



Doi: <https://dx.doi.org/10.4314/joma.v7i1.4>

KNOWLEDGE ATTITUDE AND PRACTICE OF CONTRACEPTIVE USE AMONG FINAL YEAR MEDICAL UNDERGRADUATES IN THE UNIVERSITY OF CALABAR, CROSS RIVER STATE, NIGERIA.

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ABSTRACT

BACKGROUND

Globally, the rate of risky sexual behaviors among young undergraduates remains a public health concern. A wide body of evidence underscores the negative consequences of poor sexual and reproductive health. Despite the proven benefits of contraception, the knowledge, attitude and use of contraceptives among healthcare workers who ought to be advocates have been inadequate. We set out to determine these variables among soon-to-be medical doctors in a Nigerian tertiary institution.

METHODS/SUBJECTS:

We conducted a cross-sectional descriptive study among 83 final-year medical undergraduates of the University of Calabar, Cross River State using an interviewer-administered questionnaire. Study participants were selected by simple random sampling by balloting and data was analyzed using SPSS version 23. Results were presented using descriptive statistics.

RESULTS

Mean age of participants was 25.4 ± 2.0 . The results showed a predominance of good knowledge about contraception among the participants (73, 88%) irrespective of age, gender, marital status and religion. However, most of the participants (53, 63.9%) had poor attitude towards contraception. Concerning practice of contraception, there was a high prevalence (62.7%) of contraceptive use among our respondents as condoms were the predominant contraceptive method used with Pharmacy stores being the common source of obtaining these contraceptives.

CONCLUSION:

This research investigated the knowledge, attitude, and practice of final-year medical students on contraception. An important finding emerging from this study is that the majority of the participants had a poor attitude toward contraception despite having a good level of knowledge of contraception.

KEYWORDS:

Adolescent health, Undergraduates, Contraception, sexual and reproductive health

BACKGROUND

Globally, pregnancy and childbirth among young people remain a major public health issue.^{1, 2} Ensuring easy access to Sexual and

and Reproductive Health (SRH), including modern contraceptive methods is a vital step toward achieving the Sustainable Development Goals 3 and 5.3 Evidence reveals that Africa is still very much behind in this regard,^{2, 3} despite efforts and progress made toward achieving these goals. The effects of poor knowledge of Sexual and Reproductive Health issues have been said to be especially more detrimental among young people.⁴ Published literature has reported low SRH knowledge

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among undergraduates,^{5,7} and that has to a certain degree contributed to a proportion of unintended pregnancies and unsafe abortions in young people,⁸ underscoring the public health concern. Furthermore, it has been reported that approximately 44% of pregnancies are unplanned.^{8,10} A combined data from routinely collected national statistics, Demographic and Health surveys, Reproductive Health surveys, and national and sub-national studies, involving 61 countries showed that, of the 25.1 million unsafe abortions occurring globally, 97% were from developing nations in Africa, Asia, and Latin America.¹¹

In Nigeria, high-risk sexual behavior including unprotected sexual intercourse is very common among young people.^{12,13} In a survey of two Nigerian universities, only 38.6% and 26.1% of respondents who had engaged in sexual activity in the preceding year used condom and after sex contraception respectively, inferring a high rate (61.4%) of unprotected sexual intercourse among participants.¹² Sexual debut, defined as first incident of sexual intercourse prior to 15 years, was reported to be 14.5% for females in Nigeria¹⁴ and the attendant negative SRH outcomes associated with high-risk sexual behaviors like higher risks of sexually transmitted infections, HIV, unintended pregnancy, unsafe abortion are likely to be higher¹⁵

Young people have a peculiar worldview, different from older persons, towards different domains of life. Their knowledge and attitude towards contraceptive use or family planning services may be in sharp contrast to what is seen in middle-aged to elderly adults. To maintain good sexual and reproductive health, young people must be adequately informed with the right knowledge, and helped to develop the right attitude to protect themselves against unplanned pregnancies and sexually transmitted diseases (STD). Most undergraduates are probably within this adolescent and young adult age group.⁴ However, despite the variety of contraceptive methods available, the use of contraceptive methods is still short of the level required to achieve significant reduction in the number of unintended pregnancy, abortions, STD and maternal mortality in the country. Some particular factors are responsible for this problem, some of which include lack of knowledge about contraceptive methods, poor attitudes towards making correct contraceptive decisions and healthcare providers who are poorly trained in contraceptive counseling.¹⁶

It is expected that doctors and healthcare professionals serve as a reliable source of information on contraception and other sexual and reproductive health concerns.¹⁷ As future doctors, they represent a whole new generation of contraceptive counselors who would provide non-judgmental adolescent friendly SRH services for several decades after graduation.

Several published literatures have outlined the relationship between knowledge of contraceptives, attitudes towards and its use. Interestingly, a considerable number has shown that knowledge of contraceptive methods does not always translate to use.¹⁷⁻²¹

Health workers and medical students in training must be well informed about contraception, have good attitude towards it, and be seen to have good SRH practice in order to make sure they can provide appropriate contraceptive counseling to prospective clients and patients.

To underscore the above point, a previous study among medical undergraduates in India revealed that medical students have misconceptions about modern contraceptives; this is detrimental because these students will play the role of contraception counselors in the future.¹⁶ Studying their level of knowledge, attitude and practice will enable us know what interventions can be tailored towards behavioral change, in view of the vital contributions they will make in the near future. Furthermore, we seek to assess only final year medical students, just prior to their entry into the medical profession, being the immediate front-line workers that will offer sexual and reproductive care in the immediate future.

METHODS

Study Setting and Participants

This study was done in the University of Calabar, Calabar among 83 final year undergraduate medical students. The University is a federal tertiary institution located in Calabar, in Southern part of Nigeria. The university has eighteen (18) faculties including the College of Medical Sciences which caters for over 600 medical students in the faculty.

Study design and Sampling

We employed a descriptive cross-sectional study design to assess the knowledge, attitude and practice of final year undergraduates towards contraception. Study participants were

recruited using simple random sampling technique by balloting where the official class list of the 2020/2021 final year medicine and surgery students served as the sampling frame. The sample frame had a total of 104 final year medical undergraduates. 104 paper sheets were cut into small sized square shaped pieces, 83 out of those papers had 'Yes' written on them while the remaining 21 papers had 'No' written on them. The papers were folded in equal sizes, concealed and put in an opaque box which was then shuffled to mix up the papers. Thereafter, each student took turns picking one piece of paper each from the box while their eyes were closed. Those that picked up pieces with 'Yes' written on them were recruited into the study while those that picked 'No' were excluded from the study. After receiving information about the study, those who volunteered to participate were given the 37-item interviewer-administered questionnaire to complete.

The Health and Research Ethical Committee of the University of Calabar Teaching Hospital approved the study (Ethical Approval Number). The inclusion of study participants was voluntary and informed consent was obtained from each participant. They were also assured of anonymity and confidentiality.

The questionnaires were pretested among final year students of the faculty of Dentistry in the University of Calabar who were not included in the main study. The questionnaire assessed information on the socio-demographic characteristics of the respondents (9 items); knowledge of contraceptive methods (7 items); attitudes of respondents towards contraception (1 item); sexual behavior and practice of contraceptive use among respondents (20 items).

Statistical Analysis

Data was coded and analyzed using the Statistical Package for Social Sciences (SPSS) version 23. For the descriptive analysis, data was summarized using frequencies and proportions and presented using frequency tables, bar charts and pie charts, while for the continuous variables, means and standard deviations were used. For inferential statistics, chi square test statistics was used to test for associations between categorical variables at a level of the significance of <0.05

RESULTS

Eighty-three final year medical undergraduates of the University of Calabar were studied. The response rate was 100%.

The mean age of the respondents was 25.4 ± 2.0 years. Most of the respondents

(59, 71.1%) were in the age group of 25 years and above. The socio-demographic characteristics of the respondents are shown in Table 1.

TABLE 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS (n=83)

Variables	Frequency (%)
Age in years	
<25	24 (28.9)
≥25	59 (71.1)
Mean Age ± SD in years	25.4 ± 2.0
Sex	
Males	34 (41.0)
Females	49 (59.0)
Place of upbringing	
Rural	11 (13.3)
Urban	72 (86.7)
Place of residence in Calabar	
University Hostel	50 (60.2)
Off – campus residence	33 (39.8)
Current Relationship Status	
Single, no sexual relationship	46 (55.4)
Single, in a sexual relationship	33 (39.8)
Married	3 (3.6)
Co-habiting	1 (1.2)
Religion	
Catholic	17 (20.5)
Protestant	66 (79.5)
Number of children	
None	80 (96.4)
Two	3 (3.6)

The level of awareness about contraceptives was high among the respondents with all (83, 100%) being aware of it. Overall, (73, 88%) of the respondents had good knowledge on contraceptive methods while (10, 12%) had poor knowledge. A high proportion of the respondents (30, 36.1%) had poor knowledge on the contraindications to contraceptive use. Lectures (77.1%) were the greatest source of information about contraception among the respondents, followed by the Internet (57.8%) The least source of information about contraception was their partners (12%) and their parents/relatives (8.4%). Overall, majority of the respondents (53, 63.9%) had poor attitude towards contraception while the rest (30, 36.1%) had good attitude. Most of the respondents (54, 65.1%) agreed that contraceptives can diminish sexual pleasure. Most of the respondents are of the opinion that contraceptives encourage promiscuity (38, 45.8%). About a third of the respondents (19, 22%) agreed that prolonged use of contraceptives could result in sterility. more than half (52, 62.7%) of the respondents had used a method of contraception in the past while the others (31, 37.3%) have not. Condoms (49, 59%) were the predominant contraceptive method used by the respondents. Majority of the study population (35, 42.2%) preferred abstinence as a form of contraception compared to other methods of contraception. Most of the respondents (38, 45.8%) use contraceptives sometimes when they had sex. However, only about a quarter of the respondents (16, 19.3%) always use contraceptives when they have sex. Pharmacy stores (47, 56.6%) were the greatest source of obtaining contraceptive devices among the respondents, followed by friends/peers (12, 14.5%). None of the respondents reported to have obtained contraceptives from the university medical center.

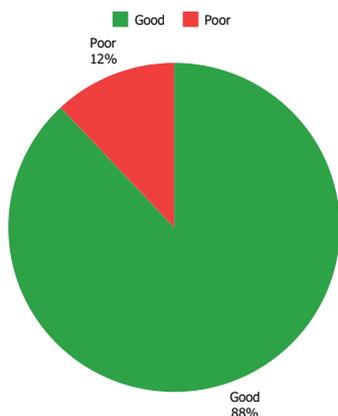


Figure i: Overall knowledge of contraception among respondents

TABLE 2: ATTITUDE OF RESPONDENTS TOWARDS CONTRACEPTION (n=83)

Variables	Frequency (%)
ATTITUDE TOWARDS CONTRACEPTION	
Contraceptives can diminish sexual pleasure	
Disagree	9(10.8)
Not Sure/I don't know	20(24.1)
Agree	54(65.1)
Contraceptives have too manyside effects	
Disagree	31(37.3)
Not Sure/I don't know	25(30.1)
Agree	27(32.5)
Prolonged use of contraceptives could result in sterility	
Disagree	33 (39.8)
Not sure/I don't know	31 (37.3)
Agree	19 (22.9)
Contraceptives encourage promiscuity	
Disagree	30 (36.1)
Not sure/I don't know	15 (18.1)
Agree	38 (45.8)
Cultural norms and Religion can influence contraceptive use in Calabar	
Disagree	19 (22.9)
Not sure/I don't know	25 (30.1)
Agree	39 (47.0)
Health workers in Family planning units have friendly attitude towards unmarried women	
Disagree	24 (28.9)
Not sure/I don't know	30 (36.1)
Agree	29 (34.9)
Contraceptive services should be rendered for free to students in the University campus	
Disagree	17 (20.5)
Not sure/I don't know	9 (10.8)
Agree	57 (68.7)
NN	

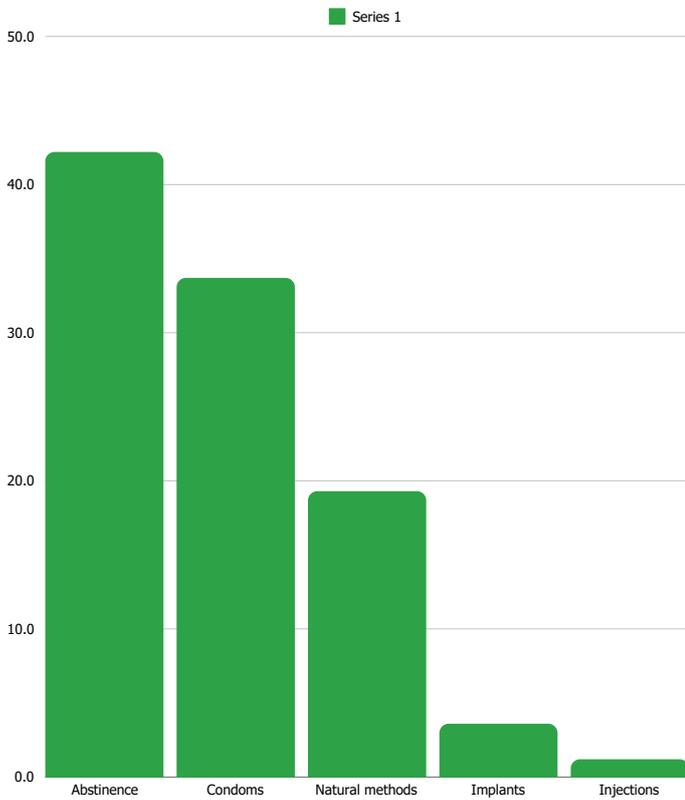


FIGURE II: MOST PREFERRED METHOD OF CONTRACEPTION

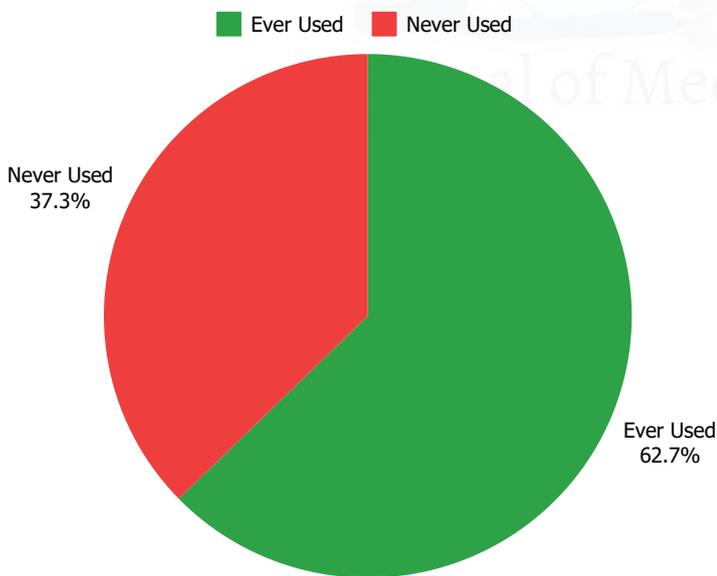


FIGURE III: PREVALENCE OF CONTRACEPTIVE USE

DISCUSSION

Knowledge and or awareness of Contraception Overall, (73, 88%) of the respondents had good knowledge on contraceptive methods while (10, 12%) had poor knowledge. This finding is in line with other studies in Ethiopia, Cameroun and Malaysia where study participants were knowledgeable about contraception.^{7, 22, 23}

A possible explanation may be that being final year medical students, they have over the course of many years had in-class lectures and practical learnings on contraception or family planning. This is supported by findings in studies conducted in Nigeria and elsewhere that undergraduate students from medical disciplines had better knowledge of contraception than their non-medical counterparts.^{18, 24} Furthermore, an interventional study done in Malaysia²³ showed an increase in mean knowledge score on contraception after final year medical students were exposed to a 3 week posting where they learnt about and had hands-on experiences on family planning and contraception. Consequently, most medical students would have good level of knowledge on contraception. It is not thus surprising that almost all the participants in our study had good knowledge on contraceptive methods and all of them were aware of contraceptives. Overall, there seems to be some evidence that most undergraduates in Nigeria^{17, 20, 25, 26} and in other countries^{5, 9, 19, 27, 28} were aware of different forms of contraceptives, although this must be interpreted with caution since most of them measured awareness of contraceptive methods in place of knowledge while also not reporting mean knowledge scores.

During the course of our study, we also found that age, gender, marital status and religion did not reveal any statistically significant difference with respect to level of knowledge. In an Iranian study,²⁴ mean knowledge scores were slightly higher for females compared to males (59% vs 53%) but was not affected by marital status.

Several lines of evidence regarding the primary source of information on contraception has largely been conflicting and inconsistent. While our study reported that lecturers and or internets were the greatest source of information, consistent with findings in Nigeria,²¹ South Africa⁴ and Pakistan,²⁹ other authors in Nigeria and elsewhere have previously identified healthcare worker/facility^{26, 28, 30} friends,^{5, 17, 19, 22, 26} and radio/television^{5, 19, 25, 28} as the main sources of contraceptive information for undergraduates.

The findings of Awoleke et al. that families and relatives formed the least source of family planning information for young adults in the university corroborates ours. An implication of this is that our traditional family and sociocultural norms and worldview on adolescent and young adult sexuality might have discouraged them from having meaningful interactions with parents/families on this thematic area. However, informal sources have been associated with misinformation,²² further highlighting the need Attitude towards contraception

In the course of our research, we found that most of our respondents (63.9%) had poor attitude towards contraception, consistent with reports in Ghana,⁹ but strikingly opposite to the results in India by Hogmark et al¹⁶ who reported that although some medical students had misconceptions about modern contraceptives; the attitude of the fifth year medical students recruited for their study towards contraception was mainly positive. The results are quite similar to that of a Cameroonian study where many students had positive attitude towards emergency contraceptive pills but about two-third of students believed emergency contraceptive to be unsafe.²² The reason for the poor attitude of our respondents towards contraceptive use remains unclear; however some assumptions can be made. It may be due to the fact that more than one-third of our respondents are sexually inexperienced and almost all (79.4%) of our male respondents had poor attitude and about half (49%) of female respondents (who make up more than half of the study population) had not used a contraceptive method before.

Agreeing with our observation, a study on contraceptive use by Kara et al on 347 full-time female undergraduate students in Tanzania revealed that almost two-third of participants (65.8%) agreed that contraceptives tend to reduce sexual pleasure.²⁷ For the Tanzanian study, this finding is not alarming considering the study population used for the study in which all the study participants were from the Faculty of Commerce and Business studies and the Faculty of education (non-medical faculties) in the University.²⁷ However, for a strictly medical students study population like ours; it is somewhat surprising that about two of every three medical student (65.1%) would agree that contraceptives can diminish sexual pleasure. These findings support the notion that knowledge may not necessarily translate to positive attitude. However, it has been published elsewhere that many people believe that condoms reduce sexual pleasure³¹ and

men rate unprotected sexual intercourse to be significantly more pleasurable than females do.³¹ Since more than 40% of our study participants are males, who may more likely have a negative attitude towards condom use following the aforementioned premise, it may explain why they agreed to the statement despite their enlightenment as medical students. Nonetheless, this it may be worth exploring why people think condom use reduces sexual pleasure in future researches.

Practice or Use of Contraception

Just about three of every five final year medical students had ever used a form of contraception in our study. In a prior study in Southwestern Nigeria, 58% of respondents had sex in the preceding 12 months of the research and 73.8% of sexually experienced had used a contraceptive before.³² The proportion of study participants who had never used any form of contraceptive was 37.2%, below findings in studies conducted in Tanzania²⁷ and Ghana¹⁹ where 47.4% and 67% of study participants had never used any family planning method respectively. This finding should be interpreted with caution as a large proportion of the respondents preferred to either abstain or use withdrawal methods. This may account for

Besides abstaining from sexual intercourse which most respondents alluded to, condom was the most preferred form of contraception. The findings of this study is in accordance with the results as reported by Idoko et al who reported that male condoms was the most predominant known, ever used and currently used method of contraceptive among medical students in Nsukka, Nigeria.³³ Similar results have been documented by other authors.^{4'6'28'29} This may be attributable to the fact that the sample population is largely adolescents and unmarried youths who are more likely to use male condoms as they are less invasive, readily available and do not require presentation at core health centers where religious and sociocultural concerns may pose as barriers. In a study conducted in Ekiti, Nigeria, only 38.6% reported the use of condom during sexual intercourse while 26.1% used after sex contraceptive in the year preceding the study¹². Other authors have reported oral contraceptive pills to be the other more frequently used contraceptive.^{4'5'24'27'28} Implants and injectable were regarded as the least preferred contraceptive methods. This tallies with our expectations since these methods may be rather unpopular among young unmarried undergraduates who are likely not to have need for very frequent sexual

intercourse compared with married couples. More so, other contraceptive forms like female condoms may be generally unpopular in Nigeria, evident by an average 5.5% usage rate, as found in a recently published systematic review.²⁰

Pharmacy stores (47, 56.6%) were the greatest source of obtaining contraceptive devices among the respondents, followed by friends/peers (12, 14.5%). None of the respondents reported to have obtained contraceptives from the university medical center.

LIMITATION

The main limitation in our study is that this study was conducted in one center with a relatively small sample size, which may affect its generalizability. Furthermore, given that the variables assessed for are self-reported and revolve around sensitive topics, we cannot completely rule out social desirability bias in this study. However, the probability sampling techniques applied to it is a notable strength and the fact that we limited it to only final year medical students is the closest indication of what their knowledge, attitude and practice would be as soon to be doctors who will offer sexual and reproductive health services to the Nigerian populace.

CONCLUSION

The findings of this study have a number of important implications for future research and policy recommendations. A prominent finding is that the majority of the participants had poor attitude toward contraception despite having a good level of knowledge of contraception. It further underscores what other authors have previously reported. This raises the need for a social and behavioural change campaign to tackle misconceptions about some family planning methods.

Further research should be done to investigate why many people believe that unprotected sexual intercourse is more pleasurable than using condoms, despite it being the most frequently used.

ADDITIONAL FILE

Abbreviation

SRH-Sexual and Reproductive Health; STD-Sexually Transmitted Disease; FP-Family planning; SPSS-Statistical Package for Social Sciences

Acknowledgement

Our sincere appreciation goes to the department of Public Health and Community Medicine, University of Calabar, Nigeria. Many thanks to the students that helped in data

collection

Author's Contribution

DK conducted the study under supervision of JI. JI was involved in the conceptualization of the work, data analysis. FI wrote the first draft of the manuscript. All authors reviewed, proof-read and approved the final manuscript.

Funding

We received no funding for this work

Availability of Data Material

The raw data and other associated documents are available upon request to the corresponding author of this publication

Competing Interest

The authors declare that there is no competing interest.

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