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## Contraception Among Tertiary Students: Knowledge, use and Behaviour of Female Undergraduates in Edo State, Nigeria

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**Aim:** To assess contraceptive knowledge, use and related behavior among female undergraduates in tertiary institutions in Edo State, Nigeria.

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**Results:** The age group of 20- 24 years constituted the highest proportion (61.5%) of respondents with the mean age being  $23 \pm 4.2$  years. Majority (80.6%) of them were singles.

**Keywords:** *contraception, sexual behavior, unwanted pregnancy, undergraduates.*

**GJMR-K Classification :** *NLMC Code: W 84.41*



CONTRACEPTION AMONG TERTIARY STUDENTS KNOWLEDGE USE AND BEHAVIOUR OF FEMALE UNDERGRADUATES IN EDO STATE NIGERIA

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# Contraception Among Tertiary Students: Knowledge, use and Behaviour of Female Undergraduates in Edo State, Nigeria

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**Results:** The age group of 20- 24 years constituted the highest proportion (61.5%) of respondents with the mean age being 23 ±4.2 years. Majority (80.6%) of them were singles. Awareness of contraceptives was very high (94.4%) while the commonest method known was condoms (76.1%). Only 31.2% of respondents had good knowledge of methods and benefits of using contraceptives. Current utilization rate of contraceptive was 39.3% while current sexual activity was 45.2%. Association between level of knowledge and use of contraceptive was significant ( $df = 2$ ;  $\chi^2 = 7.756$ ;  $p = 0.021$ ).

**Conclusion:** Knowledge of contraception was poor while the regular use of contraceptives was lower than of sexual activity. We recommend a more systematic approach to promoting contraceptive use among sexually active undergraduate women through the use of multiple health promotion channels.

**Keywords:** contraception, sexual behavior, unwanted pregnancy, undergraduates.

## I. BACKGROUND

The environment in higher institutions of learning is characterized by high levels of personal freedom and social interaction. This social interaction often translates to sexual interaction (Alexander et al, 2007). Permissive sexual lifestyle in higher educational institution in Nigeria and a number of other African

countries have been documented as featuring a high level of risky sexual behaviors such as transactional sex, multiple sexual partners, and unprotected casual sex. (Manena-Netshikweta, 2007; Katjaviri and Otaala 2003).

Such reproductive health behavior is prone to consequences of unwanted pregnancies, unsafe abortions, disruption of education and secondary infertility (Malhotra, 2008; Akingba, 2002; Adegoke, 2003). Given the increasing level of sexual activities among young people and decreasing age at first sex in developing countries, the use of contraceptives to prevent unwanted pregnancy and unsafe abortion is especially important (Adedoyin et al, 1995; Okonkwo et al, 2005; Uthman, 2008).

It has been reported by the Nigerian Population Commission (NPC) that knowledge of contraception is lowest among women with no education and greatest among women with more than secondary education (NPC and ICF Macro, 2009). This indicates that along the line, there is improvement in contraceptive knowledge though it may not always translate to the same level of utilization. This utilization gap has been highlighted in some studies among adolescents and out of school women (Idonigie et al, 2011; Abiodun et al, 2001). A high level of knowledge and concomitant utilization of contraception is desirable among adult women, a significant proportion of which is in tertiary institutions.

The current contraceptive prevalence rate in Nigeria is about 15% (NPC and ICF Macro, 2009). This low rate underlies the population explosion and other reproductive health challenges being currently experienced in the country. Women in tertiary educational institutions are included in the over 200 million women worldwide who have an unmet contraceptive need (McPhail et al, 2007). This study was to investigate the knowledge, use, and behaviour regarding contraceptives among female undergraduates in tertiary institutions in Edo State.

## II. METHODS

This cross-sectional survey was carried out among undergraduate females in Ambrose Alli University, Ekpoma and Federal Polytechnic, Auchi, both tertiary educational institutions in Edo State in

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2012/2013. The two institutions are located in urban communities in the central and northern districts of Edo State.

The sample size was determined using the Cochran formula (Cochran, 1963; Israel, 2012),  $N = \frac{Z^2pq}{E^2}$  Where, N= Sample size; E=Tolerable Error of margin (0.05); p= prevalence (25.4%) of contraceptive use in a study done in tertiary institutions in Ilorin, Nigeria (Abiodun and Balogun, 2009); Z= Standard Normal Deviation (1.96); Q= 1-p (1-0.58=0.42). The minimum sample size was thus calculated to be 288. However 400 questionnaires were administered to the study group to enhance the validity, while 356 questionnaires were analysed after setting aside poorly filled ones.

The sample was designed to accommodate all categories of female students in the tertiary institutions. The multistage sampling technique was used. Two institutions and two faculties each from the institutions was selected by simple random technique. Self-administered questionnaires were subsequently distributed to available students in the selected faculties. The questionnaires were semi-structured and dealt with such areas as the knowledge of the benefits and methods of contraception, and the utilization of contraceptives. Knowledge of contraception was assessed with a scoring system based on responses to mainly questions on the methods and benefits of contraceptives (Box 1).

Statistical package for scientific solutions (SPSS) version 16 was used for data collation, editing, and analysis. Other secondary analyses were done with the WINPEPI software (Abramson, 2011). Results are presented in tables. Test of significance using chi-square was applied to selected variables. Ethical guidance was provided by the Department of Community Health, Ambrose Alli University, Ekpoma. Permission was obtained from the authorities of the two selected institutions while verbal consent was obtained from each study participant.

**Box 1 :** Assessment scoring for knowledge about contraception

Knowledge Question	Indicator	Score	Remarks
Name methods of contraception you know	of	3	Maximum score for at least 3 correct methods

Are you aware of emergency contraception?	1	
State some benefits of using contraceptives	3	Maximum score for 3 correct benefits
<b>Highest score</b>	<b>7</b>	<b>Good = 5-7; Fair = 3-4; Poor = 0-2</b>

### III. RESULTS

Respondents in the age group 20 to 24 years constituted the largest group (61.5%) and the mean, median, and modal ages were 23 +/- 4.2 years, 22 years and 20 years respectively. The study group consisted mostly of singles (80.6%) and Christians (85.6%). About the same proportion of respondents participated from the two institutions (Table 1).

**Table 1 :** Sociodemographic characteristics of respondents

Variable	Frequency (n = 356)	Percentage
<b>Age (years)</b>		
15 -19	67	18.8
20-24	219	61.5
25-29	45	12.6
30-34	11	3.1
>34	10	2.8
<b>Marital status</b>		
Single	287	80.6
Married	57	16.0
Divorced	2	0.5
Cohabiting	10	2.8
<b>Religion</b>		
Catholic	104	29.2
Orthodox	14	3.9
Pentecostal	187	52.5
Muslim	33	9.3
Others	18	5.1
<b>Level of study</b>		
Junior students (1 <sup>st</sup> and 2 <sup>nd</sup> year)	141	39.6
Senior students (3 <sup>rd</sup> year and above)	215	60.4
<b>Institution</b>		
Ambrose Alli University	182	51.1
Auchi Polytechnic	174	48.9
Mean age = 23 (+/- 4.2) years; median age = 22 years; modal age = 20 years		

**Table 2 :** Awareness and knowledge of contraception among female undergraduates

Variable	Frequency (n= 356)	%
<b>Awareness about general contraception</b>		
Yes	336	94.4
No	18	5.1
No response	2	0.6
<b>Awareness about emergency contraception</b>		
Yes	248	69.7

No	91	25.6
No response	17	4.8
<b>Awareness about methods of contraception (Multiple responses)</b>		
Condoms	271	76.1
Pills	200	56.2
Diaphragms	43	12.1
Injectables	93	26.1
IUCD	78	21.9
Implant	68	19.1
Rhythm	67	18.8
Withdrawal	69	19.4
Spermicidal	38	10.7
Tubal ligation	38	10.7
<b>Level of knowledge</b>		
Good	111	31.2
Fair	112	31.5
Poor	133	37.4
<b>Sources of information (Multiple responses)</b>		
Mass media	121	34.0
Health personnel	106	30.0
Friends/peers	102	28.7
Parents/relatives	62	17.4
School	24	6.7
Seminar/workshop	18	5.1
Internet and mobile phone messages	35	9.8
No response	22	6.2

A high level of awareness about contraceptives was found (94.4%) but the level was lower (69.7%) for emergency contraceptives (Table 2). The highest sources of information about contraceptives were mass media (34.0%); health personnel (30.0%) and friends (28.7%). Over 76% and about 56% of the study respondents identified use of condoms and oral

contraceptive pills (OCPs) as methods of contraception. Spermicidal agents and tubal ligation (10.7% each) were the least popular as contraceptives. The school was one of the lowest contributors (6.7%) to information on contraception. Only 31.2% of the undergraduates had good knowledge of the methods and benefits of using contraceptives.

*Table 3* : Use of contraceptives and sexual activity among female undergraduates

Variable	Frequency	%
<b>Respondents who have ever used any form of contraceptives n=356</b>		
Yes	202	56.7
No	123	34.6
No response	31	8.7
<b>Methods of contraceptives ever used (Multiple responses) n= 202</b>		
Condoms	116	57.4
Pills (OCPs)	58	28.7
Injectables	16	7.9
IUCD	6	3.0
Implant	5	2.5
Withdrawal	14	6.9
Rhythm	5	2.5
Others (spermicides, diaphragm)	5	2.5
<b>Current use (any method in the last 6 months) of contraceptives n= 356</b>		
Yes	140	39.3
No	180	50.6
No response	36	10.1
<b>Use of emergency contraceptive n= 356</b>		
Yes	38	10.7
No	190	53.4
No response	128	36.0
<b>Types of emergency contraceptive used n= 38</b>		

Laevonorgestrel	11	28.9
Others (Potash, salt and water, gin, Andrew's liver salt, Menstrogen, unnamed injections)	27	71.1
<b>Frequency of use of contraceptives n= 202</b>		
Always	81	40.1
Sometimes	67	33.2
Rarely	47	23.7
No response	7	3.5
<b>Sexual activity in the last 6 months n= 356</b>		
Yes	161	45.2
No	160	44.9
No response	35	9.8

Almost 57% of respondents had used some form of contraceptives compared to only 10.7% who had used emergency contraceptives. The most commonly used contraceptives were condoms (57.4%) and OCPs (28.7%). The least methods used were subcutaneous implants and rhythm method (2.5% each)

while only 40.1% regularly used contraceptives. Thirty-nine percent of respondents had used some form of contraceptives in the six months prior to data collection while 45.2% had sex. Among those who have used emergency contraceptives, 28.9% used laevonorgestrel.

*Table 4 :* Relationship between level of knowledge of contraceptive and level of study, sexual activity and contraceptive use

Level of study	Level of knowledge of contraceptives				Statistics
	Good (%)	Fair (%)	Poor (%)	Total (%)	
Junior	48 (33.8)	36 (25.4)	58 (40.8)	142 (100.0)	$X^2 = 3.409, p=0.182$
Senior	64 (51.6)	74 (34.6)	76 (35.5)	214 (100)	
Total	112 (31.5)	110 (30.9)	134 (37.6)	356 (100)	
<b>Sex in the last six months</b>					
No	48 (30.0)	43 (26.9)	69 (43.1)	160 (100)	$X^2 = 5.822, p= 0.054$
Yes	55 (34.2)	57 (35.4)	49 (30.4)	161 (100)	
Total	103 (32.1)	100 (31.2)	118 (36.8)	321 (100)	
<b>Current use of contraceptives</b>					
No	51 (28.5)	48 (26.8)	80 (44.7)	179 (100)	$X^2 = 7.756, p = 0.021$
Yes	47 (33.3))	52 (36.9)	42 (29.8)	141 (100)	
Total	98 (30.6)	100 (31.3)	122 (38.1)	320 (100)	

The greater proportion of respondents who had good knowledge of contraception were senior students ( $\chi^2 = 3.409; p = 0.182$ ) and those who were sexually active ( $\chi^2 = 5.882; p= 0.054$ ) though there was no statistically significant association. There was a statistically significant association between knowledge and current use (within the preceding 6 months) of contraceptives ( $\chi^2 = 7.756; p = 0.021$ ).

#### IV. DISCUSSIONS

A high proportion of the respondents were unmarried youths. This is consistent with the global picture of mostly young persons being in higher institutions of learning (Statistics Canada, 2010; Cadmus and Owoaje, 2009). The greater proportion of young persons found in higher institutions provides both an opportunity and a challenge. It provides an opportunity to learn, grow and develop. This group is faced with the challenge of risky sexual behavior and consequent unwanted and unplanned pregnancies and sexually transmitted infections including HIV/AIDS

(WHO, 1999). Notably, Bronfenbrenner's socioecological model (Oswalt, 2008) identifies the school as a component of the microsystem- having direct influence on the behavior (sexual and otherwise) of the individual.

A high level of awareness (94.4%) of contraceptives is not surprising to find among females in tertiary institutions. Reports from other findings (Abiodun and Olayinka, 2009; Tilahun et al, 2010) corroborates this. However, awareness of emergency contraception (EC) was lower (69.7%) than that for general methods of contraception but much higher than that reported elsewhere (Puri et al, 2007; Frank et al, 2002). This lower awareness may be due to the more technical understanding required to grasp the principles of emergency contraception. In addition, there are no too many methods of EC known and used today. The common methods of EC are laevonorgestrel, high dose COCP and intra-uterine contraceptive device (IUCD) (Weismiller, 2004; WHO, 2012).

The sources of information were diverse ranging from mostly informal sources to a few formal sources.

Informal sources such as friends, peers and relatives are common information sources for young people (Tilahun et al, 2010;) but yet prone to misconceptions, distortions and half-truths. In this study, mass media, health personnel and friends contributed the most as sources of information on contraception.

Internet and mobile phone messages which are relatively new ways of spreading health information also contributed to the knowledge about contraceptives among respondents. These two modern channels have special appeal for young people and should thus, be thoroughly harnessed in disseminating correct information about reproductive health issues (Diaz et al, 2002; McNab, 2009). They have also taken the nature of mass media where no special authorization is required to spread sensitive and behavior-modifying information. Therefore, health professionals and institutions must contribute timely and adequate information through modern electronic media. In the absence of this, falsehood and half truths may become the order of the day because there is no vacuum in nature.

Condoms and oral contraceptive pills (OCPs) were popular among respondents, a finding consistent with other studies (Adegbenga et al, 2003; Chakrapani et al, 2011; Abiodun and Olayinka, 2009). Among the least known methods were those requiring invasive procedures such as Intrauterine Contraceptive Device (IUCD), subcutaneous implants and vasectomy. Similarly, condoms and OCPs were the most commonly used contraceptive methods while the invasive methods were the least used. Other studies report similar results (Omo-agoja et al, 2009; McMahan et al, 2004). The distinction between invasive and non-invasive methods bothers on such factors as availability, ease of use and requirement of a health professional to use the method.

Being aware of a concept does not always suffice for knowledge. There was a marked difference in this study between a high level of awareness (94.4%) and a significantly low level of knowledge (31.2%) about the methods and benefits of using contraceptives. This is a significant departure from many other studies which tended to focus on awareness alone or translate awareness to knowledge (Tayo et al, 2011; Orji et al, 2005). The challenge of low level of knowledge has been identified as a major factor in the poor adolescent reproductive health status in Nigeria (Federal Ministry of Health, FMOH, Nigeria, 2002). Understanding the methods and benefits of contraception are critical to having motivated users. It has also been noted that motivation is one of the important factors in minimizing failure rates in the utilization of contraception (Egarter et al, 2012).

The low level of knowledge also agrees with the small proportion (40.1%) of those who regularly use contraception, differing from a study by Adegbenga and others (2003). It therefore follows that if they know the benefits and how to use contraceptives, they will not

chase the risks of unwanted pregnancies, unsafe abortions, disruption of academics and career and possible death. Contraceptive education which is a component of sex education has been proven to improve risky sexual behaviour (Esere, 2008).

Current sexual activity among respondents was 45.2%, a figure comparable to Kabir et al's (2004) finding of 53.0% among tertiary students in Kano, northern Nigeria. This high level of sexual activity among the respondents is reflective of the social freedom and interaction among students in tertiary educational institutions.

This study did not find a significant association between level of knowledge of contraceptive and cadre of study. However, a higher proportion of respondents with good knowledge were senior students. Similarly, though there was no statistically significant association between level of knowledge and being sexually active, the greater proportion of those who had good knowledge were sexually active students. There was a significant association between level of knowledge and current use of contraceptives. Myer et al (2007) found a significant association between knowledge of emergency contraceptive and its use in South Africa. For those who care to read, contraceptives are usually packed with information leaflets that explain the basis for their use in lay terms. There is also the tendency of contraceptive users to pay more attention to discussions and health information on contraception.

## V. CONCLUSION

Poor knowledge and low utilization of contraceptive and high level of sexual activity exist side by side in the tertiary institution. This reality if left unchecked will continue to fuel the negative consequences that follow risky sexual behavior. Health promotion strategies directed at improving contraceptive utilization among sexually active youths are strongly recommended as part of a comprehensive reproductive health intervention in institutions of higher learning in Nigeria.

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## VII. COMPETING INTERESTS

The authors hereby declare that no competing interests exist.

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