



Contraceptive Usage Status and its Associated Factors among Adolescents in the Kwahu South District, Eastern Region of Ghana

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Unwanted pregnancies account for roughly 30% of all pregnancies in Ghana. Availability of contraceptives and usage is essential to the realization of the Sustainable Development Goal (SDGs) 3.7 which calls for universal access to contraception for use by people of all ages by 2030. The study aims to assess contraceptive usage and associated factors among adolescents in the Kwahu South District of the Eastern Region of Ghana.

The study was a descriptive cross-sectional survey. Adolescents were drawn using multistage sampling techniques. Data were collected with a structured questionnaire. Descriptive and

inferential statistics were run and results were presented in tables and graphs. The statistically significant p-value was pegged at less than 0.05.

Almost all (97.9%) respondents have heard of contraceptives with the media being the common source of information (52.5%). The male condom (57.6%), oral pills (53.5%) and the female condom (46.9%) were the commonly known contraceptives. The majority (77.1%) knew where to get contraceptives. Common sources of contraceptives included the pharmacy (57.3%) and hospitals (37.2%). Significant differences exist between usage of contraceptives and age ($p < 0.001$), religion ($p = 0.042$) and having a partner ($p < 0.001$). Age (18 years) (AOR= 3.01, 95%CI (1.17-7.73)) and having a partner (AOR= 0.05, 95%CI (0.02-0.14)) were positively associated with current contraceptive use.

Targeted public health interventions in the form of education and promotion are desirable to create awareness among adolescents who do not know about contraceptives and improve understanding of the safety of other contraceptive methods aside from male condoms and oral pills.

Keywords: Adolescent; associated factors; contraceptive usage; family planning; sexual and reproductive health.

1. INTRODUCTION

Preventing unwanted pregnancies, sexually transmitted illnesses, and unsafe abortions require improving adolescent sexual and reproductive health [1,2]. Contraception usage is unquestionably critical in the face of these threats [3]. The Adolescent birth rate has decreased globally, from 65 per 1000 women in 1990 to 47 per 1000 women in 2015 [4]. Despite this decrease, abortion-related complications and unwanted pregnancies continue to increase [5]. For example, in under-developed countries, over 16 million girls between the ages 15 to 24 years and 2.5 million girls less than 16 years give birth each year, with a predicted 21 million girls within the ages of 15 to 19 and about 2 million girls under 15 becoming pregnant [6,7]. Sub-Saharan Africa (SSA) and South-Central and Southeast Asia have the highest rates of adolescent pregnancy in the world [6,8]. For instance, in 2013, sub-Saharan Africa recorded the highest rate of adolescent pregnancy worldwide [7]. Despite increased contraceptive usage among unmarried young African women between the ages, of 15–24 years (from 23% in 1996–2000 to 33% in 2011–2015), [9] studies from numerous countries in the area have indicated that there remains considerable unmet demand for contraception among adolescents in SSA [10–12]. Two out of every five births among teenagers in around 30 percent of all nations in SSA are unintended [13]. Unwanted pregnancies account for roughly 30% of all pregnancies in Ghana, with teens (70%) having a much greater rate than adults [14]. Adolescents who get pregnant suffer a slew of physical, academic, and social implications, including societal rejection, which usually manifests itself as

stigma, discrimination, and social ostracization [15]. Unwanted pregnancies among young females lead to a high percentage of school dropouts and halt future growth. A study in Chorkor, Ghana showed that about 86.0% of the 50 adolescent pregnant females had left school [16]. The majority of unintended pregnancies result in induced abortions [17,18], with a considerable percentage of them carried out using cruel methods.

According to the 2017 Ghana Maternal Health Survey (GMHS), 35.6 % of sexually active unmarried women within 15 to 19 years and 48.8 % within 20 to 24 years, use contraception [19]. Meeting the contraceptive needs of teenagers was critical to reaching the Ghana Family Planning 2020 objective of increasing contraceptive usage among sexually active single adolescents from 1.46 million in 2015 to 1.93 million in 2020 [20]. This is also essential to the realization of the Sustainable Development Goal (SDGs) 3.7 which calls for universal access to contraception for use by people of all ages by 2030. Most young women with a history of pregnancy would have used contraception to avoid such pregnancies if contraception had been available, according to Ghanaian studies [11].

The majority of contraceptive research is undertaken among all women of reproductive age (15–49 years), with no precise age stratification [21,22]. Several research on contraception usage among adolescents and young women have been conducted in Ghana [11,23–27]. Other types of research on adolescent contraceptives usage have used nationally representative data to investigate the

factors of contraceptive use [28,29]. Most of these studies rely on nationally representative data primarily used data from previous Ghana demographic and health surveys [27,29,30]. Despite the overwhelming literature on contraceptive usage in Ghana, no such studies have been conducted in the Kwahu South District of the Eastern Region of Ghana. Understanding the contraceptives usages and associated factors in all Districts of Ghana is very essential to inform a formidable policy to improve the accessibility and usage of contraceptives among adolescents and all people at large. The aim of the study, therefore, was to assess contraceptive usage and associated factors among adolescents in the Kwahu South District of the Eastern Region of Ghana.

2. METHODS

2.1 Research Design and Setting

The study was a descriptive cross-sectional survey conducted between January and April 2018 among in-school adolescents aged 15-19 years in the Kwahu South District of Ghana. The district shares common boundaries with Kwahu East to the North, Asante-Akim South to the West, the Kwahu West Municipality and East Akim District to the South and Fanteakwa District to the East. The district has a land size of 795.76 square kilometres, and lies between latitudes 6°35" N and 6° 45" N and longitude 0° 55" W and 0° 20" W.

2.2 Study Population

The study was conducted among in-school female adolescents aged 15-19 years in the Kwahu South District.

2.3 Sample Size and Sampling Procedure

The sample size was estimated using the Snedecor and Cochran [31] formula. Analyses of the 2003–2014 Ghana Demographic and Health Survey revealed that modern contraceptive usage among adolescents was 21.53% [32]. The sample size was then estimated at a 95% confidence level, and a 5% margin of error. Using a 10% none response rate, the sample size was estimated at 288. The study participants were recruited using a multistage sampling technique. In the first stage, all four schools in the Kwahu South District were included in the study. These schools included Kwahu Ridge Senior High Technical School, Bepong Senior

High School, St. Paul's Senior High School and Mpraeso Senior High School. All four schools were enrolled in the study to pick the views of every school. In the second stage, the sample size (288) was further divided into all four schools proportionate to school enrollment. In the third stage, using the enrollment of female students between ages 15-19 years as the sampling frame, a systematic sampling technique was used to recruit eligible respondents.

2.4 Data Collection Tools and Techniques

A structured questionnaire containing closed-ended questions was constructed to assess the knowledge, access, usage and enablers of contraceptive use, among respondents. The questionnaire was made up of questions on knowledge, attitude and perception of contraception. The language that was used in the administration of the questionnaire was English. Respondents were assembled in classrooms and the purpose of the research was briefly clarified to the respondents. Respondents were assured of anonymity and confidentiality. Each questionnaire took about 15 minutes to complete.

2.5 Data Analysis

The data was checked in and analysed by manual statistical method and SPSS (Statistical Package for Social Sciences) version 21. The data were represented as tables and pie charts using SPSS and Microsoft Excel (MS windows 2010 edition) illustrating the relationships of variables of interest. Microsoft Word was used for typing the text. Chi-square analysis was done to reveal the association with contraceptive usage. All significant variables were entered into the logistic regression model to identify predictors of contraceptive usage among adolescent school girls in the Eastern Region. The statistically significant p-value was pegged at less than 0.05.

3. RESULTS

3.1 Socio-demographic Characteristics of Respondents

The study included 288 respondents between the ages of 15 and 19 years and a mean age of 17.3(±1.2). Most of the respondents were 18 years (29.9%). A total of 126(43.8%) of the respondents were in the third year (Senior High School Form 3). The majority of the respondents were Christians (95.8%) (Table 1).

Table 1. Socio-demographic characteristics of respondent

Variable	Categories	Frequency (n= 288)	%
Ages	15 years	28	9.7
	16 years	55	19.2
	17 years	66	22.9
	18 years	86	29.9
	19 years	53	18.4
Class/Year	Year 1	70	24.3
	Year 2	92	31.9
	Year 3	126	43.8
Religion	Christianity	276	95.8
	Islam	11	3.9
	Traditionalist	1	0.3

Table 2. Knowledge of contraceptive use among respondents

Variables	Categories	Frequencies (n=288)	%
Heard of contraceptive	Yes	282	97.9
	No	6	2.1
Source of information on contraceptive	Media (TV &Radio)	151	52.5
	Hospital	34	11.8
	Community education	20	6.9
	Friends/relatives	30	10.4
	School	53	18.4
Which contraceptive method(s) do you know(Multiple response)	Oral pills	154	53.5
	Injectables	61	21.2
	Spermicide	37	12.8
	Implants	26	9
	Rhythm methods	37	12.8
	Female sterilization	49	17
	Intrauterine device	30	10.4
	Male condoms	166	57.6
	Female condom	135	46.9
	Withdrawal	47	16.3
	Male sterilization	41	14.2
Benefits of contraceptives (Multiple response)	Prevent pregnancy	244	84.7
	Prevent STDs	107	37.2
	Space children	80	27.8
Side effects to contraceptive exist	Yes	264	91.7
	No	24	24
Side effects of contraceptive (Multiple response)	Changes in mood	118	41.0
	Breast pain	86	29.9
	Decreased libido	66	21.2
	Change in body weight	159	55.2
	Nausea & Vomiting	80	27.8
	Change in menstrual cycle	195	67.7
	Skin rash and acne	85	29.5

STDS; Sexually transmitted diseases, TV; Television

3.2 Knowledge of Contraceptive Use among Respondents

About 97.9% of the respondents indicated that they have heard of contraceptives with the radio and television being the common source of information (52.5%). The male condom (57.6%), oral pills (53.5%) and the female condom (46.9%) were the commonly known contraceptives. The benefits of contraceptives according to respondents included the prevention of pregnancy (84.7%) and sexually transmitted diseases (STDs) (37.2%). About 91.7% indicated that contraceptives have side effects with common side effects indicated by respondents change in body changes in the menstrual cycle

(67.7%), body weight (55.2%) and mood (41.0%) (Table 2).

3.3 The Utilization of Contraceptives among Respondents

Contraceptive use was among 28.0% of the respondents compared to 72.0% of the respondents who indicated no use of contraceptives (Fig. 1).

Common contraceptive method ever used included oral pills (n=38,47.5%), condoms (n=33,41.3%), withdrawal method (n=5,6.2%) and IUD (n=4,5.0%). (Fig. 2).

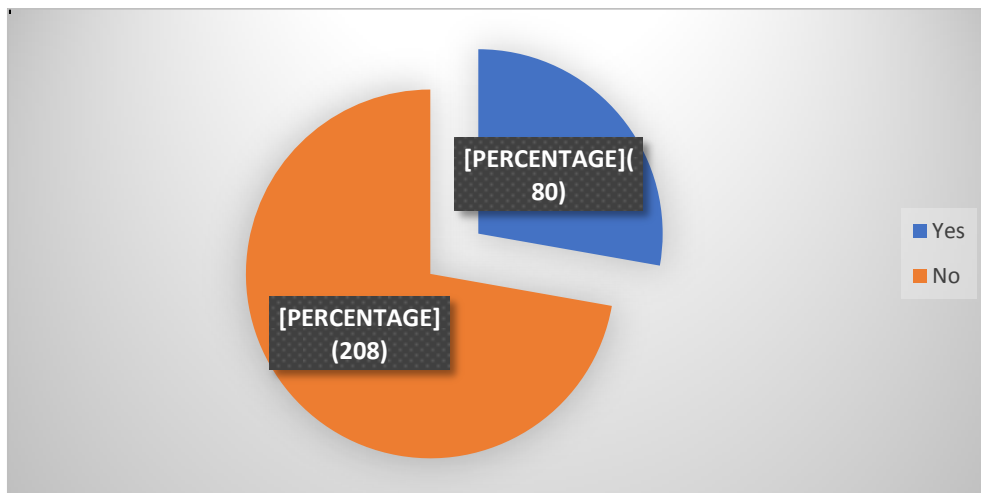


Fig. 1. Prevalence of contraceptive use (Ever and Current Use)

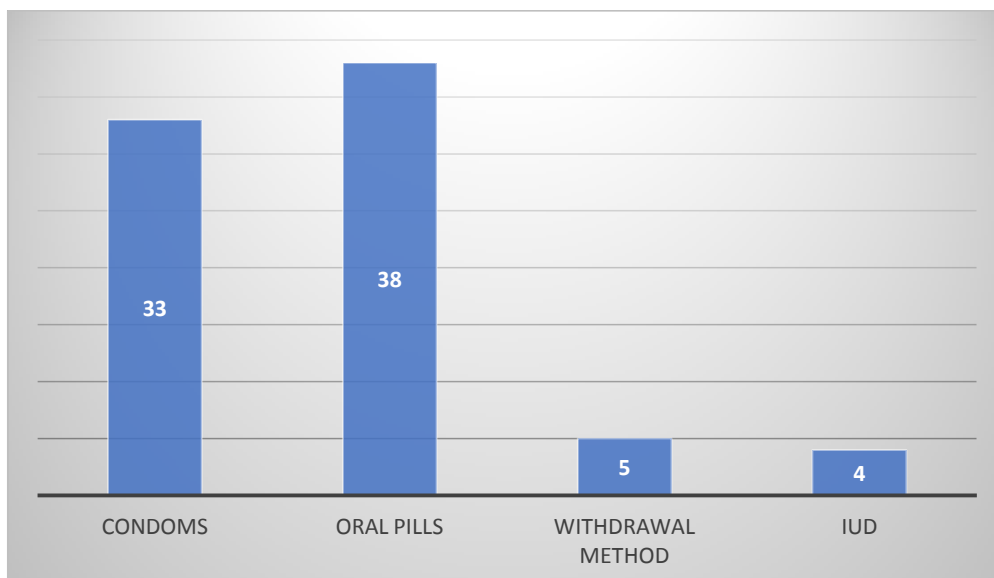


Fig. 2. Common contraceptive use among ever and current users (IUD; Intrauterine device)

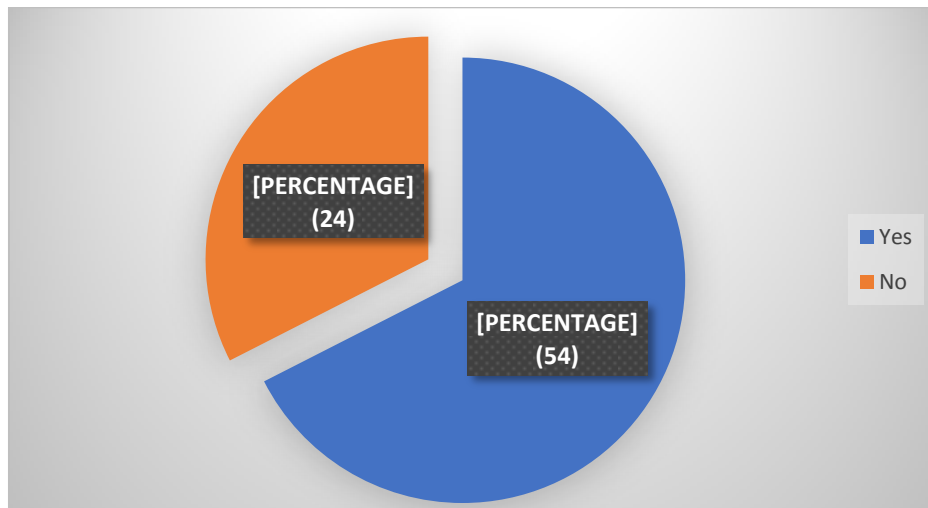


Fig. 3. Current contraceptive use

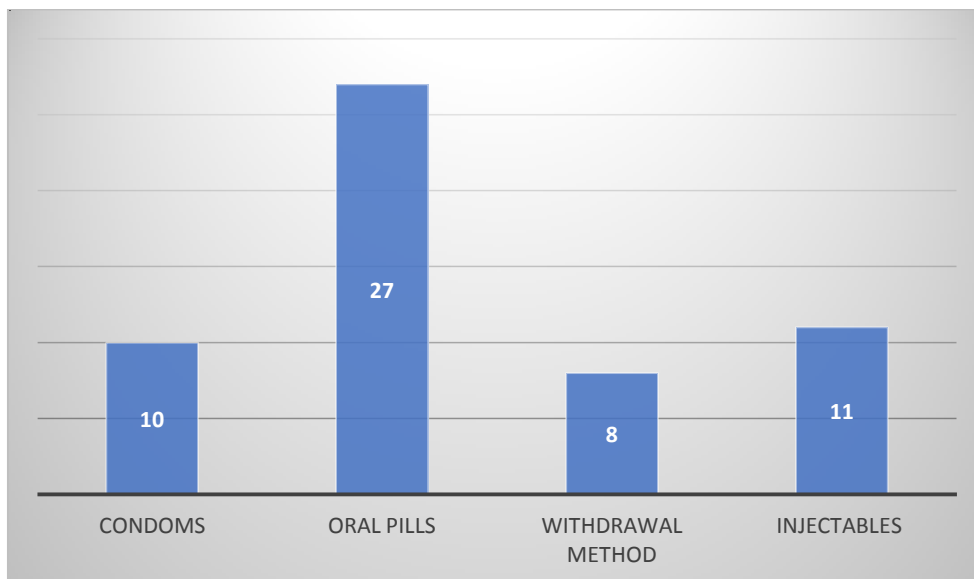


Fig. 4. Common contraceptive use among current users

The current contraceptive user was 67.0% out of the crude prevalence of contraceptive use (Fig. 3).

Common contraceptive methods used among current users included oral pills (n=27, 48.2%), injectables (n=11, 19.6%) and condoms (n=10, 17.9%) (Table 4).

3.4 Accessibility to Contraceptives among Respondents

The majority of the respondents indicated knowledge of where to get contraceptives (77.1%). Common sources of contraceptives

included the pharmacy (57.3%) and hospitals (37.2%). The nearest distance to access the contraceptive service centre was ≤5 kilometres (47.3%). The male condom (47.6%) and oral pills (38.5%) were indicated as the most affordable contraceptives. Most of the respondents indicated spending between 5 and 29 minutes to access contraceptive service at a facility (31.6%) (Table 3).

3.5 Enablers of Contraceptive Use among Respondents

Most of the respondents indicated having a partner (46.9%) of which 38.5% favour the use of

contraceptives. The majority of the respondents indicated religion does support contraceptive use (78.5%) with more than half (52.4%) indicating that contraceptives should be made available to senior high school (SHS) students. Among the reasons to make contraceptives available to SHS students includes; the prevention of unwanted

pregnancy (45.1%), sexually transmitted diseases (29.5%) and school dropout (24.7%). Most of the respondents indicated that contraceptives should be made available to teenagers from age 18 years and above (69.8%) (Table 4).

Table 3. Accessibility to contraceptives among respondents

Variables	Categories	Frequencies	%
Know where to get contraceptives services	Yes	222	77.1
	No	63	22.9
Where to get pharmacy (Multiple response)	Pharmacy	165	57.3
	Hospital	107	37.2
	Family planning centre	54	18.8
	Friends	28	9.7
	Family	15	5.2
How far is the nearest contraceptive service centre (km)	≤5	136	47.3
	6-10	71	24.6
	Don't know	91	28.1
Which contraceptive is affordable	Oral pills	111	38.5
	Injectable	17	5.9
	Spermicide	10	3.5
	Implants	7	2.4
	Rhythm	12	4.2
	Female sterilization	11	3.8
	IUD	9	3.1
	Male condoms	137	47.6
	Female condoms	90	31.3
	Withdrawal	25	8.7
	Male sterilization	7	2.4
Time spent in accessing contraceptive methods at a facility/center	5 to 29 minutes	91	31.6
	30-59 minutes	32	11.1
	1- 2 hours	29	10.1
	Don't know	136	47.2

Km; kilometre, IUD; Intrauterine device

Table 4. Enablers of contraceptive use among respondents

Variables	Categories	Frequency	%
Do you have a partner	Yes	135	46.9
	No	153	53.1
Partner in favor of contraceptive use (n=135)	Yes	52	38.5
	No	83	61.5
Partner perception affects contraceptive use (n=52)	Absolutely	13	25
	Much	15	28.9
	Slightly	5	9.6
	Not at all	19	36.5

Variables	Categories	Frequency	%
Religion support contraceptive usage	Yes	62	21.5
	No	226	78.5
Should contraceptives be made available to SHS students	Yes	151	52.4
	No	137	47.6
Reasons contraceptives should be made available to students (Multiple Response)	Prevent STDs	85	29.5
	Prevent unwanted pregnancy	130	45.1
	They are sexually active	40	13.9
	To discourage school dropout	71	24.7
	Discourage risky sexual life styles	52	18.1
	Allow student focused on education	67	23.3
Age at which contraceptives be available to teenagers	13 years and above	71	24.7
	18 years and above	201	69.8
	Don't know	16	5.5

STDS; Sexually transmitted diseases; SHS; Senior High School

Table 5. Association and predictors of contraceptive use among respondents

Variable	Category	Current use contraceptive					
		Yes (%)	No (%)	p-value, (X^2)	AOR	95% CI	P value
Ages(years)				0.000 (20.2)			
	15	4(14.2)	24(85.7)		1.51	0.22-10.25	0.67
	16	2(3.6)	53(96.4)		0.28	0.04-1.90	0.19
	17	9(13.6)	57(86.4)		Ref		
	18	27(31.4)	59(68.6)		3.01	1.17-7.73	0.02*
Class	19	14(26.4)	39(73.6)		1.73	0.61-4.92	0.30
				0.071 (6.3)			
	SHS1	7(10.0)	63(90.0)		Ref		
	SHS2	21(22.8)	71(77.2)		0.91	0.20-4.18	0.90
Religion	SHS3	28(22.2)	98(77.8)		0.78	0.17-7.73	0.76
				0.042, (6.3)			
	Christianity	51(18.5)	225(81.5)		Ref		
Have a partner	Islam	4(36.4)	7(63.6)		2.1	0.45-9.74	0.34
	Traditionalist	1(100.0)	0(0.0)		1		
Have a partner				0.000, (215.6)			
	Yes	52(38.5)	83(61.5)		Ref		
	No	3(2.0)	150(98.0)		0.05	0.02-0.14	0.000*

Ref; Reference, * positively associated

3.6 Association and Predictors of Contraceptive Use among Respondents

We performed a Chi-square test and logistic regression analysis to determine the level of association between independent and dependent variables and predict factors for contraceptive use. The Chi-square test showed significant differences between age ($p < 0.001$, $X^2 = 20.2$), religion ($p = 0.042$, $X^2 = 6.3$) and having a partner ($p < 0.000$, $X^2 = 215.6$). With the logistic regression, we found that respondents who were 18 years were 3.01 more likely to use

contraceptives as compared to their counterparts who were 17 years (AOR= 3.01, 95%CI (1.17-7.73), $p = 0.02$). Also, respondents who were not in any relation were 95.0% less likely to use contraceptives as compared to those who are in a relationship (i.e., having a partner) (AOR= 0.05, 95%CI (0.02-0.14), $p < 0.001$). (Table 5).

4. DISCUSSION

Our study assessed contraceptive usage and associated factors among female adolescents. Overall, a significant number of the respondents have heard of contraceptives with the television

and radio as the main source of information. These findings are promising; however, more is still needed to make persons unaware of contraceptives in our study and studies described elsewhere [26,27,33] to achieve women empowerment by 2030. Like with other studies [3,27], the male condom is the common contraceptive known by several populations, including adolescents. Though, the finding is important as it is the only contraceptive that has a dual function- prevention of unwanted pregnancies and sexually transmitted infections. It raises the need to educate the population, especially among married persons on other contraceptive methods that are important for family planning purposes. In educating the masses, including in-school adolescent females, the importance of contraceptives such as prevention of pregnancies and STDs as indicated by our respondents and studies elsewhere [34–36] should be highlighted. This has the potential to increase confidence in contraceptives among the public including adolescents who are often prone to teenage pregnancies and other sexual reproductive health challenges. The fear of side effects coupled with misconceptions [37,38] has been a major challenge to contraceptive use. Family planning service providers should address issues of misconceptions during the provision of contraceptives to potential clients and educate the public in general. Again, pharmaceutical industries should consider concerns of side effects during the design of contraceptives to minimize or reduce cases of side effects.

Consistent with other studies among adolescents [35,37], our study reported substantial contraceptive use. However, we noted significant disuse, comparing ever users and current users of contraceptives. It raises a need to understand the determinants of the disuse of contraceptives among populations, which is beyond the scope of this study. It appears access to contraceptives by the respondents was not a challenge as the majority indicated knowledge of where to get contraceptives including the pharmacy and hospital. Similarly, most respondents indicated the affordability of some contraceptives, including the male condom and oral pills. This could reflect Ghana's efforts in addressing the unmet needs of family planning. According to Lasong et al. [39], the wealth index of women is a key determinant of contraceptive use. Therefore, making contraceptive affordable and or relatively free

among the population, especially among women, increase their use. Another important finding of our study is the indication of one's partner supports the use of contraceptives. The promotion of contraceptives should be targeted at both females and males as one's perception could influence the other.

Unlike the finding of Ajmal et al. [40], the majority of our respondents asserted that religion does support contraceptive use. It is therefore important to engage religious heads in the formulation of policies on family planning including contraception. Our respondents indicated that contraceptives should be made available to senior high school students. This, we believe is a good call considering reports of teenage pregnancies among in-school adolescents in Ghana. Making contraceptives available to students at the senior high school level would help reduce tendencies of teenage pregnancy and its attending consequences. To advocate for contraceptives among senior high school students, our respondents gave reasons including prevention of unwanted pregnancy sexually transmitted diseases and school dropout. These reasons re-emphasize the importance of contraceptives in girls and women empowerment [41,42].

5. CONCLUSION

Overall, the majority of our respondents have heard of contraceptives. The male condom and oral pills are the most known contraceptives. Prevalence of contraceptive use was relatively significant coupled with a good number of participants disusing contraceptives. Most of the respondents indicated knowledge of where to get contraceptives and having a partner who supports contraceptive use. Targeted public health interventions in the form of education and promotion are desirable to create awareness among adolescents who do not know about contraceptives and improve understanding of the safety of other contraceptive methods aside from male condoms and oral pills.

6. STUDY LIMITATION

The study was conducted among adolescent schoolgirls as such the generalizations of the findings ought to be done with extreme caution. The responses are self-reported and this could be wrong as the questionnaire did not allow for follow-up.

7. DATA AVAILABILITY

The data would be made available upon request via the corresponding author.

CONSENT AND ETHICAL APPROVAL

Participation was voluntary and respondents had the liberty to withdraw at any point during the data collection if felt uncomfortable. Our study had no risk to respondents. The study's rationale was carefully explained to the respondents and their teachers including the heads of the schools. Teachers consented on behalf of respondents who were 15 and 17 years. The study was guided by ethical principles in social sciences [43] and the Helsinki declaration on ethical principles for medical research involving human subjects [44]. Administrative permissions to undertake the study were sought from the School of Medical Sciences, Kwame Nkrumah University of Science and Technology, District Director of Health Service, District Director of Education and the heads of the senior high schools included in this study.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Abdul-Wahab I, Nungbaso AM, Nukpezah RN, Dzantor EK. Adolescents sexual and reproductive health: a survey of knowledge, attitudes and practices in the Tamale Metropolis, Ghana. *Asian Res J Gynaecol Obstet.* 2021;6(1):31–47.
2. Ali M, Farron M, Ouedraogo L, Mahaini RK, Miller K, Kabra R. Research gaps and emerging priorities in sexual and reproductive health in Africa and the eastern Mediterranean regions. *Reprod Health.* 2018;15(1):1–5.
3. Oppong FB, Logo DD, Agbedra SY, Adomah AA, Amenyaglo S, Arhin-Wiredu K, et al. Determinants of contraceptive use among sexually active unmarried adolescent girls and young women aged 15–24 years in Ghana: a nationally representative cross-sectional study. *BMJ Open.* 2021;11(2):e043890.
4. United Nations. World Population Prospects: The 2017 Revision [Internet]; 2017. Available: <https://www.un.org/development/desa/publications/world-population-prospects-the-2017-revision.html>
5. World Health Organisation. Adolescent Pregnancy. Geneva: WHO; 2014.
6. UNFPA. Girlhood, not Motherhood: Preventing Adolescent Pregnancy [Internet]. New York, NY, USA; 2015. Available: https://www.unfpa.org/sites/default/files/pub-pdf/Girlhood_not_motherhood_final_web.pdf
7. Darroch JE, Woog V, Bankole A, Ashford LS. Adding it up: costs and benefits of meeting the contraceptive needs of adolescents. 2016;
8. WHO. Adolescent health epidemiology. WHO; 2014. Available: http://www.who.int/maternal_child_adolescent/epidemiology/adolescence/en/. 2014;
9. Ali MM, Cleland J. Long term trends in behaviour to protect against adverse reproductive and sexual health outcomes among young single African women. *Reprod Health.* 2018;15(1):1–10.
10. Atuyambe LM, Kibira SPS, Bukonya J, Muhumuza C, Apolot RR, Mulogo E. Understanding sexual and reproductive health needs of adolescents: evidence from a formative evaluation in Wakiso district, Uganda. *Reprod Health.* 2015;12(1):1–10.
11. Enuameh Y, Nettey OE, Mahama E, Tawiah C, Boamah E, Sulemana A, et al. Family planning needs of adolescents in predominantly rural communities in the central part of Ghana. *Open J Prev Med.* 2015;5(06):269.
12. McCurdy RJ, Schnatz PF, Weinbaum PJ, Zhu J. Contraceptive use in adolescents in Sub-Saharan Africa: evidence from Demographic and Health Surveys. *Conn Med.* 2014;78(5).
13. Woog V, Susheela S, Alyssa B, Jesse P. Adolescent Womens Need for and Use of Sexual and Reproductive Health Services in Developing Countries. Guttmacher Institute New York; 2015.
14. Ameyaw EK. Prevalence and correlates of unintended pregnancy in Ghana: Analysis of 2014 Ghana Demographic and Health Survey. *Matern Heal Neonatol Perinatol.* 2018;4(1):1–6.
15. Tull K. Consequences for adolescents when they become pregnant, and become mothers. 2020;

16. Gyan C. The effects of teenage pregnancy on the educational attainment of girls at Chorkor, a suburb of Accra. *J Educ Soc Res.* 2013;3(3):53.
17. Sedgh G, Singh S, Hussain R. Intended and unintended pregnancies worldwide in 2012 and recent trends. *Stud Fam Plann.* 2014;45(3):301–14.
18. Owoo NS, Lambon-Quayefio MP, Onuoha N. Abortion experience and self-efficacy: exploring socioeconomic profiles of GHANAIAN women. *Reprod Health.* 2019;16(1):1–13.
19. Ghana Statistical Service (GSS), Ghana Health Service (GHS) I. Ghana maternal health survey 2017. Accra: 2018;
20. Government of Ghana. Family planning 2020 commitment. family planning 2020, [Internet]. Accra, Ghana; 2017. Available:https://fp2030.org/sites/default/files/Ghana_FP2020_Commitment_2017.pdf
21. Beson P, Appiah R, Adomah-Afari A. Modern contraceptive use among reproductive-aged women in Ghana: prevalence, predictors, and policy implications. *BMC Womens Health.* 2018;18(1):1–8.
22. Wilson HW, Ameme DK, Ilesanmi OS. Contraceptive methods accessed in Volta region, Ghana, 2009–2014. *Int Sch Res Not.* 2017;2017.
23. Enuameh Y, Boamah E, Nettey OE, Tawiah C, Manu A, Sulemana A, et al. Improving family planning service delivery to adolescents in Ghana: evidence from rural communities in central Ghana. Measure Evaluation PRH Working Paper Series. WP-12-128. USAID/Measure ...; 2012.
24. Boamah EA, Asante KP, Mahama E, Manu G, Ayipah EK, Adeniji E, et al. Use of contraceptives among adolescents in Kintampo, Ghana: a cross-sectional study. *Open Access J Contracept.* 2014;5:7–15.
25. Hall KS, Manu A, Morhe E, Dalton VK, Challa S, Loll D, et al. Bad girl and unmet family planning need among Sub-Saharan African adolescents: the role of sexual and reproductive health stigma. *Qual Res Med Healthc.* 2018;2(1):55.
26. Gbagbo FY. Contraceptive Use among Basic School Pupils in Ghana: A Case Study of a Municipality. *Int J Pediatr.* 2020;2020.
27. Agyemang J, Newton S, Nkrumah I, Tsoka-Gwegweni JM, Cumber SN. Contraceptive use and associated factors among sexually active female adolescents in Atwima Kwanwoma District, Ashanti region-Ghana. *Pan Afr Med J.* 2019;32.
28. Appiah F, Seidu A-A, Ahinkorah BO, Baatiema L, Ameyaw EK. Trends and determinants of contraceptive use among female adolescents in Ghana: Analysis of 2003–2014 Demographic and Health Surveys. *SSM-population Heal.* 2020;10:100554.
29. Nyarko SH. Prevalence and correlates of contraceptive use among female adolescents in Ghana. *BMC Womens Health.* 2015;15(1):1–6.
30. Marrone G, Abdul-Rahman L, De Coninck Z, Johansson A. Predictors of contraceptive use among female adolescents in Ghana. *Afr J Reprod Health.* 2014;18(1):102–9.
31. Snedecor GW, Cochran WG. Statistical methods, 8thEdn. Ames Iowa State Univ Press Iowa. 1989;54:71–82.
32. Aviisah PA, Dery S, Atsu BK, Yawson A, Alotaibi RM, Rezk HR, et al. Modern contraceptive use among women of reproductive age in Ghana: Analysis of the 2003-2014 Ghana Demographic and Health Surveys. *BMC Womens Health.* 2018;18(1):1–10.
33. Vilma Ž. Implementing Ethical Principles in Social Research: Challenges, Possibilities and Limitations. *Vocat Train Res Realities.* 2018;29(1):19–43.
34. Kong H WS. Ethical principles for scientific Requirements and Research Protocols. *Wma.* 2013;(October 1975):29–32.
35. Kofuor E, Darteh M, Teye D. Knowledge and Usage of Emergency Contraceptives Among University Students in Ghana. *J Community Health.* 2015;
36. Abdul-wahab I, Nungbaso AM, Nukpezah RN, Dzantor EK. Adolescents sexual and reproductive health: A survey of knowledge, attitudes and practices in the tamale metropolis, Ghana. 2021;6(1):31–47.
37. Grindlay K, Dako-Gyeke P, Ngo TD, Eva G, Gobah L, Reiger ST, et al. Contraceptive use and unintended pregnancy among young women and men in Accra, Ghana. *PLoS One.* 2019;13(8):1–13.
38. Mutaru A-M, Asumah M, Ibrahim M, Sumaila I, Hallidu M, Mbemah J, et al. Knowledge on Sexually Transmitted Infections (STIs) and sexual practices

- among Nursing Trainees in Yendi Municipality, Northern Region of Ghana. Eur J Heal Sci. 2021;6(4):33–47.
39. Patricia FM, Nelsi A, Dzantor EK. Assessing the Knowledge , Use and Perception of Contraceptives among Senior High School Students in the Kumbungu District of Northern Ghana. 2021;4(4):1–12.
40. Asiedu A, Asare BYA, Dwumfour-Asare B, Baafi D, Adam AR, Aryee SE, et al. Determinants of modern contraceptive use: A cross-sectional study among market women in the Ashiaman Municipality of Ghana. Int J Africa Nurs Sci. 2020;12(December 2019):100184.
41. Lasong J, Zhang Y, Gebremedhin SA, Opoku S, Abaidoo CS, Mkandawire T, et al. Determinants of modern contraceptive use among married women of reproductive age: A cross-sectional study in rural Zambia. BMJ Open. 2020;10(3):1–10.
42. Ajmal F, Agha A, Zareen N, Karim MS. Knowledge, attitudes and practices (KAP) regarding sexuality, sexual behaviors and contraceptives among college/university students in Karachi, Pakistan. J Coll Physicians Surg Pakistan. 2011;21(3): 164.
43. Yaya S, Uthman OA, Ekholuenetale M, Bishwajit G. Women empowerment as an enabling factor of contraceptive use in sub-Saharan Africa: A multilevel analysis of cross-sectional surveys of 32 countries. Reprod Health. 2018;15(1):1–12.
44. Do M, Kurimoto N. Women's empowerment and choice of contraceptive methods in selected African countries. Int Perspect Sex Reprod Health. 2012; 38(1):23–33.

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