

Assessment of knowledge, perception and use of hormonal contraceptives by female undergraduate students in Benin City, Nigeria.

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ABSTRACT

Background: Unwanted and unintended pregnancies that occur in young adults are associated with adverse maternal, foetal and neonatal outcomes. In order to avert these unintended pregnancies and consequent adverse outcomes, contraceptive use has been prioritized as a key intervention.

Objectives: To evaluate the knowledge, perception and use of hormonal contraceptives among female undergraduates in a tertiary institution.

Methods: A descriptive cross sectional study was carried out in the Ugbowo main campus of the University of Benin. A total of 320 undergraduate students from 300 level to 600 level of the Faculties of Agriculture, Management sciences and Pharmacy were surveyed using a validated self-administered questionnaire. The data obtained were analysed using Microsoft excel to obtain mean values, standard deviation, while statistical test for correlation was done using SPSS version 22.0 Ethical considerations were observed.

Results: A response rate of 99.4% was obtained, modal age was 21-25 years. Most (52%) of the respondents were in their third academic year, Christians, Bini by tribe and unmarried. These students had a good knowledge of hormonal contraceptive (73.5%) and a low prevalence of contraceptive use (35.5%). The media (46.4%) together with friends and family (45.5%) accounted for the major source of information on contraceptives. Emergency pill was the major form of hormonal contraceptive known (60%) and used by respondents. The major reasons given for none use of hormonal contraceptive were its intolerable side effects and some negative perceptions. For choice of contraceptive, ease of use (70.2%), cost (10.3%) and safety (8.8%) were the major criteria; others included accessibility (6.3%) and reliability (4.4%).

Conclusion: This study has shown that though there is a good knowledge of contraceptives there is however a gap between knowledge and use of hormonal contraceptives among sexually active female undergraduate students despite its increased availability and accessibility. Drug information on the choice and safety of hormonal contraceptives should be advocated.

Keywords: hormonal contraceptives, knowledge, perception, students

Évaluation des connaissances, de la perception et de l'utilisation des contraceptifs hormonaux par des étudiantes de premier cycle à Benin City, au Nigeria.

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RESUME

Contexte : Les grossesses non-désirées et non-intentionnels qui surviennent chez les jeunes adultes sont associées à des résultats indésirables pour la mère, le fœtus et le nouveau-né. Afin d'éviter ces grossesses non-désirées et les issues défavorables qui en découlent, l'usage de la contraception a été priorisée comme une intervention clé.

Objectifs : Évaluer la connaissance, la perception et l'utilisation des contraceptifs hormonaux chez les étudiantes de premier cycle dans un établissement d'enseignement supérieur.

Méthodes : Une étude descriptive transversale a été réalisée sur le campus principal d'Ugbowo de l'Université du Bénin. Au total, 320 étudiants de premier cycle de niveau de la deuxième à la cinquième année des facultés d'agriculture, de sciences de gestion et de pharmacie ont été interrogés au moyen d'un questionnaire auto-administré validé. Les données obtenues ont été analysées en utilisant Microsoft Excel pour obtenir des valeurs moyennes, l'écart-type, tandis que le test statistique de corrélation a été fait en utilisant version 22.0 du logiciel SPSS. Des considérations éthiques ont été observées.

Résultats : Un taux de réponse de 99,4% a été obtenu, l'âge modal était de 21-25 ans. La plupart (52%) des répondants étaient dans leur troisième année scolaire, les chrétiens, les Bini par tribu et les célibataires. Ces étudiants avaient une bonne connaissance du contraceptif hormonal (73,5%) et une faible prévalence de l'utilisation de contraceptifs (35,5%). Les médias (46,4%) ainsi que les amis et la famille (45,5%) représentaient la principale source d'information sur les contraceptifs. La pilule d'urgence était la principale forme contraceptive hormonale connue (60%) et utilisée par les répondants. Les principales raisons invoquées pour ne pas utiliser de contraceptifs hormonaux étaient ses effets secondaires intolérables et certaines perceptions négatives. Pour le choix de la contraception, la facilité d'utilisation (70,2%), le coût (10,3%) et la sécurité (8,8%) étaient les principaux critères ; les autres incluaient l'accessibilité (6,3%) et la fiabilité (4,4%).

Conclusion : Cette étude a montré que bien qu'il y ait une bonne connaissance des contraceptifs, il existe cependant un fossé entre la connaissance et l'utilisation des contraceptifs hormonaux chez les étudiantes de premier cycle sexuellement actives malgré leur disponibilité et accessibilité accrues. Des informations sur le choix et l'innocuité des contraceptifs hormonaux devraient être préconisées.

Mots-clés : contraceptifs hormonaux, connaissances, perception, étudiants

INTRODUCTION

Unintended pregnancies are associated with smoking, drinking, physical abuse, depression, school dropout or disruption, poor antenatal attendance and obstetric outcomes, low birth weight and developmental deficits. The sexual behaviour of young adults has been recognized as an important health, social and demographic concern in the developing world.¹ These unplanned pregnancies predispose females to adverse maternal, foetal and neonatal outcomes such as malnutrition.² Studies carried out in Africa and Asia have reported that the number of young women using contraceptives was far lower than the number who are pregnant or who wish to be pregnant.³

Levels of unintended pregnancies may reflect a country's state of women's reproductive rights and worsen global population concerns on strained resources. Though contraceptives are relatively affordable and easier to access, the incidence of unplanned pregnancies still remains high.⁴ The use of contraceptives is not only for young unmarried females but also for paragravida women who require family planning. Women's ability to obtain and effectively use contraceptive medications has a positive impact on their education and work as well as subsequent positive outcomes related to income, family stability, mental health, happiness and the wellbeing of their children.⁵ Introduction and acceptance of modern birth control methods are of great importance in controlling unplanned pregnancy, and satisfying the world's unmet need for contraception in order to reduce the population growth and thereby improving the standard of living of individuals.⁶ The most effective forms of birth control are sterilization by means of tubal ligation in females and vasectomy in males, intrauterine devices and implantable birth control. This is followed by a number of hormone based methods including oral pills, patches, vaginal rings, and injectables. Less effective methods include physical barriers such as condoms, diaphragms and birth control sponges and also fertility awareness methods. The least effective methods are spermicides and withdrawal by the male before ejaculation. Hormonal contraceptives contain estrogen and progestin or a progestin alone which are usually presented in several dosage forms such as; a pill taken orally every day, an injection given at least every three months, skin patches, implants worn under the skin, vaginal rings and intrauterine releasing systems.⁸

Benefits of contraceptive use include; better health and nutrition for both mother and child arising from proper

child spacing, fewer orphaned children resulting from high mortality rates, more attention and parental care, better population control resulting in less pressure on environmental and manmade resources.

The main objective of this study was to assess the knowledge and perception of female undergraduate students on contraceptive medications. The specific objectives were to determine; the prevalence of contraceptive medication use common side effects encountered with its use factors responsible for not using contraceptives if sexually active.

METHODS

Study design

The study was a descriptive cross-sectional study aimed at assessing the level of knowledge, perception and use of contraceptive medications among female undergraduate students.

Study setting

This study was done in one of the foremost Federal government owned Universities in South South geo political region of Nigeria, University of Benin, Benin City. It has two Campuses presently; Ugbowo and Ekehuan. The University of Benin has thirteen faculties; Agriculture, Arts, Education, Engineering, Law, Life sciences, Management sciences, Pharmacy, Physical sciences, Social sciences, Environmental science. Also, there are Centres for Entrepreneurship study, Centre for distant learning, Centre for gender studies, Centre for reproductive health, College of medical sciences (which consists of Medicine, Basic Medical Science and Dentistry). This study was carried out at the Ugbowo main campus of the University of Benin with a student population of over 30,000 as at the time this study was carried out. The university offers a range of programmes which include full time, pre degree (JUPEB), part time as well as post graduate studies in all the departments.

Study population

This study population was made up of 300 to 600 level female undergraduate full time students of 3 randomly selected faculties namely; Pharmacy, Management sciences and Agriculture.

Sample size determination

A sample size of 320 was calculated using the Slovin formula for sample size determination.⁸

Inclusion criteria: The respondents/ participants that

were selected were female undergraduates who were students of the above named faculties, and were within the levels of 300 to 600.

Exclusion criteria: Male students and female students less than 15 years of age were excluded.

Sampling

A random sampling using tossing of a coin was done to choose participants for the study.

Data collection tool

A self-structured pre- validated questionnaire was developed after a thorough literature review was done. The questionnaire contained both open ended and close ended questions. A pilot study was done using 30 students and suitable modifications were made on the questionnaire where necessary.

The questionnaire comprises of four sections namely A, B, C, and D. Section A requested for socio- demographic data of the respondents while sections B,C and D asked questions regarding knowledge, perception and use of contraceptive medications respectively.

Data analysis

The correctly filled questionnaires were entered into the Microsoft excel spreadsheet and analysed using the Statistical Package for Social Sciences (SPSS), version 22.0 for descriptive statistical analysis.

Knowledge was assessed by responses to two questions with 5 set as the maximum score. For this study, the scores were graded as: high knowledge: 4 – 5; good knowledge: 2 – 3 and poor knowledge: 0 -2.

Ethical considerations

Ethical clearance was obtained from the University authorities to carry out this study and informed consent was obtained from every undergraduate student before recruiting into the study.

RESULTS

Sociodemographics of respondents

Out of the 320 students that were recruited, 318 completed the questionnaire giving a response rate of 99.4%. Majority of the respondents were aged 21-25 years and about half of the respondents were in 300 level. Most (73.4%) of the students were unmarried. Details of the socio demographic characteristics of the respondents are illustrated in Table 1.

Table 1: Socio-demographic data of respondents

VARIABLES	FREQUENCY (N)	PERCENT (%)
Age (years)		
15-20	121	37.9
21-25	165	51.7
26-30	32	10.0
Ethnicity		
Yoruba	69	21.6
Hausa	25	7.8
Igbo	66	20.7
Bini	89	27.9
Others	69	21.6
Faculty		
Agriculture	193	60.5
Management science	41	12.8
Pharmacy	84	26.3
Level		
300	166	52.0
400	94	29.5
500	30	9.4
600	28	8.8
Religion		
Christianity	311	97.5
Islam	6	1.9
Others	1	0.3
Marital Status		
Single	234	73.4
Married	84	26.4

Knowledge and sources of information on contraceptives

Table 2 shows a distribution of the level of knowledge of the respondents on hormonal contraceptive medications and sources of information on contraceptives. About 49.7% of the respondents had a high knowledge of contraceptives while 23.8% had good knowledge of contraceptives.

Regarding the respondents' source of information on contraceptives, the media was found to be the highest information source (46.4%) while friends and family. It was discovered that emergency contraceptives were the most (n= 191, 60%) common form of contraceptives known to these respondents. A total of 104 respondents knew the implants. The least familiar to the respondents was the norethisterone injection (n= 23, 7.2%).

Table 2: Knowledge and information sources of respondents.

Variables	Frequency (N)	Percent (%)
Knowledge		
High	157	49.2
Good	76	23.8
Poor	85	26.7
Sources of information		
	YES	NO
	n (%)	n (%)
Friends and family	145 (45.5)	173 (54.4)
Media, Internet	148 (46.4)	170 (53.4)
Pharmacy	75 (23.5)	243 (76.4)
Health center	50 (15.7)	268 (84.3)
Hospital	73 (22.9)	245 (77.0)

Contraceptive use and reasons for non use

Only 35.5% of the respondents reported use of contraceptives. The major reason for non-use was that they were not sexually active. Other reasons for non use are illustrated in Table 3.

Table 3: Frequency of use of contraceptives and major reasons for non use

Variables	Frequency (N)	Percent (%)
Do you use contraceptives?		
Yes	113	35.5
No	205	64.5
Reasons for non-use of contraceptives (n= 205)		
	YES	NO
	n (%)	n (%)
I am not sexually active	95 (46.3)	110 (53.7)
Intolerable side effects	26 (14.1)	179 (85.9)
No money to buy	3 (1.5)	202 (98.5)
Too shy to purchase	1 (0.004)	204 (99.9)
I don't know where to buy from	5 (2.5)	200 (97.5)
I don't know where to buy from	14 (6.9)	191 (93.1)
I think it's a sin	9 (4.4)	196 (95.6)
I feel it will affect my fertility	48 (23.4)	157 (76.6)

Contraceptive medication used, side effects experienced and reasons for choice of particular contraceptive

About 48.97% of the respondents who used hormonal contraceptives used levonorgestrel emergency contraceptives, 6.7% used copper intrauterine device

while none of the respondents used the norethisterone injection. Table 4 illustrates the contraceptive medication use. Majority (53%) of the respondents who used contraceptives did not experience any side effects. For those that experienced side effects, menstrual abnormalities (9.7%), nausea (2.8%) and hypertension (2.2%) were reported.

Table 4: Hormonal contraceptive used by respondents (n=113)

Hormonal Contraceptive	Frequency (%)
Levonorgestrel emergency contraceptives	23 (48.97)
Ethinyl estradiol and Levonorgestrel oral pills	16 (14.48)
Ethinyl estradiol and Levonorgestrel implants	11 (9.66)
Levonorgestrel releasing intrauterine system	19 (16.55)
Copper intrauterine device	8 (6.70)
Levonorgestrel only pill	3 (2.76)
Norethisterone injection	0 (0)

Major reasons for choice of contraceptives included ease of use (70.2%), cost (10.3%), and safety (8.8%). Other reasons include accessibility (6.3%) and reliability (4.4%).

Contraceptive use behaviour, other substances/medications used as contraceptives and frequency of contraceptive use

On contraceptive use behaviour, only 6% of the study participants that use contraceptives consulted a doctor or a pharmacist before use while the others did not consult any health professional before commencing use. A few respondents (n= 19) said they knew and used other medications/ substances as contraceptives. The medications/ substances include Amoxicillin, Ampiclox, potash, and Andrew's liver salt (Magnesium sulphate), carbonated drinks.

Some students (15.0%) reported that they use contraceptives weekly while 11.0% use contraceptives periodically. The others adhere to the dosage regimen of the contraceptives they are on.

DISCUSSION

Although majority of the respondents in this study had a high knowledge on contraceptives, utilization was low, this is consistent with findings of Eniojukan *et al.*⁹ Majority of the respondents had some degree of knowledge of contraceptives which can be attributed to

the university community. Similar levels of contraceptive knowledge and awareness have been reported.^{4,10} Emergency contraceptives were the most commonly known forms of contraceptive medications to these respondents which may be largely due to its accessibility and ease of use. The most common sources of information on contraceptives identified in this study include the media, family/friends, pharmacy, health centre and the hospital. For respondents that are not medically inclined, it is obvious that they will have to rely on peers, family and other sources on contraceptive medication. A recent study reported peer group and the media as major sources of information but with least involvement of family members.¹¹ A Tanzanian study identified friends, radio and school as sources of information.¹² A study among women in Zaria, Nigeria reported mid-wives and nurses as predominant sources of information.¹³ It is therefore clear that there are a lot of information sources and all of these sources need to be properly harnessed as strategies for relaying objective information and education to users of contraceptives. The mass media and internet are of particular importance in this regard. Less than one- third of the respondents reported to be sexually active and only a little fraction of this number was users of contraceptive medications. The major reasons given for these include their intolerable side effects and some negative perceptions on

contraceptive medications. Some of these perceptions were the fact that they think contraceptives use is a sin and that it “will affect their fertility” later when they want to conceive. Other minor reasons given was that they think contraceptive medications are not effective which is similar to the school of thought that contraceptive use may just be a myth. There is need therefore for education and counseling to emphasize and reinforce positive perceptions while correcting negative perceptions of contraceptive use.

Emergency contraceptive was the most widely used contraceptive by study participants while others like the norethisterone enanate injection and the levonorgestrel only pill were the least used. This is in variation with findings in other studies as this study focused majorly on contraceptives available in pharmaceutical dosage forms. A study carried out among women in Kano, Nigeria in 2013 reported that injectables were most highly used followed by IUD and oral pills.¹⁴ The study among women in Zaria, Nigeria also indicated the preference for injectables.¹³ On the contrary, a studies among undergraduates in Tanzania reported that condoms were favoured most, followed by withdrawal and periodic abstinence, this may be attributed to its affordability but increases the risk of sexually transmitted diseases and unwanted pregnancy.¹²

Contraceptives do have side effects which might be intolerable to some people. Notable ones complained about in this study include menstrual abnormalities, weight gain, nausea and breast tenderness etc. A few of these side effects were reported in this study, these respondents using hormonal contraceptives apparently choose the right class which they are tolerating because only a few of them consulted a health care provider before use. In order to avoid side effects of hormonal contraceptives, a proper screening by a physician is recommended to ascertain the most suitable medication for the individual. Also, proper education and counseling by the pharmacist is important on proper dosage regimen and notable drug- drug or drug- food interactions which are some factors that are responsible for some of these side effects encountered.

In this study, ease of use was the major rationale for choice of contraceptive medication, followed by cost and safety. Accessibility and reliability were the last two reasons. These considerations do not appear very rational but reasons for these considerations could be

due to the fact that these respondents who are majorly unmarried do not consult health professionals before the use of contraceptive medications due to fear of being stigmatized hence opt for options that can be used easily at the lowest possible cost without proper considerations on safety and reliability.

On contraceptive use behavior, most of the respondents claimed they do not consult any health professional before commencement of contraceptive use. This was expected as most of them didn't make informed decisions on contraceptive choices as majority opted for emergency contraceptive which is easily accessible and affordable. There was a claim by some of these respondents that they knew/used other medications or substances as contraceptives. Some of these medications/substances include antibiotics, potash, carbonated drinks etc. This calls for a thorough examination on why these other substances are used other than contraceptive medications. One major reason that was found out on interaction with these respondents was that the use of these substances did not produce any undesirable effects and that they believed that their use will help to keep their future child bearing ability intact.

CONCLUSION

This study has reported that the knowledge about contraceptives among the female students was high however there was still a gap in between knowledge and use despite their availability and accessibility. Majority of the respondents had negative perceptions about contraceptive medications which was a factor responsible for low utilization of contraceptive medications.

Side effects that were commonly reported include menstrual abnormalities, nausea and hypertension. Others were weight gain and breast tenderness.

This study has however given an insight to the pattern of contraceptive use among female students in the study site. In addition, the findings of the study also provide information to stakeholders on how and whom education and counseling on contraceptive medications should be targeted. Effective use of contraceptives will offer the following benefits, reduction of mortality rates arising from unplanned pregnancies or complications associated with childbirth in women suffering from conditions in which additional pregnancies are contraindicated. Others include, better health care and nutrition for both mother and child arising from proper child spacing, fewer orphaned children resulting from abandonment and high infant mortality rates.

Considering the current socio economic status of the Country, the government may consider health regulations on use of contraceptives for national population control resulting in less pressure on limited healthcare facilities, environmental and public resources.

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ACKNOWLEDGEMENT

We are grateful to the Management of University of Benin, Benin City, Edo State, Nigeria for their support and cooperation.