Factors Influencing Teenage Pregnancy in the Birim North District in the Eastern Region of Ghana

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Abstract: Globally, teenage pregnancy has persistently posed serious challenges. Young girls giving birth earlier has serious public health and social concerns. About 95% teenage pregnancies occur in developing countries, and this has a long-term implication for girls on their health, families and communities. However, multilevel predictors of teenage pregnancy are not well studied yet. Several studies had focused mainly on the individual level characteristics but overlooked the socioeconomic and health related factors contributing to teenage pregnancy. The main aim of this study was to identify the factors contributing to teenage pregnancy in Birim North district to help design appropriate public health intervention program to mitigate it in the district. A cross-sectional study was conducted on 176 teenagers during the study period in the Birim North district. Five communities were randomly selected from each sub-district and respondents were selected using the simple random sampling technique. A structured questionnaire with socio-demographic factors, knowledge on reproductive health, socio –cultural and health related factors were used to elicit responses from the respondents. Data were coded and entered into Epi Data Manager Version 4.6.0.0 and analyzed using SPSS version 20.0. A total of 176 teenage girls participated in the study. Bivariable analysis showed that all the variables except alcohol consumption were significantly associated with teenage pregnancy. Among the behavioural factors assessed, multivariable analyses showed that having multiple sexual partners and irregular contraceptive use increased the likelihood of teenage pregnancy. Among familial factors, being married was found to increase the likelihood of teenage pregnancy. Also, peer pressure, sexual abuse and lack of control over sex was observed to increase the likelihood of teenage pregnancy. Demographic, behavioural, familial and social factors are important predictors of teenage pregnancy in the Birim North District. Interventions focussing on retaining pregnant and married girls at school, information on sexual and reproductive health of teenage girls, improving access to and information about contraceptive use among teenage girls as well as improving socio-economic status of households and making adolescent health programs a part of regular school curriculum could improve knowledge gaps in sexual reproductive health services among teenagers. These measures would go a long way to minimize the menace of teenage pregnancy in the low-income settings in Ghana.

Keywords: Teenage pregnancy, influence, factors

1. INTRODUCTION

The ancient belief in the African culture where young women were not recognized and prioritized for education is diminishing. Accordingly, female education has increased significantly in Sub Saharan Africa (Yussif et al., 2017). Unfortunately, teenage pregnancy has contributed to denying young girls their full potential in education. Adolescent health and development are of global concern and the need to avert early pregnancy among adolescent girls in Sub- Saharan Africa has been recognized over recent years (Yakubu, 2018). Adolescence is defined as the development phase in the human life cycle that falls between childhood and adulthood (Mushwana et al., 2015). This phase is

characterized by swift physical growth and development with notable emotional and social changes. A great challenge in this stage of development is the emergence of new feelings, friends assume greater importance and interest in the opposite sex increases (Mushwana et al., 2015).

Globally, there are 580 million teenage girls and 88% live in low- and middle-income countries (Mardi et al., 2018). Approximately, seven girls in developing countries marry before the age of 15 and more than 39,000 girls become child brides every day worldwide (Mardi et al., 2018). Adolescent pregnancy is a public health concern worldwide and has risen at a disturbing rate in sub-Saharan Africa. According to the 2020 World Health Organization (WHO) key facts sheet on adolescent pregnancy, it is estimated that 12 million girls aged 15–19 years and at least 777,000 girls under 15 years give birth each year in developing countries (WHO, 2020). It has been reported that, in these countries, complications from childbirth are the leading cause of death among girls between the ages of 15–19 (Mushwana et al., 2015). The maternal mortality and morbidity are associated with adolescent pregnancy. This cyclical event is pervasive among adolescent since adolescent mothers are more likely to witness pregnancy complications than their older counterparts. In addition, babies born to adolescent mothers are at higher risk of morbidity and mortality and these challenges pose another burden since adolescents need special attention during pregnancy.

Adolescent pregnancy does not only affect health and social implications but also affects the well-being of the adolescents (GMHS, 2017). Pregnancy among adolescents affect their ability to pursue their educational ambition. According to the Ghana Health Service Annual report in 2015, the proportion of adolescents who sought antenatal care services was 12.1% with slight decline in 2016 to 11.8% (GMHS, 2017). Adolescent pregnancy in the Eastern region was not far from the national average. Adolescent pregnancy recorded in 2017, 2018, 2019, 2020 and 2021 were 8,632 (13.4%), 8,017 (12.7%), 8,196 (13.1%), 7,976 (12.4%) and 8,174 (12.6), respectively (UNICEF, 2021). The Ghana government and Nongovernmental organizations are spending more resources on combating adolescents' pregnancy, whereas these resources can be invested in education to improve female education in Ghana. Evidence has showed a decrease in reported adolescent pregnancies and proportions accessing safe abortion services with a steady increase in the use of contraceptives among adolescent (GHS Annual report, 2017).

In Ghana, adolescent pregnancy contributed about 9% to maternal death in 2016 and it was similar in sub-Saharan Africa (GMHS, 2017). Babies born by teenage mothers have been reported to have higher risk of infant and child mortality (Ahorlu et al., 2015) . Adolescent pregnancy presents both public health and socio-economic implications in the Birim North district and Ghana in general. Adolescents who get pregnant limit their potentials to pursue education and opportunities (Nang-bayi et al., 2021) unwillingly than their counterparts who delay childbearing. Adolescent pregnancy contributes to the cycle of maternal mortality and morbidity because adolescent mothers are more likely to experience adverse pregnancy outcomes than their older counterparts. In addition, babies born to adolescent mothers are at increased risk of sickness and death; therefore, adolescents need special attention during pregnancy (Nang-bayi et al., 2021).

The purpose of this study was, therefore, to identity the factors contributing to teenage pregnancy in the Birim North district in the Eastern Region of Ghana in order to recommend appropriate public health intervention program to mitigate it in the district.

2. MATERIALS AND METHODS

2.1 Study Design
A cross-sectional study was used at community levels to identify the factors contributing to pregnancy among adolescents aged between 10-19 years. Quantitative data were collected from adolescents who were sampled for the study in the communities in the district.

2.2 Sampling Technique and Sample Size
Data were collected from the six (6) sub-districts in the district with a total population of 19,841 of adolescents. To select the communities to sample, simple random sampling method was used. Five communities were randomly selected by a ballot from each sub- district.

The sample size was calculated using the Cochran formula. The proportion of 13.2% adolescent pregnancy coverage for 2020 was used (prevalence (p) = 0.132), margin of error of 0.05 and 95% confidence level as follows:
:

$N = Z^2 p (1-p)/ e^2$

$N = 1.96^2 * 0.132(1-0.132) /0.052^2$

$N = 0.4409/0.0025$

$N = 176.4$ approximately **176 participants**

2.3 Data Collection Procedure

Structured questionnaire was prepared to solicit information on the knowledge on reproductive sex, the socio-economic predictors associated with teenage pregnancy and finally, health-related factors that influence teenage pregnancy was solicited. Pretesting was done to gather information from audience on the basis of materials, including comprehension by the respondents and acceptance by the respondents because they were devoid of any offensive and inappropriate materials. The results from the pretesting were used to improve the quality of the questionnaire. The pre-test was done at the Reproductive and Child Health Unit at the New Abirem Government hospital. The questionnaire was written in English and was interpreted by the researcher or research assistants if a participant did not understand English. The interview was conducted at the household level among the adolescents. The interview took about 45 minutes.

2.4 Data Analysis

Data were first coded and entered into Epi-data version 4.6.0.0 and then imported into SPSS version 20.0 where data checking, cleaning, data recording and analysis was performed. Descriptive and analytical statistics were conducted. The descriptive statistical was summarized in tables. Categorical variables such as knowledge of adolescent on reproductive sex was presented in proportions or frequencies. Continuous variables such as age was presented in means, range, medium and standard deviations. With the analytical or inferential statistics, teenage pregnancy was the dependent and variable bivariate analysis approach (analytical) was used, cross tabulations was used to determine the associations among the socio-demographic factors such as, age of adolescents, marital status of caregiver, place of residence, distance from home to health facility, education level, income level, religion, occupation of caregiver, ethnicity of caregiver and many more associated factors with adolescents. Multivariate logistic regression was used to determine the independent predictors of teenage pregnancy. Confidence intervals was reported at 95% where appropriate and a p-value of < 0.05 was considered significant.

3. RESULTS

3.1 Demographic Characteristics of Respondents

Demographic characteristics of the respondents are shown in Table 1. A total of 176 adolescent girls between the ages of 10 and 19 years who were pregnant or who had given birth before were enrolled in the study. The mean age of the respondents was 17.24 ± 1.5 years with most of the adolescent girls in the age groups 15-19 years (93.8%) and 10-14 years (6.3%). All the respondents were adolescent girls 176 (100%) and only 44 (25%) were still in school and 132 (75%) were out of school during the study. About 133 (75.6%) of the respondents were not married and 43 (24.4%) were cohabiting. About 94 (54.3%) of the respondents had either primary or junior high education, 66 (37.5%) had Senior School education, only 5 (2.8%) had tertiary education and 11 (6.3%) did not have any formal education. Christianity was the commonest religious affiliation among the respondents About 155 (88.1%) were Christians with the rest being Muslims. Akan was the predominant language spoken by 137 (77.8%), Ewes 18 (10.2%), Ga/Krobo 14 (8%), Hausa 5 (2.8%) and only 2 (1.1%) spoke other languages.

In terms of employment by the respondent's parents/guardians, 113 (64.2%) were farmers, 45 (25.6%) were engaged in business, 13 (7.4%) were government/NGO employees and 5(2.8%) were involved in other occupations. Parents/guardians who had a low-income level below 200 Ghana Cedis were 143 (81.3%), those with income between 200 – 800 Ghana cedis were 32 (18.2%) and only 1 (0.6%) had an income level above 800 Ghana Cedis per month. Place of residence, 163 (92.6%) were living in the rural areas whilst 13 (7.4%) were living in the urban areas. Respondents whose family ever experienced teenage pregnancy before were 103 (58.5%), whose family never experienced teenage pregnancy before were 55 (31.2%) and only 18 (10.2%) who said they had no idea whether any of their family members had experienced teenage pregnancy before.

Respondents who had both parents alive were 131 (74.4%), only the father alive were 11 (6.3%), only the mother alive were 28 (15.9%) and none of the parents alive was 6 (3.4%). Out of the 176 respondents 74 (42%) stayed with both parents, 11 (6.3%) stayed with only the father, 45 (25.6%) stayed with only the mother, 24 (13.6%) with their relatives. Those staying with their stepmothers were 5 (2.8%), siblings 3 (1.7%) and 14 (8%) were staying with their friends. At the time of the study, out of the 176 respondents 63 (35.8%) were pregnant and the remaining 133 (64.2%) were having at least one child.

Table 1: Demographic characteristics of respondents

Variable	Frequency [N=176] (n)	Percent (%)
Mean age (S.D)	17.24 (±1.5)	
Respondents still in school		
Yes	44	25.0
No	132	75.0
Residence		
Rural	163	92.6
Urban	13	7.4
Marital Status		
Not married	133	75.6
Cohabiting	43	24.4
Religion		
Christian	155	88.1
Muslims	21	11.9
Parents alive		
Yes, both of them are alive	131	74.4
Yes, only the father is alive	11	6.3
Yes, only the mother is alive	28	15.9
None of them is alive	6	3.4
Leave with your parents/relatives		
I leave with both parents	74	42.0
I leave with only the father	11	6.3
I leave with only the mother	45	25.6
I leave with my relatives	24	13.6
I leave with my stepmother	5	2.8
I leave with siblings	3	1.7
I leave with friends	14	8.0
Language		
Akan	137	77.8
Ewe	18	10.2
Ga/Krobo	14	8.0
Hausa	5	2.8
Others	2	1.1
Income (GH₵)		
Low income	143	81.3
Middle income	32	18.2
High income	1	0.6
Occupation of your parents/guardian		
Farmer	113	64.2
Business person	45	25.6
Government/NGO employee	13	7.4
Other	5	2.8
Family member ever experienced teenage pregnancy		
Yes	103	58.5
No	55	31.2
No idea	18	10.2

Educational level

No education	11	6.3
Primary level	94	53.4
Secondary level	66	37.5
Tertiary	5	2.8

3.2 Knowledge of Sexual and Reproductive Health Services (SRHS) of Respondents

Knowledge of sexual and reproductive health service characteristics of the respondents are detailed in Table 2. Assessing respondent's knowledge on sexual and reproductive health services available to them in the various health facilities, it was noted that 125 (70.3%) of them had knowledge or had ever heard of sexual and reproductive health service. The main source of information on knowledge of SRHS for the respondents was the media. About 85 (48.3%) of the respondents had ever visited an RH facility before. In most cases, the respondents who had ever visited any of the RH facilities were given information on contraceptives. About 69 (39.2%) of the respondents were currently using birth control methods (Table 2).

Table 2 Knowledge of sexual and reproductive health services (SRHS) of respondents

Variable	Frequency	Percent (%)
	(n)	
Currently pregnant		
Yes	63	35.8
No	113	64.2
Use contraceptives when having sexual intercourse		
Always	163	19.3
Sometimes	13	80.7
Knowledge on the use of contraceptive methods		
Yes	125	71
No	51	29
Visit to the family planning clinic		
Yes	85	48.3
No	91	51.7
Respondents on birth control methods		
Condom	22	12.5
Contraceptive foam	3	1.7
Depo Provera	18	10.2
Jadelle	19	10.8
Norplant	1	0.6
Pills	4	2.3
Natural method	2	1.1
Washing your vagina after sex can prevent pregnancy		
Agree	51	29
Disagree	125	71
Birth control methods also prevent one from getting infected with HIV		
Agree	123	69.9
Disagree	53	30.1
The only way to completely prevent pregnancy is by not having sex		
Agree	119	67.6

Disagree	57	32.4

3.3 Socio-cultural Characteristics of Respondents

Socio-cultural related characteristics of study respondents are detailed in Table 3.3.

In assessing socio-cultural related characteristics of respondents by their social and cultural status, 100 (56.8%) of the respondents strongly disagreed that it was culturally acceptable for a girl to get married at the age below 18 years (Table 3.3).

Table 3.3: Socio-cultural characteristics of respondents

Variable	Frequency	Percent (%)
	(n)	
Culturally acceptable for a girl to get marriage at the age below 18 years		
Strongly agree	33	18.8
I strongly disagree	100	56.8
Somewhat I agree	26	14.8
Somewhat I disagree	17	9.7
Have sexual intercourse before they are 18 years		
Strongly agree	46	26.1
I strongly disagree	79	44.9
Somewhat I agree	40	22.7
Somewhat I disagree	11	6.3
Religion and cultural beliefs impede contraceptive use		
Yes	69	39.2
No	107	60.8

3.4 Health-related Factors on Teenage Pregnancy

Table 4 shows the effect of health-related factors on teenage pregnancy. Out of the 176 respondents, 149 (84.7%) reported that they knew about reproductive health services in their residing areas while 14 (8.0%) did not know about it and 13 (7.4%) had an idea about reproductive health services in their areas. Also, 146 (83.0%) of the respondents said that the reproductive health services were easily accessible whiles 30 (17.0%) reported that RHS were not easily accessible.

Table 4: Health-related factors on teenage pregnancy

Variable	Frequency	Percent (%)
	(n)	
Reproductive health services to your residing area		
Yes	149	84.7
No	14	8.0
No idea	13	7.4
Accessibility to reproductive health services easy?		
Yes	146	83.0
No	30	17.0
Reproductive health services located		
Hospital	54	30.7
Health centre	50	28.4
CHPS	70	39.8

Outreach site	2	1.1
Minutes/hours take to get to the health facility/reproductive health Centre		
< 15 mins	48	27.3
15 - 30 mins	100	56.8
31 - 60 mins	18	10.2
> 60 mins	10	5.7
Distance to the health facility/ reproductive health centre prevent you from accessing reproductive health services		
Yes	36	20.5
No	140	79.5
Return without getting reproductive services at the healthcare settings		
Yes	21	11.9
No	155	88.1
Health staff maltreatment at reproductive health session		
Yes	23	13.1
No	153	86.9
Types of maltreatment by health staff		
Disrespectful	4	2.3
Unfriendly	9	5.1
Abusive manner	1	0.6
Insult me for coming late	1	0.6
Very rude	6	3.4
Criticize my dress	2	1.1
Health workers providing reproductive health services in your community		
Weekly	94	53.4
Monthly	72	40.9
Quarterly	9	5.1
Yearly	1	0.6

3.5 Bivariable Analysis

Demographic characteristics such as adolescent still in school was significantly associated with teenage pregnancy at p < 0.001 as shown in Table 4.5. The prevalence of teenage pregnancy among older teenagers was 165 (93.8%) higher than their younger peers. Teenage girls living in rural areas had higher proportion of teenage pregnancy than those in urban areas. Additionally, the prevalence of teenage pregnancy was higher among girls whose parents were employed as peasant farmers than those employed by Government/NGO and formal businesses.

The variables age at first sex, with more than one sexual partner, and frequency of contraceptive use were all significantly associated with teenage pregnancy. Higher prevalence of teenage pregnancy was detected among younger teenagers whose family members had experienced teenage pregnancy in life. The frequency of alcohol consumption was not significantly associated with teenage pregnancy; however, higher prevalence was observed among those who drank alcohol occasionally more than twice a week than those who took alcohol less than twice a week.

The prevalence of teenage pregnancy was higher among teenage girls whose families had low teenage pregnancy at p < 0.001. Higher prevalence of teenage pregnancy was reported among girls who had intense peer pressure, had experienced sexual abuse and had no control over sex with partners than peers with no similar experiences. Similarly, the prevalence of teenage pregnancy was observed to be higher among girls who had no awareness on adolescent sexual and reproductive health than their counterparts who had such awareness. The likelihood of teenage pregnancy was higher among girls who reported that their culture allows sex before age 18 compared to those who reported the contrary.

Table 5 Analysis of demographic, behavioural, familial and societal factors with teenage pregnancy

Demographic variables		Age groups	Place of residence	School attendance by teenage girls	Father's education	Mother's education	Type of parent's occupation	Sexual behaviours	Contraceptives use	Usage of birth control	Peer pressure among teenagers
Age groups	Pearson Correlation	1	-.017	.122	-.055	.101	-.113	-.112	-.007	.003	.076
	Sig. (2-tailed)		.825	.107	.467	.180	.136	.141	.922	.979	.316
	N	176	176	176	176	176	176	176	176	69	176
Place of residence	Pearson Correlation	-.017	1	-.038	-.027	-.027	.019	-.028	-.137	-.283*	-.079
	Sig. (2-tailed)	.825		.620	.718	.723	.806	.711	.070	.019	.300
	N	176	176	176	176	176	176	176	176	69	176
Teenagers school attendance	Pearson Correlation	.122	-.038	1	-.078	.017	-.009	-.092	-.050	.050	-.081
	Sig. (2-tailed)	.107	.620		.301	.818	.909	.225	.511	.686	.284
	N	176	176	176	176	176	176	176	176	69	176
What is the level of education of your father?	Pearson Correlation	-.055	-.027	-.078	1	.528**	.280**	.095	.097	.100	.003
	Sig. (2-tailed)	.467	.718	.301		.000	.000	.210	.202	.412	.966
	N	176	176	176	176	176	176	176	176	69	176
What is the level of education of your mother?	Pearson Correlation	.101	-.027	.017	.528**	1	.217**	.020	-.008	-.198	-.070
	Sig. (2-tailed)	.180	.723	.818	.000		.004	.793	.918	.103	.356
	N	176	176	176	176	176	176	176	176	69	176
What is the occupation of your parents/guardian?	Pearson Correlation	-.113	.019	-.009	.280**	.217**	1	.166*	.069	.002	.088
	Sig. (2-tailed)	.136	.806	.909	.000	.004		.027	.363	.986	.247
	N	176	176	176	176	176	176	176	176	69	176
	Pearson Correlation	-.112	-.028	-.092	.095	.020	.166*	1	-.075	.249*	-.017

Have you ever had sexual intercourse with more than one partner?	Sig. (2-tailed)	.141	.711	.225	.210	.793	.027		.321	.039	.821
	N	176	176	176	176	176	176	176	176	69	176
How often do you use contraceptives when having sexual intercourse?	Pearson Correlation	-.007	-.137	-.050	.097	-.008	.069	-.075	1	.085	.013
	Sig. (2-tailed)	.922	.070	.511	.202	.918	.363	.321		.486	.865
	N	176	176	176	176	176	176	176	176	69	176
If yes, what are you using for birth control?	Pearson Correlation	.003	-.283*	.050	.100	-.198	.002	.249*	.085	1	-.010
	Sig. (2-tailed)	.979	.019	.686	.412	.103	.986	.039	.486		.933
	N	69	69	69	69	69	69	69	69	69	69
Do you feel any pressure from friends to do things you don't want to?	Pearson Correlation	.076	-.079	-.081	.003	-.070	.088	-.017	.013	-.010	1
	Sig. (2-tailed)	.316	.300	.284	.966	.356	.247	.821	.865	.933	
	N	176	176	176	176	176	176	176	176	69	176

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

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

3.6 Multivariable analysis

After adjusting for all other factors in the model 1 as shown in Table 4.6, the likelihood of teenage pregnancy among girls who were not attending school was significantly higher than peers attending school (p < 0.001). Other variables such as: age of respondents, place of residence, parent's education and occupation and whether parents were alive or not were not significantly associated with teenage pregnancy. However, marital status, age of respondents and place of residence were significantly associated with teenage pregnancy. Adjustment of behavioural factors showed a few significant associations of independent factors with teenage pregnancy. Age of teenage girls was found to be statistically insignificant with teenage pregnancy but after effect modification, older teenagers (15–19) were less likely to become pregnant compared to younger ones. Multiple partners (p < 0.001), frequency of sex (p < 0.01) and contraceptive use (p < 0.01) significantly decreased the likelihood of teenage pregnancy. Age at first sex was not significantly associated with teenage pregnancy when other factors were adjusted for in the logistic regression. Similarly, after effect modification by marital status, age at first sex still remained statistically insignificant.

Model 1 showed that only marital status remained significantly associated with teenage pregnancy (p < 0.01). Teenage girls who were not married were less likely to become pregnant compared to those who were married. Other factors such as: socio-economic status, domestic violence, physical neglect, person the teenager is living with and parent's separation/divorce were all not significantly associated with teenage pregnancy in the multivariable analyses.

In model 1, independent factors that remained significantly associated with teenage pregnancy included socio-economic status, girls who were married, and those whose parents had separated/ divorced as compared with their counterparts who had no such occurrences. Higher prevalence was also reported among girls who experienced domestic violence and physical neglect.

Table 6. The association between teenage pregnancy and demographic, behavioural, familial and social factors, Birim North (Ghana) Variables

Model 1 AOR (95%CI)	B	SE
Teenagers school attendance	51.824	41891.291
Place of residence	-17.239	37052.375
Marital status	-4.609	15254.012
Father's educational level	8.314	27269.940
Mother's educational level	-17.824	13701.836
Occupation of parents	7.055	20317.347
Parents alive	-3.871	13694.439
Sex with more than one partner	-57.183	51354.057
Domestic violence	1.678	32258.325
Family member experienced teenage pregnancy before	-5.532	26756.330
Age at first sex	15.619	1743.689
Currently pregnant	44.303	93066.593
Age of given birth	-.383	7462.662
Contraceptives usage	52.599	60304.979
Knowledge on contraceptive use	-55.953	37874.064
Alcohol consumption	-14.975	30121.446
Religion and cultural on contraceptive use	-1.173	32660.387
Peer pressure	29.225	40220.062

1 = reference category, ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$, AOR adjusted odds ratio, CI confidence interval, B regression coefficient, SE standard error, others* = builders, carpenters and welders, ASRH adolescent sexual and reproductive health

4. DISCUSSION

The results showed that age and place of residence of the respondents were not significantly associated with teenage pregnancy after adjusting for all independent factors. However, after effect modification by marital status, older teenagers (15–19) were found to be less likely at risk of teenage pregnancy compared to younger teenagers (10–14). Teenage girls who resided in rural areas were twice more likely to become pregnant (Donatus, 2018). On the other hand, being in school was found to be protective against teenage pregnancy. These findings are consistent with the previous studies in Ghana (Kassa et al., 2019). Being young and living in rural areas may expose girls to early pregnancy due to lack of information and peer influence (Worku et al., 2021). This situation could put them in a higher risk of not only becoming pregnant but contracting sexually transmitted infections (STI). However, being in school may provide periods of supervision of teenage girls by teachers as well as parents, which could reduce opportunities for sexual activity. The suggestion is that when adolescent spend more time at the school, they are more likely to be monitored and improve their reproductive health through education.

The multivariable analysis on behavioural factors and teenage pregnancy showed that multiple sexual partners, frequency of sex, and contraceptive use were significantly associated with teenage pregnancy. Not having multiple sexual partners, having sex less than twice a week and regular use of contraceptive methods were all protective against teenage pregnancy. Another form of risky behaviour that could result in teenage pregnancy was irregular use of contraceptive methods (Mejia et al., 2021), which is in agreement with our findings. As confirmed by this study, having multiple sexual partners puts teenage girls at greater risk of pregnancy (Ochen et al., 2019).

Although this study did not address reasons for irregular contraceptive use, some of the contributory factors may be inadequate access, stigma and limited information on availability of contraceptive methods. These can lead to limitation of potentials to pursue education and other opportunities if teenage girls get pregnant. Babies born to adolescent mothers are at high risk of sickness and death since they are immature to take proper care of their children. These situations can be prevented or improve when reproductive health is being promoted at the community level and schools as well.

4.3 Familial Factors and Teenage Pregnancy

Multivariable analysis of familial factors and teenage pregnancy found a significant association only with marital status after adjustment with all other factors. However, at bivariate analysis, all familial factors were significantly associated with teenage pregnancy. However, marital status, socio-economic status, domestic violence and physical neglect, low socio-economic status, and cultural traditions, especially payment of dowry as a source of income is most likely the issue exacerbating early marriages in Ghana (Nang-bayi et al., 2021). Economic deprivation is likely to influence teenage behaviours and heighten their exposure to early pregnancy as observed in Uganda , Nigeria, Sri Lanka, Senegal, Bangladesh, and Nepal (Ochen et al., 2019). Furthermore, there is growing concern that physical neglect of teenage girls could foster relationships with older men which is seen as more beneficial when daily needs such as food, shelter, clothing and money are not met by parents/caregivers (Worku et al., 2021). Therefore, Adolescent daily and basic needs should be provided by parents or care takers which will help to break the chain of early pregnancy, school dropouts and adverse pregnancy outcomes among adolescent.

The results of multivariable analysis on social factors and teenage pregnancy revealed that peer pressure, sexual abuse, lack of control over sex and lack of awareness were significantly associated with teenage pregnancy (Mejia et al., 2021). Research supports the widespread idea that peers play an important role in teenage lives; teenagers with sexually active friends are more likely to have sex themselves (Kassa et al., 2018). Peers can influence the views of their age groups, hence, bad influence leading to risky behaviours such as alcohol and drug abuse, dropping out of school, unprotected sexual activity which may lead to pregnancy (Yakubu, 2018). This study concurs with this analogy, as those who were not sexually abused were less likely to become pregnant. Furthermore, community awareness on adolescent sexual and reproductive health was found to be significantly associated with teenage pregnancy after effect modification by marital status. This finding is similar to other studies that have demonstrated awareness creation as effective in reducing teenage pregnancy. (Islam et al., 2017). More emphasize should be placed on the reproductive health and teenage pregnancy not only at the schools, healthcare centres but also at the community level, which will help the members to understand the needs of their teenage girls.

Parents/ caregivers should find something doing to support their adolescent girls.

5. CONCLUSION

The study considered predictor (behavioural, familial and social) variables which were used to determine associations with teenage pregnancy. After adjusting with all other predictor variables and effect modification with marital status, demographic factors that became significantly associated with teenage pregnancy were older age of respondents (10–19 years), living in rural areas and school attendance. Behavioural factors associated with teenage pregnancy in Birim North District included contraceptive use, having multiple partners and frequent sex by teenagers. Familial factors significantly associated with teenage pregnancy were being in a household with low socio-economic status, domestic violence and physical neglect. Marital status was found to be an effect modifier other than independent predictor. Meanwhile, social factors comprised of peer pressure, sexual abuse, lack of control over sex and lack of awareness on adolescent sexual and reproductive health. The findings of this study can help to improve adolescent sexual and health services in low-income settings, by serving as repository for information and knowledge on adolescent reproductive health to curb and curtail early and unexpected pregnancies among teenage girls. The factors driving teenage pregnancy are complex and varied and therefore require multidimensional intervention strategies involving policymakers, government, non-governmental organizations, traditional rulers, families and individuals.

Based on the findings the following recommendations are made:

a. Firstly, the government should strengthen existing strategies aimed at preventing adolescent pregnancy including educational programs, family planning services, youth-friendly clinics and youth development programs.

b. The government should formulate programmes and policies aimed at: retaining married and pregnant girls in schools; promoting sex education aimed at abstinence from sex; promoting the use of contraceptives among teenage girls in communities and schools and ensure availability and accessibility of modern contraceptives methods.

c. Creating dialogue with parents with the view of discouraging early marriages of teenage girls and community sensitization so as to avoid groups that influence peers to engage in risky behaviours and early sex

d. Strengthening the implementation of existing laws in order to deter sexual abusers.

e. A more comprehensive study involving both quantitative and qualitative methods should be undertaken for better understanding of how contextual factors influence teenage pregnancy.

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