

Understanding Sexual and Reproductive Health Needs of Adolescents: Evidence from a Formative Study in Three Districts of Lake Regions in Tanzania

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Abstract

Background: Teenage marriage and adolescent pregnancy present a significant health challenge in Tanzania. About 36% of women aged 15-49 are married before the age of 18, and 32% of rural adolescents (10-19 years) gave birth, compared with 19% of urban. In Mwanza region, one-third of currently married adolescents and women aged 15-49 experienced an unmet need for family planning and had low use of modern contraceptives. Here we present a study that explored the gaps in accessing and utilization of quality adolescent sexual and reproductive health services (ASRH).

Methods: This was a descriptive and exploratory cross-sectional formative study utilizing multiple qualitative research methods. Purposive sampling was used to select an urban district (Nyamagana), a rural district (Magu) and an island (Ukerewe). Fifty-six In-depth Interview (IDI) and 30 focus group discussions (FGDs) stratified by gender (12 out-of-school, 12 in-school), and (3 male, 3 female adults) were purposefully sampled. An experienced moderator, along with a note-taker, led the discussions while taking notes. The FGDs were recorded using an MP3 voice recorder. A thematic analysis approach was undertaken and data were analysed using NVivo 12, a qualitative software.

Results: Adolescent girls needed specific services such as counselling on menstrual health, sexual consent, HIV/AIDS, and prevention of pregnancies. Sanitary pads during the menstrual period were a very important pressing need of adolescent girls. Adolescents both girls and boys preferred to receive friendly health care services in a respectful manner. Girls mentioned that they would like to receive SRH support from nurses in health facilities, mothers, sisters, aunts and friends. With regards to the boys, they preferred to receive the SRH from health care providers followed by their peer's friends. Several obstacles were reported to hinder access to SRHS predominantly among adolescent girls as compared to boys. Poor infrastructure tended to impair the privacy at the health facilities, and rarely there were specific buildings to provide friendly adolescent sexual and reproductive health services.

Conclusions: The strategies to guide the delivery of ASRH should involve the inclusion of duty bearers, promotion of friendly health care services where health workers provide services in friendly-manner, and provision of ASRH education for awareness creation to adolescents and supportive parents/ caretakers.

Background

At present, there are more than a billion adolescents aged 10 to 19 in the world, and 70% lives in low-income countries (LMIC). Nations must work together to meet the health requirements of this substantial portion of the population. To fully address the needs of adolescent sexual and reproductive health, care must go beyond adolescence pregnancies [Atuyambe et al. 2015]. Adolescence, defined as the period between the ages of ten and nineteen, is a pivotal phase in a person's life during which they undergo significant biological, psychological, and social changes [1, 2]. The adolescent fertility rate in the low- and middle-income countries is nearly five times the rate in more developed countries [2, 3]. The importance of adolescent sexual and reproductive health has grown [2]. More research in this field is needed, according to global research [2, 4-9]. Structure variables such as national wealth, income inequality, and educational access are the most powerful drivers of adolescent health in the world. Improving adolescent health would thus necessitate bettering daily life with families and peers in schools, as well as addressing risk factors in the social environment and focusing on the elements that influence adolescent health [10].

Tanzania has roughly 13 million adolescents between the ages of 10 and 19, accounting for 24% of the overall population [11]. Thus, adolescents represent a significant number to transform socio-economic development of the country and necessitate knowledge empowerment in this important group [12]. According to Tanzania Demographic and Health Survey (TDHS) data, adolescent fertility rate has increased from 116 to 132 between 2010 and 2015/16 [7]. Teenage pregnancy has also increased by 4% in the country since 2010. The TDHS 2015/16 has shown the differences of child bearing rates to exist across the regions ranging from low, 5% in Mjini Magharib Zanzibar and 6% in Kilimanjaro to high of 28% in Mwanza, 45% in Katavi and 43% in Tabora regions. Thirty two percent of adolescents in rural areas are considerably more likely to have begun childbearing as compared to 19% of their urban counterparts. The report also indicated that only 1 in 10 adolescent girls aged 15-19 were using any modern method of contraceptives.

Adolescent girls are at the highest risk of pregnancy related deaths which is twice as high for girls aged 15-19 and five times higher for girls aged 10-14 compared to women in their 20s [13]. Furthermore, pregnant adolescents are more likely than adults to pursue unsafe abortions [14]. In Tanzania maternal mortality is 556 per 100,000 live births, of which 18.5% are from mothers aged 14-19 years whereas 31.5% are from youth between 20-24 years of age [15]. Available evidence show that adolescent girls in Mwanza continue to experience difficulties in accessing reproductive health services.

Sexually Transmitted Infections (STIs) including Human Immunodeficiency Virus (HIV/AIDS) remain a great risk for adolescent whereby 40% of new infections occur among this cohort, condom use outside marriage is as low as 37% in adolescent girls and 35%

in boys aged 15-19 [7]. Adolescents in Tanzania are at high risk for self-harm and interpersonal violence with 50% of boys and girls aged 13-19 having reported experiencing physical violence [4]. The Ministry of Health (MoH) recommends multidisciplinary approach to support adolescent's access to reproductive health information and services and increasing collaboration among governmental, non-governmental and private organizations in promoting youth-friendly services [16, 17]. The challenges that discouraged adolescent from seeking reproductive health care services includes stigma, long waiting times, unkind healthcare workers, cultural barriers and lack of privacy in the clinics [17]. Here we present finding of a study to explore the gaps in accessing and utilization of quality ASRH in Mwanza Region, Tanzania.

Methodology

Design and study areas

This was a descriptive and exploratory cross-sectional formative study utilizing multiple qualitative research methods. These methods included desk review, in-depth interviews (IDI) and focus group discussions (FGD). Purposive sampling was used to select Nyamagana urban district, Magu rural district, and Ukerewe island district. Mwanza Region is located in the northwestern section of the country. It is located between latitudes 1° 30' and 3°00' south of the equator, and longitudes 31°45' and 34°10' east of the equator. Kagera Region lies to the west, whereas Shinyanga Region lies to the south and east, and Simiyu lies to the north [18]. Mwanza accounts for only 3.0% of the mainland's total area of 942,784 square kilometers. Mwanza Region is divided into seven districts and seven local government authorities, each of which is divided into 24 divisions. Ilemela, Nyamagana, Magu, Ukerewe, Sengerema, Kwimba, and Misungwi are among these districts. As a result of subdividing wards inside townships, municipalities, and cities, divisions are further subdivided into 152 wards. According to the 2012 National Census Report, Mwanza has a population of 2,772,509 [18]. In this study, we randomly selected one ward from each district involved in the study.

Study Methods, Selection of Study Participants and Data Collection

In each ward, all villages were listed to select one primary school and secondary school. A nearby community within the catchment of the schools was randomly selected to get individuals who participated in IDI and FGDs. Health care providers were drawn from health facilities- dispensary, health Centre and hospital within the selected wards. We conducted 30 FGD each with 6-8 participants for a total of 212 participants and 56 IDI from three districts of Mwanza region Table 1 and Table 2.

The FGDs were segmented across urban, rural and Island areas of Mwanza region where 10 FGDs were done for each group. FGDs were segmented by gender (girls and boys), age groups (10-14 & 15-19 years old) and in-schools and out-schools adolescents to ensure intra group homogeneity (Ndyabangi et al. 2004). Also, it

was done with older men (30-49 years old) as well as 3 FGD with older women (30-49 years old). It is believed that this sample size was sufficient to reach theoretical saturation, the point at which themes are repeated in the data and new information does not appear [19-21]. Guest et al. (2017) asserts that three focus groups are sufficient to identify 80% of all themes in the data.

Both, the in-depth and FGD guide were designed to collect information on adolescent and reproductive health issues such as pressing needs of the adolescents; barriers and enablers to accessing adolescent sexual and reproductive health services within the com-

munity; level of privacy for seeking adolescent sexual and reproductive health services offered in health facilities; who and where adolescent want to receive services; availability of reproductive health education available for adolescents; opinion of the person they talk about SRH issues; awareness of adolescent pregnancies; how to improve the quality and utilization of SRH; where do adolescent want to receive SRH services; and what makes a 'good' ASRH provider.

Table 1: Participants socio-demographic characteristics

District	Ward	FGD type	Sex	Average age	Education	Number of Participants	Actual No. of FGD
Nyamagana	Buhongwa	Boys (10-14)	M	13	Primary Out of school	9 6	2
		Girls (10-14)	F	13	Primary Out of school	7 5	2
		Boys (15-19)	M	17	Secondary Out of school	8 6	2
		Girls (15-19)	F	17	Secondary Out of school	13 6	2
		Parents (30-49)	M	41	Male	6	1
		Parents (30-49)	F	41	Female	6	1
Ukerewe	Nansio	Boys (10-14)	M	13	Primary Out of school	8 7	2
		Girls (10-14)	F	14	Primary Out of school	8 6	2
		Boys (15-19)	M	17	Secondary Out of school	7 7	
		Girls(15-19)	F	17	Secondary Out of school	8 7	2
		Parents (30-49)	M	40	Male	8	1
		Parents (30-49)	F	40	Female	6	1
Magu	Shishani	Boys (10-14)	M	13	Primary Out of school	6 5	2
		Girls (10-14)	F	13	Primary Out of school	8 8	2
		Boys (15-19)	M	17	Secondary Out of school	8 5	2
		Girls(15-19)	F	16	Secondary Out of school	8 5	2
		Parents (30-49)	M	39		7	1
		Parents (30-49)	F	39		8	1
						212	30

Table 2: IDI participants' socio-demographic characteristics

District	Ward	IDI type	Sex	Average age	Education	Planned IDI	Actual IDIs
Nyamagana	Buhongwa	District level	M&F	Adult	Unspecified	5	5
		Teachers	M&F	Adult		2	2
		Religious leaders	M	Adult		2	2
		Health providers	F	Adult		5	4
		CHW	M&F	Adult		2	2
		WEO(Mek)	M	Adult		1	1
		NGOs	M	Adult		2	2
		interview at region level	F	Adult		1	1
Ukerewe	Nansio	District level	M&F	Adult	Unspecified	5	5
		Teachers	M&F	Adult		2	2
		Religious leaders	M	Adult		2	2
		Health providers	M&F	Adult		4	4
		CHW	M&F	Adult		2	2
		WEO(Mek)	M	Adult		1	1
		NGOs	M	Adult		2	2
		WSWo	F	Adult		1	1
Magu	Shishani	District level	M&F	Adult	Unspecified	5	5
		Teachers	M&F	Adult		2	2
		Religious leaders	M	Adult		2	2
		Health providers	M&F	Adult		5	4
		CHW	M&F	Adult		2	2
		WEO(Mek)	M	Adult		1	1
		NGOs	M	Adult		2	2
Total						58	56

Data management, analysis and ethical consideration

Data was captured using audio recording administered by trained enumerators capable of implementing formative research. The analysis team transcribed and translated all audio data recordings from the FGDs and IDIs. After familiarization with the data from the transcripts, a coding framework was developed using thematic approach. All transcripts were typed, saved and exported to the Nvivo 12 software for analysis. Transcripts did not identify any respondents by name; instead, participants were labeled with a unique code, such as participant 1, Participant 2, Participant 3, 4, 5, 6. Specific illustrative quotes from FGD and In-depth interviews were extracted and used in this study. These quotes were not attributed to a specific participant but instead attributed generally.

Ethical and Regulatory Approval

This study was undertaken by experienced research team which ensured that adequate information about the study was available to national, regional, district health authorities and participants.

Meetings of community leaders and district officials from each of the proposed districts in the study area were convened in order to explain the nature of the study. The study was performed in accordance with the protocol, the ethical principles outlined in the Declaration of Helsinki, International Council for Harmonization of Technical Requirements (ICH) Good Clinical Practices (ICH/GCP) [22]. Written informed consent, in accordance with local institutional and national regulatory requirements, was obtained from either an older adolescent (18+ years) and other related adults; parents or legal representative of the minor involved in the study and in addition adolescents who were below 18 years provided an assent [23]. During the study process the study participants were informed that they could refuse participation or withdraw at any point in time without any consequences. Consent of "minor" i.e., age below 18 years were sought from their parents first while an assent was simultaneously obtained from these adolescents. Consent process in non-school attending children was done at home in the community while those from school attending children, were

informed at school and given consent/assent to send to their parents. In the next day, those who returned with a signed consent/assent were recruited for FGD. Considering the sensitive nature of these groups and gender issues of this study, the experienced field workers with track record of doing similar assessment were recruited and trained to implement this study. Likewise, males led the FGDs with males and similarly for females. It was expected that the same field workers were capable to handle data collection challenges like recruiting highly sensitive case, (e.g. under age with pregnancy or sexual abuse etc.). As these cases required special attention such as counseling and privacy assurance before data collection was established. The Investigators also ensured that only subjects who gave the informed consent/assent were included in the study. This study was approved by both to IHI certificate number IHI/IRB/No:06-2020, AKU IRB certificate No:AKU-IED, EA/2020/026/fb and NIMR with reference number NIMR/HQ/R.8a/Vol.IX/3357.

Results

The results identified six key themes related to adolescent sexual and reproductive health services (ASRH) emanating from the data analysis namely: 1. pressing needs of the adolescents; 2. adolescent SRH support points; 3. Availability of ASRH education; 4. Reasons for the choice of the person to talk with; 5. preferred attribute for ASRH service outlet and 6. Level of privacy in provision of reproductive health care services

Pressing needs of the adolescents

The most important pressing needs of the adolescent in relation to the reproductive and sexual health included health education or advice related to sexual and reproductive health services and care. Adolescent girls needed specific services such as counselling on menstrual health, sexual consent, HIV/AIDS, and prevention of pregnancies. Sanitary pads during menstrual period were very important pressing need of the adolescent girls. Economic hardship placed majority of the girls in risky position as it was hard to get money from parents to purchase supplies for their menstrual needs.

There was no difference with regards to the pressing needs across the study districts in regards to girls in school and out of school. However, most of boys in FGDs mentioned that they wanted health education and HIV test while in school. It was also reported that the needs of boys were sometimes overlooked by their parents. Participants in FGDs' sessions mentioned pressing needs for girls as compared to the boys as quoted below: -

"There is a need for the provision of education (advice) and awareness creation on adolescence because many girls do not know about it". FGD, out of school, girls (10-14), Nyamagana district

"I think what is needed is to prioritize the needs of these children especially the boys. The boys form a group that is usually forgotten unlike the girls. The father should be educated so they can provide the basic necessities for the boy when they reach adolescents." FGD with female parents, Magu district

"You know these are children and they are not at the age of inserting loops or any other thing as a pregnancy preventive measure. What is needed is to educate the child frequently. When a child starts using contraceptives early, she will get complications when she reaches the right age to conceive. So, you need to warn your child from time to time". FGD with female parents, Magu district

"We shouldn't do sexual intercourse while we are young, we need counselling services when we reach our menstrual period, we are supposed to go to the dispensary so as to be educated on how to protect ourselves while in our menstrual period". FGD, in school girls (10-14), Ukerewe district

"The most important pressing needs here is education". FGD, out of school boys (15-19), Magu

Yes, they are there; when they pass, they tell us to be against childhood pregnancies, also they encourage us not share men and by doing so it will help to reduce spread of HIV/AIDS. FGD, out of school girls (10-14), Magu district

Adolescent SRH support points

Majority of girls in FGDs mentioned a range of people that they would like to receive the services from that included nurses in health facilities, parents, mothers, sisters, aunties and friends. Some of in-school girls (10-14) reported that they would seek information or guidance from their mothers but were sometimes scared because their parents could sometimes ignore them or share their privacy with their neighbors. The quotes below report that majority of girls would always inform their mothers and friends: -

"The service that I received during my first menstrual cycle was from my parents who warned me against talking with men". FGD, out of school girls (10-14), Ukerewe district

"You might go and tell your parent, but she might not listen or sometimes tend to share what you had told her with her neighbors and you might end up being told just go on". FGD, in school girls (10-14), Nyamagana district.

"I talk to my sister because most of the time my mother is busy or sometimes, I talk to my friend". FGD, out of school girls (10-14), Nyamagana district.

"You need to be confident to tell your parents, but you would rather tell a friend that when I woke up yesterday, I found some blood on my bed and a friend would tell my parent. She would explain that I was afraid to tell my mom or Dad so I was ready to help her telling her parents. But on my side when I started my menstrual cycles, I informed my mother and she warned me to be careful and taught me a lot of issues and I am working on the things she was telling me to do". FGD, out of school girls (10-14), Ukerewe district

While some of the participants mentioned that they would like to receive reproductive health information from the media such as radio, television, magazines, and online platforms, majority said

they prefer information from the health facility and specifically from health care providers. There was no variation in the responses in relation to 'from whom' they would prefer to get the services in participants of the three visited districts.

"Yes, I can get him easily, because if there is something scared me, I can easily access the health provider". FGD, out of school girls (10-14), Magu district

"Anyone close to me who will solve my problem even my father I will talk to... some daughters are very close to their fathers; they receive great attention to the extent that a girl child does not feel shy to tell her father about reproductive health issues". FGD, out of school girls (10-14), Nyamagana district

"Hospital is better than home because doctors are knowledgeable and can help you. Doing it at home is not helpful, doctors can help you even with little money they won't let you be humiliated". FGD, Girls, in school (10-14), Ukerewe district

Majority of the respondents mentioned that they were attracted to services which can be easily obtained at health facilities such as condoms, oral contraceptives, implants, counselling and injectable contraceptives. Most of these services are used as contraceptives and perceived to attract adolescent receiving care in the facilities.

Availability of ASRH education

With regards to the availability of education related to ASRH, majority of the participants in FGD sessions reported to have received information from parents, friends, nurses, teachers, religious leaders and older people. The most general knowledge reported was on adolescent pregnancies, sexual abstinence and menstrual health for girls. Some participants said that there was inadequate support received from the parents as they mainly discuss reproductive health issues with their peers or friends. The participants in the FGD sessions and in-depth interviews reported that there was a gap between parents and children especially the male parents. Here are some quotes:

"...most of us receive advice from our mothers as we find it easy to tell them, another thing is, mother knows that her girl child has grown up so she has to instruct her on what to do, for those living with a male parent they find it difficult to explain about their body changes, they have to approach a close friend". FGD, out of school girls (10-14), Nyamagana district.

"For Muslim religion, we provide a lot of teaching about family planning education; for adolescents we ensure that are not part of the peer groups with unwanted behaviors. We control them through giving the Quran teachings; we teach them about family planning by telling them to abstain from sex until she reaches the age of adulthood to get a partner through marriage. We also teach girls on how to protect themselves by covering their bodies and to have self-respect, through this, she can protect herself and by giving them proper knowledge on reproductive health education.

The Quran teaches us a lot of things, since it touches all angles". In-depth interview with religious leader, Magu district.

"We're getting education from school and home; parents are also giving us instructions from engaging in sexual relations in early age". FGD, in-school Boys (15-19), Ukerewe district.

"What I can do is to ask them to abstain from love affairs, to be serious with studying and also stop engaging themselves in risky sexual relationships as they are still young". In-depth interview with religious leader, Nyamagana.

"We always have a teacher who talks about HIV issues for young people and to guide them on the impact and how to protect themselves from it... But about youth health we really don't know maybe as this has come up now as a new chapter maybe we should start looking at it too". In-depth interview with teacher, Nyamagana district.

Reason for the choice of the person to talk to

Majority of those who reported to talk with their parents was due to the fact that parents would provide their adolescents with means of getting sanitary pads and advice. For those who reported to have been talking to their mothers said that they are used to such experience of conversation together and it became easier for them to continue with that relationship. Some of the participants would usually talk to their friends because they were not used to talk with their mothers prior to that moment as quoted: -

"Maybe you start menstrual circle and you have a sister who has passed through that stage you will just talk to your sister. You may realize that going to the parents may not help and going to hospital is not an option as it is not an illness". FGD, out of school girls (10-14), Ukerewe district

"I would talk to mother, because we used to have a lot of conversation together". FGD, out of school girls (10-14), Nyamagana district

Mothers would educate their girls when they start seeing changes in their bodies or when they start getting menstrual period or when they reach puberty. Participants in women FGD was quoted saying: -

"I must sit down with her and tell her that you are now a grown up and you have started menstruation period, you have to be very keen because you can make dirty your clothes with blood when you are in the class or any other place and you won't have any idea that it is happening until somebody else see the mark on the back of your clothes. So, you have to be very careful". FGD with female parent, Magu

"I will also tell her that you have already become an adult, you have to know that when you do sexual intercourse you will get pregnant. When you start sexual intercourse then that means you

will start to be called a mother after you get pregnant. You have to know that sexual intercourse is not a good thing.” FGD with female parents, Magu

Preferred attributes for ASRH service outlet

With regards to ASRH services delivery attributes, majority of the respondents in FGDs reported that provision of friendly health care services in a respectful manner would make a difference. The age was reported as an important factor for accessing reproductive health care at the health facility. Participants in FGD sessions said that it was difficulty for the under 18 years children to get ASRH from the health facilities. However, the majority of participants recommended putting posters at schools and at the dispensaries to inform adolescent about where to get or access ASRH services. Adolescent reported to have wanted a service provider who is generous; who welcomes you well when you arrive at the facility, who responds and advice you well when you ask a question; the one who cares for you and not disclosing your privacy information to other people. Below are some of the quotes from the respondents:

“age is an important factor because someone can be denied reproductive health services if is under eighteen years”. FGD, in school Boys (15-19), Ukerewe district

“I went to the hospital to seek SRH services but they told me that I am still young, SRH are only provided to those above 18 years old”. FGD, in school Boys, Magu district

Overall, the general remarks from adolescents across the surveyed districts was that they wanted service providers to be compassionate, be generous, be gentle, be understandable, respectful, and with humor.

One of the enablers proposed in female FGD was about creating awareness on adolescent and reproductive health. This could be through displaying posters at school as well as offering it through teachers as explained in quotes below:

“For those services, they can put some posters at the dispensary and at the school area that “children from standard four can come and get education.” This is very possible. Even when these posters are put in the school area, the children will be aware and the teachers will be the ones providing this education. So, the children can opt to go to the dispensary or the school or both to get sexual reproductive health education”. FGD with female parents, Magu district

“I think we need to get reproductive health education from school and specifically from female teachers. If they will ensure privacy and not following us behind, it would be good for us to get reproductive health services from school” FGD with Girls, Magu district

Level of privacy in provision of reproductive health care services
Lack of privacy was another issue reported by participants as an

obstacle in accessing reproductive health services in different IDI and FGD sessions. In terms of insufficient privacy in health facilities, the participants reported both, visual and audio privacy must be observed when attended by health care providers. Participants reported that some adolescent cannot express themselves or they may feel shy to ask questions in presence of adults/ parents. The respondents emphasized on separation of adolescents during health education sessions as quoted below:

“I mean, the knowledge provided must be given in different groups because when you provide the knowledge to both parents and adolescents, there is a challenge. When you provide knowledge to all people of different ages some people will feel shy to speak or ask questions. If you want to be understood by someone, let him or her ask questions so that you can explain more. If you mix adolescents with adults/ parents, they won't be free to express themselves” (Key informant, Magu).

“Sometimes nurses at the hospital use to stay near the window, and some people might be there to investigate where are you going, they will just see you from home they decide to follow to know where are you going, they might be listening outside and when they hear you talking about reproductive health issues they come to spread this information to the villagers, like we have been telling you this girl is not good she has been affected with HIV/AIDS; she is slimming, you will just feel ashamed and stay at home just crying” FGD, Out of school girls (10-14), Ukerewe district

“Students (forms two to four) were picked and taken to the playing ground located far away from the presence of people. The discussion could not be heard by the third party. The discussion was between girls' students and the reproductive health service providers”. FGD, out of school girls (10-14), Nyamagana district

“The doctor didn't talk in public to other people”. FGD, out of school girls, Magu district

“Because of presence of equipment for providing services, also the area prevents you from other people to know who has entered the room to receive services”. FGD, out of school girls (10-14), Magu district

Discussion

This study has confirmed important gaps in accessing and utilization of quality adolescent sexual and reproductive health services [24] [25]. Among the reported needs of the adolescents included health education and advice related to sexual and reproductive health services. Also much needed were specific services such counselling on menstrual period, how girls can protect themselves against men's temptation, HIV/AIDS, and how to avoid adolescent pregnancies as reported elsewhere [25]. Sanitary pads during menstrual period were reported to be important pressing need of the adolescent's girls. This is similar to what has been reported elsewhere [26]. The services that were provided in health facilities like condoms, oral medicine, implants, counselling and injectable

very much attracted adolescents, of which mostly were perceived as contraceptives for the adults.

The needs of boys were sometimes overlooked by their parents, as it was thought that boys did not have visible needs compared to girls. Adolescent boys as it is for girls needed trainings on stages in growth and protection against HIV. Access to available ASRH information was articulated as one of the pressing needs for adolescents yet lack of reliable source of ASRH information platforms and inadequate curricular at school was reported profound across the study districts. The minor adolescents were the most vulnerable of access to ASRH information as they had limited access to the sole active source of necessary information, the health facility. Given their age, it was uncommon for them to seek ASRH and this is also due to poor perception of and low knowledge on ASRH needs by health care providers. Adolescents who are out-of-school environment were also deprived of access to necessary ASRH information. In this group the deprivation was due to their natural inability to be at school where some limited sexuality education is provided and sometimes backed up by organized youth clubs for life skills development activities, only school goes attend these clubs. Access to contraceptives, condoms, and pain killers during menses with excessive menstrual bleeding and the necessary knowledge and skills to negotiate and use contraception remain a challenge for adolescents in Mwanza region. Similar phenomena were recently reported elsewhere in the LMICs [27].

The adolescents support for ASRH was gendered oriented. For example, girls participants in most FGDs stated that they would like to receive ASRH services from nurses in health facilities, followed by parents, mothers, sisters, aunties and other female friends. It is important to consider this preference and equip the health facilities with trained providers who can offer friendly services to the adolescents. Some of in-school girls (10-14) reported that they would inform their mothers about important issues related to menstrual health but sometimes were scared as they felt ignored by parents. The issue of fear and associated taboos in menstrual health has been reported elsewhere in the similar settings [28]. In this study, we couldn't find the differences between the in-school and out-of-school variation in terms of seeking ARHS as noted from other studies [29]. Health care providers and parents should also be educated to offer good care to the adolescents as they are also in the list of preference. This is similar to what was reported by Laski and colleagues, 2015 [26].

For the boys, they mainly reported to share the information related to reproductive health with their peers' friend and rarely parents. The media was also very important for few adolescents to receive information such as radio, television, magazines, and online platforms. To sum up, majority of the adolescents received general knowledge on ASRH from parents, friends, nurses, teachers, religious leaders and older people. Mostly needed ASRH was on adolescent pregnancies, sexual abstinence and menstrual health for girls. The specific ASRH knowledge and support was knowledge inadequately received from the parents but mainly discussed with

their peers or friends. There was clear gap on ASRH between parents and children especially the male parents.

It is therefore important to consider adolescent support points of communication in order to design appropriate messages related to SRH. In this study we also found important attributes preferred by majority of the respondents in FGDs. Adolescents reported that provision of friendly health care services in a respectful manner as a motivating factor for seeking health care from health facility. This finding is in line with what have been reported elsewhere [25, 30]. In terms of ASRH service preferences, adolescent appreciated health providers that were compassionate, generous, gentle, understandable, respectful and with humor. Young age should not deter provision of ASRH. Adolescents wanted to be informed about SRH using posters at the service place and at school area as important in creating awareness for and get enlightened. Peer coaching whereby capacitated and knowledgeable age mates take the role to coach colleague was appreciated by adolescents as good practice in access to right ASRH information.

Friendly health care services tailored for adolescents and not linked to routine reproductive maternal and child health clinics where health providers listen and use the proper language were found to be enablers to access reproductive health services. However, limiting access for the minors (10-14 years) was an obstacle in accessing reproductive health services from the health facilities. Providers of similar gender of adolescents who are also young were perceived the best enablers for ASRH access by all adolescents from various gender and age groups in all study districts – rural, urban and island. In Tanzania, insufficient youth-friendly health care may have a significant role in the high frequency of risky sexual practices and their repercussions. Efforts should be aimed at establishing service delivery sites that are designed to make health services more accessible and appealing to teenagers, so that they are more likely to be able to and willing to receive the care they require [31].

For in-school adolescent, youth clubs or associations were very important compared to out-of-school ones where they had no platform to discuss their issues. Most club groups were formed by NGOs that conducted youth seminars on various issues including SRH. Teachers were also able to mobilize students to discuss issue of HIV and other SRH issues as reported by teachers and district officials. The groups focused on providing education by teaching practical skills and through competitions.

Conclusion

The strategies to guide delivery of ASRH should involve the inclusion of duty bearers, promotion of friendly health care services where health workers provide services in friendly-manner, provision of ASRH education for awareness creation to adolescents and supportive parents/ care takers. Effective interventions and best practice models are those that include multiple components that stimulate effective supply and demand of ASRH. They should promote awareness education and comprehensive approaches tar-

getting the adolescents themselves and the key reference persons including parents, health care providers, teachers and religious leaders. The policies and legislations for ASRH need to cater for multi-sectoral need of health and education and encourage stakeholders' involvement. Thus, strengthening facilitation pool for adolescent in various platform is very important – the teachers, religious leaders and peers.

List of Abbreviations

AIDS-Acquired Immune Deficiency Syndrome
ASRH-adolescent sexual and reproductive health services
CBO-Community Based Organisation
DMOs-District Medical Officers
DHIS2-District Health Information Software
DRHCo-District Reproductive Health Coordinator
FGD-Focus Group Discussion
GCP Good Clinical Practices
HIV-Human Immunodeficiency Virus
ICH-International Council for Harmonization of Technical Requirements
IDI-In-depth Interview
IHI-Ifakara Health institute
IMPACT- Improving Access to Maternal and Newborn Health in Tanzania
MoH-Ministry of Health
NGO-Non-Governmental Organisations
Sexually Transmitted Infections (STI)
SRH-Sexual Reproductive Health
RCH-Reproductive Child Health
RRCHco-Regional Reproductive and Child Health coordinator
TCI-Tanzania Challenges Initiatives
TDHS- Tanzania Demographic and Health Survey

Declarations

Ethics approval and consent to participate

This study was approved by both to IHI, AKU and NIMR with reference number NIMR/HQ/R.8a/Vol.IX/3357.

Consent for publication

Not applicable

Availability of data and materials

The datasets generated during and/or analysed during the current study are available in the savor of Ifakara Health Institute and can be available upon request.

Competing interests

The authors declare that they have no competing interests

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Authors' contributions

MM-1 collected, analyzed, wrote the first draft of the manuscript and interpreted the data. MM-5, AMK, BF, FM, SM, ES, DS, MM-3, SJ, MT and HK supervised data collection, commented on the analysis and interpretation of the data, and were major contributors in writing the manuscript. All authors read and approved the final manuscript.

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