

## ORIGINAL RESEARCH ARTICLE

# Knowledge and utilisation of family planning services among tertiary students in Northern Ghana: The case of College of Nursing and Midwifery, Nalerigu

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## Abstract

Though tertiary students studying health-related programs are assumed knowledgeable about family planning, this does not always translate to increased use of family planning services. In a cross-sectional survey, this study assessed 411 nursing, midwifery and allied health students' knowledge of family planning, contraceptive use, perceptions, and factors affecting the utilisation of family planning services. Each student completed a 24-itemised questionnaire in a Computer-Assisted Personal Interviewing Survey. The data was analysed with Stata/IC version 16. Statistical significance was set at  $p < 0.05$ . Overall knowledge of family planning was 99.7%, commonly gained in school (51.8%), followed by clinics and hospitals (41.4%). Only 21.7% of the students used family planning services. Menstrual cramps (57.9%), infertility (33.1%), and weight gain (32.5%) were the commonly perceived side effects of contraceptive use. The high proximity of participants to family planning service providers and lack of community, family, and partner acceptance of modern contraceptives were associated with underutilisation. Despite the high level of knowledge of family planning, the student's utilisation of family planning services was poor. To boost family planning service uptake among tertiary health students, it is essential to tackle barriers related to community, family, and partner acceptance. This can be achieved through educational programs that involve men in family planning discussions and by enhancing service accessibility. (*Afr J Reprod Health* 2024; 28 [5]: 55-66).

**Keywords:** Family planning, knowledge, contraceptive use, rural, tertiary students, Ghana

## Résumé

Même si les étudiants du supérieur qui étudient dans des programmes liés à la santé sont censés connaître la planification familiale, cela ne se traduit pas toujours par une utilisation accrue des services de planification familiale. Dans le cadre d'une enquête transversale, cette étude a évalué les connaissances de 411 étudiants en soins infirmiers, obstétricaux et paramédicaux en matière de planification familiale, d'utilisation des contraceptifs, de perceptions et de facteurs affectant l'utilisation des services de planification familiale. Chaque étudiant a rempli un questionnaire en 24 points dans le cadre d'une enquête par entretien personnel assisté par ordinateur. Les données ont été analysées avec Stata/IC version 16. La signification statistique a été fixée à  $p < 0,05$ . La connaissance globale de la planification familiale était de 99,7 %, généralement acquise à l'école (51,8 %), suivie par les cliniques et les hôpitaux (41,4 %). Seulement 21,7% des étudiants ont utilisé les services de planification familiale. Les crampes menstruelles (57,9 %), l'infertilité (33,1 %) et la prise de poids (32,5 %) étaient les effets secondaires couramment perçus de l'utilisation de contraceptifs. La grande proximité des participants avec les prestataires de services de planification familiale et le manque d'acceptation des contraceptifs modernes par la communauté, la famille et les partenaires étaient associés à la sous-utilisation. Malgré le niveau élevé de connaissances en matière de planification familiale, l'utilisation des services de planification familiale

par les étudiants était faible. Pour stimuler le recours aux services de planification familiale parmi les étudiants de l'enseignement supérieur en santé, il est essentiel de s'attaquer aux obstacles liés à l'acceptation par la communauté, la famille et les partenaires. Cet objectif peut être atteint grâce à des programmes éducatifs qui impliquent les hommes dans les discussions sur la planification familiale et en améliorant l'accessibilité des services. (*Afr J Reprod Health* 2024; 28 [5]: 55-66).

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**Mots-clés:** Planification familiale, connaissances, utilisation des contraceptifs, milieu rural, étudiants du supérieur, Ghana

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## Introduction

The core principle for family planning is to voluntarily attain the desired number of children, to space births, and to attain the family size of interest<sup>1</sup>. As a crucial pillar of safe motherhood, family planning has reduced the rates of unintended pregnancies, unsafe abortions, and vertical transmission of HIV<sup>2</sup>. Some 85% of women who stopped contraception for various reasons in 36 countries had unintended pregnancies in the first year<sup>3</sup>. About 80 million unplanned pregnancies are documented annually, of which about 46 million are unwanted and terminated<sup>4</sup>. However, about 19 million end in unsafe abortion<sup>4</sup>.

Globally, 1.1 billion women of reproductive age (15-49 years) have family planning needs, of which about 270 million are unmet<sup>2</sup>. These unmet needs are influenced by varying grades of geographical, political, socio-cultural, religious, and psychosocial factors. These include limited physical access to contraception services, lack of adolescent-friendly reproductive health service clinics, limited choice of methods, the fear of side effects, religious and cultural oppositions, and gender-based barriers<sup>1</sup>. In deeply entrenched cultural settings, particularly evident in some African communities, men often hold significant influence over women's reproductive health, including their access to reproductive health services<sup>5,6</sup>. This dynamic can worsen gender disparities and perpetuate harmful practices like domestic violence, child marriage, teenage pregnancy, female genital mutilation, and unwanted pregnancy<sup>7,8</sup>. However, when men actively participate in family planning conversations and decisions, they can play a vital role in mitigating these obstacles by offering support, facilitating resource access, and contributing to collaborative decision-making processes<sup>9</sup>. Their engagement is essential for overcoming barriers and improving reproductive health outcomes for women, thus addressing unmet needs in the community.

The fertility rate of Sub-Saharan Africa keeps declining much slower than the rest of the world. While the global fertility rate declined from 3.2 to 2.5 births per woman between 1990 and 2019, Sub-Saharan Africa's fertility rate declined from 6.3 to 4.6 births per woman<sup>10</sup>. This low decline in fertility rate could explain the high maternal mortality rates, unsafe abortions, and poverty in Sub-Saharan Africa. About 95% of maternal mortality occurs in low-and middle-income countries, including Sub-Saharan Africa<sup>11</sup>. Also, 1 in 270 women die from unsafe abortions in Sub-Saharan Africa<sup>4</sup>. In Ghana, 23.2% of all women and 29.8% of married women used modern contraceptives as of 2020<sup>12</sup>. There are unmet contraception and family planning needs of 31.9% of married women<sup>12</sup> and 30% of all women of reproductive age<sup>13</sup>. The factors influencing these unmet needs may not differ from the global perspectives, hence the need to investigate.

Health promotion practices including education and information dissemination play critical roles in meeting these unmet needs. A series of educational programs are rolled out to sensitise targeted Ghanaian communities on the need for family planning<sup>12</sup>. However, these programs typically target the informal populations within indigenous communities. Tertiary students in nursing and midwifery colleges are rightly classified as an educated and well-informed class of to-be professionals. However, they are frequently neglected on issues about their health particularly reproductive health since they are perceived to be health-inclined. Moreover, the targeted tertiary training institution in this study is located in a community with a strong cultural heritage and deeply ingrained traditional practices. The purpose of this cross-sectional study was to assess the knowledge of family planning, contraceptive use, perceptions and factors affecting the utilisation of family planning services among students of the College of Nursing and Midwifery, Nalerigu. This study aligns with Sustainable Development Goal 3 (SDG 3) on ensuring equitable healthy lives and

promoting well-being for all at all ages, particularly target 3.7, which aims to ensure universal access to sexual and reproductive health-care services, including family planning, by 2030<sup>14</sup>.

## Methods

### *Study design and study site*

This cross-sectional study was conducted in the College of Nursing and Midwifery, Nalerigu, Ghana, between August 2022 and June 2023. This training institution in Nalerigu in the Northeast Region of Ghana is mandated to train nurses, midwives, and allied health professionals to meet the workforce needs of the Northern belt and Ghana at large. Moreover, the region is known for its vibrant cultural heritage, characterized by a diverse array of traditions, customs, and practices.

### *Study population*

The study comprised solely of students from the training institution who provided their consent to participate. This included students from three departments: Nursing, Midwifery, and Allied Health, spanning across all academic years (1<sup>st</sup> to 3<sup>rd</sup> year). Eligible participants were aged 18 years and above, representing both genders. However, it is noteworthy that the training institution is predominantly composed of women, given the limited enrollment of men, particularly in the nursing program, and no enrollment in the midwifery program in Ghana. Teaching and non-teaching staff of the institution were ineligible to participate in the study.

### *Survey instrument and data collection procedures*

A 24-itemised questionnaire (provided as supplemental data) was deployed in a Computer-Assisted Personal Interviewing (CAPI) Survey. This questionnaire was adapted from the validated Demographic & Health Survey (DHS) Woman's Questionnaire Topics (WQT) and Man's Questionnaire Topics (MQT)<sup>15</sup> and the Challenge Initiative's media-stakeholder questionnaire for assessing the knowledge, attitude, and practices on

family planning<sup>16</sup>. The questionnaire consisted of questions on socio-demographic information, knowledge about nursing and midwifery students on family planning services, attitudes toward using family planning services, and barriers to the available family planning methods. We approached five hundred and twelve (512) students with the CAPI, of which 411 responded successfully. The reported non-response rate was 19.7%. The convenience sampling technique permitted only available and consenting participants to participate in the study.

### *Sample size determination*

The minimum required sample size for the study was calculated with the Yamane sample size formula<sup>17</sup>. The minimum sample size required for the study was 379.

$$n \geq \frac{N}{1+Ne^2}$$

Where:

n = sample size required.

N= The student population= 7000

e=Margin of error (5% =0.05).

$$n \geq \frac{7000}{1+7000(0.05)^2} \\ \geq 379$$

### *Study variables*

#### *Outcome variable*

Knowledge of family planning and contraceptive use were the outcome variables. We defined family planning as all measures employed by the students to voluntarily attain the desired number of children, to space births, and to attain the family size of interest. However, contraceptives were defined as all methods used to prevent conception or pregnancy.

Knowledge of family planning was assessed with the student's cumulative score based on their binary responses of "True" and "False" to the following statements: Family planning helps to plan the number of children I wish to have, Family planning helps to decide when to get pregnant, Family planning helps to space the number of children I wish to have, and contraceptives have side effects. The students with a cumulative score

of  $\geq 77\%$  were considered to have good knowledge<sup>18</sup>.

Similarly, two (2) independent and close-ended questions were asked to assess the students' contraceptive use: "Have you ever used contraception?" and "Do you currently use contraception?".

However, we used the students' current contraceptive use in the logistic regression models developed in the study.

### ***Independent variables***

The independent variables were the students' socio-demographic information: Age (years), sex in binary (Male/Female), year of study, program of study, marital status, number of children, and religion.

### ***Statistical analysis***

The data was extracted into Microsoft Excel spreadsheets (Microsoft Office version 2016)<sup>19</sup>, cleaned, and coded for statistical analysis. Stata version 16.0 software was used for the statistical analysis<sup>20</sup>. Descriptive statistics were run on the data to describe student socio-demographic characteristics, knowledge, and practices. Multinomial logistic regression was performed to predict the factors influencing students' underutilisation of contraceptives with the outcome variable coded as 1(yes, success) and 0(no, failure). Both crude and adjusted models were used. We adjusted for age, sex, class, program of study, marital status, number of children and religion. Statistical significance was considered at  $p < 0.05$ , at a 95% confidence level. The results were presented in tables and graphs.

### ***Institutional review board***

This study received full approval from the Committee on Human Research, Publications, and Ethics at the Kwame Nkrumah University of Science and Technology (CHRPE/AP/526/22). Permission was received from the College of Nursing and Midwifery, Nalerigu, to conduct the study at the training institution. The students signed

written informed consent before participating in the study.

## **Results**

### ***Socio-demographic information of the students***

A total of 411 students participated in the study (Table 1). Among them, more than half (59.4%) were between 18 and 24 years old, and the majority (97.1%) were females. About two-fifths of the students were in their first year of study (40.2%), and the most common programs were midwifery (38.7%) and nursing (36.0%). Most students were single (81.8%) and had no children (84.7%). Additionally, over one-third of the participants (38.7%) reported practising the Muslim religion.

### ***Students' knowledge of family planning***

Of the 411 students that participated in the study, 354 of them (86.1%) reported having ever heard of family planning (Figure 1A); disproportionately, this was more common among female students ( $n=343$ , 96.9%). When asked how they had gained knowledge on family planning (Figure 1B), three-fifths ( $n=213$ , 60.2%) of students reported that it was through school, followed by clinics or hospitals ( $n=170$ , 48.0%). Among the students who had ever heard of family planning (Figure 1C), the majority ( $n=353$ , 99.7%) had good knowledge of family planning, with an average knowledge score of 94.7%.

### ***Knowledge of contraceptives and utilisation***

Close to two-thirds of the survey students ( $n=260$ , 63.3%) indicated they had used contraception at some point (Figure 2A). However, at the time of the survey, only about a fifth of the students ( $n=89$ , 21.7%) reported currently using contraception. Among students who reported knowing family planning ( $n=345$ , 86.1%), condoms ( $n=206$ , 59.7%) and pills ( $n=201$ , 58.3%) were the most well-known contraceptive methods (Figure 2B). Among those

**Table 1:** Socio-demographic characteristics of students enrolled at the College of Nursing and Midwifery, Nalerigu, Ghana, from August 2022 to June 2023

Socio-demographic characteristics	n(%) N=411
<b>Age (years)</b>	
18-24	244(59.4)
25-30	152(36.9)
31-36	15(3.7)
<b>Sex</b>	
Male	12(2.9)
Female	399(97.1)
<b>Year of Study</b>	
1 <sup>st</sup> year	165(40.2)
2 <sup>nd</sup> year	94(22.9)
3 <sup>rd</sup> year	152(36.9)
<b>Program of study</b>	
Nursing	148(36.0)
Midwifery	159(38.7)
Allied Health	104(25.3)
<b>Marital status</b>	
Single	336(81.8)
Married	64(15.6)
Cohabiting	9(2.2)
Separated/ Divorced	2(0.4)
<b>Number of children</b>	
None	348(84.7)
One	40(9.7)
Two	16(3.9)
More than two	7(1.7)
<b>Religion</b>	
Catholic Christian	69(16.8)
Charismatic Christian (Pentecostal, One-man church)	116(28.2)
Protestant Christian (Methodist, Presbyterian, Anglican)	65(15.8)
Muslim	159(38.7)
None	2(0.5)

who reported currently using contraception (n=89, 21.7%), over half use pills (n=48, 53.9%).

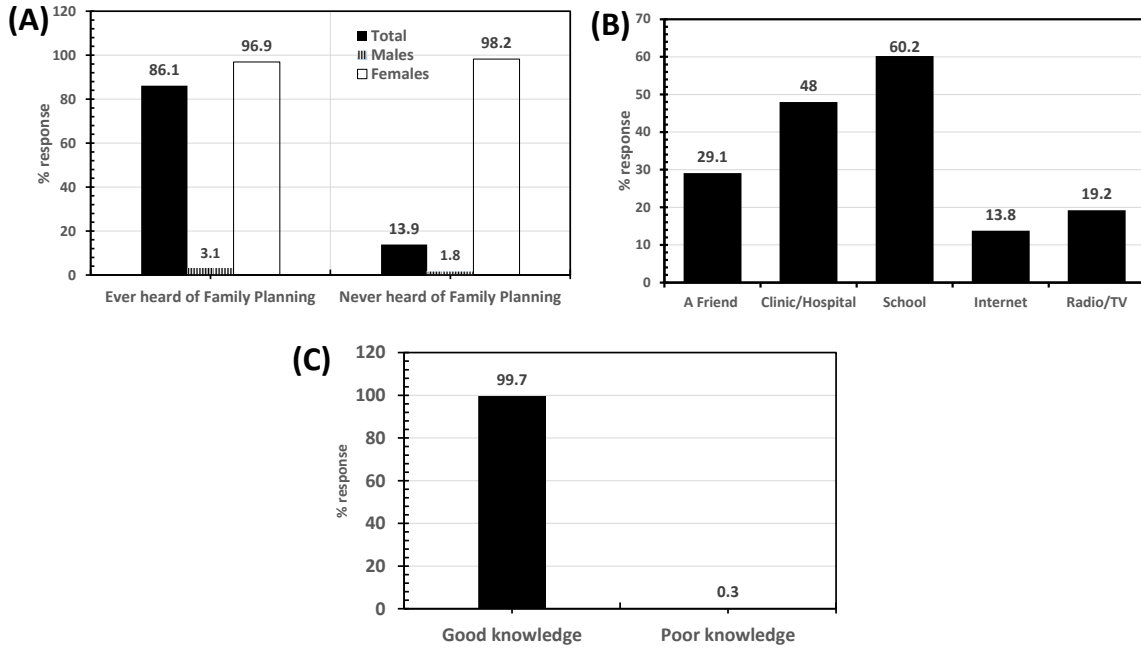
### ***Students' perceptions and reasons for not using contraceptives***

Figure 3A shows that the majority of students have the perception that the use of contraceptives causes

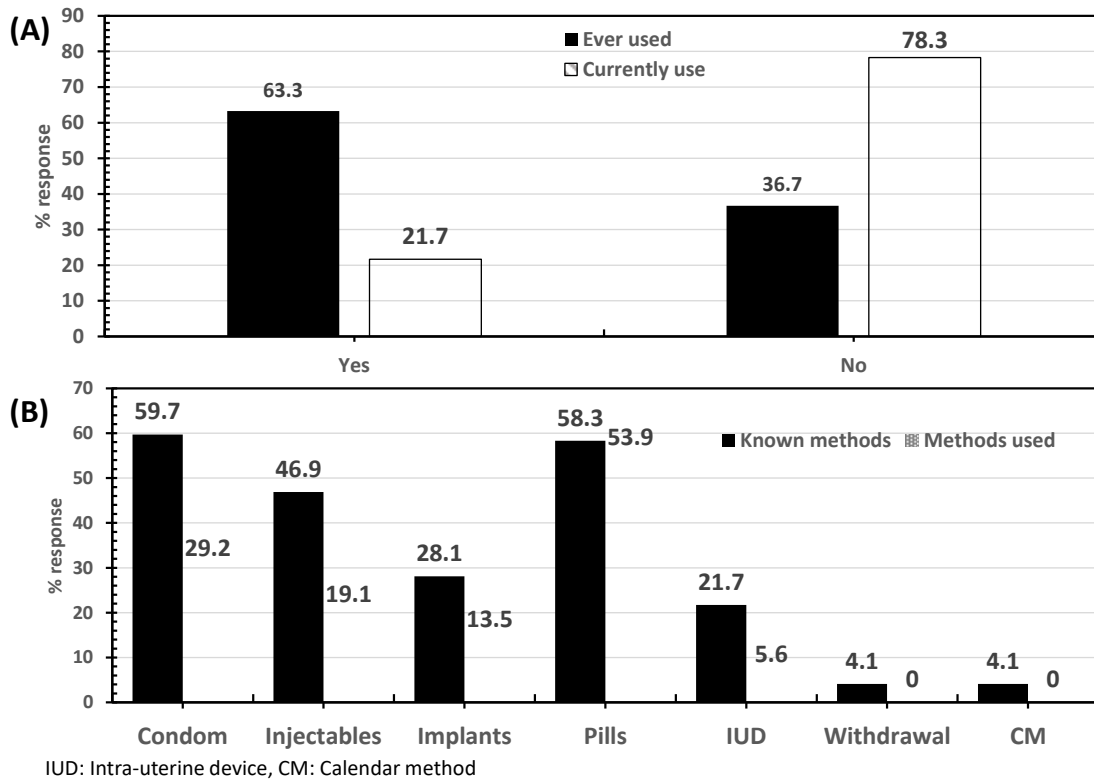
menstrual cramps (n=205, 57.9%), followed by infertility (n=117, 33.1%) and weight gain (n=115, 32.5%). Figure 3B shows that the majority (n=171, 53.1%) of the students do not use contraceptives due to fear of infertility associated with modern contraceptives.

### ***Factors that influence the students' likelihood of underutilising contraception***

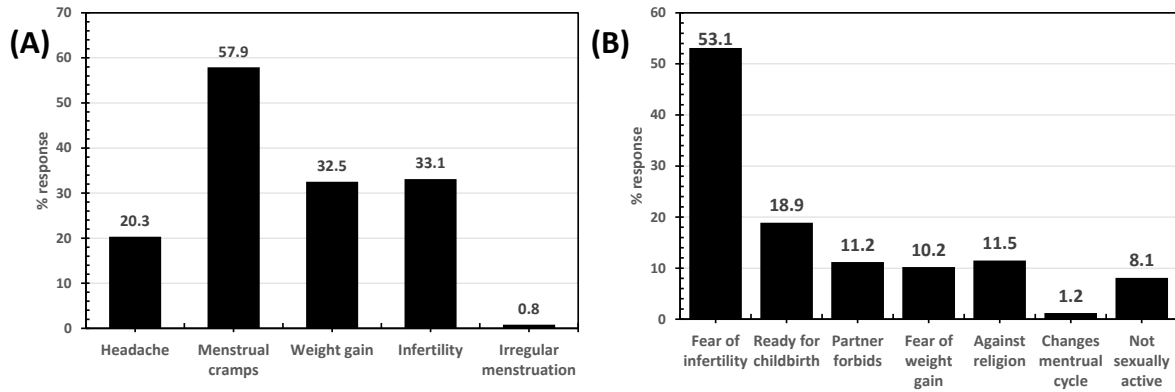
Age, number of children, access to family planning service providers, community acceptance, family acceptance, and partner acceptance significantly influenced the underutilisation of contraceptives by the students (Table 2). The likelihood of underutilising contraceptives increased with age, adjusting for all other variables in Table 2. Specifically, students between the ages of 25 and 30 were twice as likely [AOR(95%CI), pval: 2.04(1.14-3.65), 0.016] not to utilise contraceptives compared to those aged 18 to 24. Also, students with more than two children were twice as likely [AOR(95%CI), pval: 2.27(1.02-5.04), 0.044] not to utilise contraceptives compared to those with no children. Similarly, students aged 31-36 years old were five times more likely to refuse contraceptives [AOR(95%CI), pval: 5.36(1.05-27.47), 0.044]. Controlling for all other variables in Table 2, the odds of refusing family planning services increased with access to family planning service providers. Students who travelled between 1 and 5km to access family planning services were three times more likely [AOR(95%CI), pval: 3.09(1.36-7.00), 0.007] not to utilise family planning services compared with their colleagues who only travelled less than ½km. However, this was four times more likely for students who had to travel more than 5km [AOR(95%CI), pval: 4.04(1.38-11.81), 0.011]. Students whose families did not accept family planning were twice as likely to refuse the methods [AOR(95%CI), pval: 2.33(1.19-4.56), 0.014]. Similarly, those whose partners did not accept family planning were five times more likely to refuse it [AOR(95%CI), pval: 5.42(2.64-11.11), <0.001]. The odds of refusing contraceptives did



**Figure 1:** Students' knowledge of family planning (A) Ever heard of family planning (B) Source of knowledge (C) Overall knowledge of family planning



**Figure 2:** Knowledge of contraceptives and utilisation (A) Proportion of students who have ever used family planning methods versus those who currently use (B) Students' knowledge on contraceptives and utilization



**Figure 3:** Perceptions of contraception and utilisation among students (A) Perceived side effects of contraceptive use (B) Reasons for underutilising contraceptives

**Table 2:** Factors affecting the likelihood of students underutilising contraceptives

Variable	Crude OR(95%CI)	P-value	Adjusted AOR(95%CI)	P-value
<b>Age (years)</b>				
18-24	1		1	
25-30	1.51(0.91-2.51)	0.112	2.04(1.14-3.65)	<b>0.016*</b>
31-36	2.12(0.46-9.66)	0.332	5.36(1.05-27.47)	<b>0.044*</b>
<b>Sex</b>				
Male	1		1	
Female	1.21(0.32-4.58)	0.776	1.40(0.36-5.53)	0.628
<b>Marital status</b>				
Single	1		1	
Married	0.57(0.31-1.04)	0.065	0.53(0.25-1.14)	0.105
Cohabiting	0.24(0.06-0.98)	<b>0.048*</b>	0.27(0.06-1.14)	0.074
Separated/ Divorced	0.48(0.04-5.37)	0.551	0.33(0.03-4.35)	0.401
<b>Number of children</b>				
None	1		1	
One	1.06(0.30-3.69)	0.928	0.85(0.22-3.28)	0.818
Two	1.20(0.21-7.05)	0.837	0.62(0.09-4.15)	0.618
More than two	1.95(0.96-3.97)	0.067	2.27(1.02-5.04)	<b>0.044*</b>
<b>Year of Study</b>				
1 <sup>st</sup> year	1		1	
2 <sup>nd</sup> year	1.04(0.57-1.91)	0.899	0.79(0.41-1.53)	0.479
3 <sup>rd</sup> year	1.22(0.71-2.09)	0.476	1.34(0.72-2.49)	0.358
<b>Program of study</b>				
Nursing	1		1	
Midwifery	0.65(0.37-1.14)	0.130	0.59(0.34-1.07)	0.084
Allied Health	0.61(0.33-1.13)	0.117	0.57(0.30-1.09)	0.092
<b>Religion</b>				
Catholic Christian	1		1	
Charismatic Christian (Pentecostal, One-man church)	1.54(0.76-3.09)	0.228	1.39(0.67-2.85)	0.376
Protestant Christian (Methodist, Presbyterian, Anglican)	1.68(0.74-3.81)	0.216	1.56(0.67-3.65)	0.302
Muslim	1.35(0.70-2.57)	0.368	1.27(0.64-2.51)	0.497
<b>Perceived side effects</b>				

Yes	1.11(0.65-1.91)	0.706	1.14(0.65-1.98)	0.656
No	1		1	
<b>Distance from the nearest family planning service provider</b>				
Less than ½km	1		1	
Between ½ and 1km	1.60(0.83-3.08)	0.160	1.71(0.86-3.41)	0.128
Between 1 and 5km	2.73(1.27-5.89)	<b>0.010*</b>	3.09(1.36-7.00)	<b>0.007*</b>
More than 5km	3.05(1.08-8.59)	<b>0.035*</b>	4.04(1.38-11.81)	<b>0.011*</b>
<b>Community acceptance</b>				
Yes	1		1	
No	0.73(0.27-1.97)	0.535	0.74(0.27-2.06)	0.570
I can't tell	2.22(1.12-4.40)	<b>0.022*</b>	2.43(1.19-4.93)	<b>0.014*</b>
<b>Family acceptance</b>				
Yes	1		1	
No	2.42(1.26-4.65)	<b>0.008*</b>	2.33(1.19-4.56)	<b>0.014*</b>
I can't tell	2.02(1.04-3.90)	<b>0.037*</b>	1.98(1.00-3.95)	<b>0.050*</b>
<b>Partner acceptance</b>				
Yes	1		1	
No	5.36(2.67-10.75)	<b>&lt;0.001*</b>	5.42(2.64-11.11)	<b>&lt;0.001*</b>
I can't tell	4.86(1.64-14.10)	<b>0.004*</b>	4.77(1.57-14.47)	<b>0.006*</b>

not significantly differ by sex, marital status, year of study, the program of study, religion and perceived side effects.

## Discussion

Safe and effective family planning methods have proven to offer freedom for populations to consciously plan their sexual and reproductive lives, while others, such as barrier methods, have immensely contributed to controlling sexually transmitted infections (STIs)<sup>2</sup>.

Overall, a significant proportion (86.1%) of the students were aware of family planning, aligning with findings from a related study among tertiary students at the University of Ghana, where 94% of students were familiar with family planning<sup>21</sup>. However, our reported proportion demonstrates a slightly lower level of awareness. This variation may be attributed to the distinct socio-cultural characteristics of the student populations and communities in which the two tertiary institutions are located. The University of Ghana holds the distinction of being the oldest and most prestigious university in Ghana. Nestled within Accra, the nation's capital and seat of government, this esteemed institution is located in Legon, an urban erudite community in the Ayawaso West Municipality. However, the College of Nursing and Midwifery is situated in Nalerigu, a

community with a rich cultural heritage and entrenched in its traditional practices, making it less exposed to contemporary ideas like family planning. Another study conducted among tertiary students in the middle belt of Ghana showed that 79.6% were aware of family planning and could provide some information in that regard<sup>22</sup>. Jurisdictional and socio-cultural disparities and inequitable access to information may have influenced the lower proportion recorded in this study.

This study showed that 99.7% of the students who had ever heard of family planning had good knowledge. This result agrees with the findings of a study conducted among college undergraduate students who are adequately exposed to information on family planning through both traditional and technological sources in Sikkim, India<sup>23</sup>. However, the finding observed in this study was notably higher compared to previous studies conducted in Northwest Ethiopia (42.3%)<sup>18</sup>, four other emerging regions in Ethiopia (43.4%)<sup>24</sup> and in the Hai district of Northern Tanzania (67.4%)<sup>25</sup>. These disparities could be due to differences in the study populations across the various studies. The two studies in Ethiopia targeted women of reproductive age, irrespective of educational background. In contrast, our study focused on nursing, midwifery, and allied health students who are more exposed to information, particularly



through their facilitators in a classroom setting. On the contrary, the study in Tanzania was conducted among adolescents in secondary schools, who may be less exposed to information compared to our study population.

The findings that students commonly gained knowledge on family planning through school (60.2%) and health facilities (48%) contradicted a study conducted in Nigeria, which showed that friends (41.7%) and relatives (33.3%) were the most common sources of family planning information among undergraduate tertiary students<sup>26</sup>. Another study conducted in the middle belt of Ghana, similar to our research, showed that health facilities (28.8%) were among the primary sources of knowledge on family planning among tertiary students<sup>22</sup>. The high use was attributed to the students' knowledge of family planning methods. In the current study, though the majority of the students had high knowledge of condoms, the majority preferred pills. This finding aligns with a similar study among tertiary students in Ethiopia<sup>27</sup>. However, it contradicts with a nationally representative survey in Ghana, where condoms (22%) were preferred to other forms of contraceptives<sup>28</sup>.

The findings of this study suggest that high exposure to information on family planning does not necessarily reflect high utilisation of family planning methods, as only 21.7% of students in this study used family planning services. Despite their educational status and the generally young student population, the majority of students perceived the use of contraceptives to commonly cause menstrual cramps, followed by infertility and weight gain tendencies. These findings are consistent with similar studies conducted in Kwale County, Kenya<sup>29</sup>, southeast Nigeria<sup>30</sup>, and South Africa<sup>31</sup>. The research conducted in Kenya identified fear of cancer (59.4%), fear of giving birth to deformed babies (51.2%), fear of infertility (59.4%), and weight gain (68.6%) as the top reasons for not using contraceptives among the contact group<sup>29</sup>. Also, a qualitative study from south-east Nigeria reported that some adolescents perceived that condoms reduce sexual pleasure and hence prefer to use misconceived methods such as hard drugs and laxatives to avoid pregnancy<sup>30</sup>. A qualitative study in South Africa also outlined misconceptions such

as fear of weight gain and infertility as the most common reasons for non-contraceptive use among young adults<sup>31</sup>. While these misconceptions and myths may not be new, it is alarming when these findings are reported among an educated population, particularly health students receiving training to become health professionals.

The current study identified increased age, proximity to health facilities, and lack of community, family and partner acceptance of family planning as barriers to contraceptive use. These findings align with various studies conducted among underserved and hard-to-reach communities in low and middle-income countries, including sub-Saharan Africa in general<sup>32</sup>, Zambia<sup>33</sup>, Kenya<sup>34</sup>, Conakry, Guinea<sup>35</sup> and Ghana<sup>21</sup>. Generally, a systematic review conducted in sub-Saharan Africa established societal and cultural pressures on women, financial instability and lack of access to services as the common barriers to family use in the sub-region<sup>32</sup>. As shown in the Zambian study, women's likelihood of contraception decreases as they grow older because they become more focused on conception rather than preventing pregnancy<sup>33</sup>. Increased distances to service providers also hinder family planning as they restrict access<sup>36</sup>. Akamike and colleagues discussed the implications of a lack of family and partner support on women who use family planning<sup>37</sup>. Similar to Nalerigu, in most traditional and culture-enriched settings, community norms such as the father making all family decisions as the head of the family, the belief that children are a blessing from a supreme being, and control of family assets and finances by the father negatively affect the use of family planning by women<sup>38</sup>. In addition, the studies in Conakry, Guinea<sup>35</sup> and Ghana<sup>21</sup> showed that misinformation and misconceptions, such as attributing contraceptives to cancer and family planning methods reserved for married couples, restricted family planning services.

Using computer-assisted personal interviewing, students may shy away from sharing their sexual and reproductive lives with others, which may have informed some of their responses. This limitation might overestimate or underestimate the proportions recorded. Also, mixed methods could have adequately gathered more evidence of their personal experiences with family planning

methods. However, the minimum required sample size was used to adequately inform the validity of the findings compared with similar studies. The study may be generalised and comparable with similar underserved settings in low and middle-income countries. Similarly, adequate and detailed statistical analysis with 95% confidence puts high trust in the quantitative findings.

## Conclusion

While the knowledge of family planning was high among students enrolled at the College of Nursing and Midwifery, Nalerigu, Ghana, contraceptive utilisation was poor, mainly due to misconceptions and perceptions about family planning. Though the misconceptions noted among these students were not unique to them, it was pretty alarming to have them reported among an educated population, particularly health students receiving training to become health professionals. Lack of physical access to family planning services due to long proximity to service providers and lack of support from families and partners were also the barriers women face in culturally rich settings like Nalerigu, compounded by misconceptions and perceptions. This situation highlights the urgent need to provide education on family planning in tertiary institutions. Moreover, the Ghana Education Service in collaboration with the Health Promotion, Reproductive and Child Health arms of the Ghana Health Service should take proactive measures to establish accessible service delivery points within these tertiary institutions and to revisit current health programs, ensuring that students can easily access family planning services when needed. Ultimately, this study should promote equitable knowledge sharing among both formal and informal populations, and physical access to affordable family planning methods.

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