# Parent-Child Communication and Reproductive Health Behaviors: A Survey of Adolescent Girls in Rural Tanzania

**Eunice Muthengi[1a], Abebaw Ferede[b] & Annabel Erulkar [c]**

[a] Population Council, General Accident Ins Hse, 2nd Floor, Nairobi, Kenya.
Email: emuthengi@popcouncil.org Phone: +254202713480.
(Corresponding author)

[b] Freelance Consultant, Addis Ababa, Ethiopia.
Email: abebaw_ferede@yahoo.com Phone: +251911227143

[c] Population Council, Heritage Plaza, 4th Floor, Addis Ababa, Ethiopia.
Email: aerulkar@popcouncil.org Phone: +251116631712

## Abstract

Adolescents who communicate with their parents about sexual and reproductive health are more likely to make healthy decisions. This study uses data from a survey conducted in Tabora, Tanzania (N= 1,966 unmarried girls; 425 sexually-experienced). Multivariate logistic regression models are estimated to examine associations between parent-child communication and reproductive health outcomes, controlling for respondent and parent characteristics and socio-demographic factors. Among sexually-experienced girls, communication about HIV/AIDS was associated with greater odds of use of family planning, condom at first sex, consistent condom use and HIV testing. Alternately, communication about sexual relations was associated with lower odds of family planning use, while communication on family planning was associated with earlier initiation of sex. Findings indicate the content of parental sexuality communication is an important consideration for adolescent behavior. Interventions should not only engage parents, but also provide guidance on how to communicate clearly and comprehensively about sexuality, contraceptive use and HIV/AIDS.

**Keywords**: Adolescence, parent-child communication, reproductive health, contraceptive use, Africa

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[1] Corresponding author

## Résumé

Les adolescents qui communiquent avec leurs parents sur la santé sexuelle et génésique sont plus susceptibles de prendre des décisions saines. Cette étude utilise les données d'une enquête menée à Tabora, Tanzanie (N = 1,966; 425 filles célibataires sexuellement expérimenté). Des modèles de régression logistique multivariée sont estimés à examiner les associations entre la communication parent-enfant et les résultats de santé de la reproduction, le contrôle des répondants et des parents des caractéristiques et des facteurs socio-démographiques. Parmi les filles sexuellement expérimentés, la communication sur le VIH / sida a été associé à une plus grande probabilité d'utilisation de la planification familiale, le préservatif au premier rapport sexuel, utilisation systématique du préservatif et le dépistage du VIH. Alternativement, la communication sur les relations sexuelles a été associée à un risque plus faible d'utilisation de la planification familiale, tandis que la communication sur la planification familiale a été associé à un démarrage plus précoce du sexe. Les résultats indiquent le contenu de la communication de la sexualité parentale est une considération importante pour le comportement des adolescents. Les interventions doivent non seulement faire participer les parents, mais aussi fournir des conseils sur la façon de communiquer clairement et de manière exhaustive sur la sexualité, utilisation de contraceptifs et le VIH / SIDA.


**Mots-clés:** Adolescence, la communication parent-enfant, la santé de la reproduction , la contraception, l'Afrique

## Background

Positive parent-child communication can help young people to establish individual values and make healthy decisions (Resnick et al. 1997).

Parent-child communication regarding sexuality has many positive effects for adolescent, including better contraception use and healthier sexual behaviors (Gavin et al. 2015). In the southwest United States (US), adolescents who had a 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, in the same study, 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 (Miller et al. 1998). 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; Dittus et al. 2015).

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). The authors identified six studies which focused on abstinence and delayed sexual debut and three studies that focused on contraceptive use (Bastien, Kajula, and Muhwezi 2011). 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 (Biddlecom, Awusabo-Asare, and Bankole 2009; Babalola, Tambashe, and Vondrasek 2005; Amoran and Fawole 2008; Kumi-Kyereme et al. 2007; Karim et al. 2003). 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).

On the other hand, there is some evidence that parent-child communication in Africa is associated with improved reproductive health outcomes based on cross-sectional studies. For example, 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). In addition, a longitudinal study of adolescents residing in urban slums in Nairobi, communication with fathers was associated with delayed transition to first sexual intercourse for female adolescents, while male adolescents who communicated with mothers were less likely to transition to first sexual intercourse compared to those who did not (Okigbo et al. 2015).

Parents may face challenges in discussing issues related to relationships, development and sex with their children (Ayalew, Mengistie, and Semahegn 2014). 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). While the studies described above have provided evidence of an association between parent-child communication and reproductive health outcomes in several African countries,

none have examined differences based on the content of these communications. Understanding how discussion of different topics relates to these outcomes would be helpful information in guiding program managers in developing interventions to improve parent-child sexual communication.

## 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 associations between parent-child communication regarding three different topics on the reproductive health behaviors of unmarried girls aged 12-17 years. The main limitation of the study is the cross-sectional which limits the ability to determine the order of events. Excluding 186 married girls, the study is focused on 1,966 unmarried girls, with an analytic sample of 425 sexually-experienced, unmarried girls. Sample weights were applied to adjust for the probability of being selected for the sample based on the number of eligible girls in each household.

Parent-child communication was measured by the proportion of girls who reported discussing the following 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 either parent, including: "you have talked about HIV/AIDS", "you have talked about sexual relations", and "you have talked about family planning". Three separate variables were created, and 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, for all unmarried. Among sexually experienced girls, additional outcomes include: (2) later 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 [data not shown]. 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.

## 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 girls 12-17 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 with any parent 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.

**Table 2: Bivariate results: parent-child communication by reproductive health behaviors among unmarried and sexually-experienced girls.**

| | 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 | |
| Later 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% |

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

Among sexually-experienced girls, there was inconsistency in girls' responses regarding use of family planning using different measures. Less than one-third (31%) reported having used "family planning" but, surprisingly, in response to

a separate question more than half (57%) reported they 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%) had their sexual debut at age 15 years or older (results not shown).

A greater proportion of girls who discussed each reproductive health issue (sexual relations, family planning or HIV/AIDS) with their parents had ever had sex than girls who did not discuss any issue with their parents, and the association was statistically significant. Among sexually-experienced girls, discussion of HIV with parents was significantly associated with delayed their sexual debut, use of family planning condom use at first sex and consistent condom use with their regular partner. Discussion of family planning was significantly associated with family planning use, any condom use, condom use at first sex and HIV testing. Lastly, discussion on sexual relations with a parent was significantly associated with delayed sexual debut, and HIV testing, but negatively associated with use of family planning.

*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 3.6 times greater odds of delaying sexual debut ($P<0.001$) among older unmarried girls and 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 any condom use (ever used), condom use at first sex and consistent condom use (always used) 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.

**Table 3: Selective Results from multivariate logistic regression models: parent-child communication and reproductive health behaviors among unmarried girls and sexually-experienced girls.**

| | 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] |
| Later 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] Separate models were estimated for each reproductive health behavior in the first column and 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.

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. 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).

## Discussion

This study demonstrates that the associations between parent-child communication and various reproductive health outcomes for unmarried girls, may 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 whether parental communication occurred before adolescents engaged in sexual behaviors. Parents may communicate with their children once they suspect them of being sexually-active, which could explain the positive association between communication regarding family planning and sexual experience. The study could also have been improved by having more precise measures indicating the exact information communicated in relation to each topic. An additional limitation is that the study design does not account for unobserved factors that might be associated with both the independent and dependent variables used.

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 could 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 (Bastien, Kajula, and Muhwezi 2011). Adolescent development and behaviors can also be influenced parents' own values towards their children (Amoateng, Kalule-Sabiti, and Arkaah 2014). In addition, in some African cultures these discussions are delegated to other relatives, such as aunts or grandmothers and are not considered the direct responsibility of parents (Fuglesang 1997).

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 developing adolescent reproductive health interventions 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. Of the three topics examined in this paper, HIV is likely the least sensitive sexual topic. Parents could essentially discuss the disease without discussing sex, allowing them to have a more objective and less value-laden discussion with adolescents. Therefore, discussion of HIV could potentially be an entry point into discussion of more sensitive issues

Discussion about sexual relations was associated with increased odds of later sexual debut among older girls by 3.6 times and was the only topic that was associated with significantly later 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. As the results show, 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. It is possible that the term 'family planning' could also be value-laden, perhaps if perceived to refer 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.'

## Conclusions

Findings from this study support the body of evidence showing that involving families and parents in particular is an important component in programs aimed at reducing sexual risk behaviors among young people. The findings raise questions about the content and quality of parental discussions with adolescent sex, which can be difficult to measure in surveys. Due to the sensitive nature of these discussions in some cultures, they are likely influenced by the values, morals or wishes of the parent, making the understanding of the content of the discussions that much more important. Finally, 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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