

# Toward contraception education in basic schools: Teachers' knowledge, perceptions, and attitudes regarding contraceptive use by basic school pupils in a Ghanaian Municipality

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Fred Yao Gbagbo<sup>1</sup> , Keziah Love Mensah<sup>1</sup>  
and Josephine Akosua Gbagbo<sup>2</sup>

## Abstract

**Objectives:** We examined teachers' knowledge, perceptions, and attitudes regarding contraception by basic school pupils in a Ghanaian Municipality.

**Methods:** This was an explorative, analytical cross-sectional study using the mixed-method approach. Participants comprised 183 public and private basic school teachers and 20 school health coordinators in the study area. The statistical tests carried out were in two folds. Quantitative data were analyzed with a statistical package for social sciences version 20 to generate tables. A logistic regression model was used to examine associations between the predictor and the binary response variables. Adjusted odds ratio accounted for other predictor variables in the model. For the qualitative data, recorded interviews were transcribed and content analysis was done to identify themes, subthemes, and results presented as participants' direct quotations/paraphrased statements. Knowledge, perceptions, and attitudes were assessed using 3-Likert scale type questions developed by the author.

**Results:** Participants' sociodemographic characteristics were associated with perceptions and attitudes toward contraception in basic schools. At 95% confidence intervals, the *p*-values were not significant for any of the variables tested. However, the adjusted odds ratio (aOR) showed positive perceptions among participants aged 35–39 (aOR=7.24; *p*=0.35), women (aOR=4.22; *p*=0.25), higher educated (aOR=4.32; *p*=0.56), work experience between 16 and 20 years (aOR=6.65; *p*=0.96), four or more children (aOR=6.35; *p*=0.96); divorcee (aOR=10.12; *p*=2.92); intrauterine contraceptive device (IUD) (aOR=5.02; *p*=2.43); or condoms users (aOR=7.09; *p*=0.32). Negative perceptions were noted among affiliates of other religions compared to Christians (aOR=0.19; *p*=0.01) and subject teachers (aOR=0.39; *p*=0.01). Participants' perceptions were directly influenced by attitudes toward contraception and knowledge (*p*=0.081). The qualitative findings showed mixed feelings about contraceptive education in basic schools.

**Conclusions:** Basic school teachers have challenges with contraceptive education which have implications for comprehensive sex education in Ghanaian basic schools. We recommend a similar study among parents of the pupils and a nationwide study to examine this concept further.

## Keywords

Attitudes, contraception, knowledge, perceptions, sex education, teachers

## Introduction

Studies in developing countries have over the years recognized the increasing non-use of contraceptives among young people as a major problem relating to a rise in unwanted pregnancies, unsafe abortions, and sexually transmitted infections (STIs).<sup>1</sup> The United National Population Fund in 2013 reported that Africa has high rates of unplanned teenage pregnancies due to the lowest use of contraceptives among young people in the continent.<sup>2</sup> Due to relatively low

<sup>1</sup>Department of Health Administration and Education, Faculty of Science Education, University of Education, Winneba, Ghana

<sup>2</sup>Department of Political Science Education, Faculty of Social Science, University of Education, Winneba, Ghana

### Corresponding author:

Fred Yao Gbagbo, Department of Health Administration and Education, Faculty of Science Education, University of Education, P.O. Box 25, Winneba, Central Region, Ghana.

Emails: gbagbofredyao2002@yahoo.co.uk; fygbagbo@uew.edu.gh



contraceptive use, the situation in Ghana is similar to that in most developing countries.<sup>3,4</sup> Although there is a paucity of data on knowledge, attitudes, perceptions, practices<sup>5,6</sup> and unmet needs of modern contraceptive use among young people in Ghana.<sup>7–10</sup> It is not clear from these studies whether students have access to some knowledge about contraceptive methods. There are also challenges with how sex education is organized at this level of schooling since the topic is deemed sensitive at this level of education, for which reason even in schools where it is encouraged teachers across the different disciplines who are specifically trained on sexual reproductive health and rights carry out sex education. Consequently, much work remains to be done in introducing comprehensive sexuality education (CSE), contraceptive education, and use at the basic school level to impact uptake among young sexually active people.

### Objectives

We examined basic school teachers' knowledge, perceptions, and attitudes regarding contraceptive use by basic school pupils in a Ghanaian Municipality. We hope that the findings of the study may be useful to guide policy decisions on the current national debates on introducing CSE, contraceptive education, and use at the basic school level in Ghana.

### Theoretical and policy underpinnings

The concept of perceptions and attitudes toward contraceptive use has diverse connotations for decision-making based on the intentions of the user and the prevailing sociocultural milieu, policy, and legal frameworks.<sup>11</sup> Available literature in this regard has focused on three basic perspectives on these issues, which relate to contraceptive decision-making as a right,<sup>12</sup> a process,<sup>13</sup> and as a choice.<sup>14</sup> The sociodemographic characteristics of individuals have a potential influence on an individual's perceptions and attitudes toward contraception.<sup>15</sup> More recently, empirical evidence has shown that school-based CSE can help young people realize their sexual and reproductive health and rights through education.<sup>16</sup> However, formulation and implementation of a suitable curriculum are frequently hampered by challenges around program planning and roll-out at the national and local levels,<sup>17</sup> as well as a lack of time, appropriate skills, and teaching materials.<sup>18</sup>

Ghana currently has a contraceptive education policy being implemented as part of the sex education curriculum under the school health education program of Ghanaian basic schools.<sup>19</sup> A case study of three junior high schools in Ghana on teacher approaches, attitudes, and challenges to sexuality education<sup>20</sup> has, however, shown a misalignment between the school health education policies of Ghana and the sex education curriculum.<sup>21</sup> This suggests that although the misaligned sexuality education policy and sex education curriculum in basic schools of Ghana allow for both

abstinence-based sex education and CSE (condom education) approaches at the basic school level, attempts by the *Nana Addo Dankwa Akufo-Addo's* lead government to introduce a new curriculum and policy on CSE in Ghana in 2019 to align sexuality education policy and sex education curriculum in basic schools of Ghana, however, have not been successful as a result of societal, religious, and cultural opposition.<sup>22</sup> The authors in this study therefore examined the knowledge, perceptions, and attitudes of basic school teachers toward contraceptive education of pupils in a Municipality in Ghana.

## Methods

### Study design

The study design was an explorative and analytical cross-sectional study using the mixed-method (quantitative and qualitative) approach for data collection.

### Setting and population

The study was conducted in the Effutu Municipality of the Central Region of Ghana. It is one of the 20 districts in the Central Region of Ghana with its capital as Winneba. The population of the Effutu Municipality according to the 2021 population and housing census stands at 107,798 with 54,723 men and 53,075 women. The study population comprised basic school teachers in Effutu Municipality in the Central Region of Ghana. According to the Effutu Municipal Education Service, there were 49 basic schools (27 private and 22 public) in the study area as of January 2021 with a total basic school teacher population of 25,300. These constitute the sample frame from which the basic school teachers were randomly sampled for the study.

### Sampling/selection of participants

An online Raosoft sample size estimator<sup>19</sup> was used to estimate the sample size for the quantitative data. Using this online tool with a teacher population of 25,300, CI=95%, 5% margin of error, and 50% response distribution, the minimum recommended estimated sample size for the study was 379 teachers. These estimated number of basic school teachers were randomly selected from the 20 basic schools in Effutu Municipality in the Central Region of Ghana. However, of the 379 teachers selected only 183 consented to participate in the quantitative part of the study. In all, 196 teachers who declined to participate in the study gave reasons such as lack of interest and time. In the case of the qualitative data, the focus was on data saturation. However, a purposeful selection of participants was done with the available respondents; hence, 20 teachers (10 men and 10 women), one school-based health education program coordinator, and

one girlchild education coordinator in the study area were randomly informed of the study objectives and those who consented to participate in the qualitative component of the study were interviewed in-depth to obtain the key issues surrounding the research topic until saturation was reached.

### *Inclusion criteria*

Participants were strictly teachers from basic schools (public or private) that were known by the municipal education service as well as coordinators of school-based health-related programs in the study area.

### *Exclusion criteria*

People who were not basic teachers from basic schools (public or private) that were known to the municipal education service and those who were not coordinators of school-based health-related programs in the study area were excluded from the study.

### *Data collection*

An author developed a questionnaire, and an in-depth interview guide was used for data collection between May and September 2021. Hard copies of the questionnaires were self-administered to all participants to complete after which they were collected the same day that the questionnaire was given out. For the qualitative data collection, interviews were conducted with each participant separately. The interviews were audio-taped with permission from participants to ascertain accurate accounts of the interviews. Field notes were also used to support the audio recordings. All interviews were conducted at the workplace in English and lasted for about 30 min.

### *Statistical analysis*

The statistical analysis was in two folds. Quantitative data obtained from the questionnaire were coded and analyzed with Statistical Package for the Social Sciences (SPSSs) version 20 to generate tables and graphs. Using the SPSS, we also fit a logistic regression model to examine associations between the predictor variables and the binary response variable. We used the adjusted odds ratio (aOR) to account for other predictor variables in the model. For the qualitative data, recordings were replayed for analytical responses, and the interviews were transcribed thereafter. Teachers' knowledge, perceptions, and attitudes were assessed using 3-Likert scale type questions, developed by the author, consisting of three items (Supplemental Appendix 4). Content analysis was then done for the qualitative data collected, to identify themes and subthemes based on which the results were presented as direct quotations or paraphrased statements from respondents.

### *Ethics statement*

Written informed consent for participation was obtained from all participants before data collection. Permission was also obtained from both the Effutu Municipal Education Service and the participating schools.

## **Results**

### *Sociodemographic characteristics*

Table 1 shows the demographic characteristics of the research participants. It was evident that a significant proportion of the research participants were aged 35–39 (22.4%) and almost two-thirds were females (61.7%). Those having bachelor's degrees dominated among the respondents (60.1%), and about 9 out of 10 respondents were Christians (94.0%) while 60.7% were married. Similarly, about two-thirds were class teachers (62.3%) and 37.7% had been in their current position for 1–5 years. A significant proportion of them were not living with their children (33.3%), while at least 8 out of 10 (81.4%) were not using any family planning method during the survey.

Table 2 illustrates the factors associated with basic school teachers' knowledge, perception, and attitude toward contraceptive use in the study area.

### *Knowledge of contraception*

In terms of knowledge, participants aged 40–44 were more likely than those aged 20–21 to have a high level of knowledge about contraception use (aOR=6.43; CI=1.59, 21.03). Compared to males, females had a higher likelihood of possessing high knowledge about contraceptive use (aOR=3.78, CI=0.65, 37.0). Teachers with bachelor's degrees (aOR=6.45; CI=0.53, 18.03) and Islamic teachers (aOR=4.13; CI=0.45, 17.65) were more likely to possess high knowledge on contraceptive use compared with teachers with certificates and Christians, respectively. Compared with married teachers, the divorced ones had a high likelihood of possessing high knowledge of contraceptive use (aOR=9.44; CI=0.26, 25.23). Similarly, it was noted that compared to headmasters/mistresses, class teachers (aOR=7.64; CI=0.88, 24.33) had a high knowledge of contraceptive use. The study revealed that teachers with 16–20 years of experience possessed high knowledge (aOR=6.62; CI=0.27, 14.37) as well as those who had five children alive (aOR=4.02; CI=0.05, 11.21). It was also realized that teachers who were using other family planning methods knew much about contraceptive use (aOR=4.43; CI=1.53, 25.69).

### *Perception of contraception among basic school pupils*

Regarding perceptions of contraceptive use, participants aged 35–39 had positive perceptions as compared with their

**Table 1.** Sociodemographic characteristics.

Variable	Frequency (n)	Percentage (%)
Age (years)		
20–24	15	8.2
25–29	39	21.3
30–34	36	19.7
35–39	41	22.4
40–44	26	14.2
45–49	12	6.6
50–54	11	6.0
55–59	3	1.6
Sex		
Male	70	38.3
Female	113	61.7
Highest level of education		
Certificate	9	4.9
Diploma	42	23.0
Bachelor degree	110	60.1
Masters	22	12.0
Religion		
Christianity	172	94.0
Islam	9	5.0
African tradition	1	0.5
Other	1	0.5
Marital status		
Married	111	60.7
Single	62	33.9
Divorced	10	5.4
Current position		
Headmaster/mistress	15	8.2
Library master	5	2.7
Class teacher	114	62.3
Subject teacher	23	12.6
Other	26	14.2
Years in current position		
Less than 1 year	41	22.4
1–5	69	37.7
6–10	42	23.0
11–15	15	8.2
16–20	10	5.5
21–25	6	3.3
Number of living children		
0	61	33.3
1	25	13.7
2	41	22.4
3	27	14.8
4	23	12.6
5	5	2.7
6	1	0.5
Current family planning method		
Emergency pill	4	2.2
Injection	7	3.8
IUD	18	9.8
Condom	1	0.5
Other	4	2.2
None	149	81.4

Source: Field data, 2021.

colleagues in the 20–24 age bracket (aOR=7.24; CI=0.35, 14.33). Meanwhile, negative perception was observed among those aged 25–29 years (aOR=0.08; CI=0.02, 17.21). Female teachers had a more positive perception of contraceptive use as compared with males (aOR=4.22; CI=0.25, 14.76). The results revealed that teachers with diplomas (aOR=4.42; CI=0.56, 16.65) had a more positive attitude toward contraceptive use as compared with certificate holders. Meanwhile, the negative perception was noted among affiliates of other religions, compared to Christians (aOR=0.19; CI=0.01, 4.77). It was noted that divorced teachers possessed a positive perception of contraception compared to the married (aOR=10.12; CI=2.92, 21.45). However, subject teachers had a negative perception compared with headmasters/headmistresses (aOR=0.39; CI=0.01, 5.78). Positive perception of contraceptive use was noted among teachers who had worked between 16 and 20 years (aOR=6.65; CI=0.96, 10.29), those living with four children (aOR=6.35; CI=0.96, 12.29), as well as teachers who indicated that they were using an IUD (aOR=5.02; CI=2.43, 7.67).

### *Attitudes toward contraception among basic school pupils*

On attitude, the analysis revealed that teachers aged 45–49 (aOR=5.8; CI=2.33, 37.16) and female teachers (aOR=5.32; CI=0.64, 23) have a positive attitude toward contraceptive use as compared to those aged 20–24 and males correspondingly. Similarly, teachers with master's degrees were over five times more likely to have a positive attitude toward contraceptive use as compared to their counterparts with certificates as their highest level of education (aOR=5.28; CI=2.65, 31.51). It was evident that affiliates of other religions (aOR=0.32; CI=0.02, 38.91) had a lower likelihood of negative attitudes about contraceptive use as well as singles (aOR=0.54; CI=0.23, 6.54) compared to Christians and the married. Those notwithstanding, a positive attitude toward contraceptive use was noted among library masters (aOR=5.43; CI=0.12, 42.21) and teachers with 16–20 years of experience as compared with headmasters/headmistresses and teachers with less than 1 year of teaching experience, respectively. Similarly, a positive attitude was noted among teachers who were living with six children (aOR=10.02; CI=0.92, 21.43) and those using condoms at the time of the study (aOR=7.09; CI=0.32, 14.48) as compared with those living with no children and those using emergency pills.

In Table 3, Pearson's correlation coefficient ( $r$ ) was used to establish the association between basic school teachers' knowledge of contraceptives and their perceptions about their use by basic school pupils. The overall average Pearson correlation coefficient of 0.081 was an indication that the teachers' knowledge had a weak influence on their perception of contraceptive use among basic school pupils.

The following themes that emerged from the qualitative data analysis of the in-depth interviews formed the key headings under which the qualitative findings were presented:

**Table 2.** Factors associated with basic school teachers' knowledge, perception, and attitude toward contraceptive use.

Variable	Knowledge aOR (95% CI)	Perception aOR (95% CI)	Attitude aOR (95% CI)
<b>Age (years)</b>			
20–24	1 (1, 1)	1 (1, 1)	1 (1, 1)
25–29	4.37 (0.91, 17.21)	0.08 (0.02, 17.21)	0.86 (0.14, 5.45)
30–34	7.10 (0.78, 13.33)	5.83 (0.91, 17.21)	1.07 (0.15, 7.78)
35–39	0.32 (0.09, 19.35)	7.24 (0.35, 14.33)	0.91 (0.11, 7.48)
40–44	6.43* (1.59, 21.03)	2.32 (0.02, 28.91)	5.77 (0.41, 41.82)
45–49	7.48 (0.37, 14.56)	4.60 (0.34, 15.42)	5.58* (2.33, 37.16)
50–54	4.32 (0.09, 38.02)	0.98 (0.42, 9.50)	2.42 (0.07, 88.40)
55–59	2.87 (0.32, 14.32)	0.54 (0.07, 22.08)	4.02 (0.98, 71.31)
<b>Sex</b>			
Male	1 (1, 1)	1 (1, 1)	1 (1, 1)
Female	3.78 (0.65, 37.0)	4.22 (0.25, 14.76)	5.32 (0.64, 23)
<b>Highest level of education</b>			
Certificate	1 (1, 1)	1 (1, 1)	1 (1, 1)
Diploma	6.43 (0.91, 17.21)	4.32 (0.56, 16.65)	7.76 (0.65, 92.27)
Bachelor degree	6.45 (0.53, 18.03)	0.60 (0.04, 45.12)	2.51 (0.33, 18.95)
Masters	0.26 (0.05, 48.21)	4.22 (0.78, 13.21)	5.28** (2.65, 31.51)
<b>Religion</b>			
Christianity	1 (1, 1)	1 (1, 1)	1 (1, 1)
Islam	4.13 (0.45, 17.65)	0.67 (0.23, 12.11)	6.43 (0.91, 17.21)
African tradition	0.81 (0.06, 32.12)	0.40 (0.17, 9.30)	9.64 (0.53, 14.33)
Other	4.02 (0.72, 28.21)	0.19 (0.01, 4.77)	0.32 (0.02, 38.91)
<b>Marital status</b>			
Married	1 (1, 1)	1 (1, 1)	1 (1, 1)
Single	0.43 (0.05, 13.59)	0.11 (0.04, 14.56)	0.54 (0.23, 6.54)
Divorced	9.44 (0.26, 25.23)	10.12* (2.92, 21.45)	5.22 (0.76, 11.32)
<b>Current position</b>			
Headmaster/mistress	1 (1, 1)	1 (1, 1)	1 (1, 1)
Library master	4.43 (0.91, 17.21)	0.55 (0.07, 15.07)	5.43 (0.12, 42.21)
Class teacher	7.64 (0.88, 24.33)	0.80 (0.23, 9.11)	1.29 (0.71, 20.35)
Subject teacher	0.32 (0.02, 8.91)	0.43 (0.07, 9.65)	2.03 (0.30, 8.31)
Other	5.43 (0.44, 16.79)	0.39 (0.01, 5.78)	4.34 (0.92, 15.33)
<b>Years in current position</b>			
Less than 1 year	1 (1, 1)	1 (1, 1)	1 (1, 1)
1–5	4.63 (0.12, 42.21)	3.35 (0.76, 18.93)	1.45 (0.64, 15.87)
6–10	1.91 (0.71, 21.50)	6.55 (0.72, 14.43)	0.16 (0.79, 29.06)
11–15	3.04 (0.30, 7.14)	3.09 (0.32, 15.48)	1.17 (0.19, 30.50)
16–20	6.62 (0.27, 14.37)	6.65 (0.96, 10.29)	2.62 (0.21, 32.30)
21–25	4.21 (0.43, 12.34)	2.38 (0.43, 12.75)	1.31 (0.04, 26.85)
<b>Number of living children</b>			
0	1 (1, 1)	1 (1, 1)	1 (1, 1)
1	0.25 (0.07, 5.07)	3.35 (0.76, 18.93)	6.32 (0.72, 18.22)
2	0.28 (0.07, 9.11)	6.15 (0.72, 14.43)	4.22 (0.32, 41.21)
3	0.43 (0.05, 11.65)	3.29 (0.32, 15.48)	5.01 (0.52, 32.82)
4	0.31 (0.01, 25.78)	6.35 (0.96, 12.29)	1.02 (0.43, 7.67)
5	4.02 (0.05, 11.21)	3.38 (0.43, 12.75)	3.23 (0.84, 6.54)
6	0.09 (0.02, 13.90)	0.62 (0.02, 10.43)	10.02 (0.92, 21.43)
<b>Current family planning method</b>			
Emergency pill	1 (1, 1)	1 (1, 1)	1 (1, 1)
Injection	2.31 (0.45, 7.20)	8.31 (0.52, 32.05)	4.35 (0.76, 21.93)
IUD	6.76 (0.40, 52.42)	5.02* (2.43, 7.67)	2.55 (0.72, 13.43)
Condom	0.79 (0.03, 12.32)	3.38 (0.44, 6.46)	7.09 (0.32, 14.48)
Other	4.43* (1.53, 25.69)	9.02 (0.82, 31.43)	3.65 (0.96, 6.29)
None	3.94 (0.21, 73.40)	6.73 (0.53, 25.69)	5.38 (0.43, 18.75)

Source: Field data, 2021.

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

**Table 3.** Correlational values between the respondents' knowledge and their perceptions.

Contraceptives result in infertility	Low literacy and poor access	Using condoms through demonstration	Lack of knowledge on contraceptive use	Males have a low level of knowledge	Appropriate use of contraceptive	Adolescent are vulnerable
Contraceptive meant for married people	0.001	0.317	-0.037	-0.003	0.007	-0.158
Contraceptives result in infertility	0.246	0.047	0.09	-0.035	-0.106	0.026
Adolescents exercise their sexuality	0.11	-0.048	0.277	0.129	0.043	0.100
Pills and injections are good for couples	0.317	0.001	-0.087	0.201	0.101	-0.010
Educational value influences use of contraceptives	-0.037	-0.087	0.001	0.116	0.105	0.180
Average Pearson correlations	0.1601	0.1267	0.09695	0.0464	0.0288	0.0276
Overall average Pearson correlation	0.081					

Source: Field data, 2021.

\*Pearson correlation coefficient ranged from -0.087 (minimum) to 0.317 (maximum).

1. Knowledge about contraceptives suitable for young people
2. Attitude of basic school teachers toward contraceptive use by young people
3. Relationship between teacher and student in contraceptive education
4. Factors that influence young people's uptake of contraceptives
5. Perceptions about benefits and side effects of contraception for young people

My attitude toward providing young people with contraceptives is very high and positive. You have no idea what these small children are doing. Respondent 1

My attitude toward providing young people with contraceptives is positive because they are already having sex and must be protected. Respondent 2

My attitude toward providing young people with contraceptives is positive because it saves their lives. Respondent 3

My attitude toward contraceptive use by young people is very negative. Young people are expected to study and not indulge in immorality. Respondent 4

### *Knowledge about contraceptives suitable for young people*

The following responses were given to the question, "Can you please tell me your knowledge about modern contraceptives?"

Modern contraceptives are the procedures that are used to prevent teenage pregnancy. Respondent 1

Modern contraceptives are a medical procedure that interferes with the reproduction acts of sexual intercourse. Respondent 2

Modern contraceptives are used to prevent pregnancies and make life easier when you want to space your children. Respondent 3

Modern contraceptives help in preventing pregnancies and STDs. Respondent 4

Young people can't use contraceptives, because it's dangerous to their health. Respondent 5

### *The attitude of basic school teachers toward contraceptive use by young people*

In exploring basic school teachers' attitudes toward contraceptive use by young people, the following response was obtained when asked: How will you describe your attitudes toward providing young people with contraceptives?

### *Relationship between teacher and student in contraceptive education*

Some teachers indicated that although they do their best to educate their pupils about contraceptives and the dangers of unprotected sex, some of the pupils hold onto information acquired from their parents, siblings' peers, social media, print, and electronic media, as well as significant others. For instance:

My school pupil's attitude toward contraceptives is not encouraging. They normally receive contraceptive education from their parents and friends. Some pupils even think it is wrong or taboo to use contraceptives. Others fear it might cause them infertility in the future, make them gain weight or be punished by God when they use contraceptives. Respondent 1

Our pupils' attitude toward contraceptives is not a good thing. Some of my pupils received their knowledge about contraceptives on television and radio. Some pupils think it is spoiling children that take contraceptives. Others fear it will have side effects on them as they believe that they are too young to be pregnant, so there is no need for contraceptive education. Respondent 2

Pupils' attitude toward contraceptives is very poor. Pupils get their knowledge from friends, and some see it as not necessary.

Because the pupils think someone might have a bad misconception about them when they see them buying it. Pupils fear it can cause them infertility and cancer. Respondent 3

Pupils' attitude toward contraceptives is quite receptive in this school. Most pupils get their knowledge from the adverts they watch on television, their friends and siblings, and social media. Some believe contraceptives are good because they help in so many ways to prevent unwanted pregnancy and STIs. Respondent 4

Others have very negative attitudes as they believe basic school pupils and teachers who talk about contraception are sinners, spoilt and immoral. Respondent 5

The respondents gave the following response when asked the following question: "In your view, do you believe you provide your pupils with all the information they need to make an informed choice on contraceptive use?"

Respondent 1: No.

Respondent 2: No.

Respondent 3: Not at all.

Respondent 4: No.

This school will not allow you to talk about contraceptives in class or to the pupils at any time. This is due to our religious beliefs and the homes that the pupils come from. In fact, one can be dismissed if found talking about contraceptives to a pupil. Respondent 5.

When further asked the question, "Do you think that the nature of the relationship between your pupils and teachers affects contraceptive education?" They responded as follows:

Yes, sometimes a teacher finds it difficult to open up to the young people because some have the perception that the teacher wants to sleep with them. Respondent 1

Yes, sometimes pupils are not able to approach the teachers and talk to them about contraceptives because they fear the teachers. Respondent 2

Yes, teachers see young people who take or talk about contraceptives as "spoiled children." Respondent 3

### ***Factors that influence young people's uptake of contraceptives***

The teachers enumerated various factors that influence contraceptive uptake by young people when asked the question, "What factors do you think influence young people's uptake of contraceptives?" Key among the responses given include the following:

Shyness to buy contraceptives thinking they will be tagged as bad. Respondent 1

Level of education on contraceptives and exposure to contraceptives. Respondent 2

Peer and social media influence. Respondent 3

Economic status—affordability of contraceptives. Respondent 4

Religious influence and parental guidance. Respondent 5

When asked to further clarify what factors that actually prevent young people from using contraceptive methods? The following responses were noted:

Because they consider taking contraceptives a sin. Respondent 1

Because they consider taking contraceptives as dangerous. Respondent 2

Because of the side effects, like, not giving birth in the future. Respondent 3

Because contraceptives are not accepted in their homes. Respondent 4

Young people do not need contraceptives because they are not expected to be sexually active at this age. Respondent 5.

### ***Perceptions about the benefits and side effects of contraception for young people***

The teachers' perceptions about the benefits and side effects of contraception for young people were explored, and the responses provided are as follows:

They take the first pill after they realize they are not safe and take the second within 24 h. The benefit is that it reduces teenage pregnancy and the spacing of births. Side effects of contraceptives include nausea and weight gain. Respondent 1

Some people take oral and insects for 24 h. It reduces teenage pregnancy. birth intervals. Side effects of contraceptives include mood changes and headaches. Respondent 2

Some take the pill orally. Contraception benefits include preventing an unwanted pregnancy, providing an interval, or spacing out. Effects of contraceptives: mood changes and headaches. Respondent 3

Some inject the contraceptives. It prevents pregnancy. Not having many children saves money. Heavy breasts and may miss a period. Respondent 4

### ***Views on the relevance of CSE in basic schools***

Various concerns were noted regarding the relevance of CSE in basic schools. These were specific to content, culture and

religion, timing, and parental consent to introduce their children to such topics. Some respondents indicated that:

Yes, I think there should be some durbars in the schools about the use of contraceptives. Respondent 1

Not really. I think there should be regular parents teachers association meetings so that professional resource people can be invited to educate parents and teachers on such issues to help the transfer of knowledge to their children or wards both by parents and teachers. Respondent 2

Yes!!! Knowledge is power. So, to guide our teachers in teaching the topic at the elementary school level, there should be a syllabus on CSE in elementary schools that includes basic issues on contraception and teen pregnancy. Respondent 3

No!!! Although I am a teacher, as a parent too, it won't be comfortable for other teachers to talk to my children about issues relating to sexuality while in school. I would rather prefer parents to be educated to teach or talk to their children about it in a manner that is acceptable within their culture and religious faith. Respondent 4

Introducing CSE in basic schools is demonic and should not be entertained. Respondent 5

## Discussion

We examined teachers' knowledge, perceptions, and attitudes toward contraceptive education and use for basic school pupils in a Municipality in Ghana, and discussed some policy and program implications of the key findings. Responses from the various participants were based on divergent sociodemographic characteristics that informed their responses to the research questions. Results from the study have shown that the sociodemographic characteristics of teachers are associated with their perceptions and attitudes toward discussing contraceptives at the basic school level. This observation is in tangent with the findings of a similar previous study that focused on young people.<sup>23</sup>

Discussing contraceptive use in basic schools requires teachers to be knowledgeable about the eligibility and availability of new contraceptives to enable them to determine what information is of most interest and relevant for basic school pupils to help in making informed decisions for education. Respondents' age, marital status, level of education, religion, parity, gender, experiences with contraceptive use, and position at work were also key influencers of basic school teachers' perceptions and attitudes toward contraceptive use by basic school pupils. This argument is consistent with Pred's behavioral matrix<sup>24</sup> and confirms the findings of a similar study which shows that religious affiliation and cultural inclinations can have a significant impact on the decision-making process for contraceptive use and education.<sup>25</sup>

Using the Pearson correlation coefficient ( $r$ ) to establish the association between basic school teachers' knowledge of

contraceptives and their perceptions of the use of basic school pupils revealed that teachers' knowledge had a weak influence (0.081) on their perception of contraceptive use among basic school pupils. The negative influence of the teacher's knowledge on their perception of contraceptive use among basic school pupils also negatively affected the teacher's attitudes toward the same. These observations imply that there is an extension of the relationship between the knowledge of teachers and their perceptions and attitudes toward contraceptive use by basic school pupils. In all these, there is a cultural/religious dimension to the association established between the knowledge of teachers, their perceptions, and attitudes toward contraceptive use by basic school pupils'; hence, the misconceptions that some basic school pupils have regarding contraceptive use by minors.

The six themes that emerged from the qualitative interviews that is, (1) knowledge about contraceptives that are suitable for young people, (2) the attitude of basic school teachers toward contraceptive use by young people, (3) teacher-pupil relationship in contraceptive education, (4) factors that influence young people's uptake of contraceptives, (5) perceptions about benefits and side effects of contraception to young people, and (6) views on the relevance of CSE in basic schools show that negative beliefs and attitudes among teachers significantly affect contraception education in basic schools and that also account for young people's most frequently reported reasons for nonuse, as supported by the literature.<sup>26</sup> This observation is attributable to the inadequacy of basic school teachers' knowledge about contraceptives that are suitable for sexually active young people to enable them to provide adequate and relevant information and education to meet the needs of these age groups. Findings from a similar study among young people in Lesotho revealed that "friends" were cited as a more important source of information regarding sex than "teachers."<sup>27</sup> This is rightly so because if teachers are reluctant to provide contraceptive education to basic school pupils, they will seek information from their peers and obviously get the wrong information that may be detrimental to their sexual and reproductive health. The observation in this current study that, in schools where teachers introduce pupils on the quiet about contraception, gives the impression that both the teachers and pupils in those schools are immoral or "spoilt" was also observed in a similar study.<sup>28</sup> This is suggestive that there is stigmatization of teachers who are willing to educate young people on sexual and reproductive health issues, for which reason they may be reluctant to provide this important education on sexuality to avoid social stigmatization and its associated consequences.

Responses obtained in exploring basic school teachers' attitudes toward contraceptive use showed divergent views where in some situations the teachers were receptive to contraceptive education and use by sexually active basic school pupils while others were hostile to this idea, believing that basic school pupils are too young to be introduced to such



topics. It was, however, noted that teachers involved in contraceptive education were themselves the subject of close scrutiny by some school authorities, colleague teachers, parents, and their pupils with regard to their ability to handle this culturally sensitive subject professionally without compromising on moral standards nor introducing the pupils to sexual immorality. In some instances, it was noted that some of the basic schools will not even allow the teachers to talk about contraceptives in class or to the pupils at any time due to the entrenched religious beliefs of the schools and the homes that the pupils come from. In fact, one can be dismissed if found talking about contraceptives to a pupil.

This observation relates to the extent of the teacher–pupil relationship for contraceptive information, education, and communication at the basic school level. Some teachers indicated that although they do their best to educate their pupils about contraceptives and the dangers of unprotected sex, some of the pupils hold onto information acquired from their parents, siblings’ peers, social media, print, and electronic media, as well as significant others, as more authentic than what is being taught in the school. In some situations, teachers find it difficult to open up to the young people because some have the perception that the teacher wants to sleep with them, while at other times, some of the pupils are not able to approach the teachers and talk to them about contraceptives because they fear the reactions of the teachers on discussing such issues.

The teachers enumerated various factors that influence contraceptive uptake by their pupils. Key responses included apprehension about purchasing contraceptives for fear of being labeled as bad; a lack of contraceptive education and exposure; peer and social media influence; contraceptive affordability; parental guidance; and health-related myths and misconceptions, including future infertility. Per the data, there are also some associations between the religiosity of some of the respondents and their attitudes and perceptions toward contraceptive use among basic school pupils. The implications of this finding in the context of the cultural/religious factors that shape teachers’ views on contraceptive/sexuality education are that basic school teachers who are highly religious fanatics will not discuss anything relating to sexuality, including contraceptive education and use, with basic school pupils.

Teachers’ perceptions about the benefits and side effects of contraception for young people were explored, and the responses obtained show localized endorsement of some teachers to introduce CSE in basic schools. Various objections were also noted by some teachers regarding the relevance of contraceptive education in basic schools. These oppositions were specific to content, culture, religion, timing, and parental consent to introduce their children to such topics. Although some teachers were of the view that “introducing contraception education in basic schools is demonic and should not be entertained,” the majority thought otherwise and were of the view that it is the best thing to be done

at the basic school level so that correct information is disseminated to enable the children to make informed decisions on their sexuality. These observations support the findings of a previous baseline study aimed at developing CSE in Ghana.<sup>29</sup> The current study’s findings also contradict previous ones,<sup>26,30</sup> which claimed that “keeping adolescents enrolled in school may reduce their risk of involvement in sexual activities leading to teenage pregnancy.”

Because basic school people are becoming more sexually active and becoming pregnant,<sup>22</sup> keeping them in school alone does not guarantee abstaining from sex, but contraceptive education and use might be helpful for safer sex practices, hence preventing unplanned pregnancies and contracting STIs/diseases, among others. Thus, formal education on contraceptives and use in basic schools that includes information on healthy sexual lives, prevention of STIs can improve the health and well-being of basic school pupils as the positive outcomes can help delay initiation and reduction in the frequency of sexual intercourse, reduction in the number of sexual partners, and an increase in safer sex practices. Considering the high sexual activity of Ghanaian basic school pupils and the increasing rates of early and unintended pregnancies, the observation from the current study that teachers’ perceptions and attitudes toward contraceptive use by basic school pupils in the study area are generally positive is a step in the right direction.

### *Limitations*

Although the objective of this study was not to examine the interrelationships of gender in contraception education for basic school pupils, a limitation of this study was that there was no gender balance for equal participation to ascertain the gender dynamics of teachers’ perceptions and attitudes toward contraception education in basic schools. These made the analysis lack a key component of establishing the gender dynamics of the research topic. In addition, it could have been more interesting to describe in detail, the circumstances that will require teachers to introduce basic school pupils to contraception education irrespective of their background characteristics.

### *Future recommendations*

The way forward for this study is the scale-up of more research into the existing policy landscape for contraceptive and sex education in basic schools as well as the role of teachers in enhancing positive attitudes in young people toward contraceptive use in Ghana. We also recommend a similar study among parents of the pupils and a nationwide study to examine this concept further. These recommendations for future studies will provide evidence for any discussions on any moves toward CSE, as the solution to teacher challenges to contraceptive education in basic schools. In the interim, where applicable, the Ghana Education Services and

its development partners should focus efforts on training and refresher training activities for basic school teachers to update their knowledge and reform their values on such matters to enhance the teaching of this subject at the basic school level in a non-judgmental and confrontational manner.

## Conclusions

We examined teachers' knowledge, perceptions, and attitudes regarding contraception by basic school pupils in a Ghanaian Municipality for action. We observed that the perceptions and attitudes of basic school teachers toward contraceptive use by basic school pupils in the study area are generally positive. This finding is healthy for using teachers to educate basic school pupils on sex education including preventing unwanted pregnancies and STIs using contraceptives. Formal education on contraceptives and use in schools that include information on healthy sexual lives, prevention of STIs can improve the health and well-being of basic school pupils as the positive outcomes can help delay initiation and reduction in the frequency of sexual intercourse, reduction in the number of sexual partners, and an increase in safer sex practices when confronted. Funding is required to scale this study nationwide to inform policy and program decisions for designing and managing contraceptive education programs in Ghana's basic schools. Where applicable, training and refresher training activities should also be organized for basic school teachers to update their knowledge and reform their values on such matters to enhance the teaching of this subject at the basic level in a non-judgmental way. We also recommend similar future studies to be carried out on parents of the pupils, since they are minors, the consent of parents will improve possibilities of adopting contraception education in basic schools.

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## Authors' contributions

KLM conceptualized the study and participated in the data analysis. FYG designed the study, developed the research instruments, analyzed the data, and drafted the main manuscript. KLM and FYG collected the data. JAG did the interpretation and discussion of the results. All the authors reviewed the manuscript together and agreed to submit and publish it in this journal.

## Availability of data and materials

Data for the study can be obtained from the corresponding author upon request.

## Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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## Ethical consideration

The Institutional Review Board of the University of Cape Coast, Ghana, approved the study protocol (Ref. UCC/IRB/R/1/308).


## Informed consent

Written informed consent was obtained from all participants before the study. Permission for community entry was also obtained from the participating schools and the municipal education service before the field interviews commenced.

## Trial registration

Not applicable.

## ORCID iD

Fred Yao Gbagbo  <https://orcid.org/0000-0001-8441-6633>

## Supplemental material

Supplemental material for this article is available online.

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