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Empowering Communities against Harmful Social Practices through Integrated Water Hygiene and Sanitation and Alternative Rites of Passage Model in Kajiado County, Kenya

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Keywords:

Water Hygiene and Sanitation, Alternative rites of Passage, Female Genital Mutilation/Cutting.

Background: In Kajiado County, water, sanitation, and hygiene interventions have been independently implemented in communities that have been targeted with sexual health rights interventions. This approach only achieves a set of disjointed achievements and thus the need for integration. This project implemented and tested the effectiveness of the Integrated Water Hygiene and Sanitation and Sexual Reproductive Health Rights (SRHR) Model to address harmful practices against young girls in the county. This model was implemented on the assumption that addressing a pressing need of the community through providing access to Water hygiene and sanitation services provides a platform to discuss SRHR matters leading to positive change towards WASH and SRHR behaviours such as reduction of FGM, teenage pregnancies and early forced marriages. **Methods:** A before and after design that compared baseline and endline evaluation data was used to establish the effectiveness of the model. The study was conducted in 4 sub-counties. Data was collected through household surveys. Adolescent Girls and Young Women (AGYW) aged 10-24 years were included. Data were analysed using proportions, frequencies, odds ratios, and adjusted odds ratios. **Results:** Prevalence of FGM/C dropped to 55.2% from 91% at baseline. More circumcised women (79.5% end line; 28% at baseline) reported that they wished they had not been circumcised. An increase in participants who had ever heard messages of ARP (91.6% end line; 47% baseline) was reported. Approximately 98.1% believed that ARP is acceptable to the community as a means of progressing girls to womanhood. Young girls and Women were more likely to undergo FGM/C if they did not have access to a toilet (AOR, 2.32; 95% CI, 1.50 to 3.59), had never heard of ARP (AOR, 2.50; 95% CI, 1.54 to 4.04) and were not sure if ARP would be acceptable in the community (AOR, 0.51; 95% CI, 0.27 to 0.97). Odds of ever being circumcised were less likely among those that stated that FGC should not continue (AOR, 0.11; 95% CI, 0.01 to 0.81) and had been part of the intervention (AOR, 0.25; 95% CI, 0.17 to 0.38). **Conclusions:** There is a link between addressing WASH gaps (community-felt needs) in Kajiado and the reduction of FGM/C. Addressing community pressing needs provides a

platform to address sensitive social-cultural practices. Recommendations of further studies to explore contextual factors that affect the implementation of this model.

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INTRODUCTION

Many adolescent girls in developing countries suffer major rights violations and have limited future prospects because of child marriages, teenage pregnancies and female genital mutilation/cutting (FGM/C) (UNICEF, 2020a). Adolescent girls are at a higher risk of illness and even death from female genital mutilation and pregnancy/birth-related complications that could potentially lead to loss of lives for both the mother and the child (Loaiza & Wong, 2012; Unfpa/Unicef, 2013; UNFPA, 2018). FGM practice in Kenya still persists despite decades of joint and sustained efforts by implementing partners, donors, and the national and county governments. In the Maasai community, FGM/C is a deep-rooted social practice and is believed to be a precursor for marriage and womanhood (Kina, 2004). There still exist huge gaps in knowledge on sexual reproductive health rights among adolescent youth and women of reproductive age as well as poor access to comprehensive health interventions. Additionally, the existence of sociocultural challenge of how to bring about value, arouse interests and establish more effective context-specific behaviour change interventions among FGM practising

communities. This therefore, calls for a critical and candid interrogation, understanding of the setbacks, and re-thinking of the anti-FGM interventions.

In Kajiado County, Amref Health Africa in Kenya has been implementing community Led alternative rite of passage (CLARP), whose aim is to curb high FGM/C prevalence in the country (Muhula et al., 2021). The intervention entails changing social norms by engaging community stakeholders including cultural leaders, *Morans*, traditional birth attendants, county Governments, and religious leaders. The all-inclusive 6-48 months program also encompasses a 3-days training of boys and girls on sexual and reproductive health rights, positive norms & values, self-esteem, and life skill. After the training, a graduation ceremony blessed and attended by the community, cultural elders and leaders, and key stakeholders are held for the girls who successfully complete the training and are able to publicly denounce the practice. An impact evaluation conducted in the county showed that the ARP model had had positive impact including a reduction in the prevalence of FGM/C (24.2%), Child and Early Forced marriages (4.9%) and Teenage pregnancies (6.3%) (Muhula et al.,

2021). Despite the impact of the ARP Model, there is a need to continue bridging the FGM/C and other harmful practices gap among young girls and women in the county through exploring other integrated models that will be more effective.

Kajiado County is an Arid and Semiarid region (ASAL); the primary felt need of the communities is access to sustainable, safe water (Mbogo et al., n.d.). Access to safe water and improved sanitation and hygiene is still a great challenge, with women, girls and children forced to walk over 5 kilometres to fetch the essential commodity (Mbogo et al., n.d.). Lessons learnt projects implemented indicate that Water Hygiene and Sanitation (WASH) interventions are key entry points into the community, forming a foundation upon which other behavioural interventions can be established (Lantagne et al., 2021). For decades past, Amref Health Africa has been implementing standalone anti-FGM projects in Kajiado (Africa, 2021). Since behaviour change takes time as it involves changing culturally rooted beliefs and practices, the process towards universal health has been hampered by the high rate of project turnover as most projects have a short lifespan, usually 1 to 3 years. This in most cases leads to a relapse of the community to the previous state if proper sustainability mechanisms are not instituted. There is a need for integrated strategies to drive towards universal and comprehensive health by addressing multiple components of health. Over the years, Amref Health Africa has been implementing Alternative Rites of Passage (ARP) and WASH interventions in communities that practice female Genital Mutilation/Cutting (FGM/C) (Graamans et al., 2019; Muhula et al., 2021). These interventions have always been implemented in isolation. Good health and wellbeing of communities can never be attained if they do not have adequate access to and utilization of water, sanitation, and hygiene services together with sexual reproductive health rights.

Integration of Alternative Rites of Passage (ARP) interventions with improved access to water, sanitation, and hygiene services and providing women and girls with basic services and accurate hygiene information will be vital to reduce maternal mortality rates and meet sustainable Development Goals (SDGs). For instance, SDG number 3 of ensuring healthy lives and promoting wellbeing for all at all ages and SDG number 5 of ending all forms of discrimination against all

women and girls everywhere (Seyedsayamdest, 2020). Access to water and sanitation is still a challenge. Many studies have shown children, particularly girls, drop out of school to help their parents in looking for water and also due to broader SRH issues like menstrual hygiene and management (*Globally, Periods Are Causing Girls to Be Absent from School*, n.d.). Water, sanitation, and hygiene-related infections continue affecting the community but more so the sexual reproductive health of young girls and women. There is therefore need for an integrated approach to addressing ARP and broader SRH issues integrated with WASH in the targeted sites (Austrian et al., 2021).

The study highlights the outcomes of implementing a model targeted to address underlying issues that contribute to increased harmful practices like FGM/C, Child marriages, and School dropouts. This was based on the justification that: 1) to address a felt need as an entry point to the communities, 2) leverage on resources to do more with less, 3) drive towards comprehensive health by addressing multiple components of health, 4) retain the otherwise nomadic communities hence availing them for ARP, Sanitation, and Hygiene interventions, 5) relieve women and girls from fetching water over long distances hence retain girls in school, 6) eliminate the risks of rape, sexual and gender-based violence (SGBV), and early pregnancies associated with fetching water over long distances and 7) create alternative sources of income e.g. small scale irrigation farming for traditional birth attendants (TBAs) and other direct beneficiaries of FGM/C. To bridge the gap of linking SRH and WASH services (at selected health facilities and schools) in Kajiado County with particular focus on scaling up the Alternative Rites of Passage model in addressing FGM/C, providing life skills education to young girls, boys (10-24 years) and women of reproductive age (15-49 years), creating awareness among the community on denouncing Gender Based Violence (GBV), increasing access to WASH services among girls, boys and women (at school and health facilities) in particular and the community at large.

DESCRIPTION OF THE ARP WASH MODEL

Pathways

The model used the following 3 pathways described to realize change.

Pathway 1, which focused on access to safe drinking water showed that increased access to clean drinking water had a direct effect on SRHR outcomes through a perceived reduction in SGBV, such as rape and FGM. Addressing the community's felt need for water and reducing the walking distance to water sources reduces the time a girl spends fetching water, therefore making her less prone to SGBV while also saving her time that can be spent on other activities, such as attending school.

Pathway 2, which focused on sanitation and hygiene, showed that access to safe spaces or menstrual hygiene management (MHM) rooms at schools stimulates girls to upkeep their menstrual hygiene while protecting them from SGBV and social stigma surrounding the topic of menstrual hygiene. In addition, through MHM spaces in schools, girls are no longer forced to stay home while menstruating and can therefore enjoy their education to the same extent as their male peers, therefore empowering school-aged girls. By staying in school longer, the chances of girls falling victim to harmful practices such as FGM/C, CEFM and consequently, teenage pregnancy (TP) reduce.

In pathway 3, it highlights the importance of involving all community members in SRHR awareness-raising activities as well as dialogues and discussion forums throughout the entire project, a trustworthy bond is established and maintained. Community elders, men, and religious leaders in particular, play a large role in influencing communities' attitudes due to their social status and therefore need to be closely involved with the interventions. Influential community members publicly denouncing FGM/C and voicing support of ARP allow an organic change in perception towards the traditional rite of passage and stimulate behavioural change to take place in communities.

By eliminating the harmful practice of FGM/C through ARPs, young girls are perceived as less likely to fall victim to CEFM as a direct result of FGM/C.

Implementation Process

The ARP WASH 3-year intervention included girls who were at risk of FGM and women of reproductive age. The beneficiaries were selected based on gaps in Sexual reproductive health rights as well as access to water and sanitation services. Water points were developed to reduce the amount of time used by women and girls to fetch water for household and animal use. Sanitation-safe spaces were also developed in schools to improve menstrual hygiene situations for girls to remain in school during their menses. The project also targeted reformed cutters with income-generating activities as an alternative income instead of cutting. The TBAs were trained on FGM, WASH, kitchen gardening, soap & detergent making and the making of reusable sanitary towels. The major intervention areas entailed linking WASH and SRHRs, providing comprehensive sexuality education to young girls, boys (10-24 years) and women of reproductive age (15-49 years), creating awareness among the community on denouncing FGM, Early Child and Forced Marriage (ECFM), and teenage pregnancies and increasing access to sustainable water supply, basic sanitation improved hygiene practices. While the primary beneficiaries remain adolescent girls and women of childbearing age, the secondary beneficiaries include Health Care Workers, County officials, populations seeking services in health facilities, teachers, local administration, Moran's, Nyumba Kumi elders, Church leaders, TBAs, Political Representatives, and women in targeted women groups.

A phased approach using 5 steps including 1) Triggering, 2) Sensitization, 3) Certification and 4) Post Certification monitoring was adopted as illustrated in *Figure 1*

Follow up

Continuous follow-up is ensured where girls identified for the alternative rite of passage are identified and registered for follow-up using an online digital tool. Implementation of the community's commitments in addressing sanitation and hygiene issues is constantly followed up in conjunction with officials from the county health department. Health professionals continuously monitor and verify the village's readiness for CLTS claims and verifications status.

Joint Certification/Celebration

Successful implementation of the project activities culminates in joint celebrations of ODF villages & Girls' graduation through Alternative Rite of Passage (ARP). This is a continuous process to ensure that communities become open-defecation-free and after verification, remain Open Defecation Free (ODF). Consequently, During the CL-ARP event, girls and boys are taken through to understand the importance of ARP as well as demystifying social norms that deny girls an opportunity to remain uncut and realize their dreams as well as the involvement of boys and men in the process. Girls receive blessings from the elders as they make powerful pronouncements to the girls and community at large, which are important turning points for the community to change their attitude and perception towards the practice of FGM and embrace girl's education as an alternative to FGM/C and graduate without the cut.

Post Certification Monitoring

Sustaining ODF & FGM/C Free Healthy communities is critical in ensuring that the gains are not eroded. The digital tracking tool is employed to follow up with graduate ARP girls every 6 months after the ARP event. There is also the use of a case management module where any SGBV issue is immediately reported to the tool for action and referral to the relevant established structures at the community level. Sanitation monitors and community health workers also ensure that households continue to practice basic sanitation practices, build toilets, and practice hand washing at all times.

METHODS

The study utilized before and after design to assess the effectiveness of the model. Findings from baseline and endline evaluation of the intervention were compared to establish the effectiveness of the intervention. Quantitative data was collected using a household survey. The study was conducted in 4 sub-counties of Kajiado County including; Kajiado central, Kajiado South, Kajiado west, and Kajiado east. These intervention sub-counties were purposively selected because of poor indicators in WASH services such as poor access to sustainable, safe water, low coverage of improved sanitation, poor hygiene practices, and high prevalence of FGM leading to school dropout and early child marriages. The sites were jointly mapped out during the multi-stakeholder inception workshop in June 2017.

The primary study participants were women who had adolescent girls aged 10-24 years who were targeted for the household survey both at baseline and end-term evaluation. During baseline, 746 women were targeted, while during end-term evaluation, 418 were reached.

In both surveys, the sample size was determined using Fisher's exact formulae. A two-stage probability sample strategy was used to ultimately select the target population. In the first stage, Enumeration Areas (EAs) were selected by obtaining an updated list of EAs from the Kenya National Bureau of Statistics (KNBS) for all administrative areas in Kajiado central, Kajiado South, Kajiado west, and Kajiado east sub-counties of Kajiado County. The list included areas within the sub-counties where Amref Health Africa is currently implementing ARP-WASH interventions. Proportional to size (PPS) EAs to determine the number of households required in each of the EAs in the sub-counties was done. The listing of the households was done by the Community Health Volunteers (CHVs). The entire process was coordinated by the County and Sub-County Community Health Strategy Focal Persons and the study team. After the full list of households in each EA had been determined, the individual households to be interviewed were then selected using systematic sampling.

Quantitative data was collected electronically using a structured questionnaire programmed in Open Data Kit (ODK) platform configured on

android phones. Each research assistant was assigned an android mobile phone which they used to administer the questionnaire. Once they completed filling out each questionnaire, they saved the particular form on the device and submitted the filled questionnaire in real time to the Amref Health Africa-protected server. Quality checks put in place while programming the questionnaire (relevance and constraint) ensured completeness, accuracy and high-quality data. Data audit and quality checks were conducted by the ODK aggregate administrator to ensure any erroneous entries were verified and corrected appropriately. The statistician then downloaded the cleaned forms and exported them to SPSS for analysis. Analysis was conducted at univariate, bivariate, and multivariate levels. Differences in baseline and end-line proportions of different variables were conducted. Odds ratios and adjusted odds ratios were used to establish the effectiveness of the intervention on all variables that showed positive association at the bivariate level.

Ethical Statement

The study adhered to all requirements by Declaration of Helsinki Ethical approval (*Declaration of Helsinki – WMA – The World Medical Association*, n.d.) was obtained from Amref Ethics and Scientific Committee prior to data collection. The protocol approval number is REF AMREF – ESRC P825-2020. Permission to conduct the study in the community was obtained from the relevant Community gatekeepers. Written informed consent was obtained from all participants. Both the baseline and endline

evaluation was conducted by an external evaluation consultant in order to minimise bias and any conflict of interest.

RESULTS

Comparisons of findings at baseline and end line reported positive results. There was a notable improvement in WASH indicators. For instance, increase in access to sustainable, safe water (baseline 62.3%; Endline 74.6%), latrine coverage increased from (Baseline 41%; Endline 90.4%) and Handwashing (baseline 95.3%; Endline 100%) indicated in *Table 1*.

With regard to FGM/C practices, there was evidence that the integration of WASH and FGM activities worked well. For instance, the prevalence of FGM/C dropped to 55.2% at the end line from 91% at baseline. There was a reported change in attitude towards FGM/C because when circumcised women were asked if they wished they had not been circumcised, 79.5% at the end line compared to 28% at baseline reported that they wished they had not been circumcised. There was an increase in the proportion of participants who have ever heard messages of Alternative Rite of Passage (ARP) from 47% at baseline to 91.6% at the end line. Approximately 98.1% believe that ARP is acceptable by the community as a means of progressing girls to womanhood. This is an improvement from the 66.4% reported at baseline, as indicated in *Table 1*. At the Bivariate level, there was a significant difference in most of the project indicators ($p < 0.05$) compared at baseline and end line as indicated in *Table 1* below:

Table 1: Difference of indicator proportion from baseline to end term

Indicator	Baseline N = 746	Endterm N = 418	p-value
The proportion of households with access to safe water	67.7 (505)	80.8 (338)	<0.001
A proportion of respondents stating water is the responsibility of women and girls	96.5 (661)	93.7 (378)	0.038
% Of households stating water collected is enough water for Household use	82.7 (24)	100 (7)	0.559
The proportion of respondents with access to toilets	40.3 (301)	90.4 (378)	<0.001
Percentage of target population practising appropriate handwashing behaviour	40.4% (116)	88.4% (334)	<0.001
Prevalence of Female Genital Cutting (FGC) (Proportion ever circumcised)	91.1 (672)	55.3 (230)	<0.001
Proportion whose circumcision was performed by a Traditional Birth Attendant	97.5 (655)	96.1 (221)	0.279
Ever heard messages of Alternative Rite of Passage (ARP)	49.1 (355)	93.4 (383)	<0.001

Proportion believing that ARP is acceptable in the community	81.2 (498)	99.0 (407)	<0.001
Rite of passage believed to be good for girls			<0.001
FGM	11.8 (42)	0.3 (1)	
ARP	78.0 (277)	97.6 (374)	
None	10.1 (36)	2.1 (8)	
% of the population reporting FGC to continue	12 (84)	1.2 (5)	<0.001

The study showed that women who lack access to a toilet are more likely (Odds Ratio (OR), 5.73; 95% CI, 3.94 to 8.36) to have been circumcised compared to those who have access to a toilet. Further, the study revealed that those who lack appropriate hand washing facilities are more likely (Odds Ratio (OR), 2.29; 95% CI, 1.56 to 3.36) to have been circumcised compared to those with appropriate hand washing facilities. On the Knowledge of Alternative Rites of Passage, those who reported that they had never heard of ARP were more likely (OR, 5.41; 95% CI, 3.63 to 8.05) to have been circumcised compared to those that have ever heard. When asked whether ARP is acceptable in the community, those who disagreed and those who were unsure were more likely to have been circumcised compared to those who thought ARP would be acceptable (OR, 6.43; 95% CI, 2.79 to 14.81) and (OR, 2.37; 95% CI, 1.39 to 4.03) respectively. Odds of ever been circumcised were less likely among those who chose ARP as their preferred rite of passage for their girls (OR, 0.10; 95% CI, 0.02 to 0.42) compared to those that chose FGC. Respondents that stated FGC should not continue were less likely (OR, 0.04; 95% CI, 0.005 to 0.25) to have been circumcised compared to those who thought it should be continued, and those that were interviewed during the end-term evaluation were less likely to have been circumcised (OR, 0.12; 95% CI, 0.09 to 0.17) compared to those interviewed at baseline.

In multivariate analysis, women who lack access to the toilet were still more likely (Adjusted Odds Ratio (AOR), 2.32; 95% CI, 1.50 to 3.59) to have been circumcised compared to those who have access to a toilet. Those who had never heard of ARP were more likely (AOR, 2.50; 95% CI, 1.54 to 4.04) to have been circumcised compared to those that have ever heard. Respondents that were not sure if ARP would be acceptable in the community were less likely (AOR, 0.51; 95% CI, 0.27 to 0.97) to have been circumcised compared to those who thought it would be acceptable. Odds of ever been circumcised were less likely among those that stated that FGC should not continue (AOR, 0.11; 95% CI, 0.01 to 0.81) compared to

those that thought it should continue. Those interviewed during the end-term evaluation were less likely to have been circumcised (AOR, 0.25; 95% CI, 0.17 to 0.38) compared to those interviewed at baseline, as indicated in *Table 2* below

Table 2: Univariate and multivariate analysis for FGC

Parameter		Univariate analysis			Multivariate analysis		
		Odds Ratio	95% CI	p-value	Adjusted Odds Ratio	95% CI	p-value
Access to safe water	Yes	Reference					
	No	1.36	0.98 to 1.88	0.06			
Responsibility for water is women	Men/ Boys	Reference					
	Women/ Girls	1.07	0.54 to 1.89	0.84			
	None	0.70	0.35 to 1.89	0.40			
Appropriate handwashing behaviour	Yes	Reference					
	No	2.29	1.56 to 3.36	<0.001	0.94	0.58 - 1.52	0.79
Water collected is enough for household	Yes	Reference					
	No	38551285	0 to inf	0.995			
Access to toilet	Yes	Reference					
	No	5.73	3.94 to 8.36	<0.001	2.32	1.50 - 3.59	<0.001
Circumcised by TBA	Yes	Reference					
	No	1	0 to inf	1			
Ever heard of ARP	Yes	Reference					
	No	5.41	3.63 to 8.05	<0.001	2.50	1.54 - 4.04	<0.001
ARP will be acceptable to the community	Yes	Reference					
	No	6.43	2.79 to 14.81	<0.001	1.07	0.42 - 2.73	0.88
	Do not Know	2.37	1.39 to 4.03	0.001	0.51	0.27 - 0.97	0.04
Preferred rite of passage for girls	FGC	Reference					
	ARP	0.10	0.02 to 0.42	0.002	0.26	0.05 - 1.22	0.09
	None	0.21	0.04 to 1.04	0.056	0.30	0.05 - 1.63	0.16
FGC to be continued	Yes	Reference					
	No	0.04	0.005 to 0.25	<0.001	0.11	0.01 - 0.81	0.03
	Depends	0.42	0.03 to 6.90	0.54	0.50	0.03 - 8.51	0.63
	Do not Know	24069.48	0 to inf	0.98	92241	0 to inf	0.98
Period of Interview	Baseline	Reference					
	End term	0.12	0.09 to 0.17	<0.001	0.25	0.17 - 0.38	<0.001

DISCUSSION

Interventions tackling FGM/C eradication in Kenya have for a long time been characterized by targeting alternative ritualistic programs (ARPs) combined with intensive community sensitization about FGM/C to achieve attitudinal and behavioural changes (Mwendwa et al., 2020). These interventions have proved effective; however, in some of the targeted communities, FGM/C continues to be practised calling for a different approach to be adopted. This study adopted a unique model which leveraged addressing WASH gaps and using the platform to avert FGMC practices using the ARP model in the community.

In Kenya, the ARP model was first rolled out in Kajiado County in 2009 in line with Amref's vision to eradicate widespread FGM/C practices across the African continent by 2030 (Muhula et al., 2021). The model also targets to reduce and eventually eliminate child, early, and forced marriage (CEFM) and pregnancies and improve girls' or women's levels of educational attainment (Olenja et al., 2019). Efforts made through the ARP model have resulted in positive impacts including a reduction in the prevalence of FGM/C (24.2%), Child and Early Forced marriages (4.9%), and Teenage pregnancies (6.3%) (Muhula et al., 2021). However, more needs to be done to bridge the gap. Past studies done to establish the persistence of FGM/C in some areas have focused mainly on domains including cultural, spiritual, legal, socioeconomic, and the impact on health and wellbeing medical (Mackie & Lejeune, 2009; Muteshi, 2016; UNICEF, n.d.; United Nations Children's Fund (UNICEF), 2017) among others without necessarily focusing on other contextual factors such as WASH that could be indirectly contributing to these factors. A profile of Female Genital Mutilation in Kenya based on a case study conducted by UNICEF (UNICEF, 2020b) indicates that FGM is more rampant among girls and women in rural areas, those living in poor households and less education. The Case study indicates that among populations where FGM is more prevalent, the majority are in Arid and Semi-arid regions including Somali, Samburu, and Maasai, among others (UNICEF, 2021). Arid and Semi-arid regions often experience Water Hygiene and Sanitation issues and those affected most are from rural parts of these areas in households with

poor socioeconomic status with high illiteracy levels. Therefore, this aligns with the findings in this study that other than cultural aspects, they could be other contextual drivers to these harmful such as WASH practices, that are yet to be explored.

Past studies do not clearly bring out the link between WASH and FGM/C; however, this study brings out a significant association between addressing WASH gaps in the community and the reduction of FGM/C and other related harmful practices against adolescents and young women. In Kajiado, although the county statistics show safe water access at 66.2%, there exist great disparities between rural coverage and urban coverage (KNBS), 2015). In rural areas for example, it is predominantly the role of females to collect water which often involves travel. For households located 30 minutes or more from their water source (40% in rural areas), women or children may be required to collect water for over two hours to collect sufficient water. The water itself may be unsafe as it is drawn from contaminated sources apart from being scarce and insufficient. It is evident that limited access to water, hygiene and sanitation services remains a gap in arid and semiarid regions like Kajiado. This has led to an increased number of girls dropping out of school to assist in fetching water for households. When out of school, the risk of undergoing FGM or early marriage becomes very high. Additionally, an increase in Water, Sanitation, and hygiene-related infections continues affecting young girls and women.

Almost half of rural Kenyans do not have access to even basic sanitation. In terms of improved sanitation, access has barely improved since 1990 with a small increase from 25% in 1990 to 29% in 2013 (KNBS), 2015). Good sanitation and hygiene practices to a large extent, depend on water availability, while poor hygiene and sanitation behaviour and access negatively affect the quality of water resources. On the aspect of sanitation, this study provides a link between sanitation and the likelihood of undergoing FGM because findings indicate that those girls who lacked hygiene infrastructure presented a higher likelihood of undergoing FGM. Although the link between inadequate hygiene and sanitation infrastructure as well as practices and FGM/C has not been explored, there is a likelihood of risk involved when accessing

these services, poor menstrual hygiene, and lack of infrastructure for disposal of menstrual waste materials among others, could lead to an increase in school dropouts; a factor that exacerbates FGM/C and Child Early Forced marriages. This necessitates the integration of WASH interventions in SRHR programs. However, this dimension could be further explored. For instance, profiling regions in Kenya, Sub-Saharan Africa (SSA) and at the global level where FGM/C is highly practised to explore similarity in hygiene and sanitation issues and the risks to FGM/C could inform the development of a theoretical framework that clearly brings out this link.

The study also established that having the head of ARP and choosing to go through ARP was a protective factor for preventing FGM/C. ARP entails identifying girls who are at risk of undergoing the cut, primarily identified by their age and considered 'ripe' for the cut. Girls who face challenges with Water, hygiene and sanitation issues and drop out of school to help in such chores have a high risk of becoming victims of FGM/C. Therefore, empowering them through ARP helps to seal this gap. In ARP, teachings and ritual elements of the tradition are maintained in order to mimic the cultural traditions of the community, and teaching on girls' human rights is included. ARPs replicate aspects of the traditional initiation ceremony. The symbolism, meaning, and values placed on the rites of passage are maintained. ARPs consist of three phases: community sensitisation, the seclusion of the girls for life skills education, and community celebration of the girls' new status as women. The girls are taught their rights from all forms of sexual violations and how to raise the alarm if they feel threatened. These two behaviours change models endeavour to liberate girls from sanitation and hygiene challenges as well as access and utilization of sexual reproductive health and rights. Therefore, addressing hygiene and sanitation issues affecting adolescents and young women during the ARP session has become an avenue worth exploring.

CONCLUSION

There is a strong association between addressing WASH gaps (community-felt needs) in Kajiado and the reduction of harmful practices against adolescents and young women. Integration of

WASH services and the SRHR model could be leveraged to address harmful practices among young girls and women. This could be because while addressing community pressing needs. There is buy-in from the community as a result of the trust that has been established thence giving an opportunity to address sensitive social-cultural practices. More research needs to be carried out to further explore the link between WASH and SRHR identify contextual factors that influence the implementation of this model providing an evidence base for scaling up such interventions in and semiarid areas where FGM/C is practised.

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