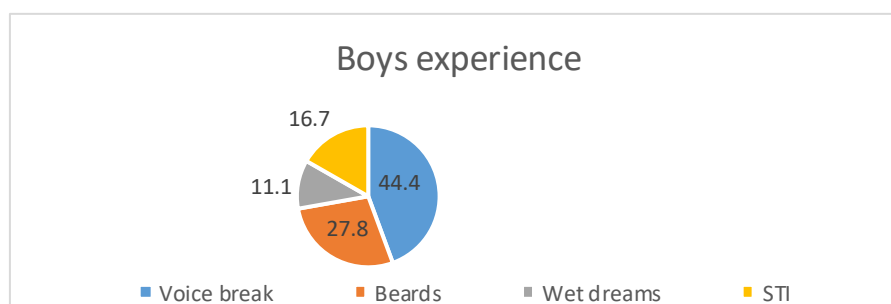
### *Gender*

The findings showed that 88.2% of males and 95.4% of females had heard about ASRH. For instance, adolescent girls aged 16 years and above had a lot of information about SRH. The uptake of family planning methods is high in this age group, especially with Depo-Provera, which they obtain over the

counter. During an in-depth interview, one of the secondary school teachers and facility in charge, 2021, revealed that due to information overflow on SRH, many adolescents know how to avoid pregnancies and where and how to secure abortion. This has implications on their SRH based on the findings that girls over the age of 16 are more sexually active than boys. This could be attributed to social, cultural inclination where youth discussions about sexuality are considered taboo in the community. It was further observed that the existing national and international focus on the girl child in the society had impacted on their Knowledge of SRH. For instance, organizations such as Kenya Aids NGOs Consortium (KANCO) have reported their attempt to educate the boys but did not succeed because adolescent boys never turn up to attend such meetings (Karp et al., 2021).

Several studies have been carried out on the sources of ASRH knowledge. In her study on young people's views of sex education, gender information and knowledge, Measer (2004), found out that girls were more likely to get information about sexuality from their parents especially their mothers whereas boys trusted their peers more for such information. Lyu et al (2020), found out that most adolescents preferred to get their sexual knowledge from online sources. However, studies tend to show differences between adolescent girls and boys in how they acquire this knowledge. For example, a study by Leland and Barth (1992) on gender differences in knowledge, intentions, and behaviours regarding preventing pregnancies and sexually transmitted diseases found out that adolescent girls were more likely than adolescent boys to have discussed sexuality topics with their parents and that girls who engaged in sexual intercourse more frequently, experienced pregnancy scare, had used oral contraceptives during their last sexual encounter and perceived that a larger proportion of their peers were engaging in sex and using birth control. In contrast, the adolescent boys were found to often use condoms correctly and knew their role in preventing sexually transmitted diseases.

To test their knowledge further, adolescents were asked to indicate the changes in their bodies as they transitioned from childhood to adolescence. The responses were considered per gender. The results are shown in Figures 1, 2, and 3 below.



*Figure 1: Developmental Characteristics among Boys*

In Figure 1, results indicate that a higher proportion of boys, 44.4% experienced voice break, 27.8% experienced growth of beards, 16.7% experienced STIs, and 11.1% had experienced wet dreams.

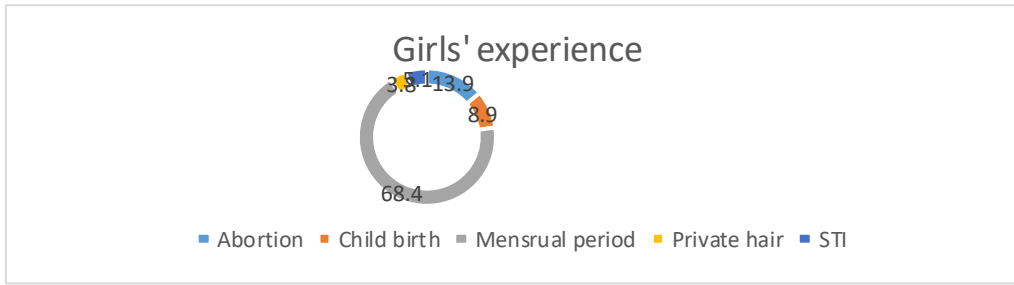


Figure 2: Developmental Characteristics among Girls

In Figure 2, results indicated predominant development characteristics related to SRH among girls' were: a majority making 68.4%, experienced menstrual period, 13.9% reported that they had carried out an abortion, 8.9% said that they had given birth, while 3.8% reported having experienced pubic hair. The changes from both genders are summarized in Figure 3.

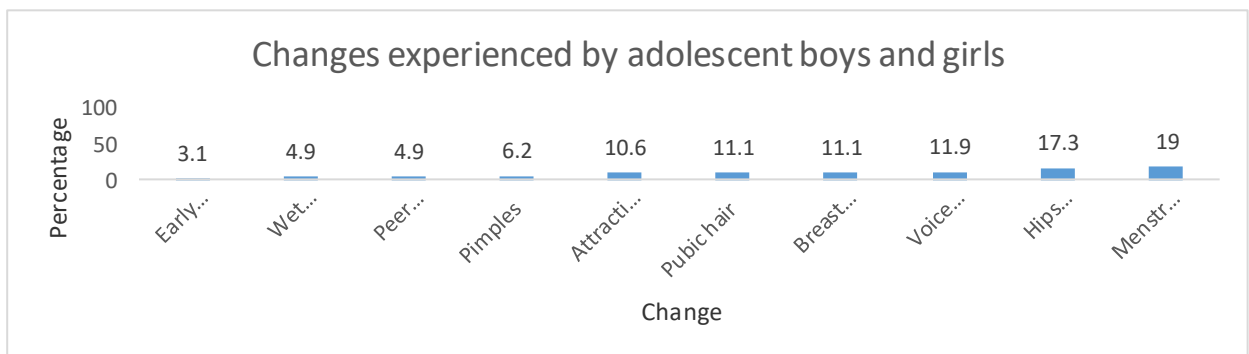


Figure 3. Changes Experienced During Development of the Adolescents

Generally, there was evidence that these adolescents are aware of what is happening in their bodies as they transit from childhood to adolescence. These are significant observations because both genders mentioned the developmental features that they experience.

Overall, 254 (90%) adolescents who participated in the study had Knowledge of adolescent sexual and reproductive health, indicating that 10% lacked the Knowledge. A significantly higher proportion of girls, 144(95.4%), had Knowledge of adolescent sexual and reproductive health compared to 105(88.2%) of the boys (Chi=4.715, p=0.030).

However, adolescents' knowledgeability of SRH issues had brought about many challenges. The teachers were of the view that adolescents' knowledge on how to avoid pregnancies has brought excessive use of contraceptives when very young that has implication on their future reproductive health such as not being able to conceive when they get married or not getting pregnant when they are ready for a child. These findings are in contrast with those by Govender et al (2019), who found out that adolescent's knowledge on pregnancy, sexual and reproductive health was deficient. In their study, the scholars identified serious gaps in adolescents' knowledge related to if the adolescents had knowledge on the danger signs of pregnancy, anaemia, alcohol and tobacco use during pregnancy and



sexually transmitted infections. Although this study found out that adolescents had too much knowledge on SRH.

It is becoming a norm not only in Kenya but in the world for adolescents to be engaging in sexual activities despite the negative consequences involved. For example, In the US, National Youth Risk Behaviour Survey carried out in 2019 revealed that 38% of adolescents in high school were already engaging sexual intercourse, 9% had four or more sexual partners and 7% had been physically forced to have sexual intercourse when they did not want to during the three months of the study (NYRBS, 2019).

In sub Saharan Africa, a study by Doyle et al (2012), reported that up to 25% of 15- to 19-year-old boys and girls were already engaging in sex before age 15 and in most countries,  $\geq 5\%$  of girls reported marriage before age 15, and  $>20\%$  had commenced childbearing. The study further revealed that early sexual debut and childbearing were more common among the least educated and/or rural girls and that multiple sexual partnerships was more common among boys than girls. In addition, those higher education were more likely to report multiple partnerships (ibid, 2012).

### *Faith*

As far as Faith is concerned, a higher proportion of Muslims at 17 (94.4%), followed by Christians 231 (92.8%), and lastly by Hindu 1 (50%) had Knowledge of ASRH. A Key Informant observed that Muslim adolescents had sexual education during Madrassa. Other faiths seemed conservative in the approach on the subject of sexual behavior, as expressed by one of the clergies at the FGD in one of the vocational institutions when he said, "Pastors and church leaders have concentrated on preaching the Gospel at the expense of tackling real challenges facing the children," (In-depth Interview with members of the clergy, 2021).

### *Education Level of the Adolescents*

The study indicated that 15(100%) of adolescents in vocational/technical institutions and 6(100%) of those at the primary level had Knowledge of sexual and reproductive health compared to those in secondary schools at 224(92.2%). This does not correlate with normal expectations, implying that there could be some form of dishonesty from the secondary school respondents. It is imperative to observe that the primary and vocational/technical institutions samples were too small to avail any statistically significant outcome. In addition, vocational and preparatory school-going adolescents are usually day scholars and therefore in constant interaction with their parents as opposed to those in secondary schools, mainly in boarding/residential schools.

However, adolescents' engagement in sex despite the consequences is a global and ageless phenomenon. For example, a qualitative study involving fifty-one (51) adolescents who had just had an illegal abortion in Dar es Salaam showed that girls are not only victims but also willing preys and active social agents engaging in high-risk sexual behavior. In order to get material benefits they expose themselves to serious health risks, including induced abortion without realizing their own vulnerability (Rasch, 2001). According to the study findings the vulnerability of adolescent girls increases without the recognition that sexuality education and contraceptive services do not constitute

a license to practice illicit sex but should rather be a means to create more mature and responsible attitudes and to increase sexual and reproductive health.

### *Parental Characteristics*

Parenting plays a very pivotal role in children's behavior. Regardless of whether or not adolescents were from single or both parent guardianship, this study considered both parents' educational level and employment status. A correlation was done to determine the relationship between these characteristics and the knowledge base of the adolescents. Parents are expected to spend most of their time with their children, so this interaction is expected to shape their overall knowledge and behavior. Parental characteristics were considered critical in the context of this study, and findings are as indicated in Table 3 below.

*Table 3: Correlation between Parental Characteristics and Knowledge about Sexual and Reproductive Health*

Characteristic	Heard of ASRH		Chi-square	p-value
	Yes	No		
<b>Fathers highest level of education</b>				
None	17(7.5%)	2(9.6%)	0.364	0.948
Primary	48(21.1%)	4(19%)		
Secondary	64(28.2%)	5(23.8%)		
College/tertiary	98(43.2%)	10(47.6%)		
<b>Mothers highest level of education</b>				
None	17(7.2%)	2(9.5%)	0.362	0.948
Primary	50(21.3%)	4(19%)		
Secondary	80(34%)	8(38.2%)		
College/tertiary	88(37.4%)	7(33.3%)		
<b>Mothers Occupation</b>				
Employed	54(23.8%)	4(20%)	0.355	0.949
Self employed	126(55.5%)	12(60%)		
Unemployed	45(19.8%)	4(20%)		
Other	2(0.9%)	0(0%)		
<b>Fathers occupation</b>				
Employed	77(35.8%)	12(60%)	6.400	0.094
Self-employed	80(37.2%)	7(35%)		
Unemployed	51(23.7%)	1(5%)		
Other	7(3.3%)	0(0%)		
<b>Guardian occupation</b>				
Employed	14(35.8%)	0(0%)	2.130	0.546
Self-employed	12(30.8%)	0(0%)		
Unemployed	12(30.8%)	1(100%)		
Other	1(2.6%)	0(0%)		

From Table 4, it is evident that the proportion of adolescents with Knowledge (of having heard adolescent sexual and reproductive health) increased with an increase in the parental level of

education. Further, a higher proportion of adolescents whose parents were self-employed had Knowledge of adolescent sexual and reproductive health (55.5% and 37.2% for mother and father, respectively). However, for those living with guardians, the highest proportion with knowledge was employed (35.9%). However, these differences in proportions were not statistically significant (all  $p > 0.05$ ).

Some studies have emphasized on the role played by parenting in shaping adolescents' present and future behaviors (Kopko, 2018; Hoskins, 2014 & Akanksha & Mamta, 2014). For example, Hoskins (2014), gave an assessment of the literature on parenting and adolescent outcome over a decade and found out that parenting styles greatly impacted on adolescent bad or good behavior. According to the findings authoritative parenting, that is, parents who were greatly involved in use of reason, power and shaping to reinforce behavior produced better adjusted adolescents. This was especially the case when the male parent was an authoritative one. In contrast uninvolved parents and particularly fathers produced the most maladjusted adolescents who were highly likely to abuse drugs, drop out of school and commit rape, murder, petty theft and assault. Thus, although these studies do not explicitly indicate the role of parenting in adolescents' indulgence in sexual intercourse, the studies underscore the great parents need to play do shape in order to shape adolescents for future life.

Focus Group Discussions (FGDs) with parents revealed that many of them were increasingly engaging their children on SRH issues. For example, a Key informant said in the local Kiswahili language, "Kijana wa siku hizi si kama Zamani. Anataka kuongelezwa. ..." This is translated to mean that "Today's adolescent is different from the olden days); He needs to be talked to." So you need to talk to him/her especially on sexual matters, lovingly. When you differ, it is the parent to calm them down, not lose them. You know, nowadays they even commit suicide. As a parent, you have to be a friend to your child and that way you can talk on any topic with them. You can understand your child, and your child will not hide anything from you. There is a lot to gain in making your child a friend" (FGD with parents, 2021).

During the FGDs, parents emphasized the gains that can be made when they become friends with their adolescent children. This is in line with the findings of a study by Deepanjali et al (2020) on sexual and SRH Knowledge among school-going adolescents in India, which recommended that parents engage more with their adolescent children

### ***Summary of Knowledge Base of the Adolescents***

A summary of the knowledge base of the adolescents on various aspects of ASRH was computed, and findings are as detailed in Figure 4.

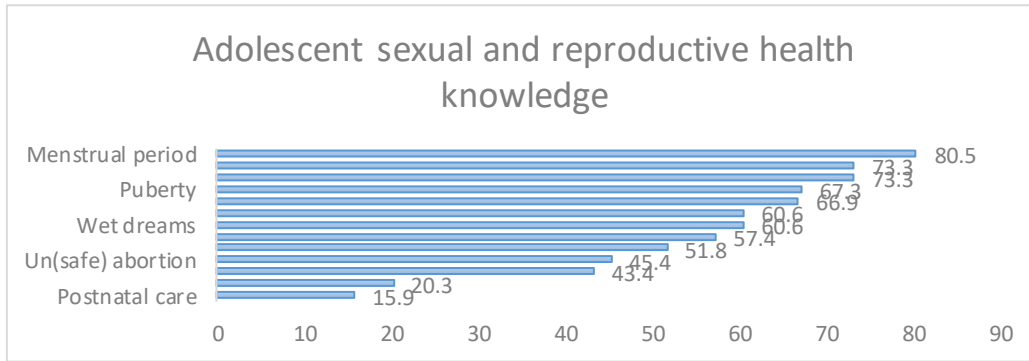


Figure 4: Summary of Knowledge Base

Results in Figure 4 indicate that a significant number of respondents know SRH. The concepts well known by the respondents included menstruation (80.5%), guidance and counseling (73.3%), development of pubic hair (73.3%), and puberty (67.3%), among others. It is worth noting that among those who reported having heard about sexual and reproductive health, more than three-quarters 202(80.5%) said to have heard of a menstrual period. This means that even boys are aware, which is not a phenomenon for women alone. Therefore, it can be deduced that as girls mature to women, parents and other stakeholders promptly take their place as educators on ASRH. Overall, Knowledge is an indicator of a step in the right direction because it is envisaged that when adolescents are empowered, they shape their sexual and reproductive health behavior.

***Relationship between Adolescent Knowledge Base and Sexual behavior***

Having established the sexual and reproductive knowledge base, the study needed to correlate this adolescent knowledge base and sexual behavior. Among aspects considered regarding their sexual behavior were: Whether they were in a sexual relationship and whether or not they engaged in sexual intercourse before and during the COVID-19 pandemic.

***Sexual Relationship***

The status regarding their current sexual relationship is indicated in Figure 5.

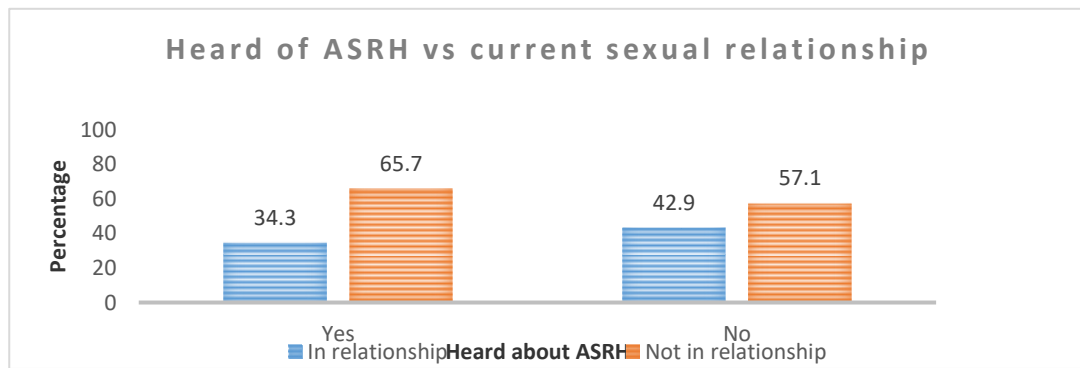


Figure 5:

In Figure 5, results indicated that 86 (34.3%) of adolescents who had heard about ASRH and 9(42.9%) who had never heard about ASRH were in a boy/girl relationship. However, the difference was not statistically significant ( $\chi^2=0.630$ ,  $p=0.427$ ). Nonetheless, the Knowledge seems to have positively impacted their relationships because those with Knowledge indulged less in the relationships with the opposite sex. On the contrary, one would expect them to know that such relationships may be detrimental to their welfare. In spite of their Knowledge about SRH, they still indulged in such relationships. This implies that other factors could be at play. These may include peer influence, watching pornographic content on the internet, lockdowns commonly used to contain the Covid-19 Pandemic and confine youths of the opposite sex in one locality, absence of a parental guide, and abdication of what was once communal parenting in modern society. According to them, they may also be using the Knowledge to indulge in "Safe Sex." For the 42.9% with no knowledge and involvement in relationships, this may be attributed to socio-cultural influence and religious inclinations expressed at the FGDs and by KII.

One of the in-depth interviews and FGD revealed that Knowledge of ASRH influenced adolescents' sexual behavior both negatively and positively. From a positive perspective, the study indicated that SRH knowledge helped adolescents protect themselves and understand their body changes. The negative aspect of the SRH knowledge indicated that adolescents are not afraid of exploring sexual matters, engaging in sex, and do not care about the consequences.

As a result, adolescents knew about SRH and were more aware of their body changes. Also, adolescents know where to go for condoms and abortion in pregnancy. In contrast, adolescents know where to run to when in trouble it is also clear that they expose their sexual reproductive health to high risk (Guidance and Counseling teacher, 2021).

#### *Indulgence in Sexual Intercourse before and during the COVID-19 pandemic.*

This was the second perspective put before the adolescents to determine if their SRH knowledge had a bearing on their behavior. One of the most common activities adolescents indulges in as they explore their sexual environment is sexual intercourse. This perspective aimed to determine the extent to which adolescents indulged in sexual intercourse.

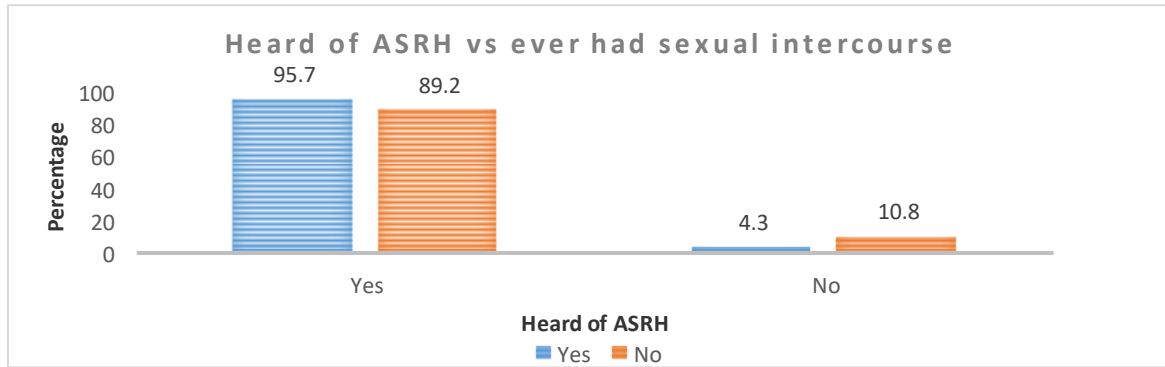


Figure 6. Percentages of Adolescents who heard of ASRH VS those who heard about Sexual Intercourse

Results showed that 95.7% of the adolescents who have heard about ASRH had indulged in sexual intercourse compared to 89.2% of those who have not heard about ASRH. The difference in proportion was not statistically significant though ( $\chi^2=2.569$ ,  $p=0.109$ ), indicating that the ASRH knowledge base is expected to influence adolescents' sexual behavior; it does not solely contribute to this. The SRH knowledge seems to be used by the adolescents negatively, as expressed in this study. Thus, other factors seem to attract these adolescents to irresponsible sexual behavior despite their knowledge and the consequences that may accrue. Literature indicates that peer pressure, social media, and the internet have heavily influenced adolescents. The confinement during the COVID-19 Pandemic just exacerbated the situation as most of the sexual indulgence was out of coercion, rape, and incest, among others as reported in the media and corroborated by a KI interviewee when he said, "Another factor that caused adolescents to indulge in negative sexual behavior was lack of parental support. Some parents especially in single-parent families, the mother provided a poor role model".

A facility in charge confirmed this during an in-depth interview when he said, "In single-parent families, the daughter does what she sees the mother do"...

In this study, there was agreement among the discussants that adolescents were quite knowledgeable on ASRH issues. Nonetheless, most of ASRH knowledge was from the teachers. This presents another gap in terms of sources of Knowledge.

#### ***Adolescents' Sexual Behaviour amidst the COVID-19 Pandemic.***

To establish the sexual behavior of the adolescents during the pandemic, several questions were put to them, as detailed in this section. Adolescents were asked to indicate if they were in a sexual relationship, whether they had sexual intercourse during the pandemic and with whom, and who their current sexual partners were. This is because such relationships have a bearing on certain sexual behavior. The responses were as indicated in Figure 7.

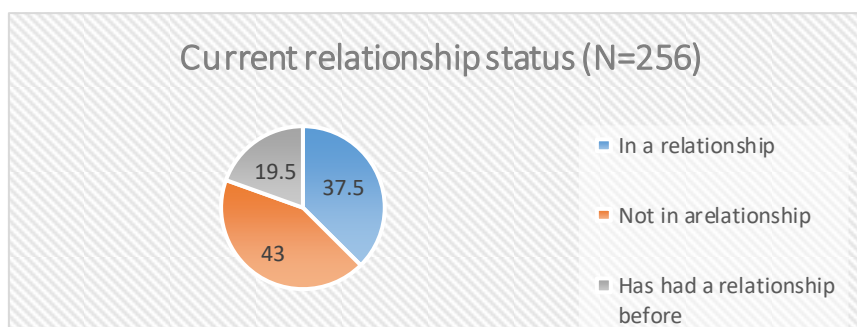


Figure 7: Current Status on Relationships amidst the COVID-19 Pandemic.

66 (37.5%) of the adolescents reported to be in a relationship; 19.5% had had a relationship in the past, and 43% were not in any relationship amidst the COVID-19 pandemic. Details of their sexual partners were also captured and are presented in Figure 8.

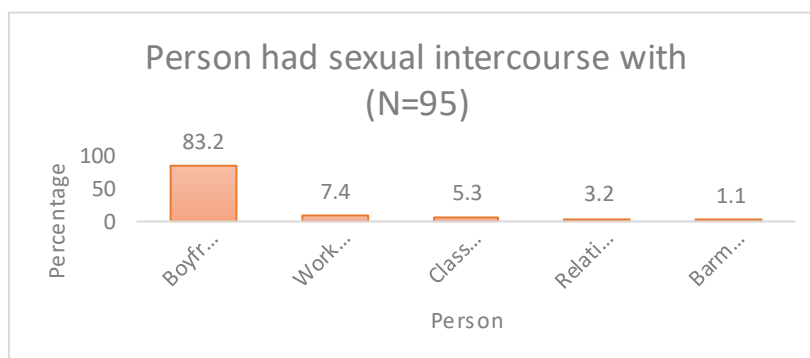


Figure 8; Sexual Partner during the Pandemic.

The study revealed that of the adolescents who were in a relationship, 83.2% reported having had sex with a boyfriend or a girlfriend; 7.4% with a workman/woman; 5.3% with a classmate; 3.2% with a relative and 1.1% with a barman/woman during the COVID-19 pandemic.

In-depth interviews with health workers revealed that adolescent girls were having sex with multiple partners for various reasons.

One of the Key informants said:

*"I have served adolescent girls who have multiple partners and gave various reasons. For example, looking for finances, since parents are not meeting their needs like provision of sanitary towels, to get money and buy their favorite body oil/lotion and in some homesteads, girls are the main providers to the parents and are forced by circumstances to obtain finances in exchange for sex. This trend worsened during the pandemic"(in-depth interview with the health care provider, 2021).*

Another Key Informant, a parent, reported that "Adolescents may not be knowing much about their sexuality after all. They would do everything right if they knew, but they do not. Many are getting pregnant every day. Others seek abortion services in dark places and end up dying. Knowledge helps one make an informed choice, but these adolescents are not (Geerts, 2021). This calls for further

research on adolescents' Knowledge and sexual behavior as the study could not conclusively link adolescents' SRH knowledge to their sexual behavior.

It is disheartening that adolescents are engaging in sex to obtain basic needs such as food and sanitary towels. The loss of livelihoods during the COVID- 19 pandemic left many families struggling to get even the basic needs (Jaguga & Kwobah, 2020). This increased and continues to increase the vulnerability of adolescents to sexual abuse and other evils.

The median age (in years) at first sexual intercourse was 16 (14.17%), the majority reporting that the sexual act was agreed/consensual, while 8(8.6%) reported forced sex/rape. With non-consensual sex being at about 9% of the respondents, this is unfortunate as this has implications for HIV and STI prevalence among these youth. According to a study by UNESCO, globally, about one in three women (1:3) have experienced sexual violence in their lifetime. In a study in the UK on an online campaign against rape, more than 15,000 disturbing accounts of sexual assault and harassment were shared by both boys and girls. This study is striking how many sexual molestations took place in learning institutions? These testimonies were so disturbing that one researcher referred to one of the schools as a 'hotbed of sexual violence. What was obvious was the magnitude of the confusion surrounding the issue of consent, a fundamental principle of gender equality and healthy relationships. However, it was questionable why adolescents are not sure about what a consensual relationship is and why they do not know when certain actions are inappropriate. While this deserves further investigation, it could also indicate some knowledge gap in terms of ways of reducing/avoiding sexual abuse. The solution is a comprehensive sexual education from an early age. The challenge is for all stakeholders (parents, teachers, religious organizations, and the state) to act accordingly.

The fact that most adolescents have non-consensual rights is a pointer to severe societal failures. The tender age at which adolescents first indulge in sex and the fact that this is non-consensual indicate the SRH knowledge gap that needs to be filled. In the Kenyan education system, children (16 years) are usually informed one or two. However, in rural areas, many adolescents at age 16 are likely to be still in primary school. Indulging in sex at this age can lead to the end of education due to STIs and early pregnancy for the girls. The Ministry of education directive that girls who give birth be allowed back in school is desirable much as parents, especially mothers, have responded by helping their daughters to procure abortion secretly, and their mothers say: "I neither have money nor time to take care of a baby"(KI, secondary school counselor).

Among those adolescents that have ever had sexual intercourse, only 60(63.8%) reported having used protection gadgets, and 60(65.9%) to have had it during the COVID-19 period, whereas 2(3.3%) had it with a teacher while 1(1.7%) with a pastor/church leader. Note that teachers and pastors or church leaders are the people who are trusted with the youth in our society, yet they turn to be predators. Incest was reported between siblings during this period due to parental ignorance that putting boys and girls in one locality with no guidance would be detrimental.

It is becoming a practice in Kenya and worldwide for adolescents to engage in sexual activities despite the negative consequences involved. For example, In the US, National Youth Risk Behaviour Survey carried out in 2019 revealed that 38% of adolescents in high school were already engaging in



sexual intercourse, 9% had four or more sexual partners, and 7% had been physically forced to have sexual intercourse when they did not want it during the three months of the study (Karp et al., 2021).

In sub-Saharan Africa, a study by Doyle et al (2012) reported that up to 25% of the 15-19-year-old boys and girls were already engaging in sex before age 15. In most countries,  $\geq 5\%$  of girls reported marriage before age 15, and  $>20\%$  had commenced childbearing. The study further revealed that early sexual debut and childbearing were more common among the least educated and rural girls. Multiple sexual partnerships were more common among boys than among girls. In addition, those higher educations were more likely to report various partnerships (ibid, 2012).

### ***Reasons for Indulging in Sex during the COVID-19 Pandemic***

This was done to establish if their SRH knowledge informed adolescents' indulgence in sexual activities. When asked to give reasons for increased sexual activities during the COVID-19 pandemic, the adolescents had varied responses, as represented in Figure 9

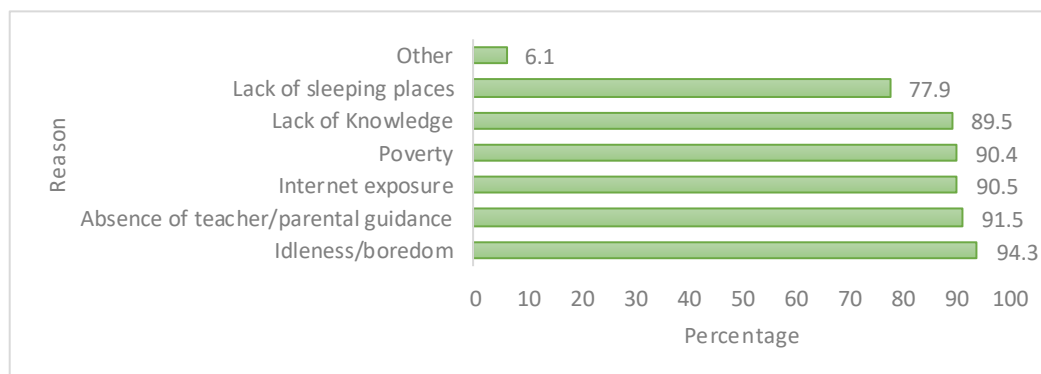


Figure 9: Reason for Increased Sexual Activities during the COVID-19 Pandemic.

Findings revealed various reasons for the increase in sexual relationships among the youth during the COVID-19 pandemic. One hundred forty-four adolescents, making 94.1%, reported that some of the major causes of increased sexual relationships among the youth were idleness and boredom due to the closure of schools. These were followed by the absence of parental/teacher guidance by 139 adolescents making 91.4%. In comparison, 60 adolescents making 77.9%, reported was lack of sleeping place as the least cause for the sexual relationship among adolescents. Also, Key Informants reported cases of sexual assault and rapped carried out on adolescents. From these findings, it is critical that stakeholders, including parents, teachers, and community leaders at all levels, be cognizant of the implications of idleness among the youth and put in place strategies for the safety of the adolescents (Addae, 2020). Besides, there is the need that the child should always be engaged meaningfully and endowed with requisite Knowledge, skills, and attitudes that enable them to make informed decisions.

Findings from FGDs and in-depth Interviews with Key informants revealed that the prolonged lockdown of the country during the COVID-19 pandemic had its challenges on families. Children experienced a lot of freedom from school, yet most parents and guardians had to be away working to

provide for families. Lack of supervision supplied adolescents with enough time to do unprecedented explorations about their lives. Cases of teens engaging in risky behaviors such as sexual activities, drug and alcohol abuse, truancy, and lawlessness were also rising.

One of the girls during FGD said:

*"Due to idleness after school closure, girls would walk on the roads putting on tight and exposing attire, which made them centers of attraction for cheap sex. Some boys spend quality time watching pornographic videos that aroused them and developed an urge to seek girls to satisfy their sexual desires"(FGD with the primary school-going adolescents, 2021).*

There was a condemnation of the styles of parenting used today as they greatly contributed to adolescents' sexual misbehavior. The modern parent was oblivious to the dangers of facing an idle adolescent, left with no obligation to do any productive work the whole day. Parents resorted to employing workers for their daily chores, leaving their children nothing to do. However, adolescents will always find something to occupy themselves. Unfortunately, most of these engagements are pleasurable sexual activities. One of the interviewees reported how parents abdicate their role of guiding adolescents when he said:

*"Parents are ignorant and over-protective of their children in terms of involvement in basic social roles. Instead, they are fond of laborers doing their house chores and leaving children with nothing to do. Nowadays, our children are idle and find something to do - your guess is as good as mine what they are likely to get involved with. Then parents start complaining how unmanageable their children have become" (in-depth interview with the chief, 2021)*

These findings are congruent with Laura et al (2020) in their study on why adolescents and young adults have sex. . Laura et al (2020) concluded that adolescents engage in sexual activities for pleasure and evade boredom. Therefore, it is imperative to train young people to productively use their time to avoid engaging in activities detrimental to their growth, health, and development. This does not mean that sexual activities are immoral but are ideal when the adolescents are psychologically and emotionally mature for responsibilities that come with such engagements. Therefore, this should inform the kind of interventions and mitigations to be put in place. Strategies against sexuality such as abstinence have failed mainly because adolescents no longer consider this plausible.

At one of the FGD discussion sessions with parents, some opined that the adolescents were not appreciative of the current struggles parents go through to bring them up. The financial constraints and the demands of modern life have denied parents the precious time they would like to spend with their adolescent children, but the latter are not conscious of the same. One of the parents interviewed said:

*"Adolescents are so stubborn; parents have had a hard time in dealing with them more so during the pandemic. Sometimes parents lose total control of the adolescents. Parents cannot fully attend to the needs of the adolescents, more so during the pandemic. Some of these adolescents cannot understand what a parent can lack. Others are forced to engage in pre-marital sex in exchange with money for sanitary pads" (FGD with Parents, 2021).*

In another instance, a vocational trainer said, "Expectation of some parents led adolescents astray. In two instances, single fathers gave away their daughters to work as housemaids while the salaries were given to their fathers"(Ngwacho, 2020).

### **Conclusion and Recommendations**

The study established that a good proportion of adolescents had prior knowledge about sexual and reproductive health. As other Key informants and the adolescents observed, SRH knowledge was mostly accessed at school from their teachers and peers. Despite adolescents being knowledgeable about SRH, the study found that they were naïve and limited in how they drew on this Knowledge to transform their sexual behavior. The Knowledge was not put to good use. This was because there was a surge in pregnancies, infections with STIs, unsafe abortions, among others, during the COVID-19 pandemic. The study further established that the adolescents' confinement at home during the COVID-19 pandemic brought about anxiety and restlessness. The adolescents were on their cell phones and other social gadgets whose usage was detrimental to their minds as they exposed them to uncontrolled experimentations (Brown et al., 1999). Some key informants observed that there was nobody to attend to the children, as most parents did not have time for their children during the pandemic. This led to a rise in indiscipline (immorality) among adolescents due to lack of supervision. There were rampant and aimless movements without a parental guide. Additionally, Adolescents, particularly girls engaged with multiple partners to get finances since their parents could no longer afford to provide them with basic needs like body lotion, entertainment, and sanitary pads. This is in agreement with a World Health Organization (WHO) study on adolescents' knowledge of SRH (WHO report, 2015). In this study, the WHO established adolescents' Knowledge on accuracy and inaccuracy of beliefs about pregnancy, STIs including HIV and AIDs; use of condoms and other contraceptives; their awareness on where to obtain condoms; HIV testing and counseling; and their sources of information. The WHO also established an alarming lack of Knowledge among adolescents about whether a girl can become pregnant the first time they have sexual intercourse; how to use condoms correctly; and Knowledge of STIs rather than HIV.

The study therefore recommends that the Kenyan education system should provide comprehensive sexual and reproductive health education to adolescents, by actively involving key stakeholders such as family, the community, and spiritual leaders. Secondly the University-Community-led interventions on the use of SRH knowledge should be strengthened to achieve desirable sexual behavior among adolescents. Establishment of a youth empowerment center at the University would go a long way in realizing a sustainable solution as the center shall empower youth through various educational programs, enhance other useful skills. The greatest limitation to this study was funding.

### **Acknowledgment**

The Research team wishes to acknowledge the University Management Board (UMB) through the Vice Chancellor Prof. Solomon Shibairo for approving funds that made it possible for us to conduct this study. Our appreciation also goes to the Deputy Vice Chancellor in charge of Planning, Research and Innovation, Prof. Charles Mutai and the Director, Research and postgraduate Support, Prof. Peter Bukhala for their support. In addition, we recognize the County Government of Kakamega, local administration, heads of schools and Health centers where data was collected with no hindrances.

## References

- Addae, E. A. (2020). COVID-19 pandemic and adolescent health and well-being in sub-Saharan Africa: Who cares? *The International Journal of Health Planning and Management*.
- Akankasha, D & Mamta, C (2014). Parentng styles and its effects on adolescents self esteem. *Journal of Innovations and Engineering and Technology*, 2(4), 310-316. <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.413.1349&rep=rep1&type=pdf>
- Arnett, J. J. (2014). *Emerging adulthood: The winding road from the late teens through the twenties*. Oxford University Press.
- Bouma, G. D. (2016). The role of demographic and socio-cultural factors in Australia's successful multicultural society: How Australia is not Europe. *Journal of Sociology*, 52(4), 759-771. <https://doi.org/10.1177/1440783315584210>.
- Brown, J., Cohen, P., Johnson, J. G., & Smailes, E. M. (1999). Childhood abuse and neglect: specificity of effects on adolescent and young adult depression and suicidality. *Journal of the American Academy of Child & Adolescent Psychiatry*, 38(12), 1490-1496.
- Coronavirus disease, (2019) Severe acute respiratory syndrome coronavirus 2(SARS CoV 2) is the virus that causes COVID-19.[https://en.wikipedia.org/wiki/Severe\\_acute\\_respiratory\\_syndrome\\_coronavirus\\_2](https://en.wikipedia.org/wiki/Severe_acute_respiratory_syndrome_coronavirus_2)
- Creswell, J. W, Plano-Clark, V. L., Guttman, M. L., & Hanson, E. E. (2003). *Advanced Mixed Methods Research Design*. In A. Tashakkori and C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioral Research* (pp. 209-240). Thousand Oaks, CA: Sage.
- Czyz, E. K., Horwitz, A. G., & King, C. A. (2016). Self-rated expectations of suicidal behavior predict future suicide attempts among adolescent and young adult psychiatric emergency patients. *Depression and anxiety*, 33(6), 512-519.
- Deepanjali,D., Deshmukh and Shukhjee,S (2020). Knowledge about Sexual and Reproductive Health in Adolescent School Going Children in 8th, 9th and 10<sup>th</sup> Standards. <https://doi.org/10.1177/1263183181989816>. (accessed on 27th July, 2021).
- Doyle, A. M., Mavedzenge, S. N., Plummer, M. L., & Ross, D. A. (2012). The sexual behavior of adolescents in sub-Saharan Africa: patterns and trends from national surveys. *Tropical Medicine & International Health*, 17(7), 796-807.
- Geerts, R. D. (2021). *Pregnancy care: a burden or a gift? The adherence to maternal health care of adolescent girls in Kenya, before and during the COVID-19 outbreak* (Master's thesis).
- Govender,D., Saloshni, N. and Myra, T. (2019).Knowledge, Attitudes and Peer influences related to Pregnancy, Sexual and Reproductive Health Among Adolescents Using Maternity Health Services in Ugu KwaZulu-Natal, South Africa. *BMC Public Health* <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-019.7242.y> (accessed on 1st Aug.2021).
- Hedayat, A., & Sinha, B. K. (1991). *Design and inference in finite population sampling*. Wiley.[https://openlibrary.org/works/OL454474W/Design\\_and\\_inference\\_in\\_finite\\_population\\_sampling](https://openlibrary.org/works/OL454474W/Design_and_inference_in_finite_population_sampling)
- Hoskins,D. (2014). Consequences of Parenting on Adolescent Outcomes. [www.mdpi.com/journal/societies](http://www.mdpi.com/journal/societies) (accessed on 1st Aug. 2021). 918)30204-9. *Lancet Child and Adolescent Health*. 2 (8)107=114
- Jaguga, F., & Kwobah, E. (2020). Mental health response to the COVID-19 Pandemic in Kenya: a review. *International journal of mental health systems*, 14(1), 1-6

Joint United Nations Programme on HIV/AIDS., UNICEF., World Health Organization, & United Nations Population Fund. (2009). *Children and AIDS: Fourth Stocktaking Report, 2009*. UNICEF.

Karp, C., Moreau, C., Sheehy, G., Anjur-Dietrich, S., Mbushi, F., Muluve, E., ... & Austrian, K. (2021). Youth Relationships in the Era of COVID-19: A Mixed-Methods Study Among Adolescent Girls and Young Women in Kenya. *Journal of Adolescent Health, 69*(5), 754-761

Kiptoo-Tarus, P. (2020). Teenage pregnancy: A psychosocial burden on girlchild education in Kenya. *Research Journal in Advanced Humanities, 1*(2), 64-76.

Kopko, K. (2018). Parenting Styles and Adolescents . <https://www.coursehero.com/file/38223133/parenting-styles-and-adolescents.pdf> (accessed on 26 the July, 2021).

Leland, N and Barth, R. (1992). Gender Differences in Knowledge , Intentions and Behaviors concerning Pregnancy and Sexually transmitted Disease Prevention among Adolescents. PMCD:1420213. DOI:10.1016/1054-13ax(92) 90373-j (accessed July 17, 2022)

Lyu-Jinping., Xiaoyu, S & Therese, H. (2021). Sexual Knowledge, Attitudes and behaviors among Undergraduate Students in China-Implications for Sex Education. *International Journal of environmental Research and Public Health 2* (3) 64-72

Measer, L. (2004). Young peoples Views of Sex Education, Gender, Information and Knowledge. <https://doi.org/10.1080/1468181041000678338>. (accessed March 26, 2022). <https://www.researchgate.net/publications/224981598>.

Meherali, S., Adewale, B., Ali, S., Kennedy, M., Salami, B. O., Richter, S., ... & Lassi, Z. (2021). Impact of the COVID-19 Pandemic on Adolescents' Sexual and Reproductive Health in Low-and Middle-Income Countries. *International Journal of Environmental Research and Public Health, 18*(24), 13221

Mohamaddi, A., McPhail, C. & Campbell, C. (2001). Condom use among adolescents and young people in a Southern African Township. *Social Science and medicine, 52*(11), 1613-1627. (Accessed September, 20, 2021)

Mugenda, O. and Mugenda A. 1999: 'Research Methods: Quantitative and Qualitative Approaches'. Acts Press, Nairobi.

Munro, E. R., Pinkerton, J., Mendes, P., Hyde-Dryden, G., Herczog, M., & Benbenishty, R. (2011). The contribution of the United Nations Convention on the Rights of the Child to understanding and promoting the interests of young people making the transition from care to adulthood. *Children and Youth Services Review, 33*(12), 2417-2423.

Ngwacho, A. G. (2020). COVID-19 pandemic impact on Kenyan education sector: Learner challenges and mitigations. *Journal of Research Innovation and Implications in Education, 4*(2), 128-139.

Onwuegbuzie, A. J., & Teddlie, C. (2002). A Framework for Analyzing Data in Mixed Methods Research. In A. Tashakkori & C. Teddlie (Eds.), *Handbook Of Mixed Methods In Social and Behavioral Research* (Pp. 351-383). Thousand Oaks, CA: Sage.

VanderStel, A. (2014). "The impact of demographics in education."

Varga, C. A. (2003). How gender roles influence sexual and reproductive health among South African adolescents. *Studies in family planning, 34*(3), 160-172.

World Health Organization. (2006). *Orientation programme on adolescent health for health care providers*.

World Health Organization. (2015). *Core competencies in adolescent health and development for primary care providers: including a tool to assess the adolescent health and development component in pre-service education of healthcare providers*. World Health Organization.