Review Article

Modern contraception utilisation and associated factors among adolescents in selected communities of Sunyani West Municipality, A community-based survey.

Abstract

Background: Adolescence marks the transition from childhood to adulthood with remarkable physiological and anatomical changes which have a significant influence on reproductive health. These changes have serious repercussions on their developmental life exposing them to risky sexual behaviour, hence increasing their susceptibility to sexually transmitted diseases and unplanned pregnancies subsequent to illegal abortion and related mortalities. The utilisation of modern contraceptives is paramount in averting majority of these complications. This study aimed at determing modern contraception utilisation and associated factors among adolescents in the Sunyani West Municipality of Ghana.

Methods: This was a community-based cross-sectional study that recruited 366 adolescents between the ages of 10-19 years. The communities within the municipality were clustered into five clusters where each cluster represent a set of communities. By lottery method a community was selected randomly, yielding five communities for the study. A purposive sampling was employed to select the household with an adolescent (s) and a simple random sampling was employed to recruit the eligible respondents with the aid of a structured questionnaire which was administered face to face with respondents. Data obtained from the study were analysed descriptively and inferentially with the application of SPSS 23, and findings were presented using tables and graphs. A probability value less than 0.05 was considered significant statistically.

Results: The study found 53.6% of modern contraception utilisation among adolescents with 57.8% of adequate knowledge and 51.2% of poor attitudes towards contraception usage. A significant association was also found between adolescents' level of income and contraceptive usage *(X^2 =7.3, p= 0.029).*

Conclusion and recommendations. Adolescents had an average utilisation of modern contraceptives due to their good knowledge however, their attitude towards contraception was poor. The increase in contraception utilisation in addition to their knowledge on contraception promotes adolescents' reproductive health, thereby reducing their chances of unplanned pregnancies and decreasing susceptibility to sexually transmitted diseases. Promoting and intensifying public education through awareness creation on local radio stations and social gatherings by health authorities, non-governmental bodies and religious authorities would empower adolescents to utilise modern contraception, hence averting associated repercussions of its non-use.

Keywords: Modern Contraception, Adolescents, Sunyani, Municipality, Ghana.

Introduction

Adolescents form a group of young people between the ages of 10-19 years (1). A stage marked with the development of increased physiological growth, thereby transiting to adulthood (1). It is also the period of increasing adolescents' sociocognitive growth that influences their social interactions by determining their

identity, maturation of value systems and internalization of behavioural patterns(2). During this phase of life, most adolescents are exposed to the influence of their peers in their decisions and actions(1,2), influencing a majority to experience their first sexual encounter which has a major impact on their lives (3). Every year, most female adolescents throughout the world become pregnant and almost half of these births are unplanned, which makes adolescents more susceptible to pregnancy-related complications such as stillbirth (4). This is due to the improper and inefficient use of modern contraceptives (1), According to (5) the misunderstanding that is linked with the usage of contraceptives among adolescents has led to an increase risk of hostile sexual behaviour as well as unprotected sex. A study by (6) established that the absence of contraceptive usage among female teenagers is responsible for almost all abortion-associated cases leading to morbidities and mortalities associated with pregnancy.

Many adolescents have difficulty accessing modern contraceptive services, despite the numerous benefits(7) For example, it is shown that most young people, especially in African regions, have insufficient knowledge about contraception (4). Being able to identify the factors that contribute to the challenges adolescents face during their sexual period would increase the use of modern contraceptives and thereby reduce their chances of unexpected pregnancies and infections (1). It is hypothesized that increased efforts to educate adolescents about reproductive health would encourage contraceptive use (8). Therefore, improving the accessibility and effective use of contraception is very important to achieve universal access to reproductive health services, especially among adolescents in developing countries (9). Similarly available knowledge had shown that around 3.2 million abortions and 5,600 maternal deaths could be prevented if adolescents use modern contraceptives(10). It is therefore envisaged that increasing the use of contraceptives, by identifying the factors associated with their use among adolescents should be a global aim to initiate interventions that would improve the use of modern contraceptives, leading to a reduction in unplanned pregnancies and sexually transmitted diseases (10)

Globally, sexually active adolescents are less likely to use modern contraceptives, which increases their risk of sexually transmitted infections (11). Many adolescents in low and middle-income countries do not utilise modern contraceptives due to lack of availability and adverse effects, making access to modern contraception difficult for many teenagers, particularly those living in remote areas (12,13). Due to a lack of information on the use of modern contraceptives among adolescents, most adolescent girls are exposed to unexpected pregnancy resulting in the low socioeconomic power of adolescent parents and the nations as a whole (14,15). In Ghana, around 27% of women use modern contraceptives due to their unavailability and around 45% of adolescents use modern contraceptives, compared to the 80-85% recommended by the World Health Organization(16). Additionally, approximately one in ten teenagers in urban areas and twice that number in rural areas have children due to a lack of access and information on modern contraception, increasing maternal and infant mortality(17). For instance, available statistics indicated that around seventy-five per cent of teenage girls before the age of twenty experience high levels of sexual engagement, exposing themselves to the risk of developing and transmitting sexually transmitted infections (16).

Despite the many advantages of using modern contraception, many adolescents have trouble accessing contraceptive options (7). Most studies on adolescent modern contraceptive usage in Ghana targeted only females and also employed health facility-based design (18–20). In the Sunyani West municipality, there is a paucity of information on modern contraception utilisation among adolescents, therefore to address this informational gap, this study aimed to determine determining modern contraception utilisation and associated factors among adolescents in selected communities of Sunyani West municipality of Ghana.

Methods and materials

Study design

A quantitative study that employed a cross-sectional study design (Community-based study). This was deemed suitable as the investigator intended to collect first-hand information from adolescents in the selected community data to make inferences about a population of interest at one point in time. The study recruited adolescents from five selected communities in the Municipality. The inclusion criteria consisted of adolescents who voluntarily agreed to participate in the study. Again, adolescents who resided in the selected communities and whose parents consented were considered for inclusion. Adolescents who voluntarily refused participation in the study were excluded. Moreover, adolescents who were mentally challenged were not considered for inclusion in the study.

Sample size and sampling technique

The municipality has a total of nineteen communities. By cluster sampling, the communities were divided into five clusters with each cluster representing a set of communities. Cluster A-D had four communities whilst cluster E had three communities. In selecting the required communities for the study, convenience sampling techniques were adopted to meet the estimated sample size whilst considering the cost of transport. In selecting the household within the selected communities, a purposive sampling technique was employed. With this technique, every adolescent in a household was selected purposively for the study. In recruiting adolescents from an eligible household, a simple random sampling technique by lottery method was used for a household with more than one eligible respondent and a purposive sampling technique for a respondent in a household. With this method of sampling, the investigator purposively draws from the adolescent population that was close at hand in a household. The sampling process continued until the sample size of 366 estimated for the study was obtained.

An instrument for data collection and technique

A self-administered structured questionnaire was developed to gather primary data from respondents. The questionnaire was developed taking into consideration the objectives posed for the study. In all, the questionnaire had four sections, with the first section soliciting information on the respondent's sociodemographic characteristics which comprised eight questions, the second section gathered information on the respondent's self-reported utilisation of contraception. The third section solicited information on respondents' knowledge of contraception and comprised nine questions whilst the fourth section assembled data on respondents' attitudes towards contraception and was made up of eleven questions. The investigator spent a maximum of three days in each of the five communities for data collection. Upon the visit of the investigator in the community, the respondent's assent and consent were sought from both the child and the parent/guardian, and the questionnaire was administered to the respondents in person. The investigator was assisted by two trained research assistants in administering the questionnaire. Data collection was one on one with respondents. Completed questions were explained to respondents. Respondents who were capable of answering the questions were allowed to answer by themselves. Those who were unable to read were administered to one on one with respondents by the investigator. During the questionnaire administration, all misconception relating to the study was answered and respondents took 10-15 minutes to answer a completed questionnaire. The sampling procedure continued until an appreciable sample size of 366 was obtained.

Data management and analysis

In analysing data collected for the study, the investigator employed the Statistical Package for the Social Sciences (SPSS) version 26. The categorical variables were assigned codes before entry into the SPSS. The categorical variables were analysed descriptively and findings were presented in proportions and percentages whilst the continuous variables were expressed as mean and standard deviation based on the

normality test outcome. The utilisation of modern contraception was analysed by presenting respondents' self-reported data of contraception use in frequencies and percentages and the findings were displayed graphically. The mean score for the knowledge and attitude of respondents was estimated and categorised. The mean score for knowledge of respondents on contraception was 30.5 which was used as a cut-off point. This was categorised into adequate knowledge when the score is greater than 30.5 and inadequate knowledge when the score is less than 30.5. Additionally, the mean score for the attitudes of respondents was 36.1. A respondent is said to possess a good attitude if the mean score was greater than 36.1 and a poor attitude if the mean score is less than 36.1. The association between respondents' sociodemographic characteristics and utilisation of contraception was analysed by employing the Pearson Chi-Square Test at a 95% confidence interval. A p-value less than 0.05 was considered statistically significant between contraception utilisation and associated factors.

Limitations of the study

There is the possibility of recall bias on the part of the respondents. Again, some sensitive information concerning respondents' sexual life and contraception was not shared, as such, there is the possibility that some information given to the investigator might not be genuine. The findings of the study were limited to adolescents and cannot be used to generalise all men and women their reproductive age in the municipality.

Ethical approval

Ethical approval to conduct the study was obtained from the Christian Health Association of Ghana Ethical Review Committee with approval number **(CHAG-IRB04062022).** Both informed written consent and assent form was sought from respondents and parents or guardian. Permission was sought from local health authorities and the municipal health directorate. Respondents were made to understand that participation in the study was voluntary.

Results

The study enlisted 366 respondents and there was a 100% response. The ages of respondents, 161(44.0%) fell between 17-19 years whilst 152(41.5%) fell between 14-16 years and 50(14.5%) between the ages 11-13 years. Most 224(61.2%) respondents were females whilst 142 (38.8) were males. Most 187(51.1%) respondents had secondary education whilst 158(43.2%) had basic education and 21(5.7%) had no formal education. The majority 287(78.4%) of respondents were unemployed whilst 79(21.0%) were employed. With regard to respondents' marital status, 331(90.4%) of respondents were single, 33(9.0%) were married and 2(0.5%) were divorced. Most 293(80.1%) of respondents were Christians whilst 69(18.9%) were Muslims and 3(0.8%) traditionalists. Majority 290(79.2%) of respondents were Akan's', 69(18.9%) were northern and 7(1.9%) were ewes. In addition, with whom respondents stay with, most 197(53.8%) of respondents lived with both parents, 79(21.6%) stayed with one parent (either father or mother), 48(13.1%) with other relatives and 33(9.0%) by self (Table1).

Table 1: Distribution of sociodemographic Characteristics of respondents

Variable	Category	Frequency (N=366)	Percentage (%)
Age (years)	11-13	53	14.5
	14-16	152	41.5
	17-19	161	44.0

Gender	Male	142	38.8
	Female	224	61.2
Level of Education	Non-formal education	21	5.7
	Basic education	158	43.2
	Secondary education	187	51.1
Employment Status	Employed	287	78.4
	Unemployed	79	21.6
Marital Status	Single	331	90.4
	Married	33	9.0
	Divorced	2	0.5
Religion	Christianity	293	80.1
	Islamic	69	18.9
	Traditional	3	0.8
	Others	1	0.3
Ethnicity	Akan	290	79.2
	Northerners	69	18.9
	Ewe	7	1.9
Level of income	None	287	78.4
	Lower-income earner	54	14.8
	Middle-income earner	25	6.8
Whom do you stay with?	Both parents	197	53.8
	One parent	79	21.6
	Other relatives	48	13.1
	Partner	9	2.5
	By self	33	9.0

Source: Field Data, 2023

Modern contraception utilisation

Modern contraception utilisation was determined by respondents' self-reported usage during the period of data collection. In this study, an adolescent is said to utilise contraception if he or she presently use any of the modern types of contraception during sexual intercourse to prevent pregnancy or sexually transmitted diseases. In this study, more than half of 196(53.6%) respondents had utilised modern contraception whilst 170(46.4%) had non-utilised contraception (Figure 1).

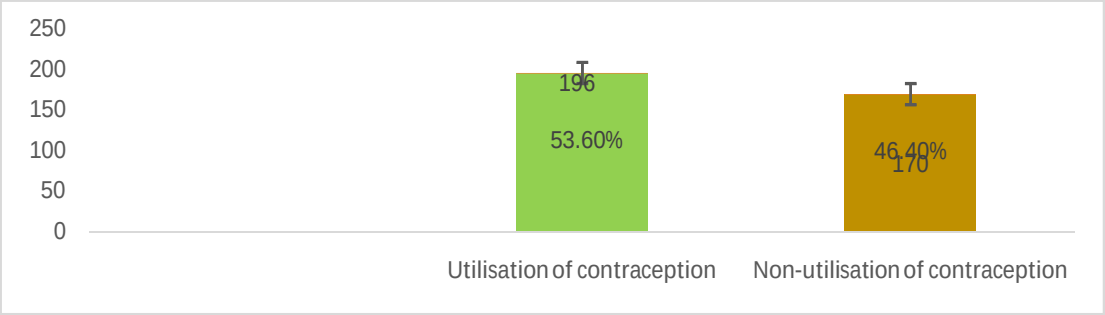

Figure1: Contraception utilisation

Respondent's knowledge of contraception

The study found that of the 366 respondents, 250(68.3%) strongly agreed and 86(23.5%) agreed of being aware of pill contraceptives which can be taken daily for days or emergency ones that can be taken within 72 hours. Most 262(71.6%) and 86(23.5%) respondents strongly agreed and agreed that injectable contraceptives can protect against pregnancy for one month or more respectively. A significant number of respondents 256(69.9%) and 93(25.4%) strongly agreed and agreed that condoms can be used to prevent unwanted pregnancies and sexually transmitted diseases accordingly. Additionally, 311(85.0%) of respondents strongly disagreed that IUDs can prevent unwanted pregnancies for up to ten years. Again, 309(84.4%) of respondents strongly disagreed that contraceptives (Norplant) can be implanted in arms to prevent pregnancies. Most 308(84.2%) respondents strongly disagreed that both males and females can undergo sterilization to prevent pregnancy whilst 8(2.2%) agreed that both males and females can undergo sterilization to prevent pregnancy. Most 163(44.5%) of respondents strongly agreed and 101(27.6%) were not sure that if you don't want to use any of the modern methods of contraceptives, you can use the withdrawal method or the calendar approach respectively. The majority 235(64.2%) of respondents and 91(24.9%) strongly agreed and agreed that contraceptives can be obtained from any health facility or licensed chemical shop (drug store or pharmacy). Additionally, 262(71.6%) of respondents strongly agreed that friends and media are the main sources of information on contraception whilst 7(1.9%) of respondents were not sure and 8(2.2%) respondents disagreed that friends and the media are not the main sources of information on contraception (Table 2).

Table 2: Distribution of knowledge of respondents on contraception

Knowledge item	Strongly disagree n(%)	Disagree n(%)	Not Sure n(%)	Agree n(%)	Strongly Agree n(%)
I am aware of pills which can be taken daily or emergency ones that can be taken within 72 hours of unprotected sex	2(0.5)	2(1.9)	21(5.7)	86(23.5)	250(68.3)
I am aware of injectable contraceptives that can protect you against pregnancy for a month or three months	3(0.8)	8(2.2)	7(1.9)	86(23.5)	262(71.6)
I am aware that condoms can be used to prevent unwanted pregnancy and sexually transmitted diseases	2(6.5)	8(2.2)	7(1.9)	93(25.4)	256(69.9)

I know of IUDs that can prevent you from unwanted pregnancy for up to ten years with a minimum protection of five years	311(85.0)	39(10)	7(1.9)	7(1.9)	2(0.5)
I know of a contraceptive that is implanted on your arm to prevent pregnancy (Norplant contraceptive)	309(84.4)	39(10.7)	7(1.9)	8(2.2)	3(0.8)
Both males and females can undergo sterilization	308(84.2)	38(10.4)	9(2.5)	8(2.2)	3(0.8)
I am aware that if you don't want to use any of the modern contraceptives you can use the withdrawer method or the calendar approach	10(2.7)	25(6.8)	101(27.6)	67(18.3)	163(44.5)
Contraceptive can be obtained from any Health facility or licensed chemical shop(drug store/pharmacy)	5(1.4)	11(3.0)	24(6.6)	91(24.9)	235(64.2)
Friends and the media are the major sources of my information on contraceptive	3(0.8)	8(2.2)	7(1.9)	86(23.5)	262(71.6)

Source: ***Field*** ***Data,*** ***2022,***

Knowledge of respondents on contraception

The knowledge of respondents on contraception was scored by estimating the mean score of respondents' responses to knowledge on contraception. The mean score of respondents' knowledge on contraception was (mean=30.5). A respondent is said to possess adequate knowledge if the score is >30.50 and inadequate if the score is <30.50. In this study, 216(57.8%) respondents had adequate knowledge of contraception whilst 150(42.2%) had inadequate knowledge of contraception (Figure 2).

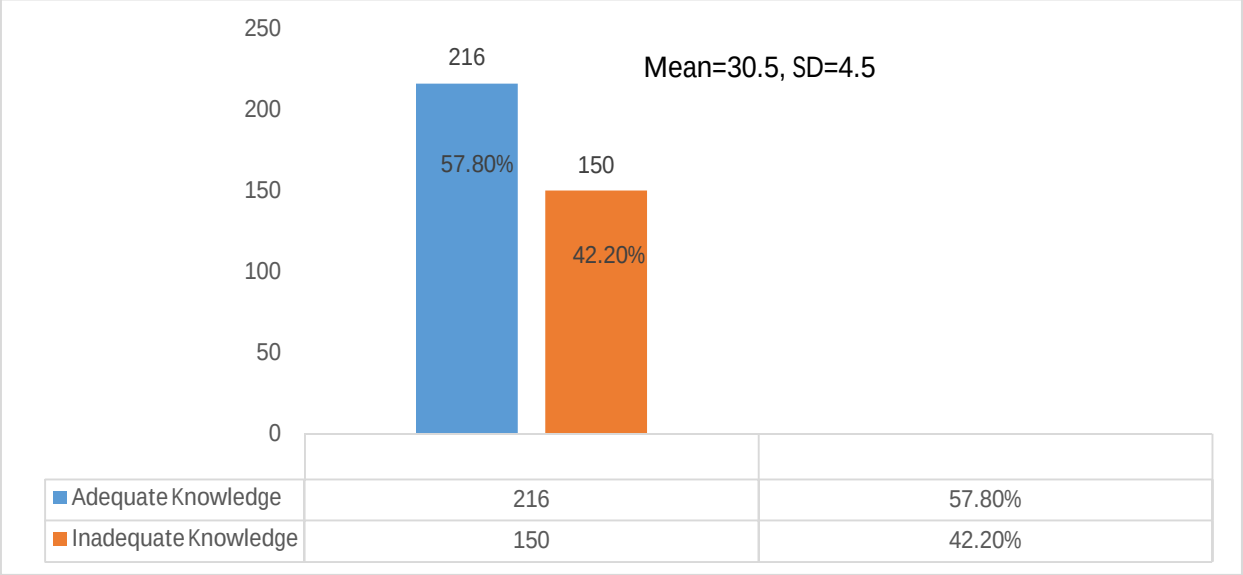

Figure 2: Knowledge of respondents on Contraception utilisation

Attitude of respondents

Concerning respondents' attitudes towards contraception, it was established that 101(27.6%) of respondents were not sure, 67(18.3%) agreed and 163(44.5%) strongly agreed that parents are the last resort to fall on for advice on contraceptives use. Most 270(73.8%) respondents strongly agreed that contraceptives are for adults and therefore, there is no need of using at a tender age. With the usage of contraceptives, 114(31.1% and 45(12.3%) strongly disagreed and disagreed whilst 40(10.9%) respondents were not sure and 76(20.8%) agreed that prolonged use of contraceptives possess risks. Additionally, 114(31.1%) and 45(12.3%) strongly disagreed and disagreed respectively whilst 40(10.9%) were not sure, 76(20.8%) and 91(24.9%) agreed and strongly agreed respectively that contraceptive is only for married people. Concerning contraceptive methods, 254(69.4%) and 69(18.9%) strongly disagreed and disagreed respectively that, contraceptive methods encourage women to be promiscuous. However, 15(4.1%) and 17(4.6%) strongly agreed and agreed accordingly that contraceptive methods encourage women to be promiscuous. Again, 254(69.4%) of respondents strongly disagreed that using contraceptives can lead to infertility whilst 15(4.1%) and 17(4.6%) agreed and strongly agreed that contraceptive use can lead to infertility among women. Most 254(69.4%) strongly disagreed that getting pregnant at a tender age is acceptable by their family whilst 16(4.4%) and 15(4.3) agreed and strongly agreed that getting pregnant at a tender age is accepted by their family. The majority 270(73.8%) of respondents strongly agreed that they don't feel comfortable using contraceptives, particularly condoms. Additionally, 254(69.4%) and

69(18.9%) respondents strongly disagreed and disagreed that they feel shy to go and buy contraceptives whilst 15(4.1%) and 17(4.6%) strongly agreed and agreed that they feel shy to go and buy contraceptives. Concerning respondent's fear of side effects of the use of contraceptives, especially the pills and the implants, 101(27.6%) of respondents were not sure of the fear of side effects on contraceptive use whilst 67(18.3%) and 163(44.5%) agreed and strongly agreed of fear of side effects of using contraceptives (Table 3).

Table 3: Distribution of attitudes of Respondents towards contraception

Statement	Strongly disagree n(%)	Disagree n(%)	Not sure n(%)	Agree n(%)	Strongly Agree n(%)
My parents are the last resort I will fall on for advice on contraceptive use	10(2.7)	25(6.8)	101(27.6)	67(18.3)	163(44.5)
Contraceptives are for adults and I don't see the need to use them at this tender age	3(0.8)	7(1.9)	7(1.9)	79(21.6)	270(73.8)
Prolong use of contraceptives possess risks and I don't intend to use	114(31.1)	45(12.3)	40(10.9)	76(20.8)	91(24.9)
My parents are the last resort I will fall on for advice on contraceptive use	3(0.8)	7(1.9)	7(1.9)	79(21.6)	270(73.8)
Contraceptive is only meant for married people	114(31.1)	45(12.3)	40(10.9)	76(20.8)	91(24.9)
Condoms encourage male infidelity	254(69.4)	69(18.9)	11(3.0)	15(4.1)	17(4.6)
Contraceptive methods encourage women to be promiscuous	254(69.4)	69(18.9)	11(3.0)	15(4.1)	17(4.6)
The use of contraceptives can lead to infertility among women	254(69.4)	69(18.9)	11(3.0)	15(4.1)	17(4.6)
Getting pregnant at a tender age is accepted by family	254(69.4)	68(19.2)	11(3.0)	16(4.4)	15(4.3)
I don't feel comfortable using contraceptives, especially condom	3(0.8)	7(1.9)	7(1.9)	79(21.6)	270(73.8)
I feel shy to go and buy contraceptives	254(69.4)	69(18.9)	11(3.0)	15(4.1)	17(4.6)
I fear the side effects of the use of contraceptives especially, the pills and the implants	10(2.7)	25(6.8)	101(27.6)	67(18.3)	163(44.5)

Source: Field Data, 2022,

Attitudes of respondents towards contraception

The total mean score of respondents' attitudes towards contraception was (Mean=36.1). A respondent with a score less than the mean score of attitude was classified as poor attitude whilst those with a score greater than the mean score were classed as good attitude. In this study, 176(48.1%) of respondents had good attitudes towards contraception whilst 190(51.9%) had poor attitudes towards contraception (Figure 3).

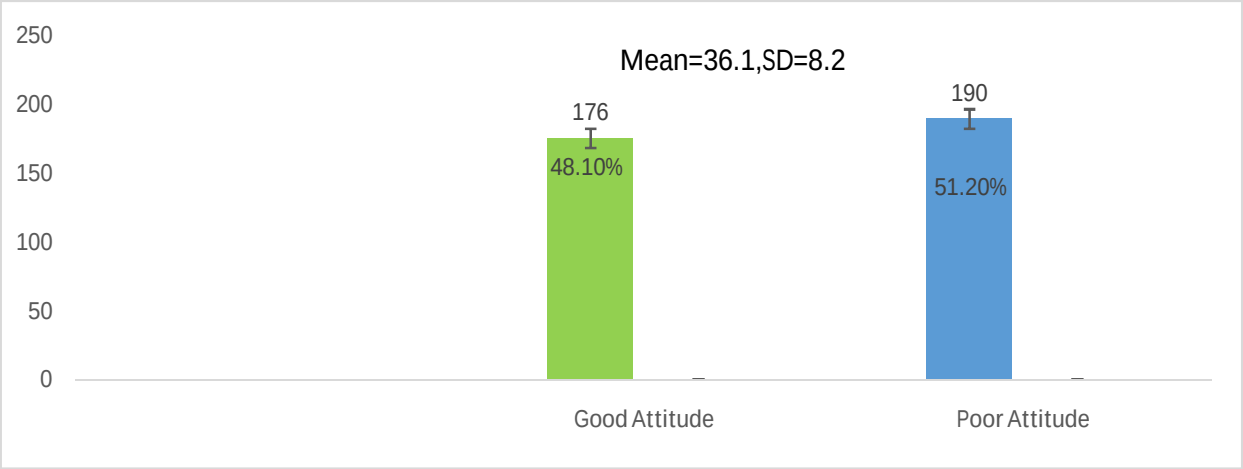

Figure 3: Attitude of respondents towards contraception utilisation

Association between Sociodemographic factors and contraceptive utilisation

At a 95% Confidence interval, the Pearson Chi-Square Test was employed to determine the association between respondents' sociodemographic characteristics and modern contraception. The study established that respondents' level of income was associated with the utilisation of modern contraception and such association was significant *(X^2 =7.1, p=0.029)*. However, no significant association was found between factors such as the age of respondents *(X^2 =6.45, p=0.09)* and level of education (X^2 =0.63, p=0.7) and modern contraception use (Table 4).

Table 4: Association between Sociodemographic Characteristics and Contraception

Variable	Prevalence of Contraceptive utilization		X^2 (p-value)
	Utilization of Contraception n (%)	Non-Utilization of Contraception n (%)	
Age (years)			6.45(0.09)
11-13	28(14.3)	24(14.1)	
14-16	73(37.2)	80(71.1)	
17-19	95(48.5)	66(38.8)	
Gender			0.18(0.67)
Male	78(39.8)	64(37.6)	
Female	118(60.2)	106(62.4)	
Level of Education			0.63(0.7)
Non-formal education	13(6.6)	8(4.7)	
Basic Education	84(42.9)	74(43.5)	
Secondary Education	99(50.5)	88(51.8)	

Marital Status			2.33(0.31)
Single	178(90.8)	153(90.0)	
Married	18(9.2)	15(8.8)	
Divorced	0(0.0)	2(1.2)	
Income Level			7.1(0.029)*
None	156(79.6)	132(77.1)	
Lower income level	22(11.2)	32(18.8)	
Middle-Income level	18(9.2)	7(4.1)	
Religion			3.87(0.28)
Christianity	155(79.1)	138(81.2)	
Islamic (Muslims)	38(19.4)	31(18.2)	
Traditional	3(1.5)	0(0.0)	
others	0(0.0)	1(0.6)	
Ethnicity			2.0(0.37)
Akan	155(79.1)	30(17.6)	
Northerners	39()19.9)	135(79.4)	
Ewe	2(1.0)	5(2.9)	
Whom do you stay with?			1.75(0.78)
Both parents	101(51.5)	96(56.5)	
One parent	45(23.0)	34(20.0)	
Other relatives	26(13.3)	22(12.9)	
Partner(s)	4(2.0)	5(2.9)	
By Self	20(10.2)	13(7.6)	

****: p-value<0.05, statistically significant, X^2: Chi-Square.***

Discussion

In assessing the factors, the study sought to determine the prevalence of modern contraceptive use among adolescents in the selected communities of the municipality. Again, the study assessed the knowledge and attitudes of respondents and finally determined the socio-demographic and economic factors associated with adolescents' modern contraception usage. Modern contraception utilisation among adolescents was 53.6%. A prevalence of 9.4% in Uganda (21), 18% (4), 11.9% (7) and 74.5% (1), findings did not associate well. Similarly, a prevalence of 8.7% (22) and 68.7%(23) of modern contraception findings does not support this present study. In Nigeria, (24) found a prevalence of 45.3% of adolescent modern contraception. In Ghana, a prevalence of 43.0% of modern contraception had been found (25) and findings were inconsistent. The differences in study designs in addition to differences in sample size, and sampling techniques could also be a possible factor for the dissimilarities' of findings. Moreover, the differences in culture and beliefs, unavailability and inaccessibility of contraception in terms of cost and affordability could also account for the difference in study outcomes. The study discovered that 57.8% of respondents had adequate knowledge of contraception whilst 48.1% of the adolescents were found to possess good attitudes toward contraception. A cross-sectional study by (26), indicated, most adolescents are aware of modern contraception and this is associated well with the outcome of this current study. The study further indicated that whilst respondents had adequate knowledge of modern contraception, they were, however, afraid of the side effects of modern contraception. As such their attitudes towards modern contraception were poor and this agrees well with the outcome of this present study outcome on respondents' attitudes. In Turkey, a descriptive cross-sectional study found that most adolescents do not utilise modern contraception during their first sexual encounter due to insufficient knowledge towards modern contraceptive use leading to a significant increase in unplanned pregnancies and findings did not relate well (4). Most adolescents use modern contraception as a result of education received from friends and immediate family members. This has increased their awareness and knowledge of contraception and as such they stand high in using contemporary contraception (27). A study by (1) Indicated that only a few adolescents had inadequate knowledge of modern contraception and this does not associate well with

the findings of this present study. The study, however, revealed that, though adolescents had low knowledge of modern contraception, their attitudes towards contraceptive use were good and this related well with the attitudes of respondents in this current study. A study by (24), in Nigeria, indicated most adolescents are informed about modern contraception and as such have good knowledge about it and this related well with the outcome of this present study. Again, a cross-sectional study by (5) revealed that the majority of female adolescents had sufficient knowledge of modern contraception and this also associated well with the present study outcome. Low knowledge and a poor attitude towards modern contraception had been discovered in a cross-sectional study conducted by (28) and this disagrees with the outcome of this current study. A study by (29) revealed that there is inadequate knowledge of modern contraception among adolescents and this did not support the finding of the present study. What could have accounted for the similarities in study findings relating to the knowledge and attitudes of adolescents towards contraception could be ascribed to their exposure to social media and contraception education from a friend and immediate family members. The differences in study findings could also be attributed to the study sample size and techniques employed in recruiting the eligible respondents. This current study demonstrated that adolescents' level of income had a significant association with their modern contraception utilisation. This means that adolescents' level of income through gainfully employed or supported financially had a significant association with utilising modern contraception. It is revealed by a cross-sectional study conducted in Ghana that, adolescents who work to earn an income had an association with their modern contraception utilisation. This means adolescents who engage themselves in working earn some income that enables them to access contraceptives, thereby utilising them and this is similar to the findings obtained for this present study (30). Similarly, a related cross-sectional study conducted to determine the prevalence and knowledge on contraceptive utilisation documented that, the wealth of an adolescent determines their level of income associated with the use of modern contraception and this also agrees well with the outcome of this study (18). Adolescents who work that is adolescents who earn some income from the work they engage themselves established significant association with modern contraception and this supported the outcome of this present study(31). Again, a study by (32) documented that, adolescents who are employed are more likely to use modern contraception than unemployed adolescents.

Conclusion and recommendations

The study concluded that more than half of adolescents in the municipality utilise modern contraception. Again, most of the adolescents had adequate knowledge of modern contraceptives which translated into respondents' poor attitudes towards contraception. Additionally, it was concluded that adolescents' level of income was significantly associated with modern contraception utilisation in the municipality. The increase in the utilisation of modern contraception for adolescents through adequate knowledge is very crucial in deciding how well an adolescent reduces their risk of sexually transmitted diseases and unexpected pregnancies with subsequent reduction of the surge of maternal morbidities and mortalities during pregnancy and childbirth. Decreasing the rate of transmissible diseases such as human immunodeficiency virus, syphilis and gonorrhoea among adolescents coupled with unwanted pregnancies reduces their likelihood of abortions and the burden of deadly diseases among sexually active adolescents. Moreover, the increase in the utilisation of modern contraception as a result of adequate knowledge and positive attitudes of respondents towards contraception enables most adolescents, families, and societies to plan effectively in promoting reproductive health services for adolescents, and diverting resources that would have been used in tackling the consequences of unused of modern contraception such as teenage pregnancy, school dropout among other poor social vices. Additionally, these resources would be diverted to other essential areas in the life of the adolescent, family or society and the nation to improve the economy that will promote adolescent educational opportunities, thereby deciding a better future for the adolescent and the nation as a whole. Inter-ministerial and sectorial collaboration should be initiated to develop policies that will promote and intensify public education on the need for modern contraception particularly among adolescents mostly in communities. Again, local radio stations in the municipality should institute programs targeted at adolescent use of modern contraceptives as this will educate them to increase their knowledge and develop their positive attitudes toward modern contraceptive use. The study

is also recommended for future qualitative enquiry to explore the challenges that deter adolescents from utilising modern contraceptives in the municipality.

Data and material availability

Data and materials for the study are available upon request from the corresponding authors

Approval and consent to participate

The study was approved by the management of the municipal health directorate and the local leaders of the selected communities before its commencement. Eligible respondents voluntarily agreed to participate without coercion.

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