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Original Article

Risky Sexual Behaviours and Knowledge of Contraceptives among Adolescent Girls in Kirinyaga County, Kenya

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Risky sexual behaviours and inadequate knowledge of contraceptives are public health concerns in Sub-Saharan Africa among adolescent girls. The objectives of this study were to determine the risky sexual behaviours, knowledge of contraceptives and associated factors among adolescent girls in Kirinyaga County, Kenya. This study used a cross-sectional study design and enrolled adolescent girls aged between 10-19 years in Mwea East, Mwea West and Kirinyaga West Sub-Counties of Kirinyaga County, Kenya. A sample size of 280 girls was obtained using a purposive sampling design. Data was collected using a structured questionnaire in April and May 2023. The independent and dependent variables were compared statistically using univariate and multivariate logistic regression. A p-value of less than 0.05 was used as the level of significance. Risky sexual behaviours that were reported included sexual debut of 16.28 ± 1.90 years, as well as multiple sexual partners, older sexual partners, unplanned pregnancies, abortion, and discontinuation of education. The sexual debut had a prevalence of 29.3%. The increase in age, having a negative HIV status and residing in the Mwea West Sub-County were significant independent predictors of sexual debut. The knowledge of contraceptives was inadequate at 65.4%. The increase in age and having a parent who was a farmer were significant independent predictors of knowledge of contraceptives among adolescent girls. The study concluded that adolescent girls had risky sexual behaviours and inadequate knowledge of contraceptives. The study recommends that policymakers should promote programs related to sexual and reproductive health by involving all relevant stakeholders to safeguard adolescent girls in Kirinyaga County, Kenya.

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INTRODUCTION

Adolescence is a phase of transition from childhood to adulthood and spans between 10-19 years of age. Adolescents make up 16%, or 1.2 billion of the world's population (WHO, 2024a). Sub-Saharan Africa is home to 226 million adolescents (WHO, 2024b) and there are about 13 million adolescents in Kenya (Statista, 2024). Adolescents experience rapid changes in physical, emotional, psychological, and cognitive development, along with secondary sexual maturity that increases their desire to engage in sexual experimentation (Maaan *et al.*, 2021).

Risky sexual behaviours among adolescents are those that are associated with severe health outcomes such as early sex debut, multiple sexual partners, unlawful abortions, unintended pregnancies, unprotected sex and sexually transmitted diseases (STDs) (Badillo-Viloria *et al.*, 2020; Janighorban *et al.*, 2022; Mekonnen, 2022). Adolescent girls experience their sexual debut at a younger age than boys, since they typically reach puberty earlier (Pringle *et al.*, 2017). As a result, they are more likely to be exposed to risky sexual behaviours (Alawode *et al.*, 2021; Melesse *et al.*, 2020; Appollis *et al.*, 2021).

It has been documented that the use of contraceptives mitigates risky sexual behaviours such as unintended pregnancies, STDs, and risky abortions, among others (Boamah-Kaali *et al.*,

2021). The use of contraceptives also reduces unfavorable obstetric outcomes, maternal and infant mortalities and chances of discontinuation of education (Ahinkorah *et al.*, 2020; Chola *et al.*, 2023). In Sub-Saharan Africa, adolescent pregnancy and childbirth rates are high, yet the usage of contraceptives is still low due to inadequate knowledge of contraceptives and poverty (Chola *et al.*, 2023).

Risky sexual behaviours and inadequate knowledge of contraceptives among adolescent girls are public health concerns, especially in marginalized communities residing in Sub-Saharan Africa (Ferede *et al.*, 2023). Preventing these risky behaviours and improving the knowledge of contraceptives is essential in promoting sexual and reproductive health among adolescents. There is a gap in knowledge of risky sexual behaviours and knowledge of contraceptives among adolescent girls residing in Kirinyaga County, Kenya. The current study aimed to evaluate the risky sexual behaviours and knowledge of contraceptives, including associated factors among adolescent girls in Kirinyaga County, Kenya.

RESEARCH METHODOLOGY**Study design**

The current study used a cross-sectional study design using quantitative methods.

Setting

This study was conducted in Mwea East, Mwea West and Kirinyaga West Sub-Counties in Kirinyaga County, Kenya. The 2019 census documented that Kirinyaga County, which is located in central Kenya, had 610,411 residents (Kenya National Bureau of Statistics, 2019).

Participants

The study population was composed of adolescent girls aged between 10-19 years and residing in the three Sub-Counties, with an estimated population of 42,530. The study was conducted in April and May 2023.

Eligibility criteria

This study included adolescent girls aged between 10-19 years who agreed to consent and their parents/guardians provided approval. All children below 10 years and adults above 19 years were excluded.

Sample size

Cochran formula ($n = Z^2pq/d^2$) was used to compute the sample size (Kotrlík and Higgins, 2001). A proportion ($p = 0.24$) of 24% of adolescents was used at a significance level of 95% ($Z = 1.96$), with a margin error of 5% ($d = 0.05$). A sample size of 280 girls was obtained ($n = 1.96^2 * 0.24 * 0.76 / 0.05^2 = 280$). A purposive sampling design was used to select study participants. The adolescent girls were approached in the community during school holidays to minimize bias. Mwea East, Mwea West and Kirinyaga West Sub-Counties enrolled 105, 83 and 92 girls, respectively.

Quantitative variables

The dependent variables included risky sexual behaviours and knowledge of contraceptives among adolescent girls. The independent variables included adolescent girls' demographics such as age, occupation, marital status, schooling, HIV status and parent's occupation.

Data collection

Eligible participants and their parents/guardians were taken through an informed consent process by trained research assistants (nurses). Upon consenting, a structured questionnaire was utilized to collect data from sampled participants. The community health volunteers also helped in the identification of households with eligible adolescent girls.

Pretest

The data collection tools were pretested before the actual data collection in Kirinyaga Central Sub-County to test for their reliability and validity. The questions were evaluated using the Cronbach's alpha tool. A reliability coefficient of 0.78 or higher was used. The tools were revised accordingly.

Statistical data analysis

Raw data was analyzed using the SPSS (Statistical Package for Social Science) software. Categorical data were expressed as percentage, frequency, and adjusted odds ratio, while mean and standard deviation were computed in continuous data. Bivariate logistic regression analysis was used to test for an association between an independent variable and a dependent variable. Multivariate binary logistic regression was used to test for significant independent predictors using the Enter method. The level of significance was computed at $p < 0.05$.

Ethical considerations

The ethical approval was sought from Kenyatta National Hospital/University of Nairobi Ethical Research Committee (Ref: P9171/11/2023) and the Director of Health, Kirinyaga County, Department of Health, and Sanitation (Ref: CDH/RES/VOL.III (2)08). The study was conducted with the utmost standards of privacy, anonymity, and confidentiality, including the freedom to withdraw from the study.

RESULTS

Characteristics of adolescent girls

The mean age of the 280 adolescent girls was 15.50 ± 2.37 years old. Most of the girls had a secondary level of education (58.6%), followed by primary (37.5%) and tertiary levels (3.9%). In terms of occupation, the majority the girls were students (79.6%), followed by those who were unemployed (16.8%) and self-employed (3.6%). Christians were about 87.9%, while Muslims were approximately 12.1%. In terms of marital status, most of the girls

were students (74.6%), followed by those who were single (14.6%) and married (10.8%). About 63.2% of the respondent did not know their HIV status, 36.4% were HIV negative and 0.4% were HIV positive. Most parents of the adolescent girls were farmers (51.1%), followed by those who were businessmen/women (23.9%), casual laborers (18.9%) and employed (5.7%) (Table 1).

Table 1: Characteristics of adolescent girls

Variables	Frequency	Percentage
Age		
Mean (n=280)	Mean=15.50	SD =2.71
Median	Median =16	
Mode	Mode = 19	
Level of education		
Primary	105	37.5
Secondary	164	58.6
Tertiary	11	3.9
Schooling		
Yes	221	78.9
No	59	21.1
Occupation		
Unemployed	47	16.8
Student	223	79.6
Self-employed	10	3.6
Religion		
Muslim	34	12.1
Christian	246	87.9
Marital status		
Single	41	14.6
Married	30	10.8
Student	209	74.6
HIV status		
HIV negative	102	36.4
HIV positive	1	0.4
Unknown	177	63.2
Parent occupation		
Business	67	23.9
Farmer	143	51.1
Employed	16	5.7
Casual laborer	53	18.9
Total	280	100

SD = standard deviation

Risky sexual behaviours among adolescent girls

The mean age of sexual debut was 16.23 ± 1.90 years. The mean number of sexual partners was 1.64 ± 0.09 . The mean age of the sexual partners was

22.10 ± 3.48 years. Most of the sexual partners were single (51.2%), followed by those who were married (35.4%), unknown marital status (12.2%) and separated/divorced (1.2%). About 20.7% of the

girls had exchanged sex for gifts/money and approximately 65.9% had fallen pregnant. Many of the pregnancies were unintended (74.1%) and about 3.7% had procured abortions. Approximately 53.7% of the girls had children and about 69.0% of these girls had dropped out of the school (Table 2).

Table 2: Risky sexual behaviours among adolescent girls

Variable	Frequency	Percentage
Age during first intercourse (yrs.)		
Mean (n=82)	Mean =16.28 years	SD = 1.90 years
Median (n=82)	Median = 17 years	Maximum age = 19 years
Mode (n=82)	Mode =17 years	Minimum age = 10 years
Number of sexual partners you have ever had		
Mean (n=81)	Mean =1.64	SD = 0.91
Median (n=81)	Median = 1	Maximum age = 6
Mode (n=81)	Mode = 1	Minimum age = 1
Age of your current partner		
Mean (n=82)	Mean = 22.10 years	SD = 3.48 years
Median (n=82)	Median = 22 years	Maximum age = 34 years
Mode (n=82)	Mode = 20 years	Minimum age = 15 years
Marital status of your partner		
Single	42	51.2
Married	29	35.4
I don't know	10	12.2
Separated/Divorced	1	1.2
Have you ever engaged in sex in exchange for gifts or money?		
Yes	17	20.7
No	65	79.3
Have you ever fallen pregnant?		
Yes	54	65.9
No	28	34.1
How many times have you fallen pregnant?		
Mean (n=54)	Mean = 1.02	SD = 0.14
Median (n=54)	Median = 1	Minimum times = 1
Mode (n=54)	Mode = 1	Maximum times = 2
Were the pregnancies planned?		
Yes	14	25.9
No	40	74.1
Have you ever procured an abortion?		
Yes	2	3.7
No	52	96.3
Do you have a child?		
Yes	29	53.7
No	25	46.3
If you have a child, are you back in school or planning to go back to school?		
Yes	9	31.0
No	20	69.0

SD = standard deviation

Sexual debut among adolescent girls

The prevalence of sexual debut among adolescent girls was 29.3% (82/280). The univariate analysis noted that age, level of education, schooling,

occupation, religion, marital status, HIV status, parent occupation and residence were significantly associated with sexual debut among adolescent girls ($p < 0.05$; Table 3).

Table 3: Univariate analysis of sexual debut among adolescent girls

Variable	n	AORs	95% CI for AORs	p value
Age of respondents	280	2.210	1.803-2.708	<0.001
Level of education				
Primary	105	Ref.		
Secondary	164	4.711	2.389-9.289	<0.001
Tertiary	11	20.667	4.815-88.700	<0.001
Schooling				
Yes	221	Ref.		
No	59	27.915	12.871-60.544	<0.001
Occupation				
Student	223	Ref.		
Unemployed	47	66.581	22.329-198.531	<0.001
Self-employed	10	24.774	5.026-122.126	<0.001
Religion				
Muslim	34	Ref.		
Christian	246	7.711	1.803-32.979	0.006
Marital status				
Single	41	10.532	4.993-22.217	<0.001
Married	30	10889497088.85	0.000-.	0.997
Student	209	Ref.		
HIV status				
HIV negative	102	9.667	5.333-17.524	<0.001
HIV positive	1	11381754574.633	0.000-.	>0.999
Unknown	177	Ref.		
Parent occupation				
Business	67	Ref.		
Farmer	143	2.034	1.011-4.091	.047
Employed	16	1.385	0.384-4.997	.619
Casual laborer	53	1.962	0.850-4.527	.114
Location				
Mwea East	104	5.046	2.437-10.851	<0.001
Mwea West	83	5.145	2.332-11.353	<0.001
Kirinyaga west	92	Ref.		

CI = confidence interval; Ref. = reference; AORs = adjusted odd ratios

The multivariate analysis revealed that an increase in age, HIV-negative status and residing in Mwea West were significant predictors of sexual debut among adolescent girls ($p < 0.05$; Table 4). The sexual debut of girls increased by 1.709 folds as the age increased by one year. In addition, the adolescent girls who had a HIV-negative status

were 2.774 times more likely to have an early sexual debut than those whose HIV status was unknown. Further, the girls who were residing in Mwea West Sub-Counties were 4.505 folds more likely to have sexual debut than those who were residing in Kirinyaga West Sub-County (Table 4).

Table 4: Multivariate analysis on predictors of sexual debut adolescent girls

Variable	n	AORs	95% CI for AORs	p value
Age of respondents	280	1.709	1.255-2.327	0.001
Level of education				
Primary	105	Ref.		
Secondary	164	0.737	0.190-2.862	0.659
Tertiary	11	1.351	0.116-15.700	0.810
Schooling				
Yes	221	Ref.		
No	59	1.643	0.328-8.235	0.546
Occupation				
Student	223	Ref.		
Unemployed	47	1.799	0.196-16.530	0.604
Self-employed	10	0.822	0.053-12.764	0.889
Religion				
Muslim	34	Ref.		
Christian	246	3.268	0.381-28.044	0.280
Marital status				
Single	41	2.036	0.467-8.870	0.344
Married	30	67046010.7	0.000-.	0.998
Student	209	Ref.		
HIV status				
HIV negative	102	2.774	1.088-7.075	0.033
HIV positive	1	0.427	0.000-.	>0.999
Unknown	177	Ref.		
Parent occupation				
Business	67	Ref.		
Farmer	143	1.417	0.437-4.595	0.561
Employed	16	0.627	0.061-6.464	0.695
Casual laborer	53	3.023	0.720-12.691	0.131
Location				
Mwea East	104	3.193	0.959-10.633	0.059
Mwea West	83	4.505	1.241-16.349	0.022
Kirinyaga west	92	Ref.		

CI = confidence interval; Ref. = reference; AORs = adjusted odd ratios

Characteristics of knowledge of contraceptives among adolescent girls

Approximately 55.7% of girls knew about contraceptives in school, followed by peers, health facilities, mass media, social media and parents with proportions of 26.8%, 8.2%, 4.4%, 2.7% and 2.2%, respectively. About 67.8% of the girls were familiar with male condoms, followed by oral pills (19.1%), injectable (5.5%), implants (2.2%), intrauterine

devices (IUDs) (1.1%) and female condoms (0.5%). The most used contraceptives were male condoms (19.7%), followed by oral pills (6.6%), injectables (4.9%) and implants (1.6%). Approximately 67.2% of the girls had not used contraceptives. Most of the contraceptives were obtained from a chemist (65.5%), followed by health facilities (33.3%) and peers (1.7%) (Table 5).

Table 5: Characteristics of knowledge of contraceptives among adolescent girls

Variables	Frequency	Percentage
Where did you hear about contraceptives?		
School	102	55.7
Peers	49	26.8
Social media	5	2.7
Mass media	8	4.4
Health facility	15	8.2
Parent	4	2.2
Which modern contraceptives have you heard of?		
Male condom	124	67.8
Oral pills	35	19.1
Injectable	10	5.5
Implants	4	2.2
IUCD	2	1.1
None of the above	7	3.8
Female condom	1	.5
Which modern method have you used before?		
Male condoms	36	19.7
Oral pills	12	6.6
Injectables	9	4.9
Implants	3	1.6
None	123	67.2
Where do you get your contraceptive?		
Chemist	39	65.0
Peers	1	1.7
Health facilities	20	33.3

Knowledge of contraceptives among adolescent girls

Approximately 65.4% of the girls knew about contraceptives. There was a significant association between age, level of education, schooling,

occupation, marital status, having children, HIV status and parent occupation with knowledge of contraceptives among adolescent girls ($p < 0.05$; Table 6).

Table 6: Univariate analysis of knowledge of contraceptives among adolescent girls

Variable	n	AORs	95% CI for AORs	p value
Age of respondents	280	1.836	1.593-2.117	<0.001
Level of education				
Primary	105	Ref.		
Secondary	164	9.725	5.463-17.314	<0.001
Tertiary	11	19.167	2.359-155.699	0.006
Schooling				
Yes	221	Ref.		
No	59	4.298	1.946-9.493	<0.001
Occupation				
Student	223	Ref.		
Unemployed	47	4.711	1.920-11.556	0.001
Self-employed	10	1113698565.905	0.000-.	0.999
Religion				

Variable	n	AORs	95% CI for AORs	p value
Muslim	34	Ref.		
Christian	246	1.811	0.878-3.735	0.108
Marital status				
Single	41	3.464	1.468-8.175	0.005
Married	30	6.418	1.887-21.828	0.003
Student	209	Ref.		
Having children				
Yes	29	17.342	2.322-129.536	0.005
None	251	Ref.		
HIV status				
HIV negative	102	3.442	1.927-6.148	<0.001
HIV positive	1	1272798361.034	0.000-.	>0.999
Unknown	177	Ref.		
Parent occupation				
Business	67	Ref.		
Farmer	143	2.088	1.141-3.821	0.017
Employed	16	1.351	0.441-4.145	0.599
Casual laborer	53	1.236	0.595-2.567	0.571
Location				
Mwea East	104	1.468	0.817-2.637	0.199
Mwea West	83	1.395	0.751-2.594	0.292
Kirinyaga west	92	Ref.		

CI = confidence interval; Ref. = reference; AORs = adjusted odd ratios

Using multivariate analysis, it was evident that an increase in age and having a parent who was a farmer were significant independent predictors of knowledge of contraceptives among adolescent girls ($p < 0.05$; Table 7). The knowledge of contraceptives increased by more than 1.753 times

as the age of the girls increased by one year. The girls who had farmer parents were 2.762 folds more likely to have knowledge of contraceptives than those whose parents were businessmen/women (Table 7).

Table 7: Multivariate analysis on predictors of knowledge of contraceptives among adolescent girls

Variable	n	AORs	95% CI for AORs	p value
Age of respondents	280	1.753	1.390-2.209	<0.001
Level of education				
Primary	105	Ref.		
Secondary	164	1.815	0.739-4.460	0.194
Tertiary	11	3.685	0.086-157.94	0.496
Schooling				
Yes	221	Ref.		
No	59	1.175	0.237-5.824	0.878
Occupation				
Student	223	Ref.		
Unemployed	47	0.554	0.057-5.371	0.610
Self-employed	10	63824042.231	0.000-.	0.999
Marital status				
Single	41	1.418	0.207-9.694	0.722
Married	30	Ref		

Variable	n	AORs	95% CI for AORs	p value
Student	209	1.857	0.449-46.365	0.607
Having children				
Yes	29	4.561	0.449-46.365	0.200
None	251	Ref.		
HIV status				
HIV negative	102	1.101	0.487-2.487	0.817
HIV positive	1	93545438.017	0.000-.	>0.999
Unknown	177	Ref.		
Parent occupation				
Business	67	Ref.		
Farmer	143	2.762	1.223-6.326	0.014
Employed	16	1.518	0.347-6.645	0.580
Casual laborer	53	1.062	0.404-2.793	0.903

CI = confidence interval; Ref. = reference; AORs = adjusted odd ratios

DISCUSSION

This study found that adolescent girls had risky sexual behaviours and inadequate knowledge of contraceptives. The mean age of sexual debut was 16.23 ± 1.90 years old. Previous studies in Ethiopia (Tewahido *et al.*, 2023) and Tanzania (Millanzi *et al.*, 2023) reported slightly lower means of 14.50 and 15.00 ± 1.87 years, respectively. A study in Nigeria (Olorunsola *et al.*, 2021) reported a slightly higher mean of 18.82 ± 2.80 years. Although opinions on what age constitutes an "early" sexual debut vary, many people believe that having sex before the age of 15 years is a risky sexual behavior (Kushal *et al.*, 2022). Although the mean age of the sexual debut was above 15 years, some girls were sexually active as early as 10 years, suggesting a sexual and reproductive health concern.

Sexual debut is associated with risky sexual behaviours such as unintended pregnancy, risky abortions, quitting school and having multiple sexual partners (Millanzi *et al.*, 2023; Tewahido *et al.*, 2023). In this study, it was noted that most of the adolescent girls had multiple sexual partners, engaged sexually with older partners, engaged in commercial sex, had unplanned pregnancies, procured abortions, and dropped out of school. This implied that risky sexual behaviours were a public health concern among adolescent girls in this region.

The prevalence of sexual debut of 29.2% was reported among adolescent girls. The prevalence was slightly lower relative to those reported in Sub-Saharan Africa (Ferede *et al.*, 2023) and Rwanda (Hémono *et al.*, 2023) at 46.39% and 57.5%, respectively. The prevalence was also slightly higher than those reported in India (Gupta *et al.*, 2020) and Uganda (Omona and Ssuka, 2023) at 16.9% and 22.6%, respectively. Given the high prevalence of 29.2% in this study, precautions against risky sexual behaviours must be taken in consideration.

The current study also noted that age, level of education, schooling, occupation, religion, marital status, HIV status, residence and parent occupation were significantly associated with the sexual debut. The findings from this study were consistent with those of other similar studies. For instance, studies in Nigeria (Harold and Sekoni, 2023), Bangladesh (Abdulla *et al.*, 2023) and Kenya (Ogutu and Chege, 2023) reported that some of the factors such as age, parent occupation, religion, level of education and residence were associated with sexual debut.

In addition, the increase in age, having a negative HIV status and residing in the Mwea West were significant independent predictors of sexual debut in adolescent girls. The increase in age could have increased the curiosity of the adolescent girls to experiment their sexuality for the first time. Having

tested HIV negative could have increased prospects of the adolescent girls to find a sexual partner. The high prevalence of sexual debut in the Mwea West could be attributed to high economic activities and the high rate of school dropouts in the region (Mari, 2015).

This study also revealed that approximately 65.4% of the adolescent girls knew about contraceptives. Most of the adolescent girls acquired knowledge of contraceptives in school. About 32.7% of the girls had used modern contraceptives such as male condoms, oral pills, injectables and implants. Similar studies in Rwanda (Ngerageze *et al.*, 2022) and Nigeria (Tchokossa and Adeyemi, 2018) reported a slightly lower knowledge of contraceptives of 61.54% and 61.5%, respectively. The knowledge of contraceptives among adolescent girls seemed inadequate. The high incidence of unplanned pregnancies and unsafe abortions are largely caused by inadequate knowledge of contraceptives (Ahinkorah *et al.*, 2020). This suggested that the unplanned pregnancies and abortions that were reported in this study could be ascribed to the lack of adequate knowledge of contraceptives.

There was a significant relationship between adolescent girls' knowledge of contraceptives and age, level of education, schooling, marital status, occupation, having children, HIV status, and occupation of the parent. These findings corroborated with previous studies in Rwanda (Ngerageze *et al.*, 2022) and Nigeria (Tchokossa and Adeyemi, 2018) that documented that some of the factors such as level of education and age were associated with knowledge of contraceptives.

The increase in age and having a parent who was a farmer were significant independent predictors of knowledge of contraceptives. The increase in the age of the girls could have resulted in the acquisition of more knowledge on contraceptives, either through social media, school, health programs or peers. Farmers usually have more time to interact with their adolescents and from such interactions,

they might have an opportunity to discuss about contraceptives.

CONCLUSIONS

This study concluded that adolescent girls were exposed to risky sexual behaviours such as early sexual debut, unintended pregnancies, abortion, and discontinuation of education. The increase in age, having a negative HIV status and living in Mwea West were significant independent predictors of sexual debut. On the other hand, the knowledge of contraceptives was inadequate. The increase in age and having a parent who was a farmer were significant independent predictors of knowledge of contraceptives among adolescent girls.

Recommendations

The study recommends the implementation of better strategies to safeguard against risky sexual behaviours and support knowledge of contraceptives among adolescent girls in Kirinyaga County, Kenya.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHORS CONTRIBUTION

Irungu Loise Wanjiku and Muiri James Mugo conceived the idea. Karanja Perpetua Wanjiku and Njagi Joseph developed the study design and oversaw recruitment and data collection. All authors participated in data analysis and interpretation, as well as the development of the manuscript.

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REFERENCE

- Abdulla, F., Hossain, M. M., & Rahman, A. (2023). Determinants of early sexual initiation among female adolescents in Bangladesh: Evidence from a countrywide cross-sectional survey. *Public Health*, 223, 102-109.
- Ahinkorah, B. O., Hagan, J. E., Seidu, A.-A., Sambah, F., Adoboi, F., Schack, T., & Budu, E. (2020). Female adolescents' reproductive health decision-making capacity and contraceptive use in sub-Saharan Africa: What does the future hold? *PLOS ONE*, 15(7), e0235601.
- Alawode, O. A., Ogunwemimo, H., Bolorunduro, M.-E., & Awolaye, A. F. (2021). Age at Sexual Debut and Multiple Sexual Partnerships among Adolescents in Nigeria: An Assessment of the Mediating Role of the Knowledge of Sexually Transmitted Infections. *Adolescents*, 1(4), 421-432.
- Appollis, T. M., Jonas, K., Beauclair, R., Lombard, C., Duby, Z., Cheyip, M., ... & Mathews, C. (2021). Early Sexual Debut and the Effects on Well-Being among South African Adolescent Girls and Young Women Aged 15 to 24 Years. *International journal of sexual health: official journal of the World Association for Sexual Health*, 34(2), 242-253.
- Badillo-Viloria, M., Mendoza-Sánchez, X., Barreto Vásquez, M., & Díaz-Pérez, A. (2020). Comportamientos sexuales riesgosos y factores asociados entre estudiantes universitarios en Barranquilla, Colombia, 2019. *Enfermería Global*, 19(3), 422-449.
- Boamah-Kaali, E. A., Mevissen, F. E., Owusu-Agyei, S., Enuameh, Y., Asante, K. P., & Ruiter, R. A. (2021). A qualitative exploration of factors explaining non-uptake of hormonal contraceptives among adolescent girls in rural Ghana: the adolescent girls' perspective. *Open Access Journal of Contraception*, 12, 173-185.
- Chola, M., Hlongwana, K., & Ginindza, T. G. (2023). Understanding adolescent girls' experiences with accessing and using contraceptives in Zambia. *BMC Public Health*, 23(1), 2149.
- Ferede, T. A., Muluneh, A. G., Wagnew, A., & Walle, A. D. (2023). Prevalence and associated factors of early sexual initiation among youth female in sub-Saharan Africa: A multilevel analysis of recent demographic and health surveys. *BMC Women's Health*, 23(1), 147.
- Gupta, N., Anwar, A., Varun, N., Paneesar, S., & Nigam, A. (2020). Adolescent sexual behaviour and its determinants: A hospital-based study. *Journal of Family Medicine and Primary Care*, 9(11), 5511.
- Harold, I., & Sekoni, O. O. (2023). Factors Associated with Early Sexual Debut among Senior Secondary School Students in Okrika Local Government Area, Rivers State, Nigeria. *International Journal of Research and Reports in Gynaecology*, 6(1), 10-23.
- Hémono, R., Gatare, E., Kayitesi, L., Hunter, L. A., Kunes, J., Packel, L., Hope, R., & McCoy, S. I. (2023). Measuring sexual behavior among in-school youth in Rwanda: A cross-sectional analysis of self-reported timing of first sex and correlates of early sexual debut. *Annals of Epidemiology*, 83, 35-39.
- Janighorban, M., Boroumandfar, Z., Pourkazemi, R., & Mostafavi, F. (2022). Barriers to vulnerable adolescent girls' access to sexual and reproductive health. *BMC Public Health*, 22(1), 2212.
- Kenya National Bureau of Statistics (2019). 2019 Kenya Population and Housing Census Volume I: Population by County and Sub-County. (n.d.). Kenya National Bureau of Statistics. Retrieved January 18, 2024, from <https://www.knbs.or.ke/download/2019-kenya-population-and->

- housing-census-volume-i-population-by-county-and-sub-county/.
- Kotrlik, J. W. K. J. W., & Higgins, C. C. H. C. C. (2001). Organizational research: Determining appropriate sample size in survey research appropriate sample size in survey research. *Information technology, learning, and performance journal*, 19(1), 43.
- Kushal, S. A., Amin, Y. M., Reza, S., Hossain, F. B., & Shawon, M. S. R. (2022). Regional and Sex Differences in the Prevalence and Correlates of Early Sexual Initiation Among Adolescents Aged 12–15 Years in 50 Countries. *Journal of Adolescent Health*, 70(4), 607-616.
- Maaan, A., Yadav, M. K., Chaudhary, S. S., & Manisha. (2021). A study on sexual behaviour practiced by the adolescent and its source of inspiration. *International Journal Of Community Medicine And Public Health*, 8(4), 1911-1916.
- Mari, C. W. (2015). Investigating factors contributing to early pregnancies and their effects on girl child performance in Mwea West, Kirinyaga county. Thesis submitted to Mount Kenya University.
- Mekonnen, G. A. (2022). Determinants of Risky Sexual Behaviours Among Adolescents: In Cases of Selected High School Students. *International Journal of Social Ecology and Sustainable Development (IJSESD)*, 13(1), 1-13.
- Melesse, D. Y., Mutua, M. K., Choudhury, A., Wado, Y. D., Faye, C. M., Neal, S., & Boerma, T. (2020). Adolescent sexual and reproductive health in sub-Saharan Africa: who is left behind?. *BMJ global health*, 5(1), e002231.
- Millanzi, W. C., Osaki, K. M., & Kibusi, S. M. (2023). Attitude and prevalence of early sexual debut and associated risk sexual behavior among adolescents in Tanzania; Evidence from baseline data in a Randomized Controlled Trial. *BMC Public Health*, 23(1), 1758.
- Ngerageze, I., Mukeshimana, M., Nkurunziza, A., Bikorimana, E., Uwishimye, E., Mukamuhirwa, D., Mbarushimana, J., Bahaya, F., Nyirasafari, E., Mukabizimana, J., Niyitegeka, P., Mukandayisaba, D., Tuyishimire, M. L., & Mukanohehi, V. (2022). Knowledge and Utilization of Contraceptive Methods among Secondary School Female Adolescents in Rwamagana District, Rwanda. *Rwanda Journal of Medicine and Health Sciences*, 5(1), 71-84.
- Ogutu, G. M., & Chege, S. M. (2023). Early Sexual Debut and the Associated Factors among School Going Adolescents in Selected Schools in Kenya. *East Africa Health Research Journal*, 7(2), 309-317.
- Olorunsola, A. M., Muyibi, S. A., Irabor, A. E., Adetunji, A. A., Ismail, W. O., & Ogunniyan, T. (2021). Pattern and predictors of sexual behaviour among adolescents in Ibadan, South West, Nigeria. *Arch Community Med Public Health*, 7(2), 175-81.
- Omona, K., & Ssuka, J. K. (2023). Early sexual debut and associated factors among adolescents in Kasawo Sub-County, Mukono district, Uganda. *Cogent Public Health*, 10(1), 2183561.
- Pringle, J., Mills, K. L., McAteer, J., Jepson, R., Hogg, E., Anand, N., & Blakemore, S.-J. (2017). The physiology of adolescent sexual behaviour: A systematic review. *Cogent Social Sciences*, 3(1), 1368858.
- Statista (2024). Kenya: Adolescent population 2010-2023. Statista. Retrieved January 18, 2024, from <https://www.statista.com/statistics/1266425/adolescent-population-in-kenya/>
- Tewahido, D., Worku, A., Tadesse, A. W., & Berhane, Y. (2023). Communication self-efficacy and contraceptive use at sexual debut among rural adolescent girls in Ethiopia.

Ethiopian Journal of Reproductive Health,
15(3), 20-29.

Tchokossa, M. A., & Adeyemi, B. A. (2018).
Knowledge and use of contraceptives among
female adolescents in selected senior secondary
schools in Ife Central Local Government of
Osun State. *International Journal of Caring
Sciences*, 11(3), 1647-1661.

WHO (2024a). Adolescent health. Retrieved
January 18, 2024, from <https://www.who.int/health-topics/adolescent-health>

WHO (2024b). Where are the African adolescents
and youth in the SDGs? Working together for
their health, well-being and agency. Retrieved
January 18, 2024, from <https://pmnch.who.int/news-and-events/events/item/2022/02/25/default-calendar/where-are-the-african-adolescents-and-youth-in-the-sdgs>