Effects of Parent-Child Communication Regarding Sexuality, Family Planning and HIV on Reproductive Health Outcomes among Unmarried Adolescent Girls in Rural Tanzania

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Abstract

Adolescents who communicate with their parents about sexual and reproductive health are more likely to make healthy decisions, including those related to their reproductive health. This study uses data from a baseline survey conducted in Tabora, Tanzania to examine the effect of parent-child communication regarding sexual relations, family planning and HIV on sexual experience, contraceptive use and HIV-testing. The sample includes 1,966 unmarried girls, of which 425 were sexually-experienced. Multivariate logistic regression models were estimated to control for respondent and parent characteristics and socio-demographic factors. Results showed girls who discussed sexual relations with their parents were more likely to delay sexual debut, but less likely to have used family planning. Parent-child communication about family planning was associated with earlier sexual debut and a greater likelihood of having used a condom. Parent-child communication about HIV/AIDS significantly increased the likelihood of delayed sexual debut, condom at first sex, consistent condom use and voluntary counseling and testing (VCT) for HIV. Findings suggest that the content of parental sexuality communication is an important consideration that influences adolescent behavior. Girls can be at greater risk of pregnancy and contracting sexually transmitted infections if communication with parents is focused only on delaying sexual debut without information on contraceptive use and other preventive measures.

1. BACKGROUND

Positive parent-child communication can help young people to establish individual values and make healthy decisions. Studies show that young people who feel a lack of parental warmth, love or care are more likely to report emotional distress, school problems, drug use and sexual risk behaviors (Resnick et al., 1997).

Parent-child communication regarding sexuality has many positive effects for adolescent, including better contraception use and healthier sexual behaviors. A large number of studies, mainly from developed countries, have examined the effect of parental communication on adolescent sexual behavior. In the southwest United States (US), adolescents who had a healthy discussion with parents in the last year about sex, birth control and the dangers of sexually transmitted infections (STIs) were significantly more

likely to use condoms the last time they had sex than adolescents who did not talk to their parents as often (Weinman et al., 2008). In another study conducted in New York, Alabama and Puerto Rico, US, adolescents whose mothers discussed condom use before they initiated sexual intercourse were significantly more likely to use condoms than those whose mothers never discussed condoms or did so only after they had become sexually active (Miller et al., 1998). Furthermore, adolescents who used a condom at first intercourse were 19 times more likely to use them regularly and nine times more likely to use a condom at the most recent sexual activity. African American adolescents who reported discussing sexuality with their parents were more likely to talk to their partners about sexual issues than those who did not communicate with their parents (Hutchinson and Montgomery, 2007). Also, when parents make consistent efforts to know their teens' friends, young people report fewer sexual partners, fewer coital acts, and more use of condoms and contraceptives (Jemmott and Jemmott, 1992).

A review of studies in sub-Saharan Africa found mixed results regarding behavioral outcomes associated with parent-child sexual communication (Bastien, Kajula and Muhwezi, 2011). Authors identified six studies which focused on abstinence and delayed sexual debut and three studies that focused on contraceptive use. Parental sexuality communication was associated with delayed sexual debut for girls in the Ivory Coast, and boys in Ghana, but a greater likelihood of having sex early for Malawian males, Ugandan females, boys in Ivory Coast, Nigerian adolescents and Ghanaian girls (Amoran and Fawole, 2008; Babalola, Tambashe and Vondrasek, 2005; Biddlecom, Awusabo-Asare and Bankole, 2009; Karim et al., 2003; Kumi-Kyereme et al., 2007). In some studies conducted in Ghana and Tanzania, there was no association between parental communication and the timing of first sex after controlling for other factors (Adu-Mireku, 2003; Kawai et al., 2008). These studies are limited by differences in the conceptualization of parent-child communication and lack of information about the timing of events. Parents may communicate with their children once they suspect them of being sexually-active, which could explain the positive association between communication and sexual experience.

Parent-child communication was associated with increased contraceptive use for Ghanaian females and Ugandan adolescents (Biddlecom, Awusabo-Asare and Bankole, 2009). Another Ghanaian study found a weak association between parent-child communication and condom use overall, but a significant increase in consistent condom use with the last partner for males (Karim et al., 2003). A third study in Ghana showed an increase in the odds of using a condom at last sexual intercourse for adolescents who communicated about HIV/AIDS with parents or other family members (Adu-Mireku, 2003).

Studies show, however, that many parents face challenges in discussing issues related to relationships, development and sex with their children. Many parents do not have the information that young people

need, or if they do, they find it difficult to initiate the conversation (Bastien, Kajula and Muhwezi, 2011). Few studies have examined how communication about specific reproductive health topics affects reproductive health behaviors. This information would be useful for program managers in developing interventions to improve parent-child sexual communication.

2. METHODS

The data for this study is from a baseline survey conducted by Population Council, in partnership with the National Institute of Medical Research (NIMR), Tabora, Tanzania, to evaluate an intervention program targeting unmarried girls. The study population is adolescent girls residing in Uyui district of Tabora. This area was selected because it borders all districts of Tabora and cuts across the entire region. Six out of the 17 wards were selected randomly and all households within these wards were listed approximately one month prior to the survey. All adolescent girls aged 12 to 17 within listed areas were considered eligible for the survey. For households with more than one eligible adolescent, a Kish grid was used to randomly select one adolescent (Kish, 1994). A total of 2,152 adolescent girls were interviewed.

The purpose of this study is to examine the effect of parent-child communication regarding three different topics on the reproductive health behaviors of unmarried girls aged 12-17 years. The analytic sample is comprised of 1,966 unmarried girls, of which 425 are sexually-experienced. Sample weights were applied to adjust for the probability of being selected for the sample and to present results that are representative of all girls in the study population.

Parent-child communication was measured by the proportion of girls who reported discussing reproductive health (RH) issues with a parent or guardian. Girls were asked whether they agreed or disagreed with a series of statements regarding discussion with parents, including: "you have talked about HIV/AIDS", "you have talked about sexual relations", and "you have talked about family planning". Respondents who agreed with each statement above were coded as having 'ever discussed' and those who disagreed were coded as 'never discussed'. Reproductive health (RH) outcomes include: (1) sexual experience, defined as ever had sex, (2) delayed sexual debut, defined as age at first sex at age 15 and above, (3) ever used family planning, (4) ever used a condom, (5) condom at first sex (6) consistent condom use, defined as always uses a condom, and (7) voluntary counseling and testing (VCT) use, defined as ever had VCT.

Bivariate and multivariate analysis was conducted to estimate the association between parent-child communication and each outcome variable. Logistic regression models were used to estimate the net

effect of each parent-child communication topic after controlling for demographic characteristics. Each model adjusted for respondent's education, mother's education, father's education, respondent's age, ethnicity, religion, parental death-status, and the roof material of the respondent's place of residence. Roof material was selected as a proxy for socioeconomic status. The model predicting VCT also adjusted for childbirth because most mothers were tested for HIV during pregnancy. The results of the analysis are presented as odds ratios with 95% confidence intervals. P-values below 0.05 were considered statistically significant.

3. RESULTS

Profile of Study Population

Table 1 shows the distribution of unmarried girls in rural Tabora by selected background characteristics. Two-thirds (66%) of the girls were below the age of 15 and a third (34%) of the respondents were between the ages of 15 and 17. One in ten (10%) girls had never been to school but only a third (33%) of girls had completed primary school, which in Tanzania consists of 7 years of education. The majority of girls (66%) were living with both parents at the time of the interview, while 17 percent of girls were living with neither parent. The majority of parents had been to school, with mothers being slightly more likely to have no education (27%) than fathers (21%). The most common ethnic groups represented in this sample were Nyamwezi (58%) and Sukuma (21%). More than half (59%) of girls were Muslim and a quarter (26%) were Catholic. One out of five (22%) girls had had sex and 8 percent had given birth.

Table 1. Percentage distribution of respondents by selected background characteristics, unmarried, sexually-experienced girls aged 12 to 17 in Tabora, Tanzania

		Weighted Percentage (%)	Unweighted (N=1,966)
Age of respondents	12 - 14	65.7	1300
	15 - 17	34.3	666
Education	Never attended	10.0	211
	Some primary	56.7	1112
	Primary complete (7 yrs)	33.3	634
Residing with parents	Mother only	12.7	259
	Father only	4.6	83
	Both	65.6	1303
	Neither	17.2	321

		Weighted Percentage (%)	Unweighted (N=1,966)
Lives with father	No	29.9	580
	Yes	70.1	1386
Mother educated	No	27.2	557
	Yes	72.8	1409
Father educated	No	21.2	426
	Yes	78.8	1540
Ethnicity	Nyamwezi	57.9	1092
	Sukuma	21.0	463
	Tutsi	4.8	90
	Ha	2.6	59
	Other	13.7	262
Religion	Muslim	58.9	1108
	Catholic	26.4	526
	Other Christian	8.4	65
	Other	5.9	141
Roof materials	Corrugated iron	39.6	798
	Thatch or grass	60.4	1168
Ever had sex	No	78.2	1541
	Yes	21.8	425
Ever given birth	No	92.2	418
	Yes	7.8	38

Bivariate Results

Table 2 shows weighted results from bivariate analyses of parent-child communication and reproductive health outcomes. Overall, only one out of five (21%) unmarried girls and less than a third (31%) of sexually-experienced unmarried girls had ever communicated with their parents regarding any of the three reproductive health issues (results not shown). By topic, girls were more likely to report communication on HIV/AIDS (17%) than sexual relations (7%) and family planning (3%). The proportion of girls discussing each topic was higher among sexually-experienced girls. Almost a quarter (24%) had discussed HIV/AIDS, one in ten (10%) had discussed sexual relations, and one in twelve (8%) had discussed family planning.

Among sexually-experienced girls, less than one-third (31%) reported having used family planning but, surprisingly, more than half (57%) had ever used a condom. Among unmarried, sexually-experienced girls who had used family planning, the majority (89%) had used a male condom, 9 percent had used a female condom, 6 percent had used the safe-days method, 5 percent had used an injectable, 2 percent had used Norplant and only 1 percent had used the pill (results not shown). Girls who had given birth were more likely to report that they had used family planning (24%) than girls who had not given birth (7%) (results not shown). Two out of five (43%) girls said they used a condom the first time they had sex, but only 18% said they consistently used/use a condom with a regular partner. One out of five girls (23%) had been tested for HIV. Of the girls between the ages of 15 and 17 who were sexually-experienced, one in three (33%) had sex before the age of 15 while two-thirds (67%) delayed their first sex until they were 15 years or older (results not shown).

Girls who discussed sexual relations, family planning or HIV/AIDS with their parents were significantly more likely to have had sex than girls who did not discuss any issue with their parents. On the other hand, girls who discussed HIV with their parents were significantly more likely to delay their sexual debut and to have used family planning. Girls who communicated with a parent about HIV were also significantly more likely to have used a condom the first time they had sex and to have used condoms consistently with their regular partner. Discussion of family planning was significantly associated with family planning use, lifetime condom use, condom use at first sex and HIV testing. Girls who said they discussed sexual relations with a parent were significantly more likely to delay their sexual debut, and to have tested for HIV. However, they were significantly less likely to have ever used family planning.

Table 2. Parent-child communication by reproductive health behaviors among unmarried and sexually-experienced girls aged 12 to 17 in Tabora, Tanzania

	Parent-Child Communication						
	Discussed Sex (%)		**Discussed FP (%)**		**Discussed HIV (%)**		**All**
	No	**Yes**	**No**	**Yes**	**No**	**Yes**	
All unmarried girls							
All		7.1		3.4		17.3	
Ever had sex	25.9	***45.1	25.8	***64.2	25.5	***36.5	21.8%
Sexually-experienced, unmarried girls							
All		10.4		8.0		23.8	
Delayed sexual debut (age 15+)	65.0	*77.4	66.0	71.9	63.5	**74.2	66.6%
Ever used family planning	32.1	**18.4	25.5	*35.6	24.3	**33.7	30.7%

Ever used condom	55.9	†64.1	50.8	***72.1	48.1	***68.7	56.7%
Used condom at first sex	43.1	46.6	36.6	**49.2	34.1	***50.2	43.3%
Always uses condom	18.5	14.6	14.1	14.7	12.2	***20.6	18.1%
Ever tested for HIV (VCT)	8.2	**10.9	11.9	***46.2	10.6	***26.0	23.1%

† p<0.10; * p<0.05; ** p<0.01; *** p<0.001

Multivariate Results

The estimated net effect of each parent-child communication topic after adjusting for other covariates is shown in Table 3. Each of the logistic regression models adjusted for respondent's age, education, mother's education, father's education, residence with mother, residence with father, roof materials, ethnicity and religion.

Discussion about sexual relations was associated with a 70 percent decrease in the odds of having ever used family planning ($P<0.001$) and 2 times greater odds of having been counseled or tested for HIV ($P<0.05$). However, communication about sexual relations was not associated with lifetime condom use, condom use at first sex and consistent condom use after controlling for other variables.

Girls who discussed family planning with their parents were twice as likely ($P<0.05$) to have used a condom than girls who did not discuss family planning. Communication on family planning was not significantly associated with family planning use, condom use at first sex, consistent condom use and VCT, after adjusting for other covariates.

After adjusting for covariates, communication about HIV was associated with a 23 percent reduction in the odds of having sex ($P< 0.05$) among unmarried girls and 3.6 times greater odds of delaying sexual debut ($P<0.001$) among older unmarried girls. In contrast, communication about family planning was associated with 2.4 times greater odds of having sex ($P<0.001$) and a 52 percent reduction in the odds of delaying sexual debut.

Communication about HIV was significantly associated with contraceptive use and VCT among sexually-experienced girls after adjusting for confounders. Girls who discussed HIV with a parent were 74 percent more likely to have used family planning ($P<0.01$), 51 percent more likely to have used a condom ($P<0.05$), 43 percent more likely to have used a condom during their first sexual encounter ($P<0.05$), 95 percent more likely to have consistently used condoms ($P<0.01$) and 75 percent more likely to have received VCT ($P< 0.05$).

Table 3. Weighted multivariate logistic regression estimates of effect of parent-child communication on reproductive health behaviors among unmarried, sexually-experienced girls aged 12 to 17 in Tabora, Tanzania.

	Parent-Child Communication		
	Discussed Sex	**Discussed FP**	**Discussed HIV**
	OR [95% CI]	OR [95% CI]	OR [95% CI]
Unmarried girls (n = 1,966) [a]			
Ever had sex	1.033 [0.76 – 1.40]	***2.396 [1.62 – 3.55]	*0.768 [0.62 – 0.96]
Delayed sexual debut (Age 15+)	***3.595 [1.81 – 7.10]	*0.484 [0.25 – 0.96]	1.253 [0.80 – 1.97]
Sexually-experienced girls (n = 425) [a]			
Ever used family planning	***0.302 [0.17 – 0.54]	1.603 [0.91 – 2.83]	**1.740 [1.21– 2.49]
Ever used condom	1.261 [0.76 – 2.09]	*2.072 [1.09 – 3.95]	*1.511 [1.04– 2.19]
Used condom at first sex	0.939 [0.58 – 1.52]	1.643 [0.94 – 2.87]	*1.426 [1.01 – 2.02]
Always uses condom	0.678 [0.36 – 1.27]	0.746 [0.39 – 1.42]	**1.953 [1.31 – 2.91]
Ever tested for HIV (VCT)[b]	*2.061 [1.12 – 3.78]	1.512[0.59 – 3.90]	*1.754 [1.14 – 2.70]

† p<0.10; * p<0.05; ** p<0.01; *** p<0.001

[a] All models adjust for respondent's age, education, mother's education, father's education, residence with mother, residence with father, roof materials, ethnicity, and religion.

[b] Model also adjusts for childbirth.

4. DISCUSSION

This study demonstrates that parent-child communication has a significant impact on reproductive health outcomes for unmarried girls, but the effects vary depending on the topic discussed. The three topics examined are sexual relations, family planning and HIV/AIDS. The main limitation of the study is the cross-sectional design, which makes it difficult to determine the time-ordering of events. Nonetheless, findings indicate that sexuality communication between parents and adolescent girls at any time can positively influence sexual behavior and contraceptive use.

Parent-child communication among unmarried girls in rural Tabora was generally low. Although one out of five unmarried girls in rural Tabora were sexually-experienced, only 23 percent had ever discussed HIV/AIDS, 10 percent had discussed sexual relations and eight percent had discussed family planning with a parent or guardian. Overall, 21 percent of all unmarried girls and 31 percent of sexually-experienced unmarried girls reported any sexual communication with parents. That the majority of

parents are not communicating reproductive health messages to their daughters suggests that these discussions are not considered normative in rural Tabora. Some of the barriers to sexuality communication from other studies in Africa include: insufficient knowledge about reproductive health issues, feeling uncomfortable about discussing sexual issues with daughters, assumptions that children would learn this information from elsewhere, and concerns that discussing sexuality with children will lead to early sexual experimentation (Kish, 1994).

Communication about HIV/AIDS had a stronger impact on reproductive health behaviors than discussions about sexual relations and family planning. Girls who had ever discussed HIV/AIDS were significantly less likely to have had sex and more likely to have used condoms and received VCT. Communication about HIV was the only topic that was positively associated with condom use at first sex and consistent condom use. Considering that HIV was the most commonly discussed topic, program planners could use this information to reinforce parent-child communication about HIV and encourage parents to use these conversations as a gateway for discussions about other reproductive health issues.

Discussion about sexual relations increased the odds of delayed sexual debut among older girls by 3.6 times and was the only topic that significantly delayed sexual debut. However, communication about sexual relations decreased the likelihood of having ever used family planning and was not associated with condom use. These findings suggest that parents may have discussed the importance of delaying sexual debut without mentioning precautions that can be taken to prevent pregnancy and HIV/AIDS. This is consistent with studies in Africa, including Tanzania, showing that sexuality communication for girls is often vague, including warnings to avoid sexual encounters or threats about sexuality (Kumi-Kyereme et al., 2007; Wamoyi et al., 2010). Non-specific sexuality communication could place girls at increased risk of contracting sexually-transmitted infections and early childbearing if they have sex without protection. This could explain why girls who discussed sexual relations with their parents were significantly more likely to get VCT but less likely to use contraceptives.

Communication about family planning had the reverse effect on sexual experience than discussion on HIV and sexual relations. Girls who discussed family planning with their parents had 2.4 times greater odds of being sexually-experienced and were 52 percent less likely to delay sexual debut compared to girls who did not discuss family planning. A possible explanation for this is that communication about family planning mainly occurred once girls who were already sexually active or after pregnancy. Girls who had given birth were more likely to report communication about family planning than girls who had not. In addition, girls who discussed family planning were significantly more likely to have ever used a condom, but there was no significant effect on condom use at first sex. The term ‘family planning’ could

also be value-laden, giving the connotation that it refers to the use of contraceptives for limiting or spacing births. The most common method of family planning was the condom. However, although more than half (56%) of sexually-experienced girls reported that they had used a condom, less than a third (31%) said they had ever used family planning. Therefore, it is likely that girls who said they used family planning are different than girls who said they used condoms but did not consider them as a method of family planning. Further studies are needed to identify the context and specific messages communicated by parents in relation to family planning, and to explore unmarried adolescents' perceptions about the term 'family planning.'

The main implication of these findings for program planning is that families and parents in particular should be directly engaged in programs aimed at reducing sexual risk behaviors among young people. Results also suggest the need for developing programs to support parents to become more involved in the lives of their adolescents and to change their perspectives about their children's sexuality. Programs should teach both parents and young people to communicate explicitly, clearly, and comprehensively about sexuality, contraceptive use, HIV/AIDS and other reproductive health issues.

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