Sexual and reproductive health communication between parents and adolescents: the case of Wa West District of the Upper West Region, Ghana

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Background: Sexual and reproductive health (SRH) communication is an important conversation challenge between parents and their adolescent children. Studies have established that parent-adolescent communication about sex can greatly reduce adolescents' risky sexual behaviour. Factors such as attitude, religious beliefs, perceived behavioural control, and behavioural intentions have been reported to affect parent-adolescent communication.

Objective: This study assessed the communication practices between adolescents and their parents in the Wa West District in the Upper West Region of Ghana and factors that may be associated with this communication process.

Methods: A community-based cross-sectional study design was employed using a four-stage sampling technique. A total of 420 parents with adolescents aged 10 to 19 years were recruited to answer structured questions using Somers and Canivez's sexual communication tool. The tool yielded sexual communication mean scores. The analysis of variance test was used to compare mean scores. Binary logistic regression was used to determine possible factors affecting SRH communications. All analyses were done using IBM SPSS Statistics (Version 25).

Results: The study found that most of the respondents had good communication on sexual and reproductive health with their adolescents. There was a significant difference between Dagaabas and the other ethnic groups (p = 0.025, 95% confidence interval (95% CI) = 0.05 - 1.25), between public sector employees and farmers (p = 0.008, 95% CI = 0.07 - 0.90), and between Christians and Muslims (p = 0.032, 95% CI = 0.01 - 0.38) on SRH communication.

Conclusion: Though parents' communication with adolescents was good, health stakeholders need to empower parents with information on sexual and reproductive health to ensure effective counselling of their adolescents.

Keywords: Reproductive health, adolescent sexual health, communication, parents

INTRODUCTION

Many adolescents engage in sexual activities at early ages of their lives, making sexual and reproductive health (SRH) communication very critical for adolescents [1-3]. Parent-adolescent communication on SRH is effective at reducing risky adolescent sexual behaviours. It also has the potential for a delayed adolescent sexual debut, increased contraception use and abstinence [4-9], and the prevention of unwanted pregnancies and sexually transmitted infections [10,11]. Coincidentally, young people prefer information on sexuality and reproductive health from their parents and family members [12-14]. Globally, there is inadequate communication between parents and their adolescents on SRH [11,15-17]. Parents find it difficult to discuss sexual and reproductive topics such as sex, childbirth, condom use, infertility, and STIs. This is often because of limited knowledge, cultural beliefs, and fear of being embarrassed or judged as unfaithful [16]. Whenever communication occurs, it tends to be limited in the number of topics or occurrences [11].

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the developmental stage of the adolescent, sex and location [15,17]. In sub-Saharan Africa, more than half of 
adolescents experience early sexual encounters [1,18-20].
A little over one-third of adolescents communicate with 
their parents about their SRH [3,13,19,21]. Parents have 
been found to have negative self-efficacy and positive 
subjective norms toward sexual communication with their 
adolescents [22]. Also, gender, social conventions or 
practices and prohibitions affect SRH communication 
between parents and their adolescents, creating censorship, 
and making adolescents unable to discuss, ask questions 
and express themselves in critical matters related to SRH 
issues [4]. The Ghana Health Service updated its policy and 
strategy for adolescent reproductive services to ensure that 
90% of adolescents have access to comprehensive 
information on sexual and reproductive issues by the end of 
2020. Since then, no new target has been set. Manu and 
colleagues in 2015 [12] conducted a study in southern 
Ghana which found that 82.3% of parents communicate 
with their adolescents about SRH.

MATERIALS AND METHODS

Study design and sites
This was a community-based cross-sectional study. Parents 
recruited were aged between 25 and 70 years old and caring 
for adolescents (10 to 19 years) at the time of the study. The 
parent was included if they were from the Wa West District, 
residing in selected communities, mentally sound, able to 
answer the questions on the questionnaire, stayed in the 
community with the adolescent child for the past year, and 
consented to the study. We excluded any parent who did 
not meet the above criteria.

Research settings
We conducted the study in the Wa West District of the 
Upper West Region of Ghana. The district has a total 
population of 81,348, the majority (50.5%) of whom are 
females and adolescents (26.8%) [25]. A significant 
proportion of the population in the six healthcare sub-
districts are peasant farmers (80%) and petty traders [26].

Sampling process and procedure
A total of 420 respondents were selected randomly in four 
stages. The study team first chose six healthcare sub-
districts, and then randomly selected three of them 
(Ponyentanga, Lassia, and Eggu) through a process of 
balloiting. All communities in the three selected sub-
districts were assessed for the prevalence of teenage 
pregnancy using the district data to select those with 
significant proportions. In all, five communities were seen 
to have significant prevalence. The study team listed the 
five communities and their populations to identify their 
effects on the sample size (Table 1). The study team 
identified the total number of households per community 
and used that to determine the sampling interval for each 
community. As an illustration, Eggu was found to have a 
population of 1,766 out of a total population of 12,917 in 
the selected sub-districts. This means that it represents 14% 
of the total population (n = 1766/12917), and therefore has a 
sample allocation of 57 individuals (14% of the total 
sample size of 420). But the community has an estimated 
household number of 177 [25]. The study team created a 
sampling frame by dividing the total number of households 
in the selected sub-districts by the sample allocation for 
each sub-district (177 households divided by a sample 
allocation of 57 individuals) to get an interval of three. The 
sampling details are provided in Table 1. Respondents were 
then selected using the sample interval in each community 
until the target proportion was achieved. The study team 
selected a starting point in each community, typically the 
chief palace, and then every third household was selected. 
If the selected household had a parent with an adolescent, 
they were interviewed if they provided their consent. In 
cases where a household had multiple parents, the study 
team used balloting to select only one parent for the 
interview.

Data collection procedures
Data was collected using a structured questionnaire. The 
data collected included the demographic variables of the 
parents, such as age, sex, level of formal education, marital 
status, ethnic group, occupation, religious affiliation and 
level of income. The Somers and Canivez [27] parent-
adolescent SRH communication tool was also used, which 
had a five-point scale from 1 to 5, “1” being the lowest and 
“5” being the highest. The respondents were interviewed at 
private locations by reading and translating questions into 
Dagaare, Briffor, or Waale languages based on whichever 
language the respondent was comfortable with for those 
who could not read and write English. For respondents who 
could read and write, the structured questionnaires were 
handed over to them after consenting to the study for 
self-reporting. A trained research assistant stood by for 
clarification on questions that respondents did not 
understand. The filled questionnaires were checked for 
consistency and completeness before letting the respondent 
leave.

Table 1: Sampling process

<table>
<thead>
<tr>
<th>Community</th>
<th>Population</th>
<th>Proportion</th>
<th>Households</th>
<th>Sample distribution</th>
<th>Sampling interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eggu</td>
<td>1766</td>
<td>14</td>
<td>177</td>
<td>57</td>
<td>3</td>
</tr>
<tr>
<td>Buli</td>
<td>1,587</td>
<td>12</td>
<td>159</td>
<td>52</td>
<td>3</td>
</tr>
<tr>
<td>Vieri</td>
<td>2761</td>
<td>21</td>
<td>276</td>
<td>90</td>
<td>3</td>
</tr>
<tr>
<td>Nyoli</td>
<td>3,005</td>
<td>23</td>
<td>301</td>
<td>98</td>
<td>3</td>
</tr>
<tr>
<td>Poyentanga</td>
<td>3,798</td>
<td>29</td>
<td>380</td>
<td>123</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>12917</td>
<td>100</td>
<td>1292</td>
<td>420</td>
<td>3</td>
</tr>
</tbody>
</table>

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A majority of the respondents were female (60.7%, n=255), and most had no formal education (67.9%, n=285) and were married (88%, n=370). More than half (54.3%, n = 228) of the respondents were from the 'Dagaaba' ethnicity. Participants were mainly farmers (72.4%, n = 304) and Christians (51.4%, n = 214). Regarding income level, the majority of respondents (88.6%, n = 372) reported earning between Gh₵ 1.0 - 500.0 per month. Table 2 shows the details of the sociodemographic features of the study respondents.

### Sexual and reproductive health communication

A total of 67.9% (n = 285) of parents had good communication with their adolescents on SRH, the majority (60%, n = 171) of whom were females. Results showed that respondents with tertiary education (79.2%) had good communication on adolescent SRH compared to others. Premarital sexual intercourse (40.2%), consequences of teenage pregnancy (38.2%), and HIV/AIDS (36.2%) were the topics discussed mainly with adolescents. However, the majority of the respondents never discussed masturbation (89%, n = 374), petting (88.1%, n = 370) and homosexuality (85.5%, n = 359) with their adolescents. Details of the individual topics discussed are in Table 3. The ANOVA test was conducted to determine significant demographic variables associated with parent-adolescent communication on SRH. Parents’ education, ethnicity, occupation and religious affiliations were significantly associated with SRH communication. A post hoc comparison using the Bonferroni correction on the significant demographic variables found that parents with tertiary education had a statistically higher mean score on SRH communication compared to parents with no education (p < 0.001) or parents with basic education (p = 0.007) (Table 4). The Dagaaba ethnic group scored significantly higher in communication compared to the other tribes (p = 0.025). Compared to farmers, public sector employees had a significantly higher mean score on adolescent SRH communication. With regards to religious affiliation, Christians demonstrated a significantly high means score of communication for adolescent SRH compared to Muslims.

### Predictors of adolescent SRH communication

A logistic regression analysis was conducted to investigate whether respondents’ sociodemographic characteristics (sex, level of formal education, marital status, occupation, religious affiliation and income level) could significantly predict parents’ communication with their adolescents. The model containing all predictors was statistically significant (p = 0.05), indicating that the model was able to distinguish between parents with good communication and those with poor communication of SRH. The model explained between 8.9% (Cox and Snell R square) and 12.5% (Nagelkerke R square) of the variance in SRH communication and correctly classified 68.5% of cases. Only three of the independent variables made significant unique contributions to the model (Muslim, income level of Gh₵ 1 - 500.0, and income level above Gh₵ 1001.0). For
instance, parents with an income level of above Gh₵ 1001.0 were 17.8 times more likely to have positive communication with the adolescent on SRH (Table 5). Muslims were 2.0 times more likely to have positive communication with their adolescents on SRH.

**DISCUSSION**

The study investigated the communication between parents and their adolescents on SRH in the Wa West District using the sexual communication scale in the domain of domestic communication [28]. The study found two-thirds of parents discussed SRH topics with their adolescents. This level of communication at home is deemed satisfactory, as evidenced by several studies (12,29,30). However, it contradicts the findings of some other studies (31, 32). The favourable factors contributing to the high level of parental involvement in adolescent SRH education may be attributed to the increasing public awareness of the importance of parental involvement and the rising number

<table>
<thead>
<tr>
<th>Sexual and reproductive communication items (n = 420)</th>
<th>Number (%)</th>
<th>Never</th>
<th>A few times</th>
<th>A lot of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual reproductive system (&quot;where babies come from&quot;)</td>
<td>230(54.7)</td>
<td>132(31.4)</td>
<td>58(13.8)</td>
<td></td>
</tr>
<tr>
<td>The father’s part in conception (&quot;getting pregnant&quot;)</td>
<td>219(52.2)</td>
<td>144(34.3)</td>
<td>57(13.5)</td>
<td></td>
</tr>
<tr>
<td>Menstruation (&quot;periods&quot;)</td>
<td>164(39)</td>
<td>131(31.2)</td>
<td>125(29.7)</td>
<td></td>
</tr>
<tr>
<td>Nocturnal emissions (&quot;wet dreams&quot;)</td>
<td>326(76.9)</td>
<td>66(15.7)</td>
<td>31(7.4)</td>
<td></td>
</tr>
<tr>
<td>Masturbation</td>
<td>374(89)</td>
<td>36(8.6)</td>
<td>10(2.4)</td>
<td></td>
</tr>
<tr>
<td>Dating relationships</td>
<td>223(53.1)</td>
<td>147(35)</td>
<td>50(11.9)</td>
<td></td>
</tr>
<tr>
<td>Petting (&quot;feeling up&quot; or caressing)</td>
<td>370(88.1)</td>
<td>31(7.4)</td>
<td>19(4.6)</td>
<td></td>
</tr>
<tr>
<td>Sexual intercourse</td>
<td>226(53.8)</td>
<td>151(36)</td>
<td>43(10.2)</td>
<td></td>
</tr>
<tr>
<td>Birth control in general</td>
<td>231(55.5)</td>
<td>81(19.3)</td>
<td>106(25.2)</td>
<td></td>
</tr>
<tr>
<td>Whether you are using birth control</td>
<td>255(60.7)</td>
<td>67(16)</td>
<td>98(23.3)</td>
<td></td>
</tr>
<tr>
<td>Consequences of teen pregnancy (other than AIDS)</td>
<td>106(24)</td>
<td>157(37.4)</td>
<td>162(38.2)</td>
<td></td>
</tr>
<tr>
<td>Sexually transmitted infections</td>
<td>131(31.2)</td>
<td>145(34.5)</td>
<td>144(34.3)</td>
<td></td>
</tr>
<tr>
<td>Love and/or marriage</td>
<td>197(46.9)</td>
<td>143(34)</td>
<td>80(19.1)</td>
<td></td>
</tr>
<tr>
<td>Whether pre-marital sex is right or wrong</td>
<td>123(29.3)</td>
<td>128(30.5)</td>
<td>169(40.2)</td>
<td></td>
</tr>
<tr>
<td>Abortion and related legal issues</td>
<td>176(41.9)</td>
<td>117(27.9)</td>
<td>127(30.2)</td>
<td></td>
</tr>
<tr>
<td>Prostitution</td>
<td>205(48.8)</td>
<td>80(19)</td>
<td>135(32.2)</td>
<td></td>
</tr>
<tr>
<td>Homosexuality</td>
<td>359(85.5)</td>
<td>45(10.7)</td>
<td>16(3.8)</td>
<td></td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>122(29)</td>
<td>146(34.8)</td>
<td>152(36.2)</td>
<td></td>
</tr>
<tr>
<td>Sexual abuse</td>
<td>186(44.3)</td>
<td>178(42.4)</td>
<td>56(13.3)</td>
<td></td>
</tr>
<tr>
<td>Rape</td>
<td>196(46.7)</td>
<td>139(33.1)</td>
<td>85(20.2)</td>
<td></td>
</tr>
</tbody>
</table>

**Table 4: Significant demographic factors associated with adolescent sexual reproductive health communication with post hoc analysis**

<table>
<thead>
<tr>
<th>Factor</th>
<th>(I)</th>
<th>(J)</th>
<th>Mean diff (I-J)</th>
<th>SE</th>
<th>p value</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of education</td>
<td>Tertiary education</td>
<td>No formal education</td>
<td>0.576*</td>
<td>0.145</td>
<td>0.001</td>
<td>0.19</td>
</tr>
<tr>
<td></td>
<td>Tertiary education</td>
<td>Basic education</td>
<td>0.527*</td>
<td>0.161</td>
<td>0.007</td>
<td>0.10</td>
</tr>
<tr>
<td></td>
<td>Tertiary education</td>
<td>Secondary education</td>
<td>0.341</td>
<td>0.182</td>
<td>0.373</td>
<td>-0.14</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Dagaaba</td>
<td>Other tribes</td>
<td>0.650*</td>
<td>0.226</td>
<td>0.025</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>Dagaaba</td>
<td>Waale</td>
<td>0.192</td>
<td>0.079</td>
<td>0.094</td>
<td>-0.02</td>
</tr>
<tr>
<td></td>
<td>Dagaaba</td>
<td>Briffor</td>
<td>0.226</td>
<td>0.100</td>
<td>0.142</td>
<td>-0.04</td>
</tr>
<tr>
<td>Occupation</td>
<td>Public sector employees</td>
<td>Unemployed</td>
<td>0.241</td>
<td>0.313</td>
<td>1.000</td>
<td>-0.72</td>
</tr>
<tr>
<td></td>
<td>Public sector employees</td>
<td>Farmers</td>
<td>0.485*</td>
<td>0.136</td>
<td>0.008</td>
<td>0.07</td>
</tr>
<tr>
<td></td>
<td>Public sector employees</td>
<td>Trader</td>
<td>0.452</td>
<td>0.154</td>
<td>0.074</td>
<td>-0.02</td>
</tr>
<tr>
<td></td>
<td>Public sector employees</td>
<td>Artisan</td>
<td>1.208</td>
<td>0.424</td>
<td>0.096</td>
<td>-0.09</td>
</tr>
<tr>
<td></td>
<td>Public sector employees</td>
<td>Private sector employees</td>
<td>0.166</td>
<td>0.373</td>
<td>1.000</td>
<td>-0.97</td>
</tr>
<tr>
<td>Religious affiliation</td>
<td>Public sector employees</td>
<td>Other occupations</td>
<td>0.042</td>
<td>0.424</td>
<td>1.000</td>
<td>-1.34</td>
</tr>
<tr>
<td></td>
<td>Christians</td>
<td>Muslims</td>
<td>0.197*</td>
<td>0.076</td>
<td>0.032</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Christian</td>
<td>Traditional</td>
<td>0.195</td>
<td>0.102</td>
<td>0.175</td>
<td>-0.05</td>
</tr>
</tbody>
</table>

*p diff, difference, CI, confidence interval
of teenage pregnancies in the district. However, this positive trend is now facing a potential threat. According to a previous study conducted by Manu and colleagues in 2015, the proportion of parents discussing SRH topics with their adolescents was as high as 82.3%, which is significantly higher than the current study's findings of just 71% of study participants. The current study aligns with the results of previous studies where over 60% of adolescents and parents communicated about HIV/AIDS [19,33,34]. The evidence of unprotected sexual intercourse leading to pregnancy could be an important reason. Again, on premarital sexual intercourse, this study found over a quarter of the respondents discussed it with their wards.

The major factors that influenced SRH communications in this study were ethnicity, which was negatively correlated, but parents' level of education was a positive predictor. The level of education of parents was found to be a significant predictor of communication with adolescents on SRH topics in the current study. This finding aligns with the results of a previous study conducted by Shiferaw et al. [36], which found that a higher literacy level of parents led to better communication with their adolescents on SRH.
contrast to previous studies, the majority of the participants in the current study (67.9%) reported having no formal education and belonged to the low-income group. It could be explained that these groups of parents have more time to engage their wards in SRH communication. Religious affiliation of parents showed that Muslims were less likely (odds ratio = 0.061, 95% confidence interval = 0.159 – 0.777, p = 0.036) to communicate with their adolescents on SRH. This finding is consistent with Dessie, Berhane [21], which showed that some religious affiliation of respondents was associated with poor communication. It could be that religious parents tend to shy away from SRH communication or associate SRH with profanity. There was a significant reduction in the likelihood of religious people effectively communicating with their adolescents on sexual health issues since they believe the introduction would rather expose them to their sexuality, thereby attempting to experiment with it. Most religious people advocate for abstinence until marriage. This finding is consistent with Dessie, Berhane [21] that respondents’ religious affiliation was associated with poor sexual communication. It could be that religious parents tend to shy away from SRH communication or associate SRH with perversion.

Conclusion
This study found a high communication relationship between parents and their adolescents on SRH issues in the Wa West District of the Upper West Region. These parents were mainly middle-aged (41 to 60 years old), females, married, farmers, and Christians from the Dagaaba ethnic group earning low or no income. The educational level, ethnicity, and religion of parents were important predictors of sexual health communication with their adolescents. The high level of teenage pregnancy in the communities might have alarmed the parents to engage more with teenagers on sexual health issues. A further ethnographic qualitative study among low-income Dagaabas would add more insights to this field of study. Whereas the data on SRH communication in Ghana came mostly from the southern part of the country, this study focused on the northern section of Ghana and provided data on other parts of the country.

DECLARATIONS

Ethical considerations
Ethical clearance was obtained from the Noguchi Memorial Institute for Medical Research Institutional review board (NMIMR-IRB) CPN 018/19–20, University of Ghana. We also obtained permission at the field from the District Chief Executives (DCE) and the community chiefs. The study objectives and procedures were explained to all study respondents, after which written consent was obtained.

Consent to publish.
All authors agreed to the content of the final paper.

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Competing Interests
No potential conflict of interest was reported by the authors.

Author contributions
RA contributed to the study design, analyses of data, and drafting/revision of the manuscript. All authors contributed to the analyses of data, drafting and revision of the manuscript.

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None

Availability of data
Data is available upon request to the corresponding author.

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