Knowledge and Attitude towards Comprehensive Abortion Care (CAC) among female students in the University for Development Studies, Ghana

ABSTRACT

Background: Pregnancy is an important process in the life cycle that gives rise to offspring to ensure continuity of life. However, due to unwanted pregnancies, some women resort to an abortion, which may or may not be safe. Given the health risk associated with unsafe abortion, the World Health Organization firmly supports Comprehensive Abortion Care (CAC) as a best practice since it offers access to both safe abortion and post-abortion care. It is important to note that, a significant proportion of unsafe abortions occur among students in Ghana and other developing.

Aim: To assess the knowledge and attitude towards Comprehensive Abortion Care (CAC) among female students at the University for Development Studies, Ghana

Methods: The study is quantitative with a descriptive cross-sectional survey design. A multistage sampling technique was used to select 384 female students from various departments for inclusion. Both descriptive and inferential statistical analysis was done using Statistical Package for Social Science (SPSS) software, version 25. Based on some selected demographic factors of respondents, a one-way analysis of variance (One way ANOVA) was done to assess whether there were any differences in the respondents' knowledge and attitudes about comprehensive abortion care.

Results: The results showed that more than half of the respondents, 59.6% (n = 229) had poor knowledge of comprehensive abortion care. Only 31.5% (n = 121) of students knew that an abortion can be done if the pregnancy is as a result of rape and 36.7% (n = 141) of students knew incest as a legal criterion for abortion in the current study. A one-way ANOVA test revealed a statistically significant difference in knowledge on students' levels of study [$F_{(3, 380)} = 53.429$, $p = .000$] and age [$F_{(3, 380)} = 3.615$, $p = .013$]. A follow-up post hoc analysis ($\alpha = .05$) showed that students in their fourth year of study had higher knowledge than those in their third year [MD = 5.614, p = .000], second year [MD = 7.348, p = .000] and first year [MD = 6.893, p = .000]. In terms of age, students between 26 – 30 years had a significantly higher knowledge than all the other age groups. Finally, the mean score of 13.94 (SD = 3.072) revealed a negative attitude towards CAC; where 52.6% (n = 202) had a negative attitude whilst 47.4% (n = 182) had a positive attitude towards comprehensive abortion care.

Conclusion: Overall, this finding from the study indicates the respondents have had limited knowledge and a negative attitude towards comprehensive abortion care. Therefore, educational campaigns focused on increasing knowledge of comprehensive abortion care and destigmatizing abortion should be targeted at female students in tertiary institutions.

Keywords: Abortion; Attitude; Care; Knowledge; Students

1. Introduction

Pregnancy is an important process in the life cycle that gives rise to offspring to ensure continuity of life. In some cases, due to unplanned conception, women tend to resort to measures to expel the fetus hence terminating the pregnancy. Abortion has been defined as the premature end to a pregnancy, which may happen naturally owing to pregnancy problems or artificially induced [1]. Contrary to unsafe abortion, which is carried out either by individuals lacking the necessary training and skills or in a setting that does not meet minimum medical standards, or both, safe abortion is carried out by individuals with the necessary training and skills and in a setting that meets minimal medical standards [2]. The health risks of abortion such as haemorrhage, sepsis, and uterine perforation depend on whether the procedure is performed safely or unsafely [3]. That notwithstanding, some women seeking abortion usually resort to unsafe abortion practices.

Given the health risk associated with unsafe abortion, the World Health Organization (WHO) firmly supports Comprehensive Abortion Care (CAC) as a best practice since it offers access to both safe abortion and post-abortion care [4]. Expanding access to contemporary contraception to avoid unwanted pregnancies, enhancing the standard and accessibility of post-abortion care, and enhancing access to safe, ethical, consensual, and inexpensive abortion services are all parts of comprehensive abortion care (CAC) [5]. Consequently, several countries have adopted

guidelines modelled on international medical standards to expand the legal grounds for abortion and now offer safe, facility-based abortion services.

Comprehensive Abortion Care (CAC) was initiated in Africa by the International Planned Parenthood Federation (IPPF) [6]. Ghana being part of the Africa Region Member Associations was committed to addressing the need for safe abortion and comprehensive services. Currently, in Ghana, abortion is a criminal offense regulated by Act 29, section 58 of the Criminal code of 1960, amended by PNDCL 102 of 1985 [7]. However, section 2 of this law states abortion may be performed by a registered medical practitioner when; the pregnancy is the result of rape or incest, to protect the mental or physical health of the mother, or when there is a malformation of the foetus. More recently, the government of Ghana has taken steps to mitigate the negative effects of unsafe abortion by developing a comprehensive reproductive health strategy that specifically addresses maternal morbidity and mortality associated with unsafe abortion [8]. However, in most Sub-Saharan countries, legal restrictions and stigma still compel women to undergo clandestine abortions, the safety of which cannot be ensured [9].

Despite the existence of CAC services, the prevalence of unsafe abortion continues to rise. Abortions that are unsafe account for 49% of all abortions worldwide, placing a heavy burn on society [10]. Globally, induced abortions (including safe and unsafe) averaged 73.3 million per year between 2015 and 2019 [11]. An estimated 3.2 million unsafe abortions take place among adolescent girls age: accounting for almost 15% of the total global incidence of unsafe abortion [12].

In sub-Saharan Africa, an estimated 33 abortions occur each year per 1,000 women aged 15–49, with little variation across the four sub-regions [9]. Abortion is riskier in Sub-Saharan Africa

than in any other world region. In 2014, 77% of abortions in the region were unsafe, compared with the global average of 45% [13]. Very recently, Sub-Saharan Africa had the highest abortion case-fatality rate than any region in the world, with approximately 185 deaths per 100,000 abortions, for a total of 15,000 preventable deaths every year [9]. There is also evidence that several reproductive age women died daily because of complications arising from unsafe abortion throughout the world; the majority of this occurred in developing countries, especially among younger adults [14]. In the Ghanaian context, a high maternal mortality rate of between 310 and 402 deaths per 100,000 live births is largely attributed to unsafe abortion [15].

The risk of early sexual encounters that are unintentional and unplanned and may result in undesired pregnancies is higher among university students. This is due to the fact that young girls are free to experiment with sex in a setting other than their homes where they are under direct parental supervision. They are therefore exposed to seeking induced abortion and may suffer the complications [16]. The students who undergo an induced abortion expose themselves to serious health risks such as haemorrhage, genital injuries, sepsis, and death [14]. It is important to note that, a significant proportion of unsafe abortions occur among students in Ghana and other developing [17]. More worrying is the fact that 93% of students in Ghana had personal or peer experiences on abortions and more than half of them had done so more than once [18]. Therefore, this study sought to assess the knowledge and attitude of university students towards comprehensive abortion are. Findings from the study will give an insight into the knowledge and attitude of students towards comprehensive abortion care in Ghana.

2. Methods

2.1 Study Design and Setting

A cross-sectional survey was conducted among female students of the University for Development Studies (UDS), Tamale. The University for Development Studies (UDS) is the first public University in Northern Ghana. It was established in May 1992 by the Government of Ghana (PNDC Law 279) to "blend the academic work with that of the community in order to provide constructive interaction between the two for the total development of Northern Ghana, in particular, and the country as a whole".

2.2 Population and sampling

The target population for this study was all female students of the Tamale campus of the University for Development Studies (UDS). A sample size of 384 female students was calculated using Cochran's formula for sample size determination. Participants were selected using a multistage sampling technique. In the first stage, the cluster sampling technique was used to divide the university into clusters, where each school was considered as a cluster. Then, simple random sampling was used to select female students in each school based on the proportion of female students in the school.

2.3 Data Collection Instrument

The survey instrument was a structured self-administered questionnaire which was developed by the researchers after a comprehensive literature review of similar studies. The questionnaire was structured in accordance with the objectives of the study and comprised of three sections; sociodemographic characteristics of the respondents, knowledge on CAC, and attitude towards

CAC. Knowledge of comprehensive abortion care among students was measured with nine items on a four-point Likert scale; whereas attitude of students towards CAC was measured with seven items on a four-point Likert scale.

2.4 Data analysis

Raw data was initially extracted from the questionnaires and entered into Microsoft Excel (Version 2010), and analyzed using the Statistical Package for Social Sciences (SPSS) version 26. Both descriptive and inferential statistical analyses were done. In terms of knowledge, the individual items were transformed and categorized into two levels; with "strongly agree" and "agree" denoting the right response whilst "strongly disagree" and "disagree" the wrong response. Similarly, the individual items on the attitude scale were categorized into two levels. The items on the knowledge and attitude scale were then computed into single variables, representing overall knowledge and attitude towards CAC respectively. Both the mean and standard deviation score for knowledge and attitude of respondents were estimated. Respondents whose total scores were below the mean score were categorised as poor knowledge and those whose total scores were equivalent to, or above the mean score were categorised as good knowledge. Attitude towards CAC was also categorised into positive attitude and negative attitude based on the mean score.

Additionally, a one-way ANOVA was used to assess the differences in knowledge and attitude toward CAC based on a few chosen demographic factors. In order to ascertain the degree of variation between the groups, post-hoc analyses were carried out for demographics that revealed a statistically significant differences in knowledge and attitude.

3. Results

3.1 Sociodemographic characteristics of respondents

The sociodemographic characteristics of respondents are presented in table 1. Out of 384 female respondents who were recruited into the study, the majority of them, 64.1% (n = 246) were between the age range of 21-25 while a few of them, 4.7% (n = 18) were 31+ years. In terms of the level of study, a greater proportion of students, 40.9% (n = 157) were in level 200 whereas 14.1% (n = 54) were in their first year of study. With regards to religious affiliation, the majority of respondents, 58.9% (n = 226) were Christians; whilst 40.9% (n = 157) and 0.3% (n = 1) belonged to Islam and African Traditional Religion (ATR) respectively.

Table 1: Sociodemographic characteristics respondents in the study

Variable	Category	Frequency (N = 384)	Percentage (100%)
Age groups	15-20	75	19.5
	21-25	246	64.1
	26-30	45	11.7
	31+	18	4.7
Level of study	100	54	14.1
	200	157	40.9
	300	101	26.3
	400	72	18.8
Marital status	Single	347	90.4
	Married	31	8.1
	Separated	6	1.6
Religious affiliation	Christianity	226	58.9
	Islam	157	40.9
	Traditional	1	.3
Place of residence	Urban	291	75.8
	Rural	93	24.2

Source: Field data, 2021

3.2 Knowledge on comprehensive abortion care (CAC)

Knowledge of comprehensive abortion care among students was measured with nine items on a four-point Likert scale. These items were transformed and series means were used to replace missing data. As shown in table 2, the low mean score of 17.76 (SD = 4.981) on the overall knowledge variable revealed poor knowledge of comprehensive abortion care (CAC) among students. More than half of the respondents, 59.6% (n = 229) had poor knowledge of CAC whereas 40.4% (n = 155) exhibited good knowledge. With regards to the individual items on the knowledge scale, only 31.5% (n = 121) of students knew that an abortion can be done if the pregnancy is a result of rape. Additionally, there were lower levels of knowledge about incest as a criterion for abortion [Mean = 1.80 ± .770], with only 36.7% (n = 141) of students knowing incest as a legal criterion for abortion. Again, less than half of students, 38% (n = 146) knew that abortion is allowed in cases of physical risk to the woman's health. In terms knowledge of the legality of CAC in general, 48.7% (n = 187) of the students knew that abortion is legal in Ghana, whereas 51.3% (n = 197) did not know. However, the majority of students, 68.5% (n = 263) knew that abortion is legal if the woman is mentally derailed.

Table 2: Descriptive statistics of knowledge on CAC

Knowledge items	Category	Frequency (N = 384)	Percentage (100%)	Mean	SD
CAC care is legal in Ghana	Incorrect response	197	51.3		
	Correct response	187	48.7	2.15	1.004
The hospital is the safest place to conduct CAC	Incorrect response	268	69.8		
	Correct response	116	30.2	1.65	1.043
Abortion is allowed in cases of physical risk to the woman's health	Incorrect response	238	62.0		
	Correct response	146	38.0	1.78	1.083
Abortion is legally allowed if the girl is under age 16	Incorrect response	270	70.3		
	Correct response	114	29.7	2.60	.778
Abortion can be done for pregnancy as a result of rape	Incorrect response	263	68.5		
	Correct response	121	31.5	2.18	.854
Abortion is legal if the woman is mentally derailed	Incorrect response	121	31.5		
	Correct response	263	68.5	1.89	.763
A woman has the right to have an abortion for unwanted pregnancy	Incorrect response	117	30.5		
	Correct response	267	69.5	1.87	.730
Abortion is legally allowed if the pregnancy is a result of incest	Incorrect response	243	63.3		
	Correct response	141	36.7	1.80	.770
Abortion is allowed if the fetus would have an abnormality	Incorrect response	128	33.3		
	Correct response	256	66.7	1.84	.735
Overall knowledge	Poor knowledge	229	59.6		
	Good knowledge	155	40.4	17.76	4.982

Source: Field data 2022

3.3 Attitude of students towards comprehensive abortion care (CAC)

Table 3 presents the results on the attitude of students toward CAC. The findings demonstrated a negative attitude toward CAC with a low mean score of 13.94 (SD = 3.072) on the overall attitude variable. As a result, 52.6% of respondents (n = 202) had a negative attitude, compared to 47.4% (n = 182) who had a good attitude. For the specific items on the attitude scale, just 33.1% of respondents (n = 127) agreed that CAC care is necessary, whereas 66.9% (n = 257) disagreed. Additionally, the majority of respondents, 63.3% (n = 243) and 62.2% (n = 239) disagreed that CAC is accepted by their religion and society respectively. Moreover, an overwhelming 89.6% (n = 344) agreed that they would engage in unsafe abortion when the need arises, whereas less than half (45.1%) agreed that they would undergo CAC when the need arises. A greater proportion of respondents 63.8% (n = 245) also agreed that they would encourage others to engage in CAC.

Table 3: Descriptive statistics of the attitude of students towards CAC

Attitude items	Response	Frequency (N = 384)	Percentage (100%)	Mean	SD
CAC care is necessary	Disagree	257	66.9		
	Agree	127	33.1	1.63	.939
CAC is accepted by my religion	Disagree	243	63.3		
	Agree	141	36.7	2.31	.722
CAC is accepted by my society	Disagree	239	62.2		
	Agree	145	37.8	2.24	.778
I would engage in unsafe abortion when the need arises	Disagree	40	10.4		
	Agree	344	89.6	2.00	.460
I would undergo CAC when the need arises	Disagree	211	54.9		
	Agree	173	45.1	1.74	.879

I would encourage others to engage in CAC	Disagree Agree	139 245	36.2 63.8	1.92	.803
I would associate myself with anyone who has undergone CAC	Disagree Agree	328 56	85.4 14.6	2.10	.425
Overall Attitude	Positive attitude Negative attitude	202 182	52.6 47.4	13.94	3.072

Source: Field data, 2021

3.4 Differences in knowledge based on selected demographic characteristics of respondents

A between-subject one-way ANOVA was conducted to ascertain the variations in knowledge depending on a few selected demographic factors, with the findings presented in table 4 below. The findings showed a statistically significant difference in knowledge among students in the various levels of study [$F_{(3, 380)} = 53.429$, $p = .000$]. Additionally, knowledge on CAC differed significantly on respondent's age [$F_{(3, 380)} = 3.615$, $p = .013$]. However, there was no statistically significant difference in knowledge on respondents' religious affiliation and marital status.

Table 4: Results of One-way ANOVA on the differences in knowledge based on selected demographic characteristics

Variables	**Mean Score**	**SD**	**F**	**P value**
Level of study				
Level 100	16.31	3.301		
Level 200	15.85	3.072	53.429	.000
Level 300	17.59	4.438		
Level 400	23.20	6.125		
Religious affiliation				
Christianity	17.58	4.837		
Islam	18.01	5.201	.397	.673
Traditional	16.00	.000		
Marital status				

Single	17.75	4.861		
Married	18.03	6.575	.237	.789
Separated	16.50	1.870		
Age groups				
15-20	16.46	4.140		
21-25	18.05	4.928	3.615	.013
26-30	18.95	6.392		
31+	16.05	3.621		

A follow up post hoc analysis (α= .05) showed that students in their fourth year of study had higher knowledge than level 300 students [MD = 5.614, p = .000] level 200 students [MD = 7.348, p = .000] and level 100 students [MD = 6.893, p = .000]. Additionally, students in level 300 had a statistically significant higher knowledge on CAC than students in level 200 [MD = 1.734, p = .007]. Though students in level 100 had high knowledge on CAC than students in level 200 [MD = .455], the difference was not statistically significant (Table 5). In terms of age, students between 26 – 30 years had a significantly higher knowledge than all the other age groups.

Table 5: Post hoc analysis on knowledge differences among students

I	J	Mean Difference (I-J)	Sig.
Level 100	Level 200	.45	1.000
	Level 300	-1.27	.427
	Level 400	-6.89*	.000
Level 200	Level 100	-.45	1.000
	Level 300	-1.73*	.008
	Level 400	-7.34*	.000
Level 300	Level 100	1.27	.427
	Level 200	1.73*	.008
	Level 400	-5.61*	.000

Level 400	Level 100	6.89*	.000
	Level 200	7.34*	.000
	Level 300	5.61*	.000
15-20	21-25	-1.59	.090
	26-30	-2.48*	.047
	31+	.41	1.000
21-25	15-20	1.59	.090
	26-30	-.89	1.000
	31+	2.00	.584
26-30	15-20	2.48*	.047
	21-25	.89	1.000
	31+	2.90	.214
31+	15-20	-.41	1.000
	21-25	-2.00	.584
	26-30	-2.90	.214

. The mean difference is significant at 0.05 level

3.5 Differences in attitude based on selected demographic characteristics

A between-subject one-way ANOVA was done to determine the differences in attitude based on selected demographic characteristics of respondents. As presented in table 6, there were no statistically significant variations in attitude among the selected demographic characteristics ($p > .05$). though attitude did not differ significantly with regards to level of study, level 400 students had higher mean score [Mean = 14.46 ± 3.179] on attitude than all other levels. Additionally, students who were single had higher mean score on attitude [Mean = 14.03 ± 3.139] than students who were married [Mean = 13.51 ± 1.805] and those who were separated [Mean = 11.33 ± 3.386]

Table 6: Results of one-way ANOVA on the differences in attitude based on selected demographic characteristics

Variable	Mean	SD	F	P-value
Level of study				
Level 100	13.33	2.480		
Level 200	13.94	2.900	1.395	.244
Level 300	13.90	3.491		
Level 400	14.45	3.179		
Religious affiliation				
Christianity	13.86	3.077		
Islam	14.08	3.063		
Traditional	10.00	.00	1.064	.346
Marital status				
Single	14.02	3.139		
Married	13.51	1.805	2.612	.075
Separated	11.33	3.386		
Age groups				
15-20	13.73	2.727		
21-25	14.18	3.213		
26-30	13.60	2.863	2.364	.071
31+	12.38	2.500		
Total	13.94	3.072		

4. DISCUSSION

The study sought to assess the knowledge and attitude towards comprehensive abortion care (CAC) among female students in the Tamale campus of university for development studies, Ghana. The findings from the study highlight gaps in the knowledge of students on the conditions for legal abortion in Ghana. Generally, more than half of the respondents, 59.6% (n = 229) had poor knowledge of CAC. Regarding knowledge on legality in general, only 48.7% (n = 187) knew that CAC care is legal in Ghana. Given that knowledge of abortion law is a key determinant of the utilization of safe abortion services [12], the findings in the current study must

be of great concern. However, a similar finding was reported in a very recent study in Ethiopia where 21% of the respondents had good knowledge of abortion legislation while 79% had poor knowledge [19]. In sharp contrast, the study of Ojha and Silwal [20] found that 94.4% of undergraduate students had adequate knowledge of the legalization of abortion. This variation may be a result of the target population in Ghana not receiving adequate information about their reproductive health issues, or the relatively smaller sample size (90) in the study of Ojha and Silwal [20].

Only 31.5% (n = 121) of students knew that an abortion can be done if the pregnancy is as a result of rape and 36.7% (n = 141) of students knew incest as a legal criterion for abortion in the current study. Consistent with the finding in the current study, fewer than half of medical professionals in Zimbabwe were aware that incest and fetal disability were acceptable justifications for abortion [21]. Again, less than half (38%) of students knew that abortion is allowed in cases of physical risk to the woman's health. Given the low levels of knowledge of most conditions for legal abortion among students, students who may get pregnant during their period study may patronize unsafe abortion even if they meet the conditions currently allowed under the law for legal abortion in Ghana. This was evident in this study as an overwhelming 89.6% (n = 344) of students agreed that they would engage in unsafe abortion when the need arises. It is hence crucial that students at the tertiary level who are sexually active and prone to unwanted pregnancies know the conditions for legal abortion. This may avert the complications associated with unsafe abortion, reduce the country's maternal mortality ratio and contribute significantly to the achievement of sustainable development goal three (SDG3). As a result, tertiary students should be targeted for educational programs aimed at improving knowledge of the abortion law and de-stigmatizing abortion.

In determining the differences in knowledge and attitude towards comprehensive abortion care based on selected demographics, the results showed a statistically significant difference in knowledge on level of study and age of respondents. A follow-up post hoc analyses revealed that students in their fourth year of study had higher knowledge than students in their first, second and third year of study. This finding is not surprising as students are expected to learn new things as they advance on the academic ladder. Consistent with what was reported in the current study,

Høvik [22] revealed a significantly higher knowledge of the abortion jurisdiction among final year students compared to the first-year students.

Regarding attitude towards CAC, the majority of students, 52.6% (n = 202) had a negative attitude in the present study. This finding is similar to what was reported in a study done in Spain where medicine, psychology and nursing students showed relatively anti-abortion scores (55.93, 54.19 and 53.62, respectively) [23]. In another study, almost all (99.2%) respondents demonstrated a poor attitude toward abortion [24]. On the contrary, the majority (94.30%) of the respondents in a study among undergraduate students had a positive attitude towards the legalization of abortion [20]. The disparity could be explained by the actuality of the problem in a typical African society, where abortion is widely denounced by practically all religions and cultures. This assertion was corroborated by findings in the current study where 63.3% (n = 243) and 62.2% (n = 239) disagreed that CAC is accepted by their religion and society respectively. This calls for a concerted effort to demystify the myths associated with abortion in the Ghanaian context.

5. Conclusion

Overall, the finding from the study indicates that female students in the Tamale campus of university for development studies (UDS) had limited knowledge on the legality of abortion care in Ghana. The majority of students included in the study also showed a negative attitude towards comprehensive abortion care. Finally, there was a statistically significant difference in knowledge among students in the various levels of study; however, there was no statistically significant difference in attitude towards comprehensive abortion care among students. Therefore, educational campaigns focused on increasing knowledge of comprehensive abortion care and destigmatizing abortion should be targeted at female students in tertiary institutions.

Consent

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

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