

Communication between Adolescents and their Parents on Sexual Risk-Taking Behaviours and Facilitating factors in Rwanda

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Abstract

Background

Younger generation engages in sexual activities that often result in early pregnancies, unsafe abortions, sexual abuse, and sexually transmitted infections. Parent-adolescent communication could be a sustainable solution to improved adolescent reproductive health.

Objective

To determine factors facilitating adolescent communication with the parents on sexual risk-taking behaviours.

Methods: A cross-sectional study design was used with a sample of 199 adolescents. A self-administered questionnaire through a simple random sampling technique was employed, and participation was voluntary. Descriptive and inferential statistics were performed using the Statistical Package for Social Science (IBM-Version 21).

Results

The adolescents who never spoke to their mothers on sexual risk activities were 20.1%. The factors that facilitated adolescent communication with their parents about sex risk behaviours were: age of adolescents ($r = -0.166$, $p = 0.023$), living arrangement of adolescents ($r = 0.147$, $p = 0.045$), Having home mate brothers and sisters ($r = 0.142$, $p = 0.05$) and living with grandparents ($r = 0.220$, $p = 0.003$).

Conclusion

Parents' time to interact with their adolescent children was insufficient. There are numerous factors that positively and negatively influence parent-adolescent communication on sexual risk behaviors. General communication was found to be an important facet and a strategy to conveying reproductive and sexual issues to adolescents by the parents

Rwanda J Med Health Sci 2022;5(1):20-33

Keywords: Adolescents, Adolescent-parent communication, Sexual behaviours, Rwanda

Background

The World health organization (WHO) defines an adolescent as “any person between ages of 10 and 19 years”. [1] Adolescents account for 1.8 billion, translating into a quarter of the Globe's residents. [2] Hence, there exist socio-economic growth and challenging

social norms when caring for this age group. [2] Adolescents, on the other hand, are exposed to intense anatomical and physiological changes, which dramatically affect their psychosocial wellbeing which manifests as high sexual activity curiosity. [3] Without behaviour guidance in the adolescence stage, this sexual curiosity may lead to sexual risk-taking activities. [4]

Regrettably, many child partners are often incompetent to resourcefully debate on harmless intercourse that expose young adolescents to sexually transmitted infections and early pregnancies.[5]

Numerous studies conducted in East African member states including Rwanda, Kenya, Uganda, and Tanzania about adolescent's reproductive health issues, reveal that the younger age group involves themselves in sexual actions leading to sexual abuse, early pregnancies, unsafe abortions, and sexually transmitted infections.[6] Poor communication of parents and their adolescents on sexuality and reproductive health issues is identified to be the key underlying problem.[6] For instance it has been documented that strong parent-adolescent communication promotes adolescents' self-esteem and prevents reproductive health risk, including substance use, misbehavior, and sexual risk taking behaviors.[6]

Therefore, it is argued that parental involvement plays a vital role and is a facet for conveying sexual health information and for sexual health promotion.[7] However, it is has been typically written that parental communication on Sexual Reproductive Health (SRH) issues, infrequently does not happen in family situations,[8] thus, if it occurs, unclear warnings and explanations are used by the parents.[9]

Similarly, the gap between parent-adolescent communication is a hindrance especially in situations where parents or adolescents are not familiar with the reliable sources to be used in seeking sexual information.[10] These incredible sources may mislead adolescents into undertaking risky sexual behaviours including early sexual intercourse initiation, unprotected sex, early unwanted pregnancies, and hazardous abortions.[11] Furthermore, studies conducted in Rwanda reveal that drug abuse among adolescents is one of the contributing factors for involvement in sexual risk-taking behaviours influenced by inadequate information given by their parents as most of the parents are not comfortable to discuss the issues related to the sexuality to their children.[12]

Thus, the Rwanda Demographic Health Survey indicates that 33% to 39% of adolescent girls aged 15-19 had experienced physical or sexual violence from other adolescents, mostly by using substances.[13] While 28% of the adolescents remained silent, sometimes from fear about what happened to them or due to lack of relevant information about what to do.[14] Important to note is that is the finding that communicating SRH with children is usually initiated by parents. This would most likely tend to reduce sexual risk behavior among adolescents.[2] Therefore, It is against this background that the current study was designed to determine adolescent-parent communication status about sexual risk-taking and its facilitating factors in Rwanda.

Methods

Study design

A quantitative descriptive and analytical cross-sectional study design was used to determine the factors facilitating adolescent communication with the parents about sexual risk-taking behaviours in Rwanda using a selected school of Gasabo District.

Participants' recruitment

Adolescent pupils aged 14 to 19 years were enrolled from a secondary school located in Gasabo District, in Kigali City, Rwanda. A school register was used to get an eligible study population of adolescents. Among the study population, only 201 students were met the inclusion criteria including (i) being an adolescent aged 14 to 19 years, (ii) being sexually dynamic i.e. self-reported numbers and types of sexual partners, frequency of sexual acts and condom use at the time of data collection, (iii) willingness to participate (iv) being unmarried at the time of interview. The secondary school was chosen because it is located in the semi-urban area of Gasabo district, where most of the adolescents may not have access to valuable sources of sexual health information except from their family members and teachers. For instance, this area is not in town where most adolescents would use the internet and other media at to get information.

To get sample size from Groupe Scolaire Bumbogo, the researcher used simplified population proportion method given by TARO Yamane [2] the confidence of 95% and sampling error of 5% was considered. Therefore, the sample size was 310 adolescent students. As GS Bumbogo accounts 403 students in secondary school,

$n = N / (1 + N (E)^2)$ Where n is the sample size, N is the population size, and E is the level of precision.

$N = 403 / (1 + 403(0.05)^2) = 201$. Hence, out of predicted 201, after data collection and data cleaner up, the analysis was done on 199 participants which correspond to the response rate of 99%.

Using eligibility criteria, and the simple random sampling strategy, a sample size of 201 was used for this study. Where n is the sample size, N is the population size, and E is the level of precision

Measures

The study used a standardized questionnaire, which were existing developed and approved then adapted to fit the Rwandan context. [17] And the permission to use the tool was sought and granted by the original author. The tool has three (3) main parts: Social demographic characteristic of adolescent's family, this part was composed by age, gender, home language, religious affiliation, the living arrangement of adolescent and family status, parent-adolescent communication (general communication, communication towards reproductive health and communication towards sexual activities).

Part 1: Parent-adolescent in general communication.

This was measured by the participants using a five-point Likert scale (ranging from strongly disagree = 1 to strongly agree = 5) to state the level of their agreement with the statement.

The Parent-Adolescent Communication Scale [11]

Barnes and Olson [5] developed the Parent-Adolescent general Communication Scale. The subscales reveal feelings of smoothness expression in parent-adolescent interactions. High score is indicative of communication problems and

a low score indicative of a lack of perceived problems in family communication.

Part 2: Parent-adolescent communication towards reproductive health.

The parent-adolescent communication towards reproductive health was measured using a Likert scale on the nine specific reproductive health concepts including; pregnancy, fertilization, intercourse, menstruation, sexually transmitted disease, birth control, abortion, prostitution, and homosexuality). The scale used ranged from 0 to 4, with 0 indicating "none" and 4 indicating "a lot".

Part 3: Communication towards sexual activities

The Parent-Adolescent Communication Scale [3],

The Parent-Adolescent Communication Scale was developed to assess the quality of communication between an adolescent and his/her parent/s towards sexual issues. The quality of communication between parents and adolescents towards sexual issues was measured by participants using a 5-point Likert scale (ranging from strongly disagree = 1 to strongly agree = 5) to specify the level of their agreement with the subscale. Adolescent Sexual Risk-taking Behavior was measured by 5 items assessing the adolescent sexual behaviours.

Data collection

Data collection method was structured survey by which data was collected through administered questionnaire; the questionnaire was ended-closed questions. The questionnaire was translated in Kinyarwanda.

The researcher provided a written request to the school headmasters to conduct the study. Once the permission secured, the researcher met students on the general assembly organized by the school and explained the aim, objectives, benefits and inclusion criteria to the study. The researcher and one research assistant who were trained in data collection by the researcher and who were given the questionnaire sample before to be familiar with questions to ensure uniformity of the process welcomed students that fulfill inclusion criteria and who accepted to take part in the study.

The data were collected in March 2019 for 3 weeks. The completed questionnaires were kept in a locked cupboard only accessed by the research team.

Data analysis

Completed questionnaires were coded in preparation for data entry into computer software, following which data were cleaned accordingly. Descriptive and inferential statistics were conducted using Statistical Package for the Social Science SPSS version 21 IBM software. Confidence interval (CI) and significant levels were set at 95% and 0.05 respectively.

Ethical considerations

Before data collection, ethical clearance was sought from the Institutional Review Board of the University of Rwanda, College of Medicine and Health Sciences, authorizing the study with a reference CMHS/IRB/050/2019. Further authorization was granted by the headmaster of the Secondary School to conduct the study. In collaboration with the school administration, the researcher organized the meeting with the parents/guardians where she explained the research process. From the meeting, the researcher made all parents/guardians understand the purpose and significance of the study. The researcher promised the confidentiality of the research process and good data management. Thereafter, parents/guardians were requested to voluntarily accept for their children (pupils) to take part in the study. Those who consented were given a consent form to sign. The research team further explained the purpose of the study, its significance, and methods to be used to the pupils. The pupils were assured of confidentiality of source of the information that they were to provide, and effective responses to questions they raised regarding the study. Withdrawing from the study was explained as the right of any participant. The pupils that voluntarily accepted to take part in the study were requested to sign the assent form. Only students who had signed assent forms/letters were explained the purpose of the study, their participation was solely voluntary, and that they could withdrawal at any stage of the study.

All students who participated in the study signed voluntarily the assent forms.

Results

Socio-demographic characteristics of participants

Of the 201 eligible students, 199 students (Response Rate = 99%) questionnaires were returned fully completed. The majority of the adolescents were females (63.8%) with a mean age of 15.86 years (SD = 1.62). Regarding the living arrangement of participants, most of the participants (96.5%) lived with their families having more than 4 children (76.1%). 94% of the participants lived together with their brothers and sisters, while 7.6% lived with their grandparent(s). Most (80.3%) of the participants were children of married families. More than half (55.7%) of the parents were educated at the primary level, while half of the respondents were cultivators (50.8%) (Table 1).

Table 1. Social demographic characteristics of the respondents

Variables	Attributes	Frequency	Percentage
Age of participant	(Mean = 15.86, SD =1.62):		
	14	53	26.6
	15	39	19.6
	16	46	23.1
	17	24	12.1
	18	17	8.5
	19	20	10.1
Sex of Participants	Male	72	36.2
	Female	127	63.8
The home language of participant	Kinyarwanda	198	99.5
	Swahili	1	.5
Religion of participant	Christian	192	97.0
	Muslim	3	1.5
	Other	3	1.5
Current living arrangements of participant	School boarding	2	1.0
	Flat/house with friends	5	2.5
	With parents/guardian at home	192	96.5
Brothers and sisters of participants	None	3	1.5
	One	7	3.6
	Two	10	5.1
	Three	27	13.7
	Four	45	22.8
	Five	60	30.5
	Above 5	45	22.8
Living with brother(s) or sister(s)	Yes	187	94.0
	No	12	6.0
Live with grandparent(s)	Yes	16	8.1
	No	182	91.9
Marital status of parent	Married	159	80.3
	Divorced both parents single	16	8.1
	Mother married another husband	5	2.5
	Father remarried	1	.5
	Mother deceased	6	3.0
	Father deceased	11	5.6
Parent education	No formal education	50	25.8
	Primary education	108	55.7
	Secondary education	36	18.6
Parent occupation	Cultivator	100	50.8
	self-employer	37	18.8
	Public servant	9	4.6
	private servants	2	1.0
	Jobless	49	24.9

Parent-adolescent - interacting and communication

The study revealed that 36.7% of the participants spoke daily to their mothers about sexual risk activities. On the other hand, 20.1% of the participants never spoke to their mothers about sexual risk activities.

The participants who spoke to their fathers daily were 27.8%, while 28.8% of the participants never discussed anything with their fathers about sexual risk activities. Those who reported that both parents had participated in their upbringing were 40.7% of the participants. The parent-adolescent closeness was reported at 40.2% to be done by both parents (Table 2).

Table 2. Parent-adolescent interaction time

Attributes	Frequency	Percentage (%)
Speaking to the mother in the last 24 months:		
Daily	73	36.7
A few times a week	35	17.6
Once a week	23	11.6
Once a month	13	6.5
A few times a year	15	7.5
Never	40	20.1
Adolescent-father interaction in the last 24 months:		
Daily	55	27.8
Few times a week	34	17.2
Once a week	22	11.1
Once a month	12	6.1
A few times a year	18	9.1
Never	57	28.8
Main responsible parent upbringing the adolescent:		
Mother	62	31.2
Father	56	28.1
Both	80	40.7
Parent closeness:		
Mother	62	31.2
Father	57	28.6
Both	80	40.2

Relationship of parent-adolescent communication and sexual risk-taking behaviours by adolescents

Parent-Adolescent General Communication

Parent-adolescent communication on general issues was measured using a Likert scale ranging from 1 to 5 with 1 = strongly disagree to 5 = strongly agree.

Results showed that the total mean score was 3.36, meaning that the adolescents were quite neutral to communicate with their parents on general issues. However, adolescents reported that they were satisfied with how parents talked to them (M = 4.12). (Figure 1).

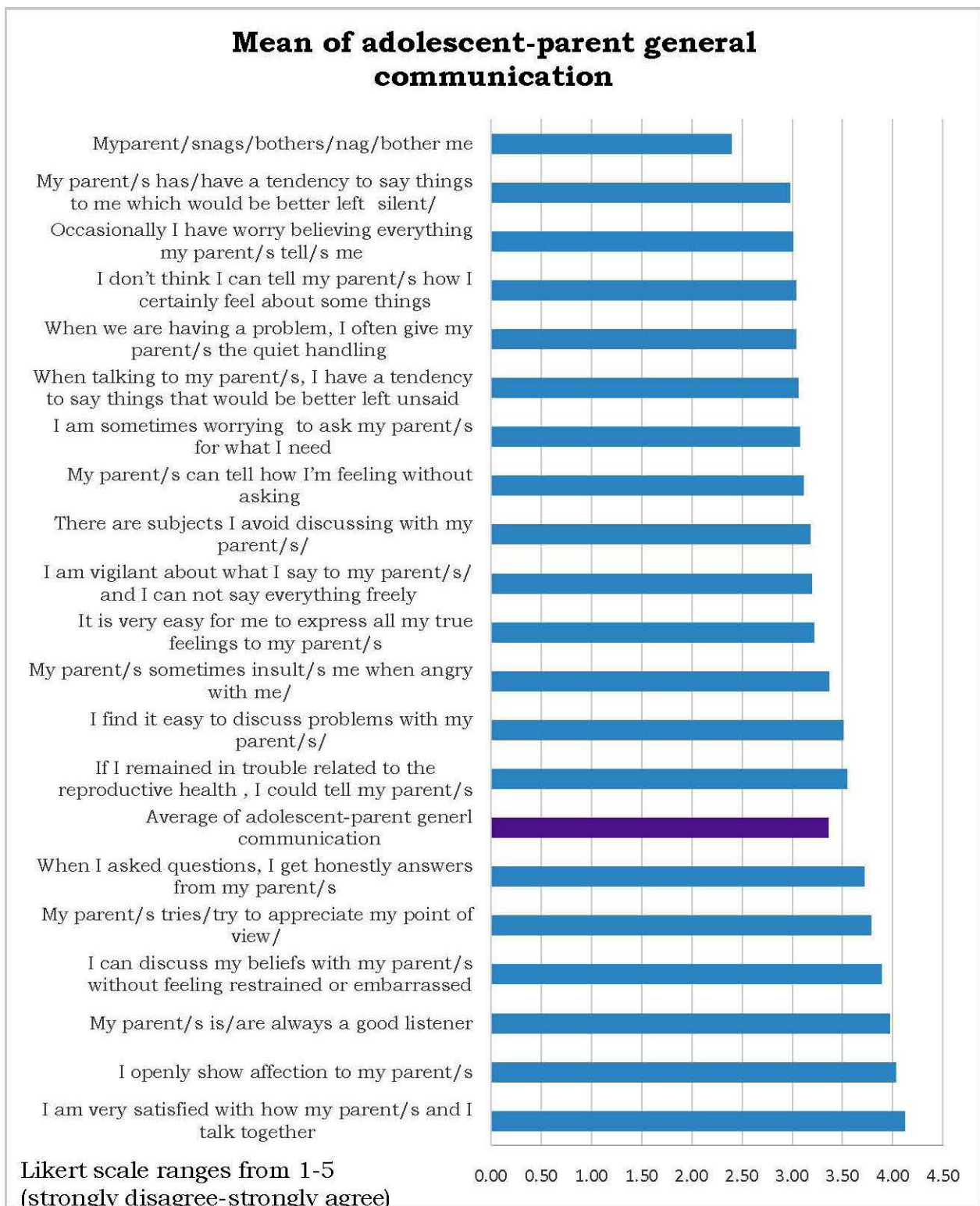


Figure 1. Adolescent- parent general communication

The mean in the above figure shows how adolescents communicate with their parents on general issues. The Likert scale ranging from 1 to 5 standing for strongly disagree to strongly agree was used to measure students opinions.

Thus, the general average of 3.36 means that the adolescents were quite neutral in communicating with their parents on general issues. However, the adolescents tended to strongly agree that they were satisfied with how the parent talked together, whereas they disagreed with being disturbed by their parents.

Parent-Adolescent communication about reproductive health

Parent-Adolescent communication about reproductive health issues was measured with the use of the Likert scale ranging from 0 to 4 with 0= “not at all” and 4=“a lot”.

Results revealed that the mean score on this subscale was 0.96, meaning that parent-adolescent communication regarding reproductive health issues was very minimal (Figure 2)

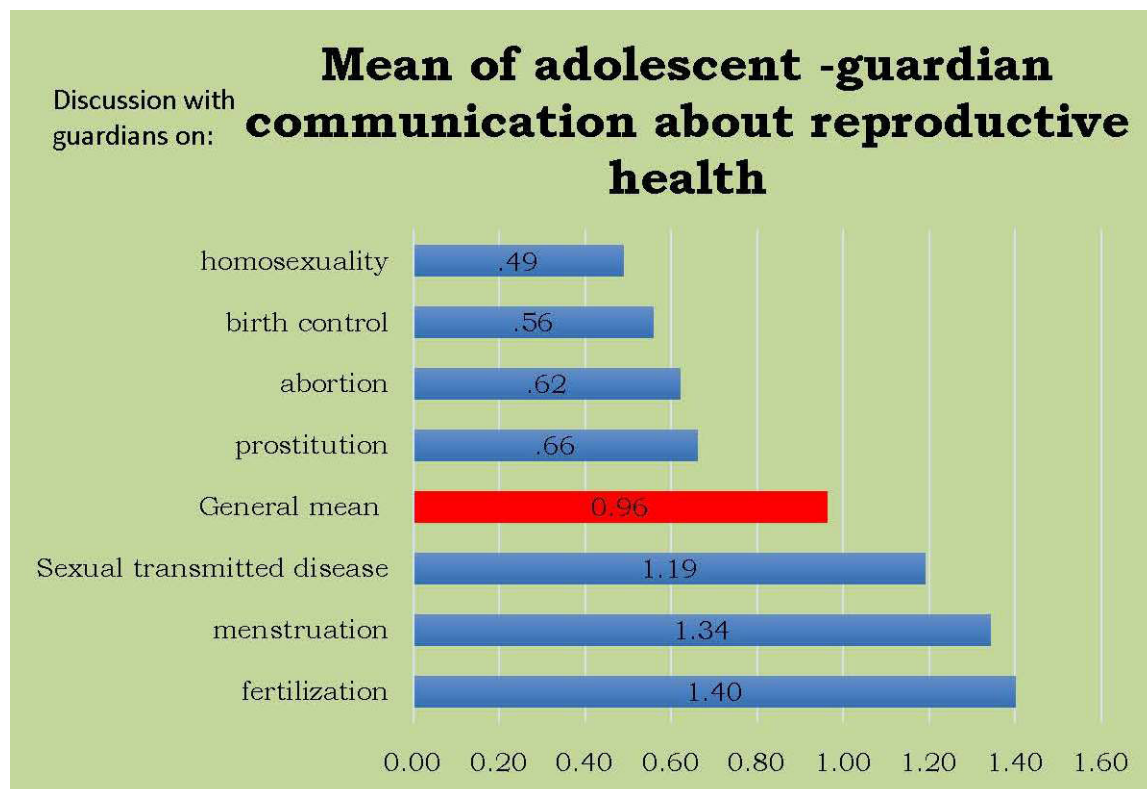


Figure 2. Adolescent-parent communication about reproductive health

Parent-Adolescent Communication about sexual issues

Parent-adolescent communication about sexual issues was measured with the use of the Likert scale ranging from 1 to 5 where 1=strongly disagree and 5= strongly agree.

Results show that the mean score was 2.7, suggesting that the parents’ communication with their adolescents was rated average by the adolescents (Figure 3).

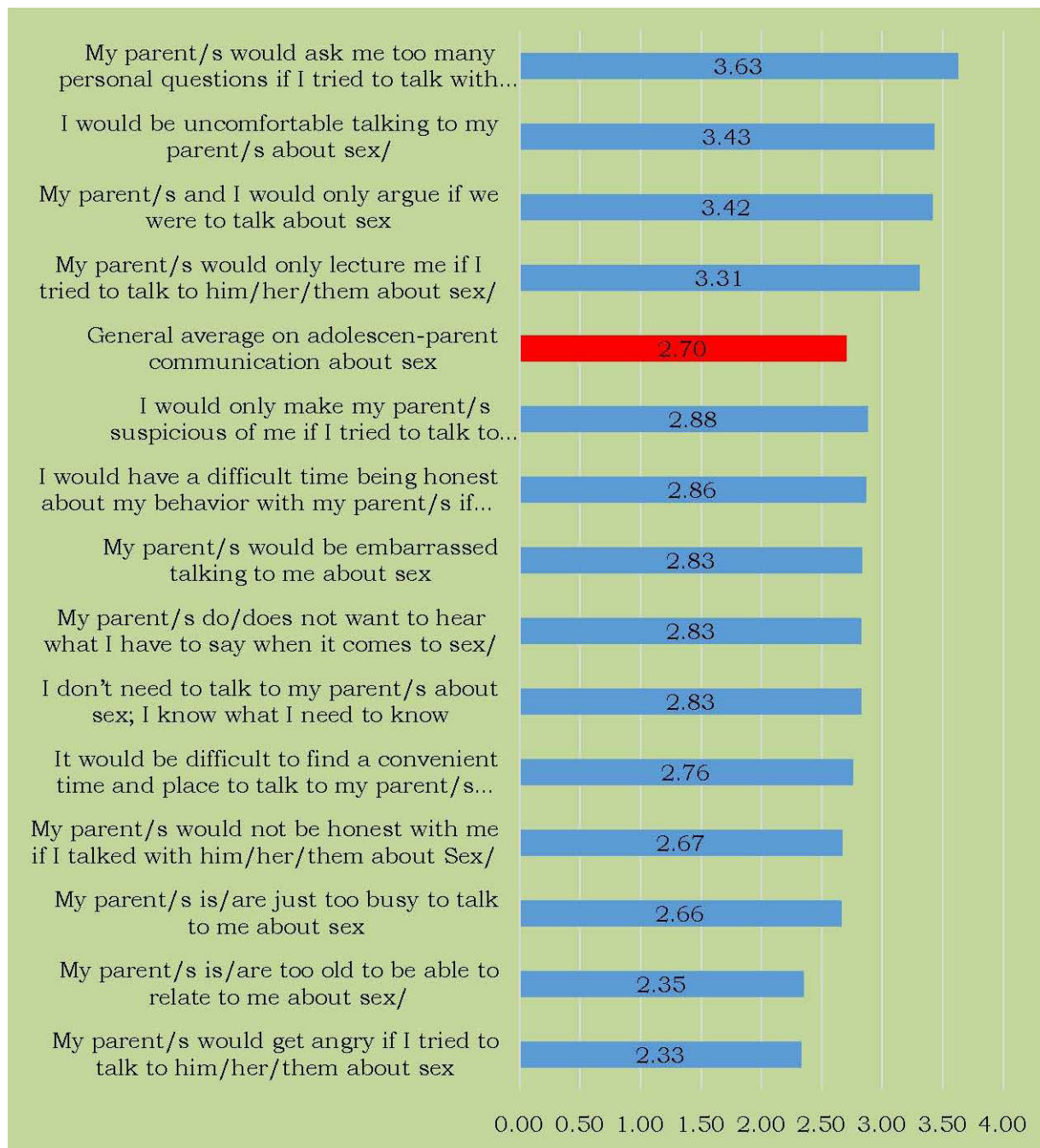


Figure 3. Adolescent- Parent communication about sexual issues

Parent-adolescent interaction time

The study revealed that at least 36.7% of the adolescents had spoken to their mothers about sexual risk activities in the last 24 months. However, 20.1% of the participants never spoke to their mothers about it.

The participants who spoke to their fathers on daily basis were 27.8% but 28.8% of the participants reported never to have discussed about sexual risk activities with their fathers. Fewer (40.7%) participants reported that both parents participated in their upbringing and only 40.2% of the adolescents felt that both parents made them feel closer (Table 3).

Table 3. Parent-adolescent interaction time (N=199)

Attributes	Frequency	Percentage (%)
How often have you seen / spoken to your mother in last 24 months?		
Daily	73	36.7
A few times a week	35	17.6
Once a week	23	11.6
Once a month	13	6.5
A few times a year	15	7.5
Never	40	20.1
In the past 24 months, how often have you seen / spoken to your father?		
Daily	55	27.8
A few times a week	34	17.2
Once a week	22	11.1
Once a month	12	6.1
A few times a year	18	9.1
Never	57	28.8
Which of your parents was mainly responsible for your upbringing?		
Mother	62	31.2
Father	56	28.1
Which of your parents usually make you feel closer to them?		
Mother	62	31.2
Father	57	28.6
Both	80	40.2

The factors associated with positive communication about sexual risk activities between adolescents and their parents

The results showed that there were some factors that positively or negatively influenced parent-adolescent communication and sexual risk-taking behaviours among adolescents. There was a significant weak positive correlation between the age of adolescents and engaging in sexual activities ($r=0.168$, $p= 0.018$). On the other hand, there was a significant negative correlation between the age of adolescent and adolescent parent general communication ($r= -0.166$, $p= 0.023$).

The living arrangement of adolescents was significantly associated with general communication ($r= 0.147$, $p= 0.045$). Having home mate brothers and sisters was significantly associated with adolescent-parent communication on reproductive issues ($r=0.142$, $p= 0.05$). Equally, having home mate brothers and sisters was also significantly associated with adolescent-parent communication on sexual issues ($r=0.185$, $p=0.009$) Furthermore, it was revealed that adolescents who were currently living with grandparents showed a significant association with being engaged in general communication ($r=0.220$, $p= 0.003$).

On the other hand, there was significant negative association between adolescent-mother conversation towards sex and general communication ($r=-0.171$, $p= 0.02$) as well as with parent-adolescent communication on reproductive issues ($r= -0.267$, $p< 0.000$). However, adolescent-mother communication was significantly associated with parent-adolescent communication on sexual issues ($r=0.142$, $p= 0.046$). The results further show that there was a significant negative association between adolescent-father communication and general communication ($r=-0.253$, $p= 0,001$)

as well as parent-adolescent communication on reproductive health issues. Adolescent-father closeness was negatively associated with adolescents' having sex ($r=-0.150$, $p= 0.035$), while having sex in the last month was negatively associated with adolescent-parent communication on reproductive health issues ($r=-0.206$, $p= 0.004$). Finally, condom use among adolescents while having sex was significantly associated with general communication ($r=0.299$, $p= 0.046$)(Table 4)

Table 4. Factors facilitating adolescents-parents' communication about sexual risk activities

Attributes		Having sex	Condom use	General Communication	Adolescent-parent communication towards reproductive health issues	Adolescent-parent communication on sexual issue
Age of participant	r	.168*	-0.013	-.166*	-0.019	0.1
	p-value	0.018	0.932	0.023	0.797	0.162
Living arrangements of adolescent	r	0.041	0.271	.147*	0.007	-0.035
	p-value	0.566	0.068	0.045	0.919	0.621
Home mate brothers and sisters of adolescents	r	-0.063	0.145	0.016	.142*	.185**
	p-value	0.381	0.335	0.83	0.05	0.009
Living of adolescent with brother(s) or sister(s)	r	0.064	-0.26	-0.129	-0.013	0.001
	p-value	0.371	0.081	0.078	0.863	0.983
Currently living with grandparent(s)	r	-0.116	0.152	.220**	0.02	-0.021
	p-value	0.102	0.314	0.003	0.788	0.774
Participant parents' marital status	r	0.089	-0.23	-0.064	0.029	0.013
	p-value	0.211	0.124	0.387	0.685	0.854
Parent education	r	0.024	0.076	0.129	0.065	-0.094
	p-value	0.736	0.617	0.081	0.37	0.193
Parent occupation	r	0.077	-0.095	-0.07	0.019	0.058
	p-value	0.284	0.529	0.342	0.793	0.423
In the past 12 months, adolescent-mother conversation towards sex	r	0.097	0.052	-.171*	-.267**	.142*
	p-value	0.175	0.729	0.02	0	0.046
In the past 12 months, adolescent-father conversation towards sex	r	0.109	0.062	-.253**	-.177*	0.103
	p-value	0.126	0.683	0.001	0.014	0.149
Parents mainly responsible for adolescent upbringing	r	-.160*	-0.021	-0.054	0.006	-0.054
	p-value	0.024	0.89	0.466	0.933	0.453
Adolescent-parent closeness	r	-.150*	-0.137	-0.076	0.068	-0.077
	p-value	0.035	0.364	0.301	0.349	0.282
People having sex in last month	r	1	-0.002	-0.135	-.206**	0.101
	p-value		0.989	0.066	0.004	0.158
Condoms use when having sex with your partner/girl/boyfriend/(s)	r	-0.002	1	.299*	0.04	0.177
	p-value	0.989		0.046	0.794	0.239
	p-value	0.158	0.239	0.007	0.066	

** . Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed).

Discussion

This study set out to determine the factors facilitating adolescent communication with the parents on sexual risk-taking behaviours. Most of the adolescents were reported to be living with their parents and families. This is a common practice in Rwandan society for adolescents to live with their parents or other family members. The most probable reason for it is that parents and caretakers prefer to remain with the adolescent to be their role models and (help the adolescents to avoid risk behaviors [25] Adolescents interacting and communication with their parents about sexual risk activities

This study revealed that less than half of the adolescents spoke to their mothers about sexual risk behaviors. A few adolescents reported never to have spoken with their mothers or fathers about their sexual activities. This suggests that although there were reports by the adolescents for their parents participating in their upbringing and being close to them, there lacked adequate communication about sexual issues. Nevertheless, there were fewer adolescents who had never talked with their fathers about sexual issues than who had never done so with their mothers. These results are similar to those reported in Nigeria, that adolescents were closer to their mothers than their fathers.[18] The results also indicate that parents find it difficult to talk to their adolescent children on sexual risk activities, irrespective of how close they may be.[19] This is because sexual and reproductive issues are regarded as sensitive or taboo in most African societies and therefore, parents may not feel comfortable sharing them with their.[9] This poses a challenge especially considering that the frequency and consistency of sex communication among parents and adolescents is considered to be a key predictor of adolescent sexual behavior.[9] Additionally, interaction that starts early in childhood may help in shaping their social and emotional development, thereby regulating sexual feelings.[9, 18]

Factors facilitating adolescents-parents' communication about sexual risk activities

Our study revealed that the age of adolescents was associated with engaging in sexual activities. This is not surprising in that the older the adolescents become, the more likely they are to engage in early sexual activities, prompted by curiosity. Unfortunately, the study also revealed that the older the adolescent became, the less the frequently they interacted their parents. This would imply that the adolescents felt more confident to seek sexuality information elsewhere including from incredible sources. It has been stated that the child's age is a significant predictor of sex communication with their parents and should be taken into consideration in helping the adolescents. [15]

Having home mate brothers and sisters was associated with adolescent-parent communication on reproductive issues and sexual issues. It is therefore an opportunity for the parents to convey reproductive and sexual messages to both their children during their joint encounters. Interestingly, there was less interaction of adolescents on sex, reproductive health issues, and general communication with both parents. On the other hand, adolescents who were currently living with grandparents engaged in general communication with them. This study may not explain this phenomenon but probably, grandparents may be found to be more accommodating by the adolescents who comfortably share their experiences. Similarly, another study conducted in Rwanda found that young boys and girls would volunteer to explain pubertal issues to their younger brothers and sisters. [16] Another study conducted in Nigeria stated that both rural and urban parents, including the professional community, perceived that sexuality issues can only be discussed through a third party such as an aunt, uncle, elder brothers/sisters, or grandparent.[20,21]

A unique finding of our study was that the closer the adolescents were to their fathers, the more they engaged in sexual activities.

Our study may not also explain the occurrence of this phenomenon as it is believed that fathers are stricter than mothers to their children. Probably, closeness would bring confidence in adolescents that if they had any issues, they would seek forgiveness. What is more outstanding was that the more adolescents became connected to their parents, the more they engaged in general communication, and the more likely they used condoms. It is assumed that general communication is a fundamental principle and protection strategy of sexual risk taking behaviours.[22- 27]

The parental time of interaction with the adolescent is a great facet that enhances connectedness, that in return may be used as a driver to convey reproductive and sexual issues among adolescents. Parents should therefore play an important role by availing time to interact with their adolescents enhancing adolescent development, social integration for positive sexual behaviours. [23-26]

Limitations

The study limitations are mainly methodological; first, the data was collected in a single secondary school in the semi-urban setting. Second, the study depended on participants' self-reported information which may be subject to bias.

Recommendations

The Ministry of Health through the hospitals and health centers and other private health sectors should strengthen the adolescent-friendly health services that promote adolescent-parent communication targeting sexual and reproductive health issues. Parents should use general information as a strategy to speak about reproductive and sexual health issues. Adolescent reproductive health programs should be extended to the rural settings for easy by them.

Conclusion

Parents' time to interact with their adolescent children was insufficient. There are numerous factors that positively and negatively influence parent-adolescent communication on sexual risk behaviors.

General communication was found to be an important facet and a strategy to conveying reproductive and sexual issues to adolescents by the parents.

Authors' contribution

JN, RM, JU and GK contributed to the inception, design, data analysis, and interpretation and manuscript writing. JN and GK proofread the final manuscript.

Conflict of interest

All the authors of this manuscript have no conflict of interest.

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References

1. Nilsen M. , "The relationship between parental monitoring and marijuana non-use among African American and Latino adolescents," The State University of New Jersey, 2015..
2. UNFPA. Strategy on adolescents. United Nations Population Fund, p. 28, 2013, [Online]. Available: www.unfpa.org..
3. Rambaree K, Mousavi F, Ahmadi F. Sports participation and drug use among young people in Mauritius. *Int J Adolesc Youth* [Internet]. Routledge; 2017;3843:1-10. Available from: <http://doi.org/10.1080/02673843.2017.1325756>
4. UNFPA. the AIDS epidemic for adolescents , Annual report about AIDS with adolescents. 2016;
5. Abdallah AK, Magata RJ, Sylvester JN. Barriers to parent-child communication on sexual and reproductive health issues in East Africa: A review of qualitative research in four countries. *J African Stud Dev*. 2017;9:45-50.
6. Champion JD. Mexican Adolescents ' Self-Reports of Parental Monitoring and Sexual Communication for Prevention of Sexual Ris *J Pediatr Nurs*. Elsevier Inc.; 2017;35:83-9.
7. Kumiasih N. N. Kurniasih, "Adolescent Reproductive Health Information Seeking Behavior: An Information Horizon Mapping among Senior High School Students in Bandung," in *Proceedings of the International Conference on Information Science (ICIS) Synergizing Information in Transformative Societies*, 2016, no. September, p. 12, doi: 10.13140/RG.2.2.33855.92326

8. Flores D, Barroso J. 21st Century Parent–Child Sex Communication in the United States: A Process Review. *J Sex Res.* 2017;54:532–48.
9. Asrese K, Mekonnen A. Social network correlates of risky sexual behavior among adolescents in Bahir Dar and Mecha Districts , North West Ethiopia : an institution-based study. *Reproductive Health*; 2018;1–8.
10. Ngamije J, Yadufashije C. Drugs Use Among the Youth In Rwanda: A Public Health Concern And Family’ Challenge. *Int J Emerg Trends Sci Technol* [Internet]. 2016; Available from: http://ijetst.in/article/v3-i9/7_ijetst.pdf
11. Kanyoni M, Gishoma D, Ndahindwa V. Prevalence of psychoactive substance use among youth in Rwanda. *BMC Res Notes* [Internet]; 2015,8:1–8.
12. Bushajja E, Sunday F, Asingizwe D, Olayo R, Abong’o B. Factors that Hinder Parents from the Communicating of Sexual Matters with Adolescents in Rwanda. *Rwanda J Heal Sci.* 2013;2:13
13. M. Stavropoulou and N. Gupta-Archer, “Adolescent girls ’ capabilities in Nepal The state of the evidence on programme effectiveness,” *Gend. Adolesc. Glob. Evid.*, p. 77, 2017, [Online]. Available: www.gage.odi.org.
14. Unicef. Adolescence An Age of Opportunity [Internet]. *Unicef.* 2011. Available from: www.unicef.org
15. NISR. Rwanda Demographic and Health Survey 2014-15. *NISR.Kigali*; 2016.
16. Ryan J. , Roman N. V. , and Okwany A. .The Effects of Parental Monitoring and Communication on Adolescent Substance Use and Risky Sexual Activity: A Systematic Review. *Open Fam. Stud. J.*, vol. 7, no. 1, pp. 12–27, 2015, doi: 10.2174/1874922401507010012.
17. Joseph O. , Y. Mohammed, Raji A. , Kadiri K. , and Joseph A. , .Parental Influence on Adolescent Sexual Behaviour Among Secondary School Students in Ogbomoso , Nigeria,. *African J. Soc. Work*, vol. 7, no. 1, pp. 37–43, 2017.
18. Family and Youth Services Bureau. Parent-Child Communication. *Family Youth Service Bureau*; 2016. p. 1–4.
19. Abbott P. , Mutesi L. , Tuyishime C. , and Rwirahira J. Reproductive and sexual health in Rwanda: A review of the literature, legal and policy framework, *Inst. Policy Anal. Res.*, no. February, pp. 1–103, 2014, doi: 10.13140/RG.2.1.3460.7520.
20. Olusanya OO, Arijesuyo AE, Olusanya OA. Parent-child communication and adolescent sexual behaviour among the Yoruba Ethno-cultural group of Nigeria. *Res Humanit Soc Sci* [Internet]. 2013;3:79–84. Available from: <http://www.iiste.org/Journals/index.php/RHSS/article/view/7931/8155>
21. Kao T-SA, Carter WA. Family Influences on Adolescent Sexual Activity and Alcohol Use. *Open Fam Stud J* [Internet]. 2013;5:10–8. Available from: <http://benthamopen.com/ABSTRACT/TOFAMSJ-5-10>
22. Haines J, Rifas-Shiman SL, Horton NJ, Kleinman K, Bauer KW, Davison KK, et al. Family functioning and quality of parent-adolescent relationship: Cross-sectional associations with adolescent weight-related behaviors and weight status. *Int J Behav Nutr Phys Act* [Internet]. *International Journal of Behavioral Nutrition and Physical Activity*; 2016;13:1–12. Available from: <http://dx.doi.org/10.1186/s12966-016-0393-7>
23. Bireda AD, Pillay J. Perceived parent–child communication and well-being among Ethiopian adolescents. *Int J Adolesc Youth* [Internet]. *Routledge*; 2017;23:109–17. Available from: <http://dx.doi.org/10.1080/02673843.2017.1299016>
24. Manu AA, Mba CJ, Asare GQ, Odoi-Agyarko K, Asante RKO. Parent-child communication about sexual and reproductive health: Evidence from the Brong Ahafo region, Ghana. *Reprod Health.* 2015;12:1–13.
25. Boyer TW. The development of risk-taking: A multi-perspective review. *Developmental Review.* 2006;26:291–345.
26. CLADO. Report on Early / Unwanted Pregnancy for Under 18 Years in 10 Districts of Rwanda. *hdirwanda,Kigali*; 2016.
27. Wang Z. .Parent-Adolescent Communication and Sexual Risk-Taking Behaviours of Adolescents, *Stellenbosch University*, 2009.;