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GrowUp Smart

Baseline Study Report

The Institute for Reproductive Health, Georgetown University



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Contents

List of Tables.....	iii
List of Figures	iii
Acronyms.....	iv
Acknowledgements	v
Background.....	1
Objectives of the Evaluation	2
Main Objective	2
Specific Objectives.....	2
Methodology	2
Study Design	2
Study population.....	3
Sampling procedure	3
Data Collection	5
Baseline Evaluation Tool.....	7
Pre-testing.....	7
Data Quality Assurance and Data Management.....	7
Ethical Considerations	8
Results	8
Study participants' demographic data	8
Knowledge about puberty and reproductive health	11
Parents' views on communicating with VYAs about puberty and SRH.....	13
Girls' menstruation management	14
Hygiene at school.....	15
Knowledge and Information about Health Services.....	16
VYAs views on marriage and relationships	17
Communicating about menstruation, body changes and feelings	17
VYAs responses on what they believe girls and boys are like	18
Study participants' views on teasing.....	19
VYAs views on staying safe and healthy	20
Parents' attitudes on puberty and reproductive health of adolescents	20
Conclusions	22
Appendices.....	23

List of Tables

Table 1. Implementing Partners, Number of Districts, and Number Participants.....	3
Table 2. The number of recruited VYAs, per district.....	8
Table 3. The number of recruited parents, per district	9
Table 4. Study participants' responses on questions related to puberty.....	12
Table 5. Parents' views on puberty and reproductive health of adolescents	13
Table 6. Parents' views on whether using Cyclebeads would encourage girls to start having sex	15
Table 7. VYAs answers on availability and safety of toilets at school	16
Table 8. VYAs responses on knowledge about health services.....	16
Table 9. VYAs responses on menstruation, body changes and feelings.....	17
Table 10. VYAs responses on what they believe girls and boys are like	18
Table 11. VYAs views on teasing.....	19
Table 12. VYAs views on staying safe and healthy	20
Table 13. Parents' attitudes on puberty and reproductive health.....	21

List of Figures

Figure 1. Map of Rwanda districts	6
Figure 2. Parents' religion.....	9
Figure 3. Parents' marital status	10
Figure 4. Patients' level of education	11
Figure 5. Girls' knowledge about when their periods occur	14

Acronyms

ASRH	Adolescent Sexual and Reproductive Health
FAM	Fertility Awareness based Method
FHI360	Family Health International
GREAT	Gender Roles, Equity, and Transformations
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immuno-Deficiency Syndrome
IT	Information and Technology
IRH	Institute for Reproductive Health, Georgetown University
MCCH	Maternal, Child and Community Health Unit
MOH	Ministry of Health
NISR	National Institute for Statistics of Rwanda
RNEC	Rwanda National Ethics Committee
SPSS	Statistical Package for Social Sciences
SRH	Sexual and Reproductive Health
USAID	United States' Agency for International Development
VYA	Very Young Adolescent
WHO	World Health Organization
YSO	Youth Serving Organization
YWCA	Young Women Christian Association

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Background

Young people (aged 15-24) make up a quarter of the world's population, and 90% of them live in developing countries. Findings in a 2011 WHO report show the majority of young people become sexually active during adolescence but few use contraceptives for preventing pregnancy. As a result, the consequences of unprotected sex place a heavy burden on youth. The complications related to pregnancy and delivery are leading causes of mortality among girls aged 15-24 (WHO 2011). Adolescent girls and young women are at much greater risk for HIV infection than male adolescents and young men in the same age cohort. Girl only and girls' empowerment interventions have been the main focus of sexual and reproductive health (SRH) programs, although there is increasing recognition that boys' behavior affects health outcomes for girls. IRH, in collaboration with partners, proposes to evaluate the effectiveness of a multi-component SRH intervention for Very Young Adolescents (VYAs) and compare outcomes for girls versus boys in Rwanda. Results of this research will contribute to a gap in the literature on SRH interventions designed for VYAs.

Georgetown University's Institute for Reproductive Health (IRH), in collaboration with the Ministry of Health, Maternal Child and Community Health Unit (MCCH), and three youth serving organizations (YSOs) under the Expanding Family Planning Access, Availability and Awareness (A3) Project, is testing GrowUp Smart, a multi-component puberty and fertility awareness intervention for VYAs ages 10-14 years, and their parents in Rwanda. GrowUp Smart is a continuation of IRH's successful CycleSmart Project that provided puberty and fertility education to young adolescents through a kit including CycleBeads®; a calendar; a weekly diary; reusable/washable sanitary napkins; and a country-specific brochure that covers topics such as the menstrual cycle, puberty-related changes, risk of pregnancy, gender norms, and self-care. GrowUp Smart combines previously tested materials including *My Changing Body*, a facilitated group curriculum developed by IRH in collaboration with Family Health International; the CycleSmart kit; and activity cards used in northern Uganda in the Gender Roles, Equity, and Transformations (GREAT) Project¹.

GrowUp Smart is a three-component intervention: (1) a facilitated curriculum for very young adolescents (VYA) covering body literacy, fertility-awareness, puberty knowledge, gender-equitable attitudes, menstruation management skills (for girls), interpersonal communication skills, self-care behaviors, and the CycleSmart Kit; (2) two facilitated group sessions for parents of participating VYAs focusing on puberty education and parent-child communication; and, (3) training, materials and support to local youth serving organizations to integrate the GrowUp Smart curriculum and materials into their regular activities with VYA, parents/legal guardians, teachers and school administrators to catalyze community-level understanding of the needs of adolescents, supportive parent-child communication, and school connectedness. Three local

¹ The GREAT Project is implemented by IRH in partnership with Save the Children and Pathfinder International. Concerned Parents Association (CPA), Straight Talk Foundation (STF), Ministry of Health (MOH), Ministry of Education and Sports, Ministry of Gender, Labour and Social Development, and local authorities are also key partners.

youth-serving organizations (YSO) are implementing the intervention: the Young Women's Christian Association (YWCA); the Hope Foundation; and, the Guides Association.

The GrowUp Smart intervention sessions and community activities are being implemented in eight districts from October 2014 to May 2015 in two cohorts, with the first cohort running from October 13 through December 12, 2014, and the second, from February through May, 2015. Prior to each intervention cohort, a baseline evaluation study has been conducted, in order to assess VYAs' and parents' knowledge, attitudes and practices with regard to Adolescent Sexual and Reproductive Health (ASRH). The present report summarizes findings from the baseline assessment. Findings from the baseline evaluation study will be compared to endline evaluation findings, in order to assess the effects of the GrowUp Smart interventions and to measure the effectiveness of the intervention in achieving desired outcomes.

Objectives of the Evaluation

Main Objective

The main objective of this study is to evaluate the effectiveness of a multi-component SRH intervention in improving SRH knowledge, attitudes and behaviors of VYA and their parents.

Specific Objectives

The specific study objectives are to:

1. determine the effectiveness of a multi-component SRH intervention on outcomes for boys versus girls
2. determine whether or not this program helps girls and boys reflect on the way they see and deal with each other
3. assess changes among parents in parent-child communication, attitudes and behaviors related to SRH pre and post intervention

Methodology

Study Design

Evaluation of GrowUp Smart follows a pre and post-test design, with baseline and endline surveys to assess key outcomes. The study does not use a control group. Rather, all 3500 VYA participants in the program – 2000 girls and 1500 boys – and 1000 parents who were selected to participate in the intervention are administered a quantitative survey at baseline and endline. This provides a very robust design to assess the effects of the program. Administration of the baseline survey preceded the initiation of GrowUp Smart intervention sessions. The endline survey will be administered three months after the intervention activities are completed. The intervention is taking place in eight districts across Rwanda and take approximately twelve months to roll out from baseline to completion of endline.

Study Population

Survey data was collected from the following groups:

- Out of school girls and boys aged 12-14;
- In-school girls and boys aged 10-14; and,
- Parents or legal guardians of VYA participants.

Study sites were purposively selected in eight districts throughout Rwanda, including both urban and rural areas. Intervention districts include Bugesera, Gakenke, Kamonyi, Kicukiro, Muhanga, Musanze, Nyabihu and Ruhango. Implementing partners chose districts in which they had previously worked to ensure a strong relationship with local schools and government officials and availability of trained youth facilitators.

For each district, a list of sectors, the next smallest unit of political organization after a district, was developed. To reduce the effects of contamination, only sectors that are not participating in the 12+ Program, another youth intervention supported by the Rwandan Government that focuses on empowering girls ages twelve and up, were included in the list of sectors. Sectors were then selected randomly from this final list using a table of random numbers. Table one shows the study sites by implementing partner, number of districts, and number of study participants.

Table 1. Implementing Partners, Number of Districts, and Number Participants

Organization	Number of Districts	Number of VYAs	Number of parents
YWCA	3	750 girls 600 boys	450 parents
Hope Foundation	2	600 girls 400 boys	200 parents
Guides Association	3	650 girls 500 boys	350 parents

Sampling Procedure

In order to recruit the pre-estimated number of VYAs and parents in each district/study site, YSOs identified all primary schools (6 grades) and secondary schools (9 grades) in selected districts, and worked with school headmasters and principals to access school enrollment registers to compile lists of in-school youth. Within each selected school, age-eligible students were randomly selected. A list of the selected students, was developed and kept by each local YSO.

Approximately one week prior to commencement of data collection, team leader interviewers contacted school principals to explain the purpose of the study and to request permission to

recruit students from their schools to participate in the intervention. Interviewers visited selected students in their classrooms to explain the study and invite them to participate. Students were given confidential participation cards. If the student was interested in participating in the study, she or he circled "yes" on the participation card; if the student did not wish to participate, she or he simply circled "no". Interviewers remained outside of classrooms while students completed participation cards to minimize any pressure students might feel to participate. All participation cards were collected by the teacher responsible for the classroom, and transferred to the interviewing team leader.

Those students who expressed an interest in participating were asked by interviewers to provide informed assent. Interviewers then visited the home of each student to explain the purpose of the study to parent(s) or legal guardians and to request parental/legal guardian informed consent. Interviewers were also available to meet parents and legal guardians at a different location, depending on their preference and availability. After receiving informed assent/consent, interviewers administered the baseline survey.

During this whole process, interviewers worked very closely with teachers, school administrators, YSOs representatives and district/sector education officials to implement the survey with the least amount of disruption to regular classroom and school schedules. In most visited schools, principals assisted the interviewer team by providing a teacher who served as the focal point for the intervention and who eventually helped in coordinating the recruitment and interviewing process.

For out of school youth, YSOs worked within their community networks, with local Ministry of Education officials at the district and sector levels, school principals and teachers, and community leaders to identify potential participants and their parents or legal guardians for the consent and assent process. School principals and teachers and community leaders helped identify out of school youth, whose status was verified by consulting school enrollment registers from the current and previous years. Identified out of school VYAs who were available to participate could then be contacted to participate in the study, along with their parents. VYAs who could not be reached due to relocation from their areas of residence for work or other social reasons were excluded from the study.

Parents and legal guardians of youth participating in the GrowUp Smart program were also recruited for the intervention. As children were being recruited during school visits, a list of parents of youth participants was generated. Using random numbers from this lists, parents were selected to receive invitations to participate. During home visits from interviewers to obtain consent for VYA participation, randomly selected parents were invited to participate in parent sessions. Parents who agreed to participate provided informed consent for their participation as well as the participation of their child. Only parents who had a child participating in the GrowUp Smart program were invited to participate in the parent sessions.

All survey administration took place at the participating schools in a public space where auditory and visual privacy was ensured. Interviewers were experienced in ensuring privacy during interviews and knew not to begin the survey questionnaire if privacy could not be guaranteed. Surveys were conducted in the local language, Kinyarwanda, and responses were recorded using handheld tablets to facilitate data collection, data management and data analysis. Male interviewers interviewed all male respondents, and female interviewers interviewed all female respondents.

Inclusion criteria for study participants included:

1. Girls and boys age 10-14 years
2. Girls and boys age 10-14 in school
3. Girls and boys age 12-14 not in current register and not attending technical or vocational school (out of school VYA)
4. Parent or legal guardian of youth participant
5. Resides in the community

Data Collection

The baseline evaluation survey was conducted in two cohorts. Data collection for Cohort 1 began September 24, 2014 and continued through October 25, 2014. Cohort 2 data collection was conducted between February 10, 2015 and March 3, 2015. A group of 38 trained male and female interviewers issued surveys and recorded responses using handheld devices. All interviewers were fluent in Kinyarwanda and English, and had extensive knowledge of the social, cultural and political context of the regions and districts where GrowUp Smart is being implemented. Interviewers also had experience doing quantitative and qualitative surveys and most had expertise working with youth. Prior to data collection, interviewers attended a three day training facilitated by the research consulting agency, Smart Consulting, which also included the participation of Caroline Mukasine, ASRH In-charge/MCCH and focal point for the study at the MOH. Topics covered during the training included: the purpose and objectives of GrowUp Smart, quantitative research methods, ethical considerations in conducting research with youth, and data collection using handheld devices. Interviewers had practice sessions to familiarize themselves with the instrument and with collecting data on the devices.

During the first cohort, interviews with youth and parents were conducted in five selected districts (Kamonyi, Ruhango, Muhanga, Kicukiro and Bugesera). For the second cohort, interviews were again conducted in five districts (Kamonyi, Bugesera, Gakenke, Musanze and Nyabihu). For this cohort, 29 out of 38 previously trained interviewers underwent a one day refresher training, prior to commencement of data collection. Figure one shows a map of Rwanda, with the names of districts in each region.

study sites, and for storing the devices while in the field. Every precaution was taken to ensure the team leaders kept the devices with them at all times while not being used by data collectors for interviews. Data collectors and team leaders signed IRH's policy regarding use and responsibility of using devices. The policy states that data collectors are personally responsible for lost, stolen or damaged devices while in their possession.

Baseline Evaluation Tool

IRH developed two survey instruments in English, one for VYAs and one for parents of VYA participants. The surveys include similar questions on topics like body literacy, puberty knowledge, fertility awareness, SRH knowledge, safety and protective behaviors, gender equitable attitudes, interpersonal communication, menstrual management, and other SRH health outcomes. The instruments were translated into Kinyarwanda by the research team and back translated by a third party who was not involved in the original English to Kinyarwanda translation.

Pre-testing

Prior to beginning data collection, the survey questionnaire was pre-tested in Kicukiro district of Kigali among 42 VYAs (22 girls and 20 boys) who had similar characteristics to the study participants. During the pre-test, trained interviewers used cognitive interviewing to confirm comprehension of the phrasing of the questions and relevance to VYAs. Changes based on pre-testing findings were integrated into surveys before data collection began. The same process was followed to pre-test the parent survey among 10 male and 10 female parents similar to the study participants.

Data Quality Assurance and Data Management

Handheld devices (Samsung Galaxy Tab 4 with Android OS, v4.4.2 [KitKat version]) were used for data collection. The survey instruments were programmed onto 38 handheld devices – one for each data collector and eight for back-up – using Open Data Kit (ODK), a free mobile data collection software. Handheld devices used data entry screens with built in skip patterns, acceptable ranges, and codes to ensure a reduction in errors associated with data collection and data entry.

IRH hired a local IT specialist who worked closely with the research coordinator to ensure that data was properly entered in electronic forms and transmitted into a secure server for storage. Data was transmitted to the Georgetown University share account using a wireless internet connection from the field. The share account is password protected and encrypted for secure data transfer. Data was backed up in the field each day during data collection, and also in the IRH Kigali office on a password protected, encrypted project computer.

The IT specialist exported survey data into Excel data files which were imported into SPSS, a statistical software, for analysis. Data were screened carefully for suspicious data points that

appear to be outliers or have internal logical inconsistencies with responses to other questions. Frequencies were run on all variables in the data set to look for outliers, and crosstabs between two variables with a logical relationship were calculated to detect the internal consistency in the data.

All data collection and data management was supervised by IRH headquarters senior research staff. In addition, a representative of the MCCCH Unit at the MOH provided supervisory visits to the field during data collection.

Ethical Considerations

Prior to commencing the study, ethical clearance was sought and obtained from the Georgetown University Institutional Review Board and the Rwanda National Ethics Committee (RNEC), the national Institutional Review Board of Rwanda.

Researchers respected the privacy and confidentiality of all participants, and made sure informed consent was obtained from all participants. Adolescents, who were under the legal age of majority in Rwanda (19), provided informed assent because of their status as minors, while their parents or legal guardians provided consent for their participation. Care was taken by data collectors to maintain confidentiality at all times while in the field. No information provided by participants was shared, nor were details of interviews discussed with others. Confidentiality of participants was emphasized during the training of data collectors.

Results

Study participants' demographic data

The results of the baseline survey show that a total of 3500 VYAs and 1000 parents were surveyed at baseline, meeting the targeted sample size. The mean age for VYAs was 11.97 (+/-1.2) with the youngest aged 10 years and the oldest 14 years. Total numbers of participants recruited are presented in Table 2.

Table 2. The number of recruited VYAs, per district

District	Number of recruited VYAs				
	Female	Male	Total	In-school	Out-of-school
Bugesera	215	171	386	351	35
Gakenke	217	162	379	375	04
Kamonyi	244	225	469	440	29
Kicukiro	202	162	364	354	10
Muhanga	248	207	455	427	28
Musanze	300	200	500	482	18
Nyabihu	250	200	450	406	44
Ruhango	298	199	497	445	52
Total	1974 (56.4%)	1526 (43.6%)	3500 (100%)	3280 (93.7%)	220 (6.2%)

The majority of recruited VYAs were girls (56.4%), while boys represented 43.6% of participants. Of all youth interviewed, only 226, representing 6.2% of the total number of recruited youth, were out-of-school VYAs. It was estimated that 369 out-of-school VYAs would be recruited and interviewed, but during the interviewing process, data collectors and YSO field agents had difficulty obtaining the required numbers. The main reasons reported for this were that most VYAs aged 10-14 years are attending school and that in some districts, VYAs who do not attend to schools move from their home residence to find employment or income generating activities in towns and this are no longer living in their home villages. This was particularly reported in Kamonyi, Gakenke and Musanze. Of note, recruitment of larger numbers of in-school VYAs was undertaken in Gakenke and Musanze districts to compensate for the lack of out-of-school VYAs. This permitted the study team to reach the required number of VYAs per district.

A total of 1000 parents were recruited. Across all study sites, females participated in the interviews in greater numbers as compared to males. The number of males who attended baseline interviews was about one third (29.1%) of total participants. This is not surprising, given the traditional poor attendance of men in activities related to reproductive health and children's education in Rwanda. The following table shows the number of recruited parents, per district.

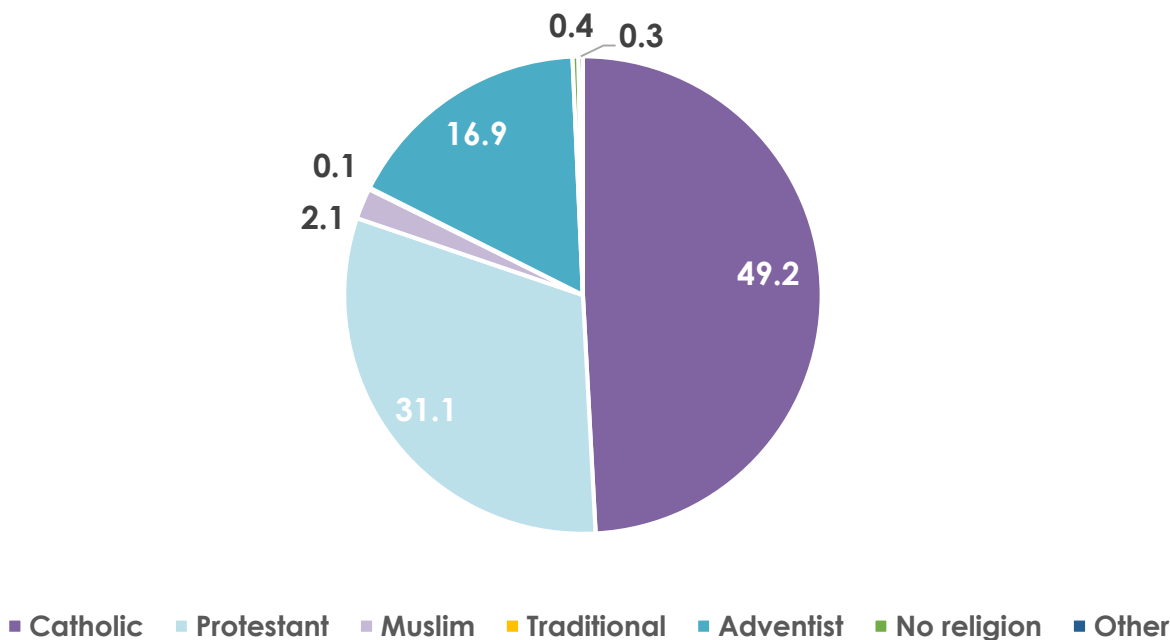
Table 3. The number of recruited parents, per district

District	Number of recruited Parents		
	Female	Male	Total
Bugesera	71	37	108
Gakenke	71	46	117
Kamonyi	118	37	155
Kicukiro	89	29	118
Muhanga	128	24	152
Musanze	70	30	100
Nyabihu	100	50	150
Ruhango	62	38	100
Total	709 (70.9%)	291 (29.1%)	1000 (100%)

Of all parents, the great majority had only one VYAs participating in the interview; 100 (10%) had two children, and six (0.6%) had three children participating in the study.

Figure 2. Parents' religion

Of the interviewed parents, almost half (49.2%) reported that they are Catholics. Protestants represent 31.1% while Adventists are 16.9%. Other religions are less frequently represented.



As for marital status, the majority (77.2%) of parents said that they are legally married while 10.5% are widows. Asked about their occupation, the majority (74.5%) of parents said they are farmers, while only 6.9% are governmental employees. The majority of parents (63.3%) had some primary school education or had completed primary school, while 22.5% did not attend school at all. A smaller proportion (14.2%) had attended secondary school or reached higher levels of education.

Figure 3. Parents' marital status

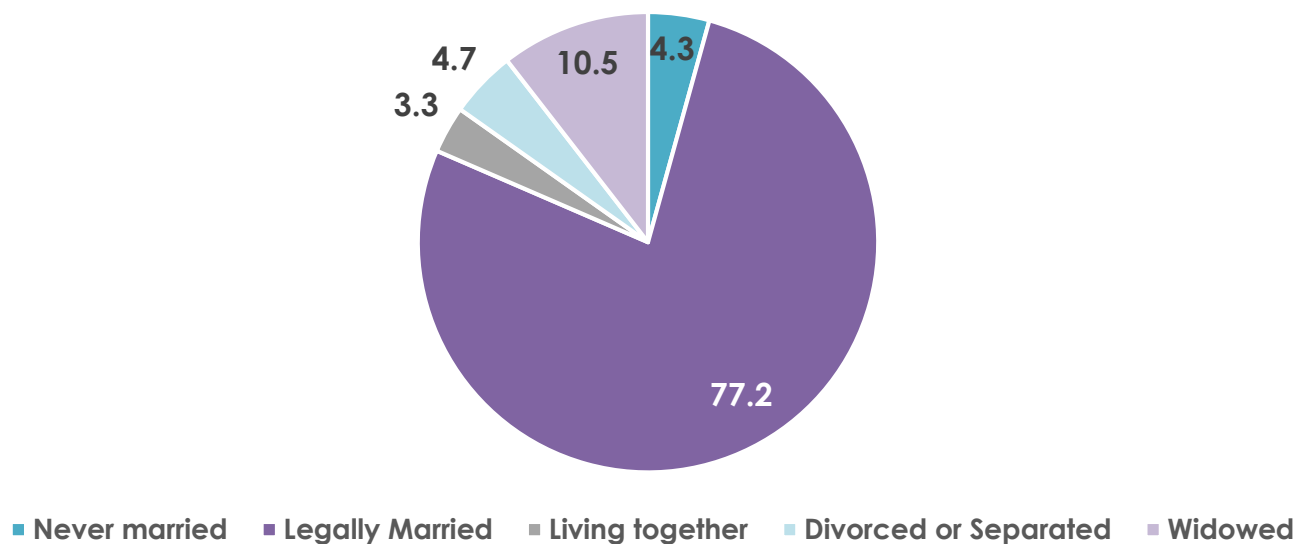
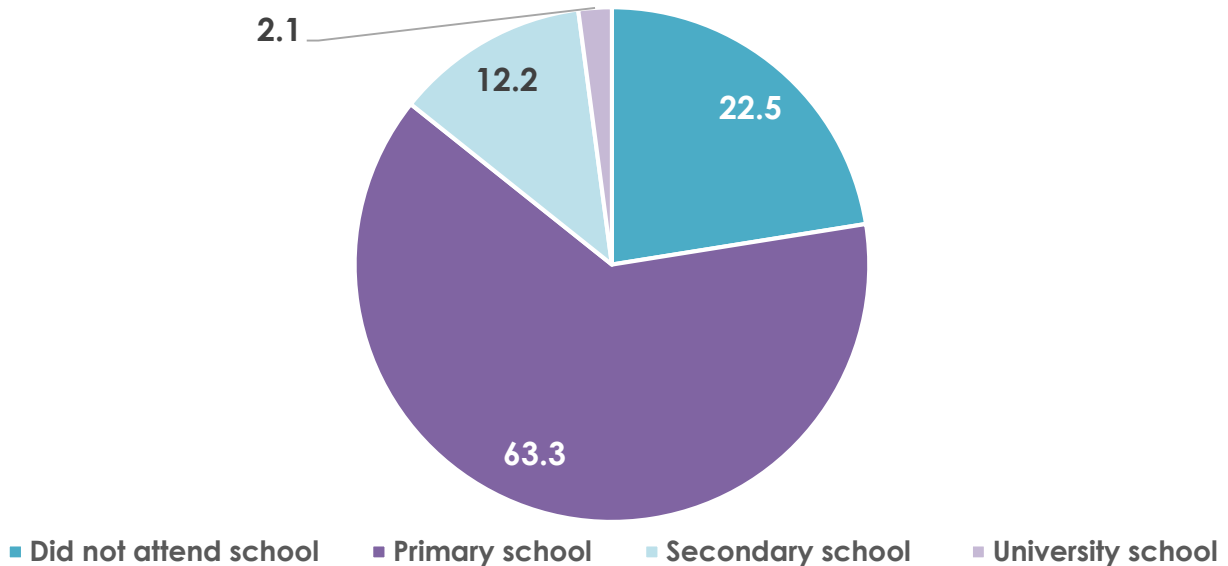


Figure 4. Patients' level of education



Knowledge about puberty and reproductive health

VYAs and parents were asked a number of questions about the menstrual cycle, fertility and other issues related to reproductive health. The first asked them to identify when the the menstrual cycle begins and ends. About one fifth of parents (20.2%) said that they do not know while 25.6% said that the cycle begins on the first day when bleeding starts. As for VYAs, the great majority (91.1%) reported that they did not know, while only 7.7% responded correctly that the cycle begins on the first day of bleeding. Similarly, almost all VYAs (96.4%) were unaware when the cycle ends, and only 11.6% of parents correctly responded that the cycle ends the day before bleeding starts. Twenty eight percent of parents reported to not know when the cycle ends.

Many parents' responses were correct with regard to the occurrence of cervical secretions (described in the survey as "dampness") during the girl's or woman's menstrual cycle and whether anything should be used to dry the dampness. A total of 80.6% parents said the dampness is normal and healthy, and 70.1% said nothing should be used to dry the dampness. Among VYAs, only 20.5% (12.4% females, 8.1% males) said the dampness is normal and healthy and 30.3% (16.5% females, 13.7% males) said that nothing should be used to dry the dampness. A majority of VYAs did not know what the dampness between periods was; most of these were girls who have not yet had their first period.

Most parents (93.5%) know that a girl may get pregnant the first time she has sex after her first period, whereas only 53.4% of VYAs (30.8% females, 22.6% males) agree with the same statement. More than 30% of VYAs said that a girl would not get pregnant under those circumstances, while 16% reported they did not know what would happen. As for the question

regarding the days of the menstrual cycle during which a girl is likely to get pregnant when she has sex without a condom, only 32.7% of parents and 10.1% (7.4% females, 2.4% males) of VYAs reported correctly the days between two periods. The majority of parents and VYA said that they do not know when a girl is most likely to get pregnant. Responses to additional questions regarding puberty and reproductive health are summarized in Table 4.

Table 4. Study participants' responses on questions related to puberty

Question	Category*	Yes**	No**	Do not know**
Is the dampness that a girl feels after her period ends healthy and normal?	VYAs	20.5	38.0	41.5
	Parents	80.6	11.7	7.7
Is it healthy and safe for girls and women to use something to dry up the dampness or to wash it out?	VYAs	30.3	30.2	39.5
	Parents	13.9	70.1	16.0
Is it normal for a girl to have periods that don't come at exactly the same time each month?	VYAs	31.2	42.7	26.1
	Parents	87.3	10.2	2.5
Can a girl get pregnant the first time she has unprotected sex?	VYAs	53.4	30.6	16.0
	Parents	93.5	4.9	1.6
Is it normal that a boy gets an erection when he sees someone he likes	VYAs	49	39.7	11.2
	Parents	88.2	11.1	0.7
Do you think that a boy can get a woman or a girl pregnant before he has his first ejaculation?	VYAs	26.2	60.0	13.9
	Parents	34.4	61.7	3.9
Do you believe that a boy needs to ejaculate every time he has an erection to stay healthy?	VYAs	33.2	51.3	15.5
	Parents	71.1	23.6	5.3

*Category of responder **only percentages are presented

With regard to boys' fertility, only 17.1% (9.4% females, 7.6% males) of VYAs believed that boys are fertile every day from the time he has his first ejaculation. The remaining VYAs did not know (18.2%) or thought that a boy would only be fertile only on some days (64.7%). Of parents, 58.1% knew that boys are fertile every day, while 36.4% thought boys are fertile only on some days. Of all parents, 5.6% did not know when boys/men were fertile.

When VYAs were asked whether they had heard about HIV/AIDS, 70.6% indicated they had heard of the disease, while 29.4% (20.0% females, 9.4% males) had not. On the other hand, 63.4% (29.2% females, 34.2% males) of VYAs had heard about condoms. Of the 36.6% who had not heard of condoms, most (27%) were females. The majority of VYAs agreed that condoms can prevent pregnancy (74.0%), that not having sex can prevent pregnancy (71.4%) and that a condom can prevent getting HIV (77.3%).

Parents were also asked a subset of questions and requested to express their opinions about different statements related to adolescents' puberty and reproductive health. Responses to these questions are displayed in Table 5.

Table 5. Parents' views on puberty and reproductive health of adolescents

Question (N=)	True N (%)	False N (%)	Don't Know N (%)
It is important for girls to have a place to wash and dry their menstrual pads, cloth, or rags to avoid infection from dirty water or from pads not completely dry before reusing them	1005 (98.5)	8 (0.8)	7 (0.7)
When girls get their first period, this means that they can now get pregnant.	954 (93.5)	33 (3.2)	33 (3.2)
Boys having their first ejaculation is a normal and healthy part of growing up	927 (90.9)	17 (1.7)	76 (7.5)
When boys have their first ejaculation this means that they can now get a girl or a woman pregnant	926 (90.8)	31 (3.0)	63 (6.2)

The great majority of parents agreed with most statements, which indicated that most have good knowledge of puberty and reproductive health. Parents also largely reported correct knowledge of breast development, agreeing that it is normal for some girls to begin developing at age 12 or later.

Parents' views on communicating with VYAs about puberty & SRH

Parents' responses about their conversations with their children were diverse. Many parents thought that both mothers and fathers should be the people that children are most comfortable talking to about changes related to puberty. In particular, 31.5% of parents thought that mothers would be the ones that daughters would talk to. In practice, however, these opinions were not always borne out. Of 480 parents with sons, only 135 (28.1%) reported having talked to their sons during the three months preceding the interview about the physical changes taking place in his body during adolescence. The remaining 71.9% had not discussed this with their sons. Similarly, 79.2% had not discussed romantic relationships with their sons. As for girls, of the 638 parents with daughters, only 46.7% had talked with them during the three months preceding of the interview about the physical changes taking place in her body during adolescence. Similarly, only 35.4% had talked with their daughters about romantic relationships. Conversely, a total of 58.8% parents reported discussing with daughters the benefits of waiting to have sex until she is older, 76.3% spoke with daughters about avoiding private places with boys or men, even if he gives her gift or money. Almost 60% (59.7%) talked with daughters about how to take care of herself during her period.

When parents who have sons were asked whether they feel comfortable talking to their sons about sexual and reproductive health, less than half (48.3%) said that they are very comfortable, while others either had not discussed such topics with their sons, or said they felt uncomfortable discussing these topics. Of parents of daughters, a greater proportion (59.9%) felt comfortable talking about these topics. However, only 35.2% parents believed they knew enough about ASRH topics to discuss them with children. The remaining 63.8% of parents reported that they would not know what to say about ASRH related issues.

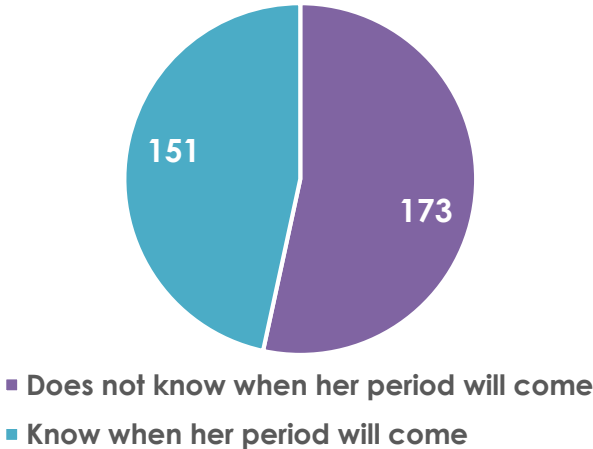
Girls' menstruation management

Of 1979 interviewed girls, only 324 (16.3%) reported having started menstruating. Of those girls, 69 (21.2%) said that they feel comfortable going to school when they have their periods, whereas 181 (55.8%) said they do not feel comfortable at all. Nineteen (5.8%) said that they have never had their periods while at school. Despite girls concerns about attending school while menstruating, only 33 (10.1%) reported missing school because of the periods, of whom 15 stayed home because they did not have menstrual products, 14 because they had abdominal pain and/or other menstruation symptoms, and two because of concerns about being harassed or teased or leaks. Of note, 89% of interviewed parents were of the view that girls should attend school even during the time they have their periods.

Of the girls who had periods, 306 (94.4%) said that they use something to soak up the blood during their periods, while 18 (5.5%) said they use nothing. Among those who do not use any menstrual products, the majority (14) reported lack of money to buy sanitary pads as the main reason. Of those girls who use things to soak up the blood, the vast majority (80.7%) use disposable pads, while 20 use reusable pads, and 37 use cloth or rags. The majority (77.4%) of girls were confident that the pads they use would not cause blood to leak or stain their clothes.

Of the 324 girls who menstruate, 151 (46.6%) said they know when they will get their periods, while 173 (53.3%) do not know, as shown in Figure 5. Of those girls who were able to anticipate their period, 118 (78.1%) said they use calendars, four (2.6%) use Cyclebeads and 28 (18.5%) rely on the presence of any of the symptoms of menstruation.

Figure 5. Girls' knowledge about when their periods occur



Knowledge of CycleBeads was low among VYAs, but rather high among parents. Sixty one girls had heard of Cyclebeads. None of the boys interviewed reported having heard of Cyclebeads. Among parents, 739 (72.5%) knew of Cyclebeads, of whom 531 were females and 208 males. Of those, 661 (89.4%) agreed that it is helpful for a girl to use Cyclebeads to track her menstrual cycle and know when to expect her next period, whereas 42 (5.6%) disagreed. Thirty six (4.8%) parents were neutral, neither agreeing nor disagreeing. In general, parents were supportive of providing CycleBeads to girls; the majority (61.8%) disagreed with the view that using Cyclebeads would encourage girls to start having sex. However, almost one third (30.2%), of whom a significant portion were females (23.1% females versus 7.0% males, p value: 0.032), were of the view that using Cyclebeads would encourage girls to have sex.

Table 6. Parents' views on whether using Cyclebeads would encourage girls to start having sex

Parent's view	Gender (P: 0.032)		Total
	Female	Male	
Agree	171 (23.1%)	52 (7.0%)	223 (30.2%)
Disagree	313 (42.4%)	144 (19.5%)	457 (61.8%)
Don't agree or disagree	47 (6.4%)	12 (1.6%)	59 (8.0%)
Total	531 (71.9%)	208 (28.1%)	739 (100.0%)

A total of 134 (59.8%) girls reported that their mothers taught them about how to take care of themselves during their periods, while another 67 (20.6%) were taught by their adult sister or other adult female, 15 (4.6%) by teachers, and 14 (4.3%) by their friends. A few girls (13, 4.0%) reported that they were not taught menstrual care by anyone. Fathers were not mentioned by any girls as providers of this kind of education and support. Mothers also provide financial resources for their daughters' menstrual needs. The majority (64.8%) of girls who had periods said they get money to buy pads from their mothers, while another 8.8% reported receiving money from their fathers. About 30% (29.3%) of girls reported using re-usable pads while 198 (61.1%) use standard non-reusable pads bought from the market. Of note, 31 (9.5%) girls reported using rags or cloth that they do not need to buy.

In overall, this indicates that girls receive support and information about how to take care of themselves mainly from their mothers, adult sisters or other adult females; but less from their fathers.

Hygiene at school

In-school VYAs were interviewed about the indicators for access to clean toilets, soap and water, and the availability of hygienic products at their schools. There was some confusion among VYAs about whether their school had a toilet - some VYAs from the same school provided diverging responses – but interviewers were able to determine that all visited schools

did indeed have toilets for students. As shown in the table below, 3014 (92%) of the 3274 in-school VYAs reported the existence of sex-segregated toilets for girls, while 255 (7.7%) said that they do not have separate toilets for girls. VYAs from Muhanga and Nyabihu districts most frequently reported that girls do not have toilets for them only.

Table 7. VYAs answers on availability and safety of toilets at school

Question (N=3273)	Yes N (%)	No N (%)	Don't know N (%)
Does your school have a toilet for girls only?	3014 (92)	255 (7.7)	4 (0.1)
Does the toilet have a door that can be locked?	3196 (97.6)	75 (2.2)	2 (0.06)
Do you feel safe going to the toilet?	3092 (94.4)	174 (5.3)	7 (0.21)
Does the toilet have water for washing your hands?	992 (30.3)	2275 (69.5)	6 (0.18)

Table 7 also showed that the great majority of VYA boys and girls have access to toilets with doors at their schools, feel safe using the toilets while at school. However, according to 69.5% of VYAs, many school toilets do not have water for washing their hands or cleaning up. Further analysis indicated that many of the VYAs who reported availability of water for washing were from primarily from Musanze and Kamonyi districts. In Kamonyi especially, almost all VYAs from a newly built school (Wimana Primary School) reported availability of water in the toilets. Additionally, a total of 2746 (83.8%) VYAs reported that the toilets at their schools never have soap, 356 (10.8%) said that they have soap sometimes, and 162 (4.9%) that soap is available most of the time. Availability of soap was most frequently reported by VYAs from Musanze, Kicukiro and Muhanga districts.

Knowledge and Information about Health Services

VYAs were asked several questions about access to different types of health services available in their communities. Table 8 shows a summary of VYA's responses.

Table 8. VYAs responses on knowledge about health services

Question/Statement (N=3519)	Agree N (%)	Disagree N (%)
I know where people can get condoms	1542 (43.8)	1977 (56.2)
I know where people can go to get an HIV test	2345 (66.6)	1174 (33.4)
I know where to go to get information and advice on how to avoid getting pregnant	1740 (49.4)	1779 (50.6)
In my community, young people my age seek information and advice on how to avoid getting pregnant when they need it	1751 (49.8)	1768 (50.2)
I feel comfortable asking an adult for help getting health information or services	2361 (67.1)	1158 (32.9)

According to these responses, VYAs boys were more likely than their female counterparts to know where people can get condoms and where people get an HIV test ($P < 0.001$, $P < 0.001$ respectively). On the other questions reported in the above table, no statistical correlation was observed between the given answers and the respondent's gender. These responses should be interpreted with great caution since girls may have answered such culturally sensitive questions about SRH topics with some trepidation.

VYAs views on marriage and relationships

The majority (86.5%) of VYAs believe that they will get married one day. About 10.8% believe that they will not marry, and 3.1% said they did not know whether they would marry or not. Among those who anticipated marrying, the mean age at which they hoped or planned to marry was 25.3 years. Beyond marriage, VYAs responded to questions about sexual relationships and contraception. More than 60% of VYAs reported knowing boys and girls of their age in their communities who have sex before marriage. A total of 14.6% said that this occurs very often and 49.7% said that it occurs sometimes. Another 22.4% said that it never occurs, and 13.2% reported to not know about it. Over 78% (40.8% females, 37.7% males) of VYAs said that they would use a condom if they chose to have sex before marriage. Only 8.8% said they would not use a condom and 5.9% did not know what they would do. Notably, 6.9% of VYAs insisted that they would not have sex before getting married.

Communicating about menstruation, body changes and feelings

VYAs were asked to report on whether they had talked with any adult about the physical changes in their bodies during the three months prior to the interview. A total of 73.1% reported that they had not talked to anyone about such things, but 13.1% reported talking with their mothers. Only two VYAs (0.1%) had talked with their fathers. Similarly, 71.7% VYAs said that, during the three months prior to the interview, they had not talked with any adult about a girl or boy that they like. About 15% of VYAs had talked with a non-related adult about it, while mothers, elder brothers/sisters and fathers were mentioned by 4.8%, 3.3% and 1% of VYAs, respectively. The following table also summarizes VYAs responses to questions about their feelings regarding communication about menstruation management and body changes.

Table 9. VYAs responses on menstruation, body changes and feelings

Question/Statement (N=3519)	Agree N (%)	Disagree N (%)	Don't agree or Disagree N (%)
I feel comfortable talking with adults about the physical changes in my body during adolescence	2094 (59.5)	1228 (34.9)	197 (5.6)
I feel comfortable talking with adults about romantic relationships	1612 (45.8)	1692 (48.1)	215 (6.1)

I feel confident in asking for help with school work when I need it*	3065 (93.0)	190 (5.7)	38 (1.1)
I feel confident in asking for help with my chores when I need it	3286 (93.4)	187 (5.3)	46 (1.3)
I feel confident in asking for help with managing my period when I need it**	1454 (73.4)	425 (21.4)	100 (5.0)

*For in-school VYAs only (n= 3293)

**for girls only (n= 1979)

Although 73.4% of VYA girls said that they would feel confident in asking for help with managing their periods, only 562 (28.3%) had talked to someone about how to take care of themselves during their periods in the three months prior to the interview. Quite similarly, only 298 (19.3%) boys had talked to someone during the three months prior to the interview about how to manage ejaculations. Fifty eight percent (58%, of which 46.5% females, 11.9% males) of all VYAs, of whom most (82.6%) were females, reported having female friends they trust and with whom they can talk about feelings and personal matters. Forty-eight percent (44.8%, of which 5.3% females, 39.5% males), of whom the great majority (90.1%) were males, reported having male friends they trust and with whom they can talk about feelings and personal matters.

VYAs responses on what they believe girls and boys are like

In Table 10 responses to questions about what VYAs believe girls and boys are like are presented. Even though the majority of VYAs' responses indicate that interviewed youth believe in the equality of girls and boys in terms of access to education and housework, more than one fifth still believe that boys should be privileged over girls in those terms. Nevertheless, 80.1% of boys and 61.9% of girls had helped their sisters or brothers with household chores during the week preceding the interview.

Table 10. VYAs responses on what they believe girls and boys are like

Question/Statement (N=3519)	Agree N (%)	Disagree N (%)	Don't agree or Disagree N (%)
Boys as well as girls should be equally responsible for doing household chores	2336 (66.4)	1062 (30.2)	121 (3.4)
If a family does not have enough money for all of their children to go to school, they should send the boys instead of the girls	804 (22.8)	2468 (70.1)	247 (7.0)
A girl can study and prepare to do any job a boy can do	2432 (69.1)	957 (27.2)	130 (3.7)
Boys should have more free time than girls	1037 (29.5)	2310 (65.6)	172 (4.9)
It is more important for a girl to help at home and learn household activities than to spend time studying	905 (25.7)	2501(71.1)	113 (3.2)

A family should not allow their sons to do housework because that is girls'/women's work	1053 (29.9)	2278 (64.7)	188 (5.3)
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Study participants' views on teasing

Almost half of boys believed that boys who do not tease girls will be made fun of by other boys, and that girls should be flattered when boys tease them. However, 61.5% of girls and boys disagreed with the statement that teasing is an appropriate way for boys to show girls that they like them. Moreover, the majority (84.2%) of respondents said they would be confident telling a boy or a girl to stop teasing someone, which indicates that they see this as an unacceptable behavior. Table 11 shows response rates for these and other, similar questions.

Table 11. VYAs views on teasing

Question/Statement (N=3519)	Agree N (%)	Disagree N (%)	Don't agree or Disagree N (%)
Teasing girls is an appropriate way boys show girls that they like them	1209 (34.4)	2163 (61.5)	147 (4.2)
Boys who do not tease girls will be made fun of by other boys	1748 (49.7)	1565 (44.5)	206 (5.9)
Girls should be flattered when boys tease girls	1591 (45.2)	1722 (48.9)	206 (5.9)
I am confident that I can tell a boy or a girl to stop teasing someone	2962 (84.2)	482 (13.7)	75 (2.1)
I feel able to tell a boy to stop doing something that makes me feel uncomfortable (n=1979)*	1598 (80.7)	325 (16.4)	56 (2.8)

*For girls only

Other inappropriate behaviors were cited by VYAs. More than 60% indicated that in their respective communities girls are sometimes (45.9%) or even very often (14.1%) touched on the breasts or buttocks by boys without their permission. Other responses confirmed this practice; 37.8% boys and girls reported seeing a boy touching a girl on the breasts or buttocks without her permission in the month prior to interview. Of those who had seen such actions, only 23.3% did something to stop such action. This clearly indicate that teasing girls is a very common problem among the youth in Rwanda, and that most of them are not well-equipped with knowledge and attitudes to stop such an action when it happens to a colleague/peer.

A significant proportion of VYAs (30.4%) also indicated that boys are victims of inappropriate touching of their private parts, though nearly half (49.7%) say this does not happen and the remaining 13% were unsure. Nonetheless, 93 boys (6%) of interviewed boys reported having been touched on their private parts without their permission. Compared to girls, 90 (4.5%) of

whom reported having been touched, boys appear to experience inappropriate even more often than girls. It is also possible, however, that some girls and boys declined to report inappropriate touching during the interview due to the sensitive nature of the question. If this were the case, numbers of girls and boys could be underrepresented.

When parents were asked for advice on how adolescents should react if touched in a way she or he does not like, 70% of parents said that they would tell the adolescent that it is wrong for an adult to touch a young person in such a way. Many added that they would ask their child to report the situation to them or another trustworthy adult. However, teasing was not as concerning for parents, only 59.1% of whom disagreed that teasing girls is an appropriate way for boys to show girls that they like them. Almost forty percent (37.1%) agreed with the statement. Furthermore, almost half (49.7%) of parents believed that girls should feel flattered when boys tease them. In brief, parents' responses vis-à-vis teasing are not very different from VYAs/, which further stresses the need for educating parents on these aspects.

VYAs views on staying safe and healthy

The following table shows youth participants' responses on the questions concerning safety and health. As shown in the table, the majority of youth respondents agreed with the stated principles of staying safe and healthy.

Table 12. VYAs views on staying safe and healthy

Question/Statement (N=3519)	Agree N (%)	Disagree N (%)	Don't agree or Disagree N (%)
A girl should not go to a private place with a boy or man even if he offers her gifts or money	2248 (63.9)	1157 (32.9)	141 (3.2)
Using alcohol or drugs leads to bad or unhealthy decisions	2757 (78.3)	711 (20.2)	51 (1.4)
If a girl or boy ever feels pressured or unsafe, they should tell a trusted adult about it	3230 (91.8)	229 (6.9)	60 (1.7)
Girls should walk in a group or with a trusted family member but not alone at night time	3096 (88.0)	372 (10.6)	51 (1.4)
I feel confident in asking for help when I get harassed on the street	3047 (86.6)	410 (11.7)	62 (1.8)

Parents' attitudes on puberty & reproductive health of adolescents

Parents provided their views on different statements related to attitudes towards SRH of VYAs. Responses are shown in Table 13 below.

Table 13. Parents' attitudes on puberty and reproductive health

Question/Statement (N=1020)	Agree N (%)	Disagree N (%)	Don't agree or Disagree N (%)
If a family does not have enough money for all of their children to go to school, they should send the boys instead of the girls	81 (7.9)	909 (89.1)	30 (2.9)
A family should not allow their sons to do housework because that is girls'/women's work	89 (8.7)	925 (90.7)	6 (0.6)
Parents should wait to talk to their sons about ejaculation until after it has happened	294 (28.8)	692 (67.8)	34 (3.3)
It is important for parents to provide support for their daughter to buy menstrual supplies	1004 (98.4)	8 (0.8)	8 (0.8)
I would support my son in any job he would like to pursue in the future even if it is not a job men typically do	880 (86.3)	131 (12.8)	9 (0.9)
I would support my daughter in any job she would like to pursue in the future even if it is not a job women typically do** (n=638)	558 (87.5)	76 (11.9)	4 (0.6)
Parents should wait to talk to their children about sex until they ask	308 (30.2)	689 (67.5)	23 (2.3)
I plan to talk to my son about where to get protection to avoid pregnancy and HIV* (n=480)	461 (96.0)	9 (1.9)	10 (2.1)
I plan to talk to my daughter about where to get protection to avoid pregnancy and HIV** (n=638)	608 (95.3)	14 (2.2)	16 (2.5)
* For parents who have got sons only	**for parents who have got daughters only		

Parents' responses show that they have highly supportive attitudes for sons and daughters as they mature. This was especially true in regard to talking with sons and daughters about where to get protection to avoid pregnancy and HIV. One interesting exception was the relatively high (30%) opinion among parents that they should wait to talk to their children about sex until they ask. This may reflect a lack of confidence or skills among parents on approaches for starting such sensitive discussions children. However, parents anticipated that their children would marry relatively young, at an average age of 21 years for girls, and 24 years for boys.

Conclusions

This baseline study was conducted to assess the current knowledge, attitudes and practices among VYAs and parents of VYAs in regards to puberty and sexual and reproductive health in their respective communities. Responses obtained from quantitative surveys with both VYAs and parents as presented in the preceding section serve as a baseline assessment and will be compared with post intervention responses. Comparison between baseline and end-line/post-intervention assessments will help determine the effects of GrowUp Smart, and measure the effectiveness of such an intervention in achieving desired outcomes.

Overall, findings from the baseline study indicate that both parents and VYAs have significant knowledge gaps on puberty and reproductive health issues. VYAs responses suggest the need for education on puberty, fertility awareness, menstruation management, self-care behaviors, communication between girls and boys, as well as communication between VYAs and their parents. For instance, when VYAs were asked whether they had talked with any adult about physical changes in their body during adolescence during the three months prior to the interview, 73.1% reported that they had not talked to anyone about such things.

In the same context, parents of VYAs show a strong need for education programs and support. For example, only one third of interviewed parents feel they know enough about the ASRH topics to discuss them with their children. Survey responses also indicate that youth notice this lack of communication. About 40% of girls reported receiving no information from their parents on menstruation or other puberty changes, and a small but significant number of interviewed girls (4.0%) reported to never have had any information from an adult person with regard to taking care of their periods. Thus, programs targeting both parents and also other community members would have great potential to increase knowledge and attitudes with regard to the SRH outcomes included in this study.

Appendices

GrowUp Smart Baseline Survey for Girls and Boys

GrowUp Smart Baseline Survey for Parents