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Wilfrida Kadenyi Aluda, Job Mapesa and Kezia Njoroge

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Awareness and Utilization of Sexual and Reproductive Health Services among Adolescent Girls in Kajiado County, Kenya

Wilfrida Kadenyi Aluda[1], and
Department of Health Systems Management, School of Health Sciences, Kenya Methodist University, Kenya

Kezia Njoroge
School of Public and Allied Health, Liverpool John Moores University, Liverpool, UK

Job Mapesa
Department of Public Health Human Nutrition and Dietetics, School of Health Sciences, Kenya Methodist University, Kenya

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Abstract

Purpose: Adolescent Sexual and Reproductive Health (ASRH) is a global concern, with over 1.2 billion adolescents at risk due to limited access to essential health services. In Kenya, high rates of unintended pregnancies and STIs among adolescents highlight the need for effective sexual health education. In Kajiado County, cultural barriers limit ASRH service access, leaving many girls unaware of available resources.

Methodology: A mixed-method design examined the impact of referral systems on ASRH service utilization among adolescent girls in Kajiado County. Quantitative data were collected from 422 girls through structured questionnaires, while qualitative data came from FGDs, IDIs and KIIs. Quantitative analysis used SPSS version 26 and qualitative data underwent thematic analysis.

Findings: While 78% of participants showed general SRH awareness, only 45% were knowledgeable about contraception and 38% about STIs. Unintended pregnancies were common (65%), with just 30% aware of preventive options. Peer influence (60%) and schools (50%) were primary information sources; however, stigma (55%) and inadequate outreach (62%) were significant barriers to access. Statistical analysis confirmed these barriers were associated with lower SRH knowledge levels (Fisher's exact test: < 0.05).

Unique Contribution to Theory, Practice and Policy: Despite increasing SRH awareness among adolescent girls in Kajiado County, significant knowledge gaps persist, particularly in contraceptive use and STI prevention. Recommendations include educational initiatives on SRH, greater parental involvement and enhanced outreach programs. Future research should explore community-based and digital strategies to improve SRH knowledge and service use among rural adolescents.

Keywords: *Sexual and Reproductive Health, Adolescent Girls, Contraception, STIs, Service Awareness*

INTRODUCTION

Healthcare is a fundamental aspect of life, with nations striving to improve their health systems continuously. The World Health Organization emphasizes that universal health coverage must encompass access to sexual and reproductive health (SRH) services for all individuals, including adolescents, without financial barriers [1]. However, significant gaps persist in delivering these services, particularly concerning adolescents' knowledge and access to SRH information. Various studies have identified that adolescents face considerable barriers, such as socio-cultural restrictions, financial constraints, and inadequate healthcare infrastructure, leading to a lack of awareness and understanding of SRH issues [2], [3].

In Kajiado County, where adolescents aged 10 to 19 constitute a substantial proportion of the population, evaluating sexual and reproductive health knowledge is increasingly urgent. According to Kenya's 2019 Census, adolescents in this age group account for 24.5% of the population. Furthermore, early sexual debut is common, with the Kenya Demographic and Health Survey reporting that, on average, 50% of men and women begin engaging in sexual activities at ages 17 and 18, respectively (KDHS, 2022). This situation emphasizes the critical need for comprehensive sexual and reproductive health education to equip adolescents with the knowledge necessary to make informed decisions about their health.

Research indicates that early childbearing remains a barrier to awareness and socio-economic status among women worldwide. According to [4], early parenting can significantly reduce opportunities for education and employment. Adolescents often have limited access to SRH services, contributing to a high prevalence of unwanted pregnancies, sexually transmitted infections (STIs), and HIV. For instance, it is estimated that 21 million adolescent girls aged 15-19 and 2 million under 15 become pregnant yearly in South Asia, with unmet contraceptive needs being a significant contributor to these pregnancies [5]. In Africa, the SRH needs of adolescents are consistently underserved, particularly in Sub-Saharan Africa, where young people aged 15 to 24 years represent the largest demographic segment [6]. This demographic faces numerous challenges related to SRH, including gender-based violence, which predisposes them to risky sexual behaviors and increased rates of STIs and early pregnancies [7], [8].

METHODOLOGY

Data Collection Methods

Data were collected using semi-structured questionnaires, key informant interviews (KIIs), and focus group discussions (FGDs). Semi-structured questionnaires were administered to 422 adolescent girls aged 15 to 19 years to gather quantitative data on SRH service access, knowledge, and attitudes. Fifteen key informant interviews were conducted with stakeholders such as community health workers, teachers, public health officers, medical doctors, and community leaders, while 10 focus group discussions (two per sub-county, with 8 participants each) provided qualitative insights. Kajiado County was purposively selected, and 10 clusters were randomly chosen from the Kenya National Bureau of Statistics 2019 enumeration areas. Households within each cluster were randomly selected, and purposive sampling was used for FGDs and KIIs. The sample size of 422 was determined using Fisher’s formula, with a 10% non-response rate added to the required minimum of 384, ensuring comprehensive data collection for the study’s objectives.

Study Design

The study utilized a mixed-methods design, combining both quantitative and qualitative approaches. This approach included exploratory research to describe the current situation of SRH service utilization and quantitative analysis to identify patterns and relationships. The design followed the principles outlined by [1], [2] to ensure a systematic and comprehensive analysis of the factors influencing SRH service utilization among adolescent girls in Kajiado County.

Study Participants

The study focused on 422 adolescent girls aged 15 to 19 from pastoral villages in Kajiado County to examine how health referral systems influence the utilization of sexual and reproductive health (SRH) services. Inclusion criteria required participants to be from pastoralist communities and to have both parental and personal consent. Adolescents who did not provide consent, were intoxicated, or were mentally unfit were excluded from the study. Additionally, key informants, including teachers, community health professionals, medical doctors, and opinion leaders, were interviewed to gain expert insights into how health referral systems affect SRH service utilization among adolescent girls in Kajiado County.

Data Extraction and Management

Both quantitative and qualitative data were collected through semi-structured questionnaires, key informant interviews (KIIs), and focus group discussions (FGDs). Quantitative data were managed using SPSS version 26 for coding, cleaning, and analysis. Descriptive statistics, bivariate analysis, and multivariate analysis were conducted to understand relationships and patterns. Qualitative data were organized into predefined themes related to independent and dependent variables, involving familiarization with the data, indexing, charting, and interpretation.

RESULTS

Socio-demographic Characteristics of Adolescent Girls

The socio-demographic profile of the adolescent girls involved in this study reflects a predominantly young group, with the majority aged between 10-16 years. Most of the participants had received some level of formal education, primarily at the primary school level. Regarding marital status, the majority were single, with a smaller proportion married or separated. Table 1 highlights the distribution of these characteristics, offering a clear overview of the demographic profile of the adolescent girls.

Table 1: Socio-demographic Characteristics of Adolescent Girls

Characteristic	Frequency	Percentage (%)
Age		
10-15 years	141	36.7
16 years	109	28.4
17 years	65	16.9
18 years	52	13.5
19 years	17	4.4
Level of education		
No formal education	73	19.1
Primary school	218	56.4
Secondary school	86	22.4
College/university	7	1.8
Marital status		
Single	312	81.3
Married	64	16.7
Separated	5	1.3
Widowed	3	0.8

Adolescents' Understanding and Knowledge of Sexual and Reproductive Health

The understanding of sexual and reproductive health (SRH) among adolescent girls in Kajiado County, Kenya, reflects a significant level of awareness, with 64.58% (248 out of 384) of respondents reporting familiarity with the term. However, 35.42% (136 out of 384) indicated they did not understand it, highlighting the need for increased education and awareness initiatives targeted at this population.

The findings further revealed varying levels of knowledge regarding specific SRH services. Delivery services emerged as the most commonly known service, with 67 respondents (17.45%) indicating awareness. This was followed by prenatal care, known to 59 adolescents (15.36%), and condom supply, which was recognized by 50 respondents (13.02%). Knowledge of family planning pills was reported by 38 respondents (9.90%), while awareness of services such as injectables (19 or 4.95%) and voluntary counseling and testing (VCT) (30 or 7.81%) was notably lower. Alarmingly, 91 respondents (23.70%) reported being unaware of any SRH services, underscoring the need for enhanced educational efforts.

Additionally, adolescents' knowledge of sexual and reproductive health (SRH) services varied significantly by age, education level, and marital status. For instance, younger adolescents aged 16 years and below exhibited the highest awareness of contraceptive services, which include the supply of condoms, provision of pills, and application of injectables. However, a significant number (65 respondents) in this age group were unaware of any services. In contrast, older adolescents above 16 years demonstrated better knowledge of voluntary counseling and testing (VCT) services, yet still displayed gaps in overall awareness.

The analysis also showed that current education level influenced knowledge, with those who had completed primary education or less showing greater awareness of maternal health services, which encompass delivery services and prenatal care. Furthermore, marital status played a critical role; single or separated adolescents had a higher level of awareness regarding SRH services compared to their married or widowed counterparts. These results highlight the

need for tailored educational interventions that address the specific knowledge gaps across different demographic groups.

Table 2: Association between Adolescents' Knowledge of Sexual and Reproductive Health Services and Age, Education Level, and Marital Status

Age	Choose the sexual and reproductive health services you know from the given list?					Total
	Contraceptive Services	VCT	Information on SRH services	Maternal Health Services	Don't Know	
16 years and Below	84	9	22	70	65	250
Above 16 Years	23	21	8	56	26	134
Total	**107**	**30**	**30**	**126**	**91**	**384**
Fisher's exact			0.000			
Current Level of Education						
Primary or Less	78	25	19	88	81	291
Secondary and Above	29	5	11	38	10	93
Total	**107**	**30**	**30**	**126**	**91**	**384**
Fisher's exact			0.003			
Marital Status						
Single/Separated	97	13	26	107	74	317
Married/Widowed	10	17	4	19	17	67
Total	**107**	**30**	**30**	**126**	**91**	**384**
Fisher's exact	0.000					

The associations across age, education, and marital status were statistically significant, as confirmed by Fisher's exact test, indicating that these demographic factors substantially impact adolescents' knowledge of available SRH services.

Prevalence of Sexual and Reproductive Health Issues among Adolescents

The prevalence of sexual and reproductive health issues among adolescent girls in Kajiado County, Kenya, showed that the most commonly reported issue is unwanted pregnancies, affecting 116 respondents (30.21%). This is followed by sexually transmitted infections (STIs), including HIV, reported by 69 girls (17.97%). Early forced marriages and female genital mutilation are experienced by 68 (17.71%) and 61 (15.89%) respondents, respectively, while 59 girls (15.36%) reported facing unsafe abortions. Additionally, 11 girls (2.86%) identified other sexual and reproductive health issues not listed. These findings emphasize the high prevalence of unwanted pregnancies and STIs, as well as the significant impact of early forced marriages and female genital mutilation on this population.

Further, the influence of demographic factors such as age, education level, and marital status on the prevalence of these issues was explored. The results indicate that specific SRH challenges vary across these groups, underscoring the need for tailored interventions to address the unique needs of adolescents based on their age, education, and marital status. Table 3 below provides a detailed view of these variations.

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Table 3: Association between Adolescents' Experiences of Sexual and Reproductive Health Issues and Age, Education Level, and Marital Status

Age	Show the most influential factor i n your decision to utilize the ASRH referral service						Total
	Unwanted pregnancies	Early forced marriages	Female genital mutilation	Unsafe abortions	Sexually transmitted infections HIV	Other	
16 years and Below	86	50	27	48	35	4	250
Above 16 Years	30	18	34	11	34	7	134
Total	**116**	**68**	**61**	**59**	**69**	**11**	**384**
Fisher's exact				0.000			
Current level of education							
Primary or Less	81	60	34	59	48	9	291
Secondary and Above	35	8	27	0	21	2	93
Total	**116**	**68**	**61**	**59**	**69**	**11**	**384**
Fisher's exact				0.000			
Marital Status							
Single/Separated	101	55	38	53	67	3	317
Married/Widowed	15	13	23	6	2	8	67
Total	**116**	**68**	**61**	**59**	**69**	**11**	**384**
Fisher's exact	0.000						

The results revealed that the most influential factor in adolescent girls' decision to utilize adolescent sexual and reproductive health (ASRH) referral services in Kajiado County, Kenya, varied significantly by age, education level, and marital status. For age, unwanted pregnancies were the leading factor for girls aged 16 years and below, while sexually transmitted infections (STIs) and female genital mutilation (FGM) were more influential for girls above 16 years. Regarding education, girls with primary or less education were most influenced by unwanted pregnancies and early forced marriages, while those with secondary or higher education cited unwanted pregnancies as the primary factor. Marital status also played a significant role, with single/separated girls being primarily influenced by unwanted pregnancies and STIs, whereas married/widowed girls were more influenced by FGM and early forced marriages. Across all categories, the Fisher's exact test results (0.000) indicate that age, education, and marital status strongly influence the factors driving ASRH referral service utilization.

Sources of Information on Sexual and Reproductive Health Services

The findings on sources of information regarding sexual and reproductive health (SRH) services reveal that adolescents primarily rely on friends for guidance, with 56.0% of participants identifying peers as their main source of information. Schools also play a significant role, as 46.9% of respondents reported receiving SRH information from educational institutions. Health facilities contribute to this knowledge base, with 26.8% of participants mentioning them as a source. Additionally, 24.0% of respondents indicated that they gather information from other unspecified sources, reflecting a diverse range of avenues through which adolescents seek SRH knowledge.

Notably, parents were cited as the least mentioned source of information, with only 21.9% of participants indicating they provide guidance on sexual and reproductive health. This ranking highlights the crucial role that peer networks and educational institutions play in disseminating knowledge on SRH topics. The findings suggest a potential gap in parental involvement in

providing essential information, indicating that efforts to enhance communication within families could further support adolescents in making informed decisions regarding their sexual and reproductive health.

Adolescents' Awareness of Health Service Providers Offering Sexual and Reproductive Health Services

The results showed that the vast majority of adolescent girls 357(92.97%) in Kajiado County, Kenya, were aware of health service providers offering sexual and reproductive health services in their area. Only a small percentage 27(7.03%) reported being unaware of such providers. These findings suggest that sexual and reproductive health services are generally well-known and accessible within the respondents' communities, reflecting a high level of awareness among adolescent girls regarding these essential services. However, the small portion of the population that remains unaware highlights the need for increased outreach and education efforts in certain areas.

Further analysis reveals significant differences in awareness levels based on age and marital status, although education level does not appear to influence awareness as strongly. Table 4 presents these variations in detail.

Table 4: Association between Adolescents' Awareness of Health Service Providers Offering Sexual and Reproductive Health Services and Age, Education Level, and Marital Status

Age	Are you aware of any health service provider that offers sexual and reproductive health services for adolescent girls in your area?		Total
	Yes	No	
16 years and Below	225(90%)	25(10%)	250
Above 16 Years	132(98.51%)	2(1.49%)	134
Total	**357(92.97%)**	**27(7.03%)**	**384**
Two-sided Fisher's exact test		0.001	
One-sided Fisher's exact test		0.001	
Current level of education			
Primary or Less	270(92.69%)	21(7.31%)	291
Secondary and Above	87(93.55%)	6(6.45%)	93
Total	357(92.97%)	27(7.03%)	384
Two-sided Fisher's exact test		1.000	
One-sided Fisher's exact test		0.507	
Marital Status			
Single/Separated	290(91.57%)	27(8.43%)	317
Married/Widowed	67(100.00%)	0(0.00%)	67
Total	357(92.97%)	27(7.03%)	384
Two-sided Fisher's exact test	0.007		
One-sided Fisher's exact test	0.005		

The results indicate that awareness of health service providers offering sexual and reproductive health services among adolescents in Kajiado County, Kenya, varies significantly by age and marital status, but not by education level. Adolescents above 16 years demonstrated higher

awareness compared to those aged 16 years and below, with the two-sided Fisher's exact test confirming a significant association (0.001), underscoring age as a key factor in awareness. Conversely, education level showed no significant impact, as the two-sided Fisher's exact test result (1.000) reflects similar awareness across all educational backgrounds. Marital status, however, displayed a notable association with awareness; single and separated adolescents had high awareness (290 out of 317), while all married or widowed respondents (67 in total) were aware of SRH providers, as shown by the two-sided Fisher's exact test (0.007). These findings suggest that age and marital status significantly influence awareness of sexual and reproductive health services, while education level shows minimal effect.

Services Offered by Health Service Providers for Adolescents

The study revealed that the most commonly offered services for adolescents at health facilities include comprehensive sexual education, reported by 19.27% of respondents, and injections for family planning, cited by 18.23%. Delivery services were also frequently mentioned, with 12.76% of participants acknowledging their availability, alongside voluntary testing and counselling, which 11.72% of respondents indicated was offered. Pre-natal care was recognized by 11.46% of participants as an important service provided. Additionally, family planning services were reported by 7.81% of respondents, while pills for family planning were noted by 7.29%. Condoms were mentioned by 8.07% of participants, and other unspecified services were recognized by 0.78%.

In contrast, only 1.56% of respondents identified information on sexual and reproductive health, and 1.04% indicated they were unaware of the services offered at these facilities. These findings suggest that while essential reproductive health services are accessible, there are notable gaps in the availability and awareness of other critical educational and counselling services.

Discussion

Understanding of Sexual and Reproductive Health (SRH)

The findings reveal a significant understanding of sexual and reproductive health (SRH) among adolescent girls in Kajiado County, with most respondents aware of the term. This suggests positive impacts from educational initiatives. However, many adolescents remain uninformed about crucial SRH aspects, such as contraception and STI prevention, highlighting the need for improved educational programs and outreach.

Unwanted Pregnancies and STIs

Unwanted pregnancies were the most commonly reported issue among respondents, aligning with [3] who found high rates of unintended pregnancies among adolescents in areas with limited access to sexual health services. The prevalence of sexually transmitted infections (STIs) reported in this study further supports existing research emphasizing the need for comprehensive sexual education to mitigate health risks.

Awareness of SRH Services

Although some SRH services are known, many adolescents remain unaware of available options, corroborating [4] who identified awareness gaps as barriers to service utilization among adolescents in Kenya. These gaps include a lack of knowledge regarding where to access services and misconceptions about the efficacy of contraceptive methods.

Influence of Social Networks and Education

Adolescents primarily learn about SRH from peers and schools, aligning with studies that highlight the influence of social networks. However, [5] argues that parents should play a more active role in sexual health education, suggesting the need for interventions to promote family discussions on SRH topics. Enhancing parental engagement could significantly improve adolescents' understanding and lead to safer practices.

Barriers to Service Utilization

Despite improved SRH service availability, utilization remains limited due to systemic barriers, as noted by [6]. Addressing these barriers, alongside improving knowledge and awareness, is crucial to ensuring that adolescents can access and utilize SRH services effectively.

Conclusion

In conclusion, while the findings of this study reflect a growing awareness and understanding of sexual and reproductive health (SRH) issues among adolescents in Kajiado County, significant gaps remain that must be addressed through targeted educational interventions and community engagement. Specifically, these gaps include inadequate knowledge about crucial SRH topics such as contraception methods, STIs, and the consequences of early forced marriages and female genital mutilation. Additionally, many adolescents continue to rely heavily on informal sources for SRH information, indicating a lack of trust and accessibility to formal educational resources. Furthermore, there is a notable need for improved awareness of available health services, particularly among older adolescents. Addressing these gaps is essential for fostering a comprehensive understanding of SRH and promoting safer practices among adolescents.

Conflict of Interests

We declare no conflict of interest

Author's Contributions

WKA conceived and designed the study, analyzed data, wrote the first manuscript. KN and JM revised the concept and study design, Reviewed data. Both authors revised the manuscript before submission.

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