0Original Research Article

Factors influencing the utilization of contraceptives among Adolescents in the Tamale Metropolis, Ghana

Abstract

Background: Adolescents' sexual and reproductive health is supreme to healthy living, and because the health of adolescents is important, it has compelled most countries across the globe to put up appropriate measures to meet their needs.

Aims: The main aim of the study was to assess the factors influencing the utilization of contraceptives among adolescents in the Tamale Metropolis, Ghana.

Methods: This study employed the community-based cross-sectional study. The study recruited 374 adolescents using the multi-stage sampling technique. Data were analyzed using SPSS version 25. A p-value < 0.05 was considered statistically significant.

Results: The majority (92.8%) of the adolescents have heard about contraceptives. Half of the respondents had sex before, with only 29.4% reported to used contraceptives in the past. Only 30.7% of the respondents felt the service providers were friendly to them, the majority (60.2%) of the study participants felt that the health practitioners did not respect their privacy during their visit. Over half (51.1%) of the respondents were unsatisfied with the location where contraceptive services are rendered. The majority (82.9%) of the study participants cannot discuss contraceptives issues freely with their parents. The study established a significant association between usage of contraceptives and age (P<0.001), level of education (P<0.001), and marital status (P<0.001).

Conclusion: The majority of respondents were sexually active, although contraception use was low in comparison to the teens' high awareness level. Factors such as poor attitudes of health practitioners, poor

accessibility and availability of contraceptives, and lack of parental concern have to be addressed by key stakeholders' engagement to holistically address adolescents' sexual and reproductive health concerns in the metropolis.

Keywords: Adolescents, Contraceptives, Pregnancy, Utilization

Introduction

Adolescents according to World Health Organisation (WHO), are people within the ages between 10-19 years [1]. Adolescence is a transition period from childhood to adult life during which pubertal development and sexual maturation take place [2]. Issues regarding Reproductive health and Family Planning (FP) services are of great concern to both developed and developing countries [3]. From the foregoing, issues of family planning have been views of global concern especially in countries with higher fertility rates [4,5]. The majority of women within the ages of 15 to 49 (1.1 out 1.9 billion) have some need for family planning; of the 1.1 billion, eight hundred and forty-two (842) million are using family planning methods, but some two hundred and seventy (270) million have an unmet need for family planning [6,7]. Thus, the 270 million women between the ages of 15 to 49 who want to use a family planning method do not have access to the them. The use of contraception advances the human right of people to determine the number and spacing of their children [8,9].

In most developing countries, the focus of Family Planning services had always targeted females in the urban due to the low human resources at the health center [10]. In sub-Saharan Africa (SSA), up to 25% of adolescent girls drop out of school due to unintended pregnancies. This explains the reason for high poverty rates in most developing countries [11]. The patronage of family planning methods is proved to avert unsolicited, unintended pregnancies, decrease the rate of abortions and incidence of Sexually Transmitted Infections (STIs), as well as avoid maternal and child death, which is central to meeting Sustainable Development Goal 3 [12,13].

The use of modern contraceptives has seen a significant increase in most part of the globe, especially in Asia and Latin America [4]. In sharp contrast, the usage of family planning in sub-Saharan Africa continues to be low [14–17]. Hagan & Buxton [18] have shown that adolescent reproductive health and teenage pregnancy require urgent public health attention as it is related to maternal and infant mortality together with other adverse fetal birth outcomes. However, we must be specific in providing adolescent

reproductive healthcare and education, since couples and unmarried adolescents tend to hold different views on pregnancy, childbearing and sexually transmitted infections [13,19]. Pregnancies among single adolescent mothers are often accidental, unplanned and unintended and end in unsafe abortion with serious health implications [20,21]. Over 90% of maternal mortality and morbidity are associated with unsafe abortion [14,22,23]. This could be avoided if contraceptive services were made readily available in most developing countries

Ghana is met with higher rates of teenage pregnancies, unsafe abortions, low contraceptive use, early parenthood, and a low level of formal education among the youth [24]. A study conducted in Northern Ghana by Yidana and colleagues, [25] revealed that a higher total fertility rate of about 6.8 children per woman, and the influence of teenage pregnancy on these rates cannot be disregarded. Hence, if adolescents continue to have sexual intimacy without the use of contraceptives, this will eventually result in higher pregnancies. Such pregnancies may end up with unsafe abortions or teenage childbearing which come with their attendant problems. Gumanga and colleagues [26] have showed that abortion complications were the major cause of death among young women. In the Tamale Teaching Hospital, unsafe abortion is the fourth leading cause of maternal mortality with most of the deaths occurring between the ages of 15-34 years[26]. Studies conducted in the northern part of Ghana often recorded very low utilization of contraceptive methods [19,25,27–29]. Though, low contraceptives usage is often reported, efforts are not made to understand the reasons feeding to the low utilization of contraceptives. Also, most of these studies often recruit only females. The current study will focus on both males and females. As such the current study aims at assessing the factors influencing the utilization of contraceptives among adolescents in the Tamale Metropolis in the Northern Region of Ghana.

Methodology

Study Setting

The Study was conducted in the Tamale Metropolis. The Tamale Metropolis was established by legislative instrument (LI 2068) which elevated the then Municipal Assembly into a Metropolis in 2004. It has Tamale as the Metropolitan capital city and at the same time the regional capital of the Northern Region of Ghana. Geographically, the Metropolis lies between latitude 9º16 and 9º 34 North and longitudes 0º 36 and 0º 57 west.

Study Design

A community-based cross-sectional study was used with the quantitative approach for this study. The cross-sectional design was used because it permits the investigators to collect information at a single spot at a time [30].

Study Population

The study population involved adolescents (10-19 years) residing within the Tamale Metropolis.

Inclusion and exclusion criteria

The study involved adolescents between the age of 10 and 19 years residing in the Tamale metropolis. Adolescents who refused to consent voluntarily and those who were within the Metropolis but not of sound mind were excluded from participating in the study.

Sample size

The sample size was computed using the Snedecor & Cochran [31] formula for a point estimate sample;

$N=\frac{Z^2 P(1-p)}{m^2}$; N= sample size, z = z- score of a 95% confidence level (5% significance level) of the study equivalent to 1.96, p = no similar study exists on the same topic in the region. Utilization of modern contraceptive methods among adolescents in Yendi Municipality is 36.3% [19]. Hence p = 36.3% (0.363) in this study. Thus, the calculated sample size was 356. Using 5% as a non-response rate, the sample size was rounded up to 374 adolescent males and females.

Sampling Procedure

The study used a multi-stage sampling technique. At the first stage, 10 communities were selected from the 31 communities in Tamale Metropolis using randomization with the aid of Microsoft excel. Random numbers will be assigned to each community and then the first 10 communities on the excel sheet were selected. At the second stage, for each of the 10 communities selected at random, adolescents (i.e., both boys and girls) were recruited using convenience sampling technique.

Data Analysis

Data were coded and analyzed using statistical package for social sciences (SPSS) software version 25. Descriptive and inferential statistic and results were displayed using tables and figures. Chi-square

analysis was used to compare categorical variables and a p-value < 0.05 was considered statistically significant.

Results

Socio-Demographic Characteristics

The study recruited 374 adolescents. The majority of respondents (79.4%) were females, 71.9% of the respondents were within the ages of 16 to 19 years. The majority of the respondents (87.7%) were singles, slightly over half (50.5%) were at the Senior High School (SHS). On the level of education of parents, most of the mothers (28.6%) had SHS education while most (42.2%) of the father (42.2%) had tertiary education. The majority (48.4%) of the respondents' mothers were unemployed compared to 23.0% of fathers who were unemployed at the time of the study. More fathers (35.8%) were self-employed compared to the 35.6% of the mothers being self-employed (Table 1).

Table 1: Socio-demographic characteristics (N=374)

Variables	Categories	Frequency (%)
Age	10 to 15 years	105(28.1)
	16 to 19 years	269(71.9)
Respondent's level of education		
	No education	5 (1.3)
	Primary	56 (15)
	JHS	93 (24.9)
	SHS	189 (50.5)
	Tertiary	31 (8.3)
Gender		
	Females	297 (79.4)
	Males	77 (20.6)
Marital Status		
	Single	328 (87.7)
	Cohabitating	13 (3.5)
	Married	33 (8.8)
Religion		
	Christian	135 (36.1)
	Muslim	230 (61.5)
	Traditionalist	9 (2.4)
Mother's level of education		
	No education	66 (17.6)
	Primary	69 (18.4)
	JHS	64 (17.1)

	SHS	107 (28.6)
	Tertiary	68 (18.2)
Father's level of education		
	No education	44 (11.8)
	Primary	25 (6.7)
	JHS	62 (16.6)
	SHS	85 (22.7)
	Tertiary	158 (42.2)
Mother's Job		
	Private sector employee	8 (2.1)
	Public sector employee	52 (13.9)
	Self-employed	133 (35.6)
	Unemployed	181 (48.4)
Father's Job		
	Private sector employee	41 (11)
	Public sector employee	113 (30.2)
	Self-employed	134 (35.8)
	Unemployed	86 (23)

JHS-Junior High School, SHS-Senior High School

Knowledge and practice of contraceptives among respondents

The majority (92.8%) of the adolescents have heard about contraceptives. The source of information includes; the health practitioners (31.9%), media (TV, Radio, Internet) (27.7%), friends (19.3%), school/teacher (17.6%) and relatives (3.5%). More than half of the respondents (52.1%) believed that contraceptives could be obtained from the hospital. More than half (52.1%) of the respondents cannot get contraceptives in their area. Exactly half (50%) of the respondents have had **sexual intimacy** before, with only 29.4% used some form of contraceptives in the past. Only (20.3%) of respondents were currently using some form of contraceptives. However, most respondents (35.3%) preferred male condoms, 26.1% preferred injectable, and 0.3% preferred female condoms (Table 2).

Table 2: Knowledge and practice of contraceptives among respondents (N=374)

Variables	Categories	Frequency (N)	Percentage (%)
Have you heard about contraceptives			
	Yes	347	92.8
	No	27	7.2
Sources of Information on contraceptives (347)			
	School/Teacher	61	17.6
	Relatives	12	3.5
	TV/Radio/Internet	96	27.7
	Health practitioners	111	31.9
	Friends	67	19.3
Where can contraceptive services be obtained			
	Chemical Seller	56	15.0

	Hospital	195	52.1
	Reproductive Child Health	95	25.4
	Supermarket	1	0.3
	Don't know	27	7.2
Can you get contraceptives in your area			
	Yes	179	47.9
	No	195	52.1
Ever had sex			
	Yes	187	50.0
	No	187	50.0
Use any form of contraceptives(N=187)			
	Yes	110	58.8
	No	77	41.2
Currently using any form of contraceptive (N=187)			
	Yes	76	40.6
	No	111	59.4
Preferred contraceptive methods			
	Implants	31	8.3
	Injectable	98	26.1
	Pill	27	7.2
	Female condom	1	0.3
	Male Condom	132	35.3
	Withdrawal	1	0.3
	None	84	22.5

TV-Television.

The majority of the study participants (70.1%) knew Male condoms, 42.0% knew the injectable, 28.9% knew Lactation Amenorrhea, 38.5% knew the female condoms, 33.7% knew implants and pills,19.3%, 13.6%, 22.2%, 17.4% and 25.4% knew about male sterilization, female sterilization, withdrawal methods, calendar methods and diaphragm as a contraceptive method respectively (Figure 1).

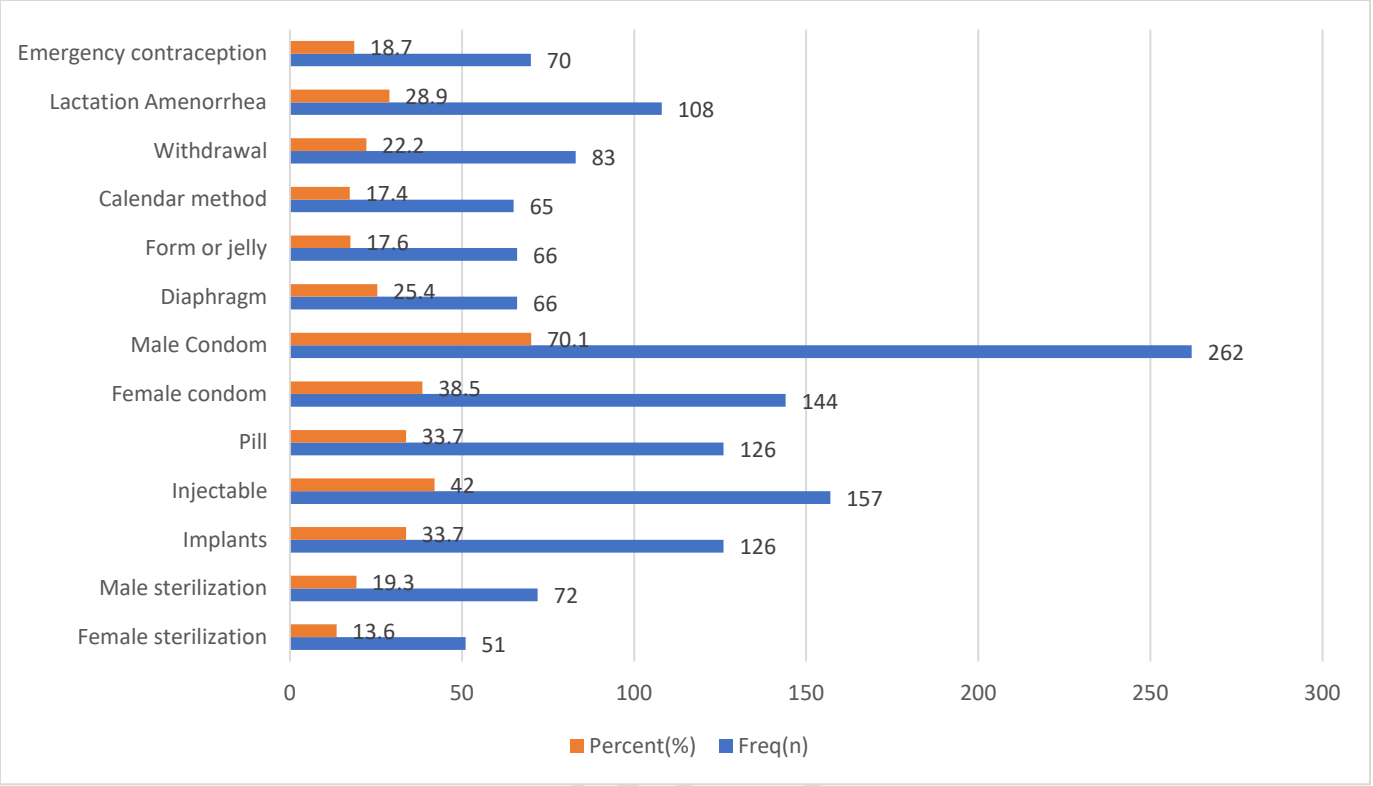

Figure 1: Awareness of contraceptives methods

Regarding the side effects associated with contraceptive usage, the following were identified; Weight gain 116 (31.0%), Excessive bleeding 143 (38.2%), painful periods 81 (21.7%), nausea/vomiting 117 (31.3%), dizziness 112 (29.9%), irregular menstrual period 62 (16.2%), palpitations 51(13.6%) and headache 110(29.4%) (figure 2).

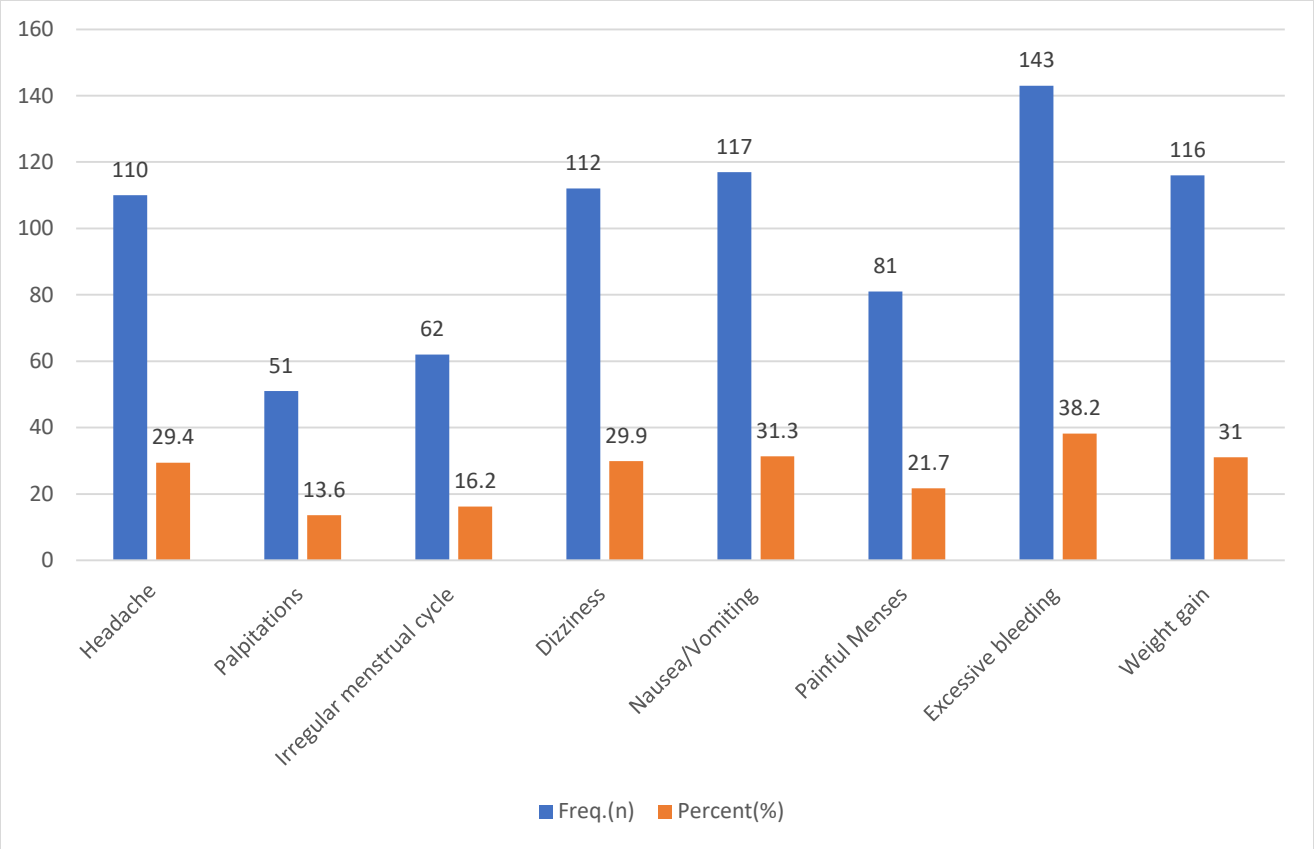

Figure 2: Side effects of contraceptive usage

Health System Factors affecting adolescent contraceptive usage

The majority (63.4%) of the respondents have patronized or knew someone who had patronized contraceptives, 51.1% believe they waited for a reasonable time before being attended to by the health practitioners. Only 30.7% of the study participants felt the service providers were friendly to them, the majority (60.2%) of the study participants felt that the health practitioners did not respect their privacy during their visit. Over half (51.1%) of the respondents were unsatisfied with the location where contraceptive services are provided. A total of 16 (4.3%) have been denied access to contraceptive services by a health practitioner (Table 3).

Table 3: Health system factors affecting adolescent contraceptive usage(N=374)

Variables	Categories	Frequency	Percentage
Have you or someone you know patronized contraceptives in a health facility			
	Yes	238	63.4

No	136	36.4
Did you or your friend wait responsible time before being seen by health practitioners (N=238)		
Yes	191	80.3
No	47	19.7
Was the service provider friendly to you or your friend (N=238)		
Yes	115	48.3
No	123	51.7%
Did the health practitioners respect your privacy during the visit (N=238)		
Yes	149	62.6
No	89	37.4
Describe the location where contraceptives services are rendered in the health facility (N=238)		
Satisfaction	29	12.2
Unsatisfactory	191	80.3
Very satisfactory	18	7.5
Have you ever been denied access to contraceptives services by a health practitioner(N=238)		
Yes	16	6.7
No	222	93.3

Socio-Economic and Religious Factors affecting contraceptives usage.

The majority (82.9%) of the respondents cannot discuss contraceptive issues freely with their parents. On the challenges in accessing contraceptives, the following were identified; poor attitude of the staff (60.2%), none availability of some contraceptives (50.0%), distance to health facilities (44.9%), Stigma from society and peers (48.4%) and cost of contraceptives (42.5%). A total of 114(30.5%) of the respondents believe their religion support the use of contraceptives. The majority (63.6%) of the respondents will consider their religious beliefs in deciding the use of contraceptives (Table 4).

Table 4; Socio economic and religious factors affecting contraceptive usage(N=374)

Variables	Categories	Frequency	Percentage (%)
Can you discuss contraceptive issues freely with your parent			

	Yes	64	17.1
	No	310	82.9
Challenges in accessing contraceptives			
	Poor attitude of staff	225	60.2
	None availability of some contraceptives	187	50.0
	Distance to health facilities	168	44.9
	Stigma from society and peers	181	48.4
	Cost of contraceptives	159	42.5
Religious belief supports the use of contraceptives			
	Yes	114	30.5
	No	123	32.9
	I don't know	137	36.6
Will you consider your religious belief in deciding to use contraceptives			
	Yes	238	63.6
	No	136	36.4

Association between the Socio-demographics and Use of Contraceptives

The study established a significant association between usage of contraceptives and age (X^2 =33.4; P<0.001), level of education (X^2 =28.5, P<0.001), and marital status (X^2 =25.6: P<0.001) (Table 5).

Table 5: Association between the socio-demographics and use of contraceptives

		Did you use any form of contraceptive		
Variables	Categories	Yes	No	Statistical Test
Age	10 to 15 years	8(7.6%)	97(92.4%)	X^2 =33.4
	16 to 19 years	102(37.9%)	167(62.1%)	*P<0.001*

Respondent's level of education				
	No education	3(60.0%)	2(40.0%)	X^2 =28.5
	Primary	6(10.7%)	50(89.3%)	*P<0.001*
	JHS	17(18.3%)	76(81.7%)	
	SHS	68(36.0%)	121(64.0%)	
	Tertiary	16(51.6%)	15(48.4%)	
Gender				
	Males	23(29.9%)	54(70.1%)	X^2 =0.01
	Females	87(29.3%)	210(70.7%)	P=0.92
Marital Status				
	Single	82(25.0%)	246(75.0%)	X^2=25.6
	Co habitating	19(57.6%)	14(42.4%)	*P<0.001*
	Married	9(69.2%)	4(30.8%)	
Religion				
	Christian	44(32.6%)	91(67.4%)	X^2=2.3
	Muslim	62(27.0%)	168(73.0%)	P=0.32
	Traditionalist	4(44.4%)	5(55.6%)	
Respondent’s mother's level of education				
	No education	15(22.7%)	51(77.3%)	X^2 =5.0
	Primary	27(39.1%)	42(60.9%)	P=0.29
	JHS	20(31.3%)	44(68.8%)	
	SHS	29(27.1%)	78(72.9%)	
	Tertiary	19(27.9%)	49(72.1%)	
Respondent’s father's level of education				
	No education	14(31.8%)	30(68.2%)	X^2 =1.9
	Primary	7(28.0%)	18(72.0%)	P=0.75
	JHS	14(22.6%)	48(77.4%)	
	SHS	25(29.4%)	60(70.6%)	
	Tertiary	50(31.6%)	108(68.4%)	
Respondents’ mother's Job				
	Private sector employee	2(25.0%)	6(75.0%)	X^2 =6.80
	Public sector employee	14(26.9%)	38(73.1%)	P=0.08
	Self employed	50(37.6%)	83(62.4%)	
	Unemployed	44(24.3%)	137(75.7%)	
Respondent’s father's Job				
	Private sector employee	6(14.6%)	35(85.4%)	X^2 =5.9
	Public sector employee	40(35.4%)	73(64.6%)	*P=0.07*
	Self employed	47(35.1%)	87(64.9%)	
	Unemployed	17(19.8%)	69(80.2%)	

Discussion

The study examined factors influencing the utilization of contraceptives among adolescents in the Tamale Metropolis in the Northern Region of Ghana. All the participants in this study were essentially adolescents or teenagers. Adolescence is frequently associated with some dangers as a result of the risky behaviors that teens engage in. Teenage pregnancy is one of these dangers, which can be avoided by using contraceptives. In 2014, adolescents were responsible for 30% of all births reported in the country, and 14% of adolescents aged 15 to 19 had begun childbearing [32,33]. This requires research into adolescent contraception use and other dynamics.

Having knowledge of a contraceptive method is an important first step toward accepting its use [34]. As a result, knowledge of contraceptive methods is important for their proper application. In this current study, almost all of the adolescents had heard about contraceptives. Health practitioners and media (TV and Radio) were the main sources of information on contraceptives for these adolescents. This is consistent with a study in Tanzania where adolescents in secondary school favored radio as their source of information on contraceptives [35]. Most of the participants knew different methods of contraceptives including male condoms, injectables, lactational amenorrhea, female condoms, implants and pills. This finding is similar other studies in Ghana where adolescents demonstrated appreciable knowledge on the types of modern contraceptives [36,37]. Similar findings were reported in studies conducted in Uganda [38] and Nepal [39]. This similarity is because, many other countries have recognized the need to bring information of contraceptives to adolescents.

Half of the respondents in this present study have had sex before. Evidence from the Ghana Demographic Health Survey [40] suggests that there is a steady shift from abstinence to the practice of sex. According to the GDHS [40]data, the proportion of adolescent girls 15-19 years old who have had their first sexual activity has increased by 61 percent. When the dramatic physical changes connected with puberty begin to affect, most adolescents begin to see themselves as adults and participate in risky behaviors such as sex. As a result, it is critical to teach these children about the changes they see and the implications of those changes.

With the high rate of sexual activity noted in this study, it emerged that only 29.4% used some form of contraceptives in the past. This is similar to Tripp & Viner [41], who indicated that the majority of sexual intercourse occurs during early adolescence and is frequently connected with the non-use of contraception. Also, Kumar et al., [42] revealed that the majority of adolescents do not utilize contraceptives because they are unaware of how to use them or which method to use. This necessitates equipping youth with the necessary contraceptive knowledge, including the strategies for preventing both pregnancy and sexually transmitted diseases.

Male condoms were however the most preferred form of contraception of adolescents. Males' condoms are the most popular contraceptives; it is easily accessible and easy to use [16,19,43]. The is refreshing as this could also prevent sexually transmitted infections.

Most of the participants in this study noted that health practitioners were unfriendly and did not respect their privacy during their visit. These findings are in tandem with qualitative study findings in Vanuatu [44] where health care professionals were seen as a barrier to contraceptives usage among adolescents. Similarly, Kumi-Kyereme et al. [45] in their study found that resistance from parents, attitudes of adolescents and negative attitudes of health care providers were cited as the challenges confronting adolescents' **utilization** of contraceptive services. The importance of health professionals' attitudes in drawing people to family planning centers cannot be understated. To ensure that teenagers feel welcome at the health facility, health practitioners must exhibit positive attitudes towards adolescents.

Religion, society, and cultural customs are socio-cultural elements that interact and have an impact on whether or not a person uses contraceptives. In Africa, religious inclination has been identified as a major barrier to the use of family planning service s[46]. This assertion deviates from the religious stance of the dominant religions in the country [46].

Parental hindrance remains a barrier to contraceptive usage among adolescents. Most participants in this study stated they are unable to discuss contraceptive issues freely with their parents. This is related to a study in Tano district of Ghana, research confirmed that parental negligence is a primary cause of teenage pregnancy [47]. This is attributed to adolescents' own fear, shame and judgmental attitudes of service providers and disapproval from parents and community gatekeepers on service utilization [44]. The majority of children get their information from their parents and at school. However, parents have little or no time to talk to their adolescent daughters and sons about sex, abstinence, and contraception use [43]. Due to negative societal conventions, parents are often hesitant to address sexuality and reproductive health issues with their children [18,21].

The present study established a significant association between age and usage of contraceptives ($P<0.001$). This is similar to a study by Kayongo [48], which found that age was associated with modern contraceptive use. This is because, as adolescents grow, they tend to seek ways to prevent risky behaviors whilst keeping up to their sexual life.

The study current study revealed that respondents' level of education was statistically significant with usage of contraceptives ($X^2 =28.5$, $P<0.001$). This is also in consonance with the findings of Asiimwe et al., [49]) in Uganda where they found that the educational level of the respondents was significantly associated with the use of modern contraceptive among women. Adolescents with higher education might

have been exposed to a lot of information through learning and exposure colleagues with different backgrounds. This, therefore, tend to influence adolescents into accepting contraceptives.

The present study established a significant association between marital status and usage of contraceptives (X^2 =25.6: P<0.001). This finding corroborates with that of Ngome & Odimegwu [50], where characteristics such as marital status influenced the use of modern contraceptives by adolescents. Married couples usually would have had access to the health facilities through either antenatal care services or postnatal care services where they are often educated on the importance of spacing children through the use of contraceptives. Supportive married couples realizing their mistake in their first birth usually would resort to the modern contraceptive methods to adequately spaced their children. This will also enable them fend for the family.

On the limitation of the study, the current study was conducted in urban and peri-urban and the findings may not reflect that of adolescents in the rural areas. The study was limited to the Tamale Metropolis; therefore, the findings cannot be generalized to the region.

Conclusion

The majority of respondents were sexually active with high awareness of contraceptives. However, the use of contraceptives among adolescents is still low in the Tamale Metropolis with the health practitioners' attitude, poor accessibility and availability of contraceptives, culture and religion being a major setback to the realization of the higher utilization of contraceptives usage among adolescents. Further research could be done involving health professionals and other stakeholders concerned with adolescent Sexual and Reproductive Health (ASRH) to seek their views on how to promote access to contraceptives and other health- related services for adolescents.

Data Availability

The data used to support this study are available from the corresponding author upon request.

Ethical Approval and consent

Ethical approval was sought from the School of Nursing and Midwifery. Permission was also granted by the Tamale metropolitan health directorate. Approval was also sought from the chiefs of the various communities since they are the custodians of the land. After receiving complete information about the study, participants gave signed informed consent. However, for participants under 16 years, consent was obtained from parents or guardians. Finally, this study was conducted in accordance with the principles of the Declarations of Helsinki.

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