INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH AND ANALYSIS

ISSN(print): 2643-9840, ISSN(online): 2643-9875

Volume 07 Issue 07 July 2024

DOI: 10.47191/ijmra/v7-i07-03, Impact Factor: 8.22

Page No. 3083-3092

The Use of Sexual and Reproductive Health Knowledge and Services among Adolescents Students in Secondary Schools and Teacher Training College in Mtwara, Tanzania

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ABSTRACT: The proportion of sexually active adolescents, including secondary school students, has increased worldwide. This group constitutes the majority of youths who are sexually active, which puts them at high risk of unintended pregnancies and sexually transmitted diseases. The continuum of sexual and reproductive health (SRH) and family planning (FP) knowledge acquisition is built throughout adolescence. It begins with the need for basic knowledge of the reproductive system,sexual and social relationships in the early teen years and advances to the mastery of sexual behavior and the potential risk of sexually transmitted infections (STIs) in later adolescence. This study is part of an awareness creation programme, initiated by a Clinical Officers' Training College (COTC), to find out the knowledge that adolescents in secondary schools in Mtwara, Tanzania, have of SRH. A total of 1566 adolescent students, who were randomly selected, participated in the study. Pre- and post-structured questionnaires were used to collect information about the respondents' knowledge of SRH . Descriptive analysis was done using the Statistical Package for Social Sciences (SPSS) to put the respondents into various SRH and FP knowledge themes. The findings of this study revealed that the adolescent students are generally aware of SRH services, including certain types of FP. Despite having this awareness, factors, such as lack of resources and user-friendly health centers, cultural and religious beliefs, and lack of right sources of information, hinder some of them from accessing SRH services. The findings of this study are useful to the efforts of the government, stakeholders, and other decision-makers seeking to create awareness of SRH and FP among adolescent students.

KEYWORDS: Adolescents, sexual and reproductive knowledge and services, Mtwara, Tanzania

INTRODUCTION

Adolescence is a period from childhood to adulthood. It is between the age of 10 and 19. It is a stage of growth; increased independence; vulnerability; experience; and major physical, emotional, and psychological changes (Mpimbi et al., 2022; WHO, 2022). In addition to the changes, the unique vulnerabilities of this stage in life can put adolescents and the youth at high risk of unwanted pregnancies, sexually transmitted diseases (STDs), and HIV/AIDS, and the risk of sexual violence (Chekol et al., 2023). Usually, adolescents and the youth become sexually active during this stage, and in some cases, it is common for adolescent girls to begin childbearing during this stage. Peer pressure, inadequate parental support, and increased curiosity to be in intimate relationships also contribute to their risky behavior (Mugsson et al., 2019). As a result, they may end up getting early pregnancies and sexually transmitted diseases. Similarly, the rapid growth of technology, which enables adolescents to spend much time on social media platforms interacting with friends, who have become their main source of information (Dombola et al., 2021), may also contribute to the severity of their vulnerabilities. Their sexual and reproductive health (SRH) experiences and needs change dramatically during this stage, and young people often lack access to appropriate, non-judgmental SRH services, and information from SRH providers who have been trained in the delivery of youth-friendly SRH services. Consequently, this period is the most important time to lay foundations for people to lead healthy sexual and reproductive lives, and to address issues that disproportionately impact adolescent girls, such as gender norms, early marriage, and gender-based violence (Starrs et al., 2018).

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When adolescents and young people are equipped with the knowledge helpful in making the right decisions about their sexual and reproductive health and rights (SRHR), and when barriers to accessing health services are addressed, they are more likely to realize their potential, finish their education, and secure economically empowering jobs (Women Deliver, 2019). Having inaccurate information about sexual and reproductive health causes them to have risky behavior and poor reproductive health outcomes (WHO, 2022).

The importance of meeting adolescents' and young people's SRH needs is particularly evident in low- and middle-income countries, where 90% of the young people in the world live (Chekol et al., 2023). The efforts to meet adolescents' SRH needs are a relatively new area of intervention in many developing countries, and many SRH programs continue to overlook this population. The 1994 International Conference on Population and Development (ICPD) held in Cairo, Egypt, identified the comprehensive SRH services that need to be addressed and actions that need to be taken to improve the state of adolescent girls, and ultimately improve their sexual and reproductive health. The specific commitment of ICPD to the government was further reinforced at the 25th anniversary of ICPD in 2019. The specific objectives of ICPD are also captured in Sustainable Development Goals 3 and 5 (United Nations, 2015). In the effort to support the objectives of ICPD and the SDGs, respectively, Tanzania has launched its first national accelerated investment agenda for adolescents' health and well-being 2021/22–2024/25 (MOHCDGEC, 2022). Under the 2019–2023 National Family Planning Costed Implementation Plan (NFPCIP), one of the strategic priorities is increasing age-appropriate information about access to and use of SRH and family planning among adolescents and the youth aged 10–24 (MOHCDGEC, 2022; Mpimbi et al., 2022). However, meeting the SRH needs of young people requires more evidence of the state of knowledge, needs, and experiences pertaining to access to SRH services.

The young people (aged between 15 and 19) comprise 20% of the population of Tanzania (TDHS-MIS, 2022). The country is among the developing countries in which HIV/AIDS, early pregnancies, and school-dropout issues have been affecting the youth, including secondary school students (Kaale and Muhanga, 2017). According to Mpimbi et al. (2022), Tanzania is one of the countries with the highest adolescent pregnancy rates globally, with an estimated 23 percent of girls aged between 15 and 19 beginning childbearing and 39 percent of teenage girls of 18 years of age are already mothers or are pregnant. Given that 57% of young women and 48% of young men report having sex by the age of 18, adolescents need to have access to comprehensive sexual and reproductive health education (MOHCDGEC, 2018). Though information, education, and services related to SRH are limited to young people in general, they are further limited to certain marginalized groups, such as orphans, the young people in rural areas, the young people living with HIV/AIDS, and the young people with disabilities (Ngilangwa et al., 2016). Secondary school students are part of these age groups. Therefore, understanding sexual reproductive health is very important to them. It can reduce the number of early pregnancies, unsafe abortions, school dropouts due to pregnancies, and the spread of sexually transmitted infections among secondary school students. The current study explores the gaps in knowledge, access to, and use of SRH services by adolescent students in Mtwara Region.

The conceptual framework developed by Fishbein and Ajzen (1980), which was later modified by Kinaro et al. (2015), has been adopted in this study. The framework recognizes three levels of casualty, which correspond to the background, intermediate, and proximate intervening factors associated with knowledge and use of SRH among adolescents. The conceptual framework used in this study is an integration of the intermediate determinants of SRH services as recommended by Davis and Blake (1956), and fertility decision-making, as presented by Mauldin (1982). The framework comprehensively outlines the interaction between the background and intermediate variables influencing adolescents' access to and ability to use SRH services, as shown in Figure 1.

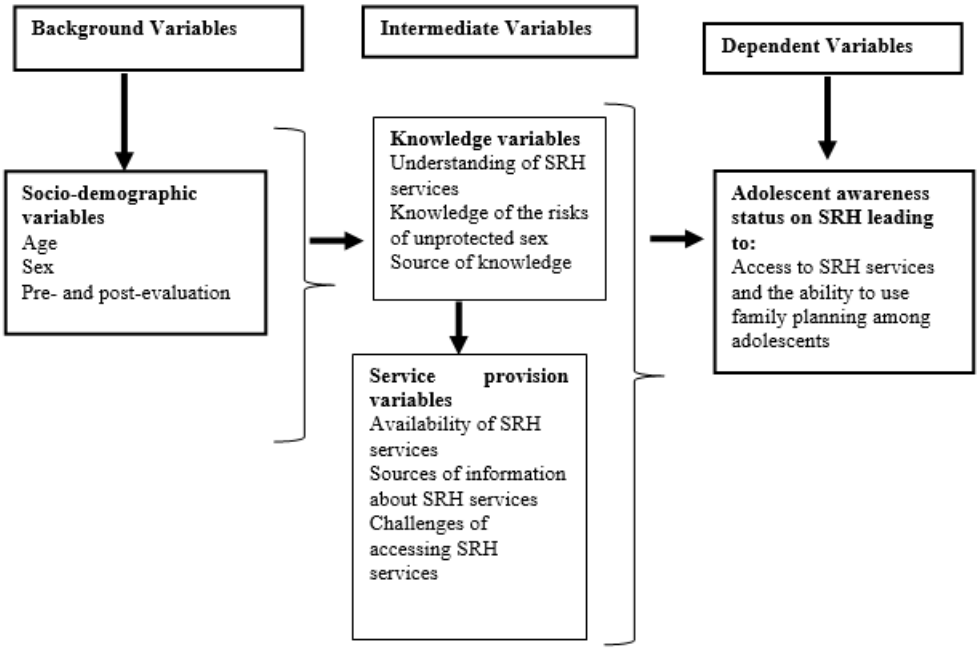

Figure 1: A conceptual framework for adolescents' sexual and reproductive health services

MATERIALS AND METHODS

The study area

This study was conducted in the Mtwara Region. It involved students from the Clinical Officers' Training College (COTC) club as the technical trainers in the SRH sessions organized for selected adolescent secondary school students. The club, supported by the Young and Alive Initiative (YAI), is a student-led voluntary organization based at COTC in Mtwara, Tanzania. It has organized interactive and informal SRH education sessions in secondary schools for almost ten years. The club visits local primary , secondary schools and colleges to reach nearly 2000 young people, thus linking COTC to the local community. The club has developed and piloted classroom SRH conversation education sessions called "Tuongee Kuhusu Afya ya Uzazi," meaning "Let's talk about sexual and reproductive health." The programme aims to empower the adolescents in selected secondary schools in Mtwara so that they understand, demand, access, and use quality SRH services when they need them. However, since the inception of the programme, the activities conducted by COTC have not been documented, and the knowledge of and access to SRH services among secondary school students in Mtwara have not been evaluated. This study examined the level of SRH awareness among the adolescent students and highlighted the different challenges they face in the effort to access SRH services.

The study design

The study employed a mixed-methods approach, including a quantitative and qualitative research design. A validation workshop was conducted with the ambassadors of COTC students who provide SRH education in selected secondary schoolsn and teacher training college in Mtwara. The design provides many data collection and analysis benefits, including the possibility of doing a descriptive and inferential analysis. The design allows more than one method to be used at a time and is suitable for doing a descriptive analysis.

Data collection

The ambassadors of COTC students provided SRH education in selected secondary schools in Mtwara Region. Some 1566 adolescent students and youth aged between 16 and 25 were involved in the quantitative part of the study. Data on SRH was collected from these students before and after each session to understand their knowledge of SRH before and after the training. They were interviewed and others given a structured questionnaire that included socio-demographic information and a set of variables to evaluate their knowledge of SRH services, family planning, and sources of information about SRH, sexual activity, pregnancy outcomes, and the use of condoms. The study collected qualitative data on the practices of health-care providers in the process of providing SRH services to adolescent students. Focus group discussions were also organized by medical officers

from various health centers in Mtwara to create further awareness of SRH information and supplement the information about SRH services available in the region.

Data analysis

A descriptive analysis of the quantitative data was done using the Statistical Package for Social Sciences (SPSS) so as to obtain percentages and frequencies for categorizing the respondents' socio-demographic characteristics. An inferential analysis was also done to determine the adolescents' knowledge of SRH services. The study carried out a thematic analysis of the qualitative information obtained through the interviews and FGDs.

Consent and ethics

Ethical approval was obtained from the Mwalimu Nyerere Memorial Academy (MNMA) and the MNMA Research and Consultancy Committee (MRCC) on July 27, 2022. Permission to conduct the implementation study was also sought from the Office of the Regional Administrative Secretary in Mtwara and from the heads of the schools where the study was conducted. Informed consent to participate in the study was obtained from all the participants, who were informed about the purpose of the study. Informed consent was also obtained from the parents and/or guardians of the participants under the age of 18, who were willing to participate in the study; parents were consulted prior to the school outreach program by COTC club members. Confidentiality was ensured throughout the study.

RESULTS AND DISCUSSIONS

Socio-demographic characteristics

A total of 1566 adolescent students participated in this study. The majority participated in a post-education survey (n = 1024, or 65.4%), while 542 (34.6%) were involved in the pre-education survey. Most of the respondents were female (62.7%), with more than half (69.8%) being below the age of 17, as indicated in Table 1. Generally, adolescents aged 17 and below are highly likely to have some impact on sexual and reproductive health-related behaviors. They face heightened SRH-related risks and may be vulnerable to early pregnancies and STIs compared to others in secondary schools. Similarly, teenagers are highly likely to become parents due to increased peer pressure exerted on them to have sex, which also comes with greater freedom and independence (Donar and Urassa, 2017).

Table 1 also includes further socio-demographic information about the respondents' knowledge and awareness of SRH services. The findings showed that most of the respondents (87.2%) had heard about SRH services, and that 8.7% did not know anything about SRHs before the education sessions had been conducted, which indicates that COTC's education on SRH has reached the majority of adolescent students in Mtwara. It is remarkable that a number of adolescents had heard about SRH services before the sessions. According to Othman et al. (2019), knowledge is usually associated with the use of services. It is expected that adolescents who are aware of the availability of SRH services are more likely to use those services than those who are not. The conceptual framework adopted in this study showed the need to increase adolescents' knowledge of the availability of SRH services in order to increase their use of the services. Improving the rate of service use is associated with better SRH-related outcomes.

Table 1: Socio-demographic profiles of the respondents and knowledge of SRH services (n=1566)

Variable	N	%	Variable	n	%
Name of School			**Knowledge of SRH**		
Mtwara Girls' High School	203	13.0	Yes	1365	87.2
Call and Vision Secondary School	168	10.7	No	137	8.7
Umoja Secondary School	300	19.2	Missing information	64	4.1
Mikindani Secondary School	514	32.8	**Knowledge of SRH by sex**	**Male (n)**	**Female (n)**
Sabasaba Secondary School	257	16.4	Yes	480	882
Teachers College	124	7.9	No	49	88
Age (years) of the respondents	**N**	**%**	**Knowledge of SRH by age**	**Yes (n)**	**No (n)**
Below 17 years	983	62.8	Below 17	839	89
18- 24	518	37.1	18 - 24	524	48

Above 25	02	0.1	Above 25 years	02	0
Sex of the respondents	N	%	**Knowledge of SRH by type of evaluation**	**Yes (n)**	**No (n)**
Male	581	37.1	Pre-evaluation	451	60
Female	985	62.9	Post-evaluation	914	77

Awareness of sexual and reproductive health services among adolescent students in Mtwara

In this study, awareness of SRH services was measured on the basis of the adolescents' ability to mention the types of SRH services they know of and those to which they can have access. Of all the respondents, 71.1% knew about VCT and HIV testing services, 50.6% knew about STI diagnosis services, 49.5% knew about family planning services, and 44.6% knew about counseling and information services (Figure 2). Of the 1566 respondents, 48.6% reported that television was their main source of information. This source was followed by the radio (36.7%), friends (36.0%), and health workers (33.2%).

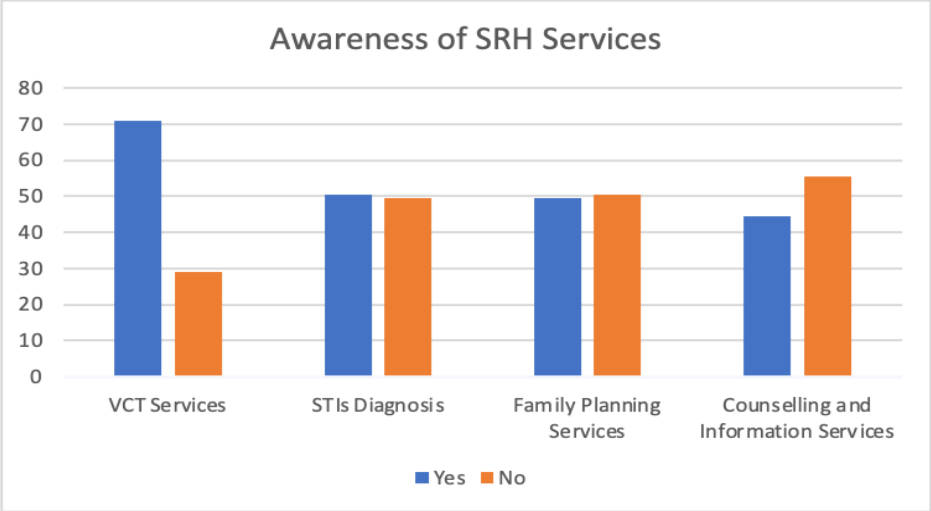

Figure 1: Awareness of SRH services among adolescent students

Although the findings revealed multiple sources of information about SRH services, the respondents questioned the role of health workers in creating awareness of the services. Abdulrahim et al. (2022) reported that adolescents with multiple sources of information about SRH services were more likely to use the services than those with few or without any source of information about the services. While this study sought to understand the respondents' general awareness of the services, it did look at whether their awareness of certain SRH services had made the respondents use the SRH services. However, as the conceptual framework in Figure 1 indicates, the possibility that adolescents have access to and use SRH services is high because of the knowledge gained from various sources, including peers, VCT, and health centers.

When the health workers were asked about the key challenges facing the creation of awareness and the effort to reach secondary school students, they mentioned barriers related to the supplies given to health facilities and the number of staff offering SRH services. To emphasize their claims, one of the workers said, "The lack of resources affects our work. For example, we don't have a budget for reaching adolescents in secondary schools (KII, a clinical officer from a government health facility). In support of this argument, another key informant remarked, "The knowledge of SRH services is provided at the health facilities that adolescents visit, but we do not have a specific place to serve the youth only. However, we do have organized school visits specific for adolescent students (KII, a clinical officer from a private health facility). The World Health Organization (WHO) (2008) reported that most of the SRH services intended for adolescents are not provided because of the lack of specific places to do so. Some of the adolescents revealed that they did not seek SRH services because they were afraid of being judged negatively by SRH service providers.

The above contention was supported by the respondents when they were asked why they preferred other sources of information about SRH services to seeking the same information from health workers. They mentioned the "health workers' unfavorable

behavior and attitude towards adolescents, lack of respect for adolescents, privacy concerns, and previous ill-treatment by health workers as being among the things that discouraged sexually active adolescents from seeking SRH services." Similar results were reported by Mbeba et al. (2012), who noted that there is minimal provision of SRH services because of a limited number of health workers with SRH skills, lack of facilities, and lack of privacy in service delivery. The above findings suggest that the provision of SRH education to adolescents in government health facilities is minimal. The lack of privacy in accessing SRH services may be one of the main barriers to service use by adolescents. Thus, the implementation of the contraceptive conversations project by COTC was timely in terms of supporting the government's efforts to create awareness of SRH services.

Knowledge of specific types of family planning services as part of SRH services

Promoting family planning among adolescents is one of the effective ways of achieving universal access to SRH services. In the process of finding out their knowledge of a specific type of family planning, the researchers asked the adolescent students to show if they knew how to use family planning as part of SRH services. The variables included in the analysis were whether the students had learnt about types of family planning methods and indicated the source of information of a particular family planning service. The results in Table 2 indicate that 1277 of the respondents (81.5%) had heard about family planning. When asked about specific types of family planning methods, 70.1% mentioned pills, 52.9% mentioned condoms, 48.7% mentioned IUD, and 44% mentioned injections. A few students mentioned other family planning methods, such as abstinence, the use of a calendar, and withdrawal. The findings of the current study revealed that the knowledge of family planning was higher among the adolescent students than was reported by Dunar and Urassa (2017). This high knowledge might be due to the conversations on family planning, which are part of the SRH project implemented by COTC in the area. It is widely shown that family planning, if consistently and correctly used, is highly likely to prevent unplanned and unintended pregnancies and consequently prevent maternal morbidity and mortality among adolescent girls (Makola et al., 2019). Consequently, inadequate knowledge of sexuality and family planning is an important factor influencing repeated pregnancies among adolescents.

Table 2: Knowledge of family planning services (n=1556)

Variable	N	%
Knowledge of family planning services		
Yes	1277	81.6
No	187	11.6
Information not available	107	6.8
Knowledge of specific types of family planning methods		
IUD	**N**	**%**
Yes	763	48.7
No	803	51.3
Pills		
Yes	1096	70
No	470	30
Condoms		
Yes	829	52.9
No	737	47.1
Injections		
Yes	694	44.3
No	865	55.2
Information not available	7	0.4

Source of information about family planning as part of SRH services

Access to information plays an important role in the use of family planning, since it can raise individuals' awareness of the available family planning services and therefore influence their decisions, which could guide adolescents in making informed decisions about the use of services. The current study found that the students depend on pharmacies or drug stores (44.6%) and family planning clinics (44.2%) as their main source of information about family planning. At the same time, the respondents 'least'

mentioned government facilities and NGOs, as Figure 2 shows. These findings coincide with what was reported by Mbeba et al. (2012). The majority of girls aged 10–18 in Mtwara do not have a place where to talk about relationships, sex, contraceptives, STIs, and HIV/AIDS. These findings revealed that, little efforts have been made by the government following the results reported by Mbeba et al, (2012) in the provision of family planning information as part of SRH services among adolescents in Mtwara.

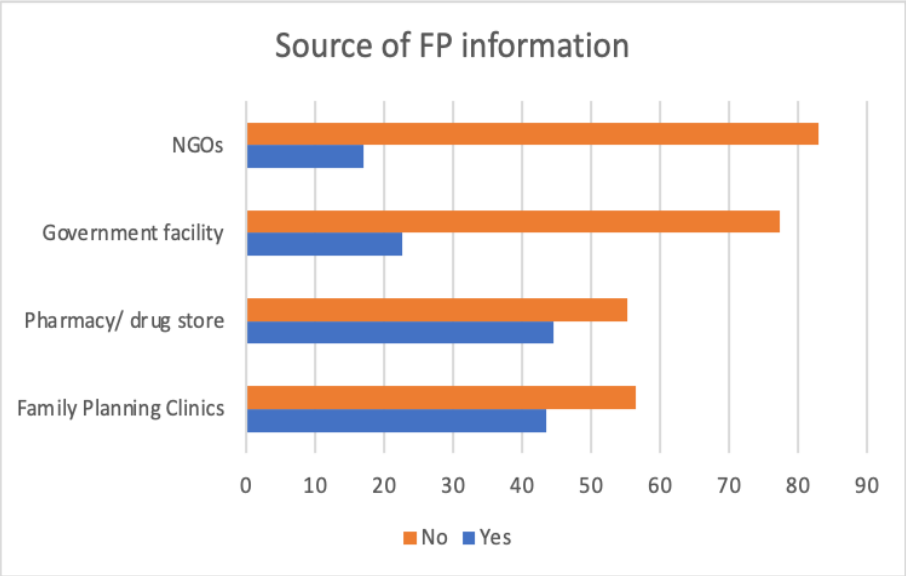

Figure 2: Source of information about family planning

Although drug stores or pharmacies are valuable sources of family planning services, they do not provide family planning or knowledge of adolescents' sexuality and reproductive health services, which are as important as the provision of family planning itself. Fubam et al. (2022) argue that poor information about SRH is associated with higher risks of sexual coercion, unintended pregnancies, induced abortions, and sexually transmitted infections. In this regard, it is fundamental to consider the potential impact of the high dependence of unreliable or unauthentic sources of SRH information during adolescence' initial stages of their sexual reproductive life.

Challenges in accessing family planning

The main reasons for not using family planning which the respondents mentioned include lack of partners' consent, perceived side effects of certain types of family planning, religious and cultural beliefs, lack of knowledge of specific types of family planning, and the costs associated with using certain family planning methods. During the discussion on the challenges of using family planning, the respondents pointed out that "the majority of students do not practice family planning because they lack knowledge of and information about the side effects of family planning and how to overcome them" (male and female secondary school students, 18–24 years). The findings of this study suggest that adolescents may forgo the needed family planning services for a number of reasons. These may include confidentiality, stigma, embarrassment, and fear. Decker et al. (2021) note that structural challenges, such as costs, location, transportation, and a limited schedule for providing SRH services may also reduce adolescents' access to family planning services. Additionally, a study by Chekol at al. (2023) mentions that unfriendly or judgmental interaction or distrust of SRH service providers are among the reasons for adolescents' not seeking the services.

Although the above findings showed minimal improvement in accessing family planning, there are few government and NGO efforts to reach adolescents with knowledge of contraceptive services. Thus, in order for the COTC contraceptive conversation project to reach students in their schools, most adolescent students must be equipped with the right information. The government and other NGOs have failed to accomplish this. Like other sub-Saharan African countries, Tanzania aims to develop policies that facilitate adolescents' access to contraceptive information and services by going to the youth in schools with an evidence-based national comprehensive sexual education curriculum Mpimbi et al. (2022). Therefore, the knowledge of FP services as part of the SRH services, provided by the COTC contraceptive conversation project, is given to the stakeholders with updated and appropriate information.

CONCLUSION AND RECOMMENDATIONS

Conclusion

As pointed out earlier, this study is based on the SRH conversation project led by COTC student-led ambassadors. Generally, the project was timely and well instituted, and has provided SRH education to a large number of adolescents in the area. A descriptive analysis of the data revealed basic knowledge of SRH and FP issues among the respondents. However, the government's involvement in the provision of health education and services was minimal, and so this important service was left in the hands of untrusted sources, such as friends and social media. There were certain factors that made it impossible for adolescents to access SRH and FP services. The factors included the government's minimal involvement in the provision of unfriendly services at health centers, cultural and religious beliefs, lack of basic knowledge of SRH and FP, and fear of concealment, which resulted in adolescents not seeking SRH services. Thus, the SRH and FP education provided by COTC student ambassadors was relevant and well-timed.

RECOMMENDATIONS

On the basis of the findings of the study, it is recommended that COTC's SRH project provide its services to more adolescents in other schools in Mtwara and other regions, where adolescent students are challenged by health issues, such as STIs and early pregnancies. Since this study focused on secondary schools, efforts should also be made to reach other adolescents at community levels, since they are more vulnerable than adolescents who are in school settings than out of school adolescents because they do not have an organized source of information, such as the school environment. The government should make SRH and FP educational interventions for adolescents in secondary schools. There should be enough skilled health workers and suppliers of enough equipment for delivering quality SRH services to adolescents. Establishing a separate user-friendly unit for adolescents in health facilities will enable adolescents and the youth more generally to use the services, instead of depending on only the current setup, which serves adults as well and may be challenging in smaller communities like Mtwara where most everyone knows everyone and lastly designing programs to address stigma and judgmental behaviors among health care provider . The present arrangement does not allow adolescent students and young people to have the freedom to talk about their SRH needs in the presence of adults.

This study also recommends strengthening of the contraceptive conversation model, that involves outreach programs by COTC students while linking young people to credible online resources and to nearby health care services. This model is effective and however needs further assessment to assess all components for instance rates of uptake of services, understanding if outreach programs have actually led to services uptake by adolescents and finally understanding of credible online resources to learn about sexual and reproductive health issues among young people.

ACKNOWLEDGEMENTS

I would like to thank Grand Challenge Canada for funding the contraceptive conversation project implemented in Mtwara. I also acknowledge the cooperation and support I received from various government officials in Mtwara and from the students who participated in the project. My special thanks go to YAI and their partners COTC sexual health club, the implementer of the project, and to the Mwalimu Nyerere Memorial Academy for supervising the implementation of the project and for granting the research clearance.

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