

Knowledge and use of contraceptives among adolescents in Nsukka Local Government Area, Enugu State, Nigeria

Ijeoma Julia Ogu, Ijeoma Igwe (PhD)

Department of Sociology/Anthropology, University of Nigeria Nsukka, Nigeria

Abstract:

Background: Adolescence is a period of life marked by physical and psychological changes, experiences, desires, behavior, and sexuality. Globally, adolescents have been reported to engage in early sexual activities and at early age while many indulge in unprotected sex (Durowade, Babatunde, et al, 2017). Unprotected sex exposes adolescents to adverse outcomes such as unplanned pregnancy, pregnancy related risks, sexually transmitted illnesses, unsafe abortion and human immunodeficiency virus infection (Center for Disease Control and Prevention, 2021). All these negative outcomes can be averted with the proper use of contraceptives. This study therefore intends to determine the knowledge and use of contraceptives among adolescents in Nsukka, Enugu State, Nigeria.

Methodology: Six hundred male and female adolescents aged 12 to 19 years and in- school students of Nsukka Local Government Area, Enugu State, Nigeria completed an anonymous survey that assessed their knowledge, sources of knowledge and attitudes towards contraception. Statistical analysis was done using SPSS version 21.0. The results were presented in frequencies and percentages. Chi-square test of association was used to test knowledge of contraceptive use and other variables. Multivariate logistic regression model was used to identify factors associated with contraceptive use with 95% confidence interval. Variables with p -value less than 0.05 were considered as significantly associated with contraceptive use.

Findings: The mean age of participants was 15.2 years. Knowledge of contraceptive was statistically significant with age (0.004), type of school (0.006) and year of study (0.006). The sources of knowledge about contraception for the adolescents were mostly friends (38.7%), parents (25.8%) and mass media (14.8%). The most known contraceptive is the condom (82.5%). 41.7% of the adolescents have been involved in sexual activities out of which 53.2% did not use contraceptives during the last time of intercourse.

Key words: Contraceptives, adolescents, unplanned pregnancy, sexual behaviour

I. BACKGROUND

Contraception involves intentionally preventing conception with the use of modern or traditional contraceptive methods using various devices, sexual practices, chemicals, drugs or surgical procedures (Jain & Muralidhar, 2012). Contraceptives include male and female condoms, oral contraceptive pills, contraceptive injections, emergency contraceptive pills, female and male sterilization and

contraceptive implants. Contraceptives such as condoms could help adolescents by providing a high level of protection against infections that are transmitted mainly through secretions including HIV, gonorrhea, Chlamydia and trichomoniasis and also prevents pregnancy by physically containing semen (Healthline, 2017; Mindel & Sawleshwarkar, 2008). Therefore, the consistent use of individually suitable method of contraception is the key to preventing unintended pregnancy, sexually transmitted infections and unsafe abortion.

According to United Nations International Children Emergency Fund (2019) adolescents account for 4% of the 11% of the world's population living with HIV/AIDS due to the prevalence of adolescent sexual activity around the world and its health effects among the adolescent population. Additionally, a WHO (2019) analysis reveals that adolescents acquire more than a million sexually transmitted diseases per day. Furthermore, 7500 female adolescents acquire HIV every week while 67 percent male adolescents make up the newly infected cases. Globally, 2.1 million adolescents were living with HIV in 2016 though this figure decreased to 1.6 million in 2018 (UNICEF, 2019; Slogrove & Sohn, 2017). In Nigeria, an estimated 230,000 adolescents aged 10-19 live with HIV and 5400 died due to AIDS related deaths in 2019 (Badru, Mwaisaka & Torpey, 2020; AVERT 2020).

Unsafe or unprotected sex involves sexual intercourse with an exposed partner who was infected by sexually transmitted infection without taking proper preventive measures. HIV/AIDS has been identified to be one of the leading causes of mortality and morbidity associated with STIs and the fourth leading cause of death in the world (Slaymaker, Walker, Zaba, & Collumbien 2004; WHO, 2018).

Globally, approximately 12 million adolescent girls aged between 15-19 years and at least 777,000 girls who are under 15 years give birth yearly in developing countries. Studies also show that 21 million girls aged 15 to 19 years and 2 million girls aged less than 15 years become pregnant in developing countries (WHO, 2020). It is also projected that adolescent pregnancies will increase globally in 2030 with proportional increase in West and Central Africa and Southern Africa (Darroch, Woog, Bankole & Ashford 2016; UNFPA, 2015; WHO, 2020; UNFPA, 2013; UNFPA, 2015). Adolescent pregnancy remains a major contributor to maternal

and child mortality. Pregnancy and childbirth are the leading causes of death among 15 – 19years-old girls globally. Furthermore, approximately 16 million girls aged 15 – 19years and 2.5 million girls under 16 years give birth each year in developing regions (WHO, 2015; WHO, 2016; Neal & Mathews et al., 2015 cited in WHO, 2016).

In 2012, out of the estimated 3.2 million unsafe abortions across the world among adolescents aged 15-19years, 1.4 million were in Africa, 1.1million were in Asia excluding East Asia and 670,0000 were in Latin American and the Caribbean (WHO, 2012). Singh, Remez, Sedgh, Kwok and Onda (2018) reported that the number of abortions per 1000 women globally is given at 35 per 1000 women while in Africa the number is at 34 per every 1000 women. About half of the pregnancies among adolescents aged between 15- 19years in developing regions are unplanned and this results to abortions. WHO (2019) reported that with increased use of contraception by adolescents, 2.1 million unplanned births, 3.2 million abortions and 5500 maternal deaths could be averted yearly.

In all, the use of contraceptives would also help to protect adolescents from the risk of contracting STIs/AIDS, unwanted pregnancies, unsafe abortion and post abortion traumas and consequences which endanger their lives, cause infertility and sometimes lead to death (Nabkindu, 2014). Though there are other primary studies on contraceptive use in Enugu State (Idoko, Omotowo & Anyaka, 2018; Iyoke, Ezugwu, Lawani, et al, 2014), there are no known study on contraceptive use among adolescents in Nsukka Local Government Area and in Nigeria Demographic Health Survey of 2018. Therefore it is important to assess the contraceptive practices of the adolescents in Nsukka Local Government Area of Enugu. This study therefore seeks to ascertain adolescent knowledge and utilization of contraceptives in Enugu State, Nigeria. The findings from this study will be beneficial to policy makers, health planners and other development partners whose interest is to improve the health of adolescents in Nsukka Local government area and in Nigeria in general.

II. METHODOLOGY

Study Participants: The study population is made up of six hundred adolescent boys and girls between the ages of 12 – 19 in Nsukka Local Government Area in Enugu State. Nsukka is one of the seventeen Local government areas that make up Enugu State. In 2006, the population of Nsukka Local Government Area was 309,448 with the adolescents population (10-19years) given at 77,440 (City population, 2017; National Population Commission, 2006). The study population was adolescents enrolled in secondary schools in Nsukka LGA. The junior and senior secondary school enrolment was put at 22,230 and 21,713 respectively in the year 2014 (Enugu State Ministry of Education, 2014).

Sampling Technique

A multi-stage cluster sampling procedure, which entails successive selection of community clusters, schools and respondents, was employed. At the first stage, five communities out of the sixteen communities in Nsukka Local government area were selected using simple random sampling by balloting. Further, one public and one private school were also randomly selected also using simple random sampling method from each of the five selected communities. Therefore a total of two secondary schools in each community and ten secondary schools were surveyed. Also, sixty students were chosen from each school through purposive sampling method and based on their age (12-19years). Thus, 60 adolescents who are made up of 30 younger adolescents aged 12- 14years and 30 older adolescents aged 15 – 19years were employed in each school for the study.

Instrument and data collection

The major instrument for data collection in this study was the questionnaire. The students were administered questionnaires covering information on the socio-demographic characteristics of the respondents. The questionnaire was pretested on ten adolescents before data collection to ensure that the questions administered elicited the desired responses and respondents could easily answer the questions posed in the questionnaire. All the questionnaires were other-administered whereby the researchers and research assistants posed the questions on the questionnaire while the students provided responses. This method was adopted because young people were involved and to ensure that the questionnaires were properly filled and all questionnaires returned.

Data analysis

This study employed quantitative method of data analysis. The researcher keyed in data collected from the questionnaires into the computer using the Statistical Package for Social Sciences (SPSS) version 21.0. Descriptive statistics such as percentages, frequency tables were employed in characterizing the respondents. Also, Chi-square test of association was used to test knowledge of contraceptive use and other variables. The results were presented in frequencies and percentages. Multivariate logistic regression model was used to identify factors associated with contraceptive use with 95% confidence interval. Variables with p -value less than 0.005 were considered as significantly associated with contraceptive use. These analytical steps are required to establish causal relationships and thus, improve the quality of the findings for policy implications.

III. RESULTS

3.1: Socio-demographics

Table 1: Socio-demographic Characteristics of Respondents

Variables	Frequency	Percentage
Sex		
Male	247	41.2%
Female	353	58.8%
Total	600	100.0
Age		
12	80	13.3
13	120	20.0
14	100	16.6
15	62	10.3
16	60	10.0
17	63	10.5
18	70	11.7
19	45	7.5
Total	600	100
Year of study		
JSS1	9	1.5
JSS 2	26	4.3
JSS 3	150	25.0
SS 1	108	18.0
SS 2	108	18.0
SS 3	199	33.2
Total	600	100
Type of school		
Private	300	50.0
Public	300	50.0
Total	600	100
Religion		
Christianity	575	95.8
Islam	25	4.2
Total	600	100
Place of residence		
Urban	300	50.0
Rural	300	50.0
Total	600	100.0
Father is deceased	50	8.3
Mother is deceased	93	15.5
Total	600	100.0

Table 1 shows the socio-demographic characteristics of the students. The respondents were male and female adolescents selected from five secondary schools. The female student respondents were slightly above half (58.8%) while the male constitute 41.2% of the respondents. The age of the respondents were 13 years (20.0%), 14 years (16.6%), 12 years (13.3%), 18years (11.7%), 17years (10.5%), 15years (10.3%), 16years (10.0%) and 19years (7.5%). There is an equal representation of older adolescents (12-14years) and

younger adolescents (15-19 years). Furthermore, half of the respondents were in public schools while the other half were in private schools. Respondents in SS3 constitute 33%, JS 3 (25.0%), SS2 and SS1 (18%) respectively, JS 2 (4.3%) and JSS1 (1.5%). Also, a little above half of the total respondents attend public schools (55.0%) while the rest attend private schools (45.0%). Furthermore, 95.8% of the respondents were Christians while 4.2% were practice Islamic religion. There is an equal representation of rural and urban respondents (50%). Also, 8.3% of the respondents have lost their fathers while 15.5% reported that their mothers were deceased.

3.2 Knowledge of Contraception

Variables	Knowledge of contraceptives				p
	Yes		No		
	N	%	N	%	
Sex					
Male	220	36.7	27	4.5	
Female	306	58.0	47	7.8	0.4
Age (years)					
12	27	4.5	9	1.5	
13	57	9.5	13	2.2	
14	100	16.7	16	2.7	
15	102	17.0	8	1.3	
16	100	16.7	20	3.3	
17	78	13.0	3	0.5	
18	44	7.3	5	0.8	
19	18	3.0	0	0.0	0.004
Year of study					
JSS1	8	0.2	1	0.2	
JSS 2	23	3.8	3	0.5	
JSS 3	119	19.8	31	5.2	
SS 1	92	15.3	16	2.7	
SS 2	99	16.5	9	1.5	
SS 3	185	30.8	14	2.3	0.004
Type of school					
Private	248	41.3	22	3.7	
Public	278	46.3	52	8.7	0.006
Religion					
Christianity	505	84.2	70	11.7	
Islam	21	3.5	4	0.7	0.53
Place of residence					
Urban	266	44.3	34	5.7	
Rural	260	43.3	40	6.7	0.53
Urban					
Deceased Parent					
Father deceased	28	4.7	1	0.2	
Mother deceased	80	13.3	13	2.2	0.30

Note: $p \leq 0.05$

3.3: Source of knowledge about contraceptive

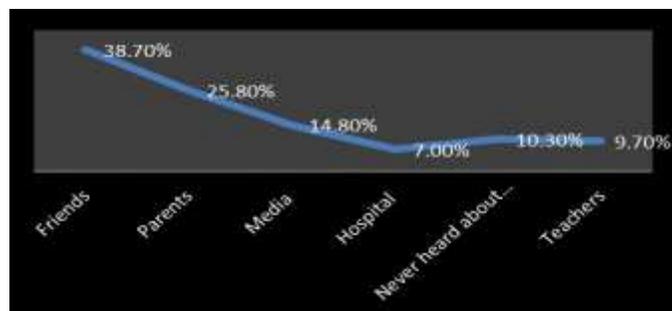


Fig 1: Distribution of respondent by sources of knowledge about contraceptives

Fig. 1 shows that the adolescents' sources of knowledge about contraceptives. The majority of the respondents learnt about contraceptives through their friends (38.7%), parents (25.8%), mass media (14.8%), teachers (9.7%) and hospital (7.0%). However, 10.3% of the respondents have never heard about contraceptives.

3.4: Types of contraceptives known by the respondents

Table 3 Distribution of respondents by knowledge about types of contraception

Contraception	Responses		Total
	Yes	No	
Male condoms	495 (82.5%)	105 (17.5%)	600(100%)
Female condoms	187(31.2%)	413(66.8%)	600(100%)
Hormonal pills	138(23.0%)	462(77.0%)	600(100%)
Injectable contraceptives	96(16.0%)	504(84%)	600(100%)
Intra-uterine device	40(6.7%)	560(93.3%)	600(100%)
Emergency contraceptive	187(31.2%)	413(68.8%)	600(100%)
Locally made contraceptives from pawpaw	43(7.2%)	557(92.8%)	600(100%)

Table 3 above shows the types of contraceptives known by the respondents. The most known type of contraceptive among the adolescents is the male condom (82.5%). The adolescents also know about female condoms and emergency contraceptives (31.2%) respectively, hormonal pills (23.0%), Injectables contraceptives (16.0%) and intra-uterine device (6.7%). The least known type of contraception is locally made contraceptives as mentioned by the respondents (7.2%).

3.5: Respondents involvement in sexual activities

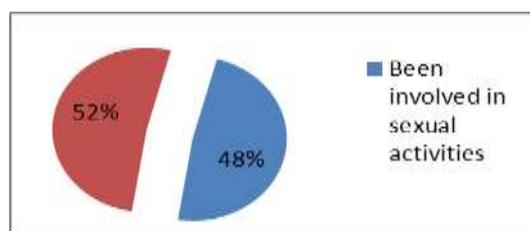


Fig.2: Distribution of respondents by their involvement in sexual activities

Fig.2 shows that approximately 52.0% of the respondents have not been involved in sexual activities while 48.0% have been involved in sexual activities.

3.6: Determining the last time respondents were engaged in sexual intercourse

Table 4: Distribution of respondents by the last time they engaged in sexual intercourse

Time of sexual intercourse	Frequency	Percentage
Within the last three months	99	16.5
Within the last six months	77	12.8
Within the last one year	58	9.7
More than a year ago	56	9.3
Never had sexual intercourse	310	51.7
Total	600	100.0

Table 4 shows the distribution of respondents by the last time they engaged in sexual intercourse. The respondents indicated that they engaged in sexual activities within the last three months (16.5%), within the last six months (12.8%) and within the last one year (9.7%). Although those who had sexual activities in more than a year ago are the least (9.3%) and more than half of the respondents have never been involved in sexual activities (51.7%).

3.7: Determining respondents' use of contraception during the last sexual intercourse

Table 5: Respondents' use of contraception during the last sexual intercourse

Variable	Beta	SE	95% CI		β	ρ
			LL	UL		
Sex	-281	.079	-435	-126	-145	0.00
Year of study	.067	.028	.011	.123	0.96	0.01
Age	.050	.022	.007	.093	0.93	0.02

Note: p ≤ 0.05

3.8: Determining respondents' reasons for not using contraceptives during the last sexual intercourse

Table 6: Distribution of respondents by reasons for not using contraceptives during last sexual intercourse

Reasons for not using contraceptives	Frequency	Percentage
Was forced to have sex	35	21.5
I did not think it was necessary	51	31.3
It was not available	77	47.2
Total	163	100.0

Table 6 shows the reasons the respondents gave for not using contraceptives during their last sexual intercourse. Out of the 163 respondents who had sex, 21.5% indicated that they were forced to have sex, 31.3% did not think it was necessary and 47.2% did not have any contraceptives available and as such

did not use any form of contraceptives during their last sexual intercourse with their partner.

3.9: Determining contraceptives used during the last sexual intercourse

Table 7: Distribution of respondents by contraceptives used during last sexual intercourse

Contraceptives used	Frequency	Percentage
Male condoms	69	54.3
Emergency contraceptives	40	31.5
Locally prepared contraceptives	18	14.2
Total	127	100.0

Table 7 shows the distribution of respondents by the type of contraceptive used during last sexual intercourse. Out of the 127 respondents who used contraceptives during their last sexual intercourse, condom use was 54.3%, emergency contraceptives was 31.5% while locally prepared contraceptives was 14.2%.

IV. DISCUSSION

Contraception use can prevent unplanned pregnancies, sexually transmitted infections including Human immunodeficiency virus/Acquired immune deficiency syndrome and unsafe abortion among adolescents. With adolescents' increasing sexual activities recorded worldwide, there is need to determine knowledge and use of contraceptives among adolescent. The result of this study shows that there is a statistically positive association between adolescents' knowledge about contraceptives with age ($p=0.004$), year of study ($p=0.004$) and type of school ($p=0.006$). However, knowledge of contraceptives are not affected by the sex of respondents ($p=0.4$), religion ($p=0.53$), place of residence ($p=0.53$) and parents being deceased ($p=0.30$). Another study carried out in Jabalpur city by Anjum, Durgawale and Shinde (2014) it was also found out that age was significantly associated with knowledge of contraceptives.

The study also revealed that the adolescents' sources of knowledge about contraceptives include friends (38.7%), parents (25.8%), mass media (14.8%), teachers (9.7%) and hospital (7.0%). However, 10.3% of the respondents have never heard about contraceptives. This result is also consistent with the result of another study by Mendes and Moreira et al. (2011) which found out that friends for 22% of the boys and physicians for 36% of the girls were the sources of contraceptive information for adolescents. Another study by Jones, Biddlecom, Hebert and Milne (2011) also collaborated that teenagers relied on the internet for contraceptive information. Yet another study by Skrzeczkowska, Agnieszka, Heimrath, et al (2015) found out that the main sources of knowledge about contraception are the Internet (35%) and peers (22%). Furthermore, another similar study by Abasiattai, Asuquo, Bassey, Udoma and Oyo-Ita (2015) also revealed that the main source of contraceptive information by adolescents were

books/magazines and friends. Another study in Cape Coast Metropolis by Gyasi – Duku (2017) also confirmed that media, advertisement and friends are major sources of adolescent condom education.

The study also revealed that the adolescents' sources of knowledge about contraceptives include friends (38.7%), parents (25.8%), mass media (14.8%), teachers (9.7%) and hospital (7.0%). However, 10.3% of the respondents have never heard about contraceptives. This result is also consistent with the result of another study by Mendes and Moreira et al. (2011) which found out that friends for 22% of the boys and physicians for 36% of the girls were the sources of contraceptive information for adolescents. Another study by Jones, Biddlecom, Hebert and Milne (2011) also collaborated that teenagers relied on the internet for contraceptive information. Yet another study by Skrzeczkowska, Agnieszka, Heimrath, et al (2015) found out that the main sources of knowledge about contraception are the Internet (35%) and peers (22%). Furthermore, another similar study by Abasiattai, Asuquo, Bassey, Udoma and Oyo-Ita (2015) also revealed that the main source of contraceptive information by adolescents were books/magazines and friends. Another study in Cape Coast Metropolis by Gyasi – Duku (2017) also confirmed that media, advertisement and friends are major sources of adolescent condom education.

This study also revealed that the most known contraceptive is male condoms (82.5%), followed by female condoms and emergency contraceptives (31.2%) respectively and hormonal pills (23.0%). Others were injectable contraceptives (16.0%), locally prepared contraceptives (7.2%) and intra-uterine device (6.7%). This finding is similar to the study carried out by Aderibigbe and Basebang (2011) where the majority of the adolescents were reported to have heard about contraceptives but are more familiar with condoms, emergency pills and traditional herbs. A similar study by Ofori and Sam (2020) collaborated that the main contraceptive device observed to have been used by respondents was condom (10%).

It was also revealed through this study the adolescents engaged in sexual intercourse. The respondents indicated they engaged in sexual activities within the last three months (16.5%), within the last six months (12.8%), within the last one year (9.7%), more than a year ago (9.3%) while the rest have never had sexual intercourse (51.7%).

The study revealed that there is a statistically significant relationship between the adolescents' use of contraceptives and year of study (AOR= 1.63; $p=0.01$; CI 95%) and age of adolescents (AOR= 1.61; $p=0.02$; CI 95%). Therefore as the adolescents advances in age and year of study, their use of contraceptives increases. A similar study carried out by Dubik, Asumah, Nachnab et al (2022) also found out that contraceptive use is affected by age, level of education and marital status. In the same vein, Lasong, Zhang, Gebremedhin, et al., (2019) also identified factors such as

education, wealth index to be associated with contraceptive use.

The study found out that among the adolescents who did not use contraceptives during their last sexual encounter. 21.5% indicated that they were forced, 31.3% felt it was not necessary and 47.2% did not have any contraceptives available. This study is consistent with Brown, DiClemente, Crosby Fernandez et al (2008) which found out that nearly two-third of the adolescents did not use condoms during at the time of last intercourse. This is contradicted by a study by Brown and Guthrie (2010) which found out that being in the mood, drunkenness and unplanned sex as reasons adolescents do not use contraceptives. This study further found out that the types of contraceptive used the last time of intercourse are condom use (54.3%), emergency contraceptives (31.5%) and locally prepared contraceptives (14.2%).

V. CONCLUSION

The proper use of contraceptives can go a long way in reducing the rate at which adolescents contract STIs including HIV/AIDS; prevent unwanted pregnancies, unsafe abortion and post abortion traumas and other consequences puts their lives in danger, cause infertility and sometimes causes death of adolescents and their babies. There is need for adolescents to be engaged in adolescent-parent communication of sexual and reproductive sex so as to expose them to the negative health outcomes of unsafe pregnancies and how to have a healthy sex life.

REFERENCES

- [1] Abasiattai, A., Bassey, E., Udoma, E., Asuquo, A. & Oyo-Ita (2015). Awareness, attitude and practice of contraception among secondary school girls in Calabar, Nigeria. PUBMED. Nigerian Journal of Medicine: Journal of the National Association of Resident Doctors of Nigeria.14(2)146-50. DOI: 10.4314/njm.v14i2.371771
- [2] Advocates for youths (2021). Parent-child communication program. <https://www.advocatesforyouth.org/resources/factsheets/parent-child-communication-programs/>
- [3] AVERT (2020). Global HIV and AIDS Statistics. www.avert.org
- [4] Badru,T., Nwaisaka, J., Torpey, K. (2020). HIV comprehensive knowledge and prevalence among young adolescents in Nigeria: evidence from Akwa Ibom AIDS indicator survey, 2017. BMC Public Health; Article 20, no: 45
- [5] Bankole, A. & Oye-Adediran,B., Singh, S., Adewole, IF, Wulf, D., Sedge G., et al, (2006). Unwanted pregnancy and induced abortion in Nigeria: Causes and Consequences. Guttmacher Institute. www.guttmacher.org/pubs/2006/08/08/nigeria-up-1a.pdf www.ajol.info.
- [6] Basebang, M., & Aderibigbe, K., (2011). Contraceptive awareness among adolescents in Lagos, Nigeria. semantic Scholars. www.semanticscholar.org
- [7] Brown, S. and Guthrie, K. (2010). Why don't teenagers use contraception? A qualitative study. The European Journal of Contraception and Reproductive Health care 15(3):197-204. DOI: 10.3100/13625181003763763456
- [8] Brown, L., DiClemente, R., Crosby, R., Fernandez, M. et al (2008). Condom use among high risk adolescents: Anticipation of partner disapproval and less pleasure associated with not using condoms. PubMed. DOI: 10.1177/003335490812300510
- [9] Center for Disease Control and Prevention (2021). Adolescent and School Health. www.cdc.gov
- [10] City Population, (2017). Nsukka local government area. www.https://citypopulation.de/php/nigeria-admin-php?adm2id
- [11] Darroch J. & Woog V. & Bankole A. & Ashford, L. (2016). Adding it up: Costs and benefits of meeting the contraceptives needs of adolescents. Guttmacher Institute. New York.
- [12] Dubik, J., Asumah, M., Nachinab et al (2022). Factors influencing the utilization of contraceptives among adolescents in the Tamale Metropolis, Ghana. Asian Journal of Medicine and Health.
- [13] Durowade, K., Babatunde, O., et al, (2017). (2017). Early sexual debut:Prevalence and risk factors among secondary school students in Ekiti State, Nigeria. Afr Health Sci. (2017) PMID: PMC5656187
- [14] Duru, C., Ubajaka, C., Nnebue, C., Ifeadike, C., & Okoro, O. (2010). Sexual behavior and practices among secondary school adolescents in Anambra State. African Journal Online Afrimed Journal 1 (2).
- [15] Guilamo-Ramos. V., Lee, J. & Jaccard, J (2015). Parent-Adolescent Communication About Contraception and Condom Use. DOI: [10.1001/jamapediatrics.2015.3109](https://doi.org/10.1001/jamapediatrics.2015.3109)
- [16] Healthline, (2017). Benefits of birthcontrol beyond preventing pregnancy. www.healthline.com>health>birth
- [17] Idoko Chinedu (2018). Opinion and use of contraceptives among medical students of University of Nigeria , Enugu Campus. African Health Sciences 18(3): 637
- [18] Iyoke, C., Ezugwu, F., Lawani O. et al (2014). Peer driven contraceptive choices and preference for contraceptive methods among students of tertiary educational institutions in Enugu State, Nigeria. Dove Press. www.dovepress.com
- [19] Jones, R., Biddlecom, A., Hebert, L. and Milne, R. (2011). Teens Reflect on Their Sources of Contraceptive Information. Journal of Adolescent Research.doi:10.1177/0743558411400908 https://www.guttmacher.org/sites/default/files/article_files/jar-2011-03-14_0.pdf
- [20] lasong, J., Zhang, Y., Gabremedhin S., et al. (2020). Determinants of contraceptive use among married women of reproductive age: a cross sectional study in rural Zambia. BMJ Open.
- [21] Mendes and Moreira et al. (2011). Knowledge and attitudes of adolescents on contraception. Rev Paul Pediatr; 29(3):385-91. <https://www.scielo.br/j/rpp/a/NfxYxrmDYGf3tcpLMpmbnRN/?lang=en&format=pdf>
- [22] Mindel, A., & Sawleshwarkar, S., (2008).Factors influencing non-use of condoms at sexual relations in populations under heightened risk. hrak.srce.hr>file
- [23] Nabkindu, N.R. (2014). Health problems due to unsafe sex among youths: Condom use negotiation and consistent use, one way to address them. Medicrave. MOJ Public.
- [24] National Population Commission, (2006). Nigeria Population census report 2006 National Population Commission (NPC) [Nigeria] and ICF. 2019. Nigeria Demographic and Health Survey 2018. Abuja, Nigeria, and Rockville, Maryland, USA: NPC and ICF.
- [25] Neal, S, Mathews, Z., Frost, M., et al. (2012). Child bearing aged 12-15years in low resource countries a neglected issue. New estimates fro, demographic and household surveys in 42 countries. Acta Obstet Gynecol Scand. 91: 1114-14. Every woman child. The global strategy for woman's children's and adolescents Health (2016-2030)
- [26] Ofosu and Sam (2020). Knowledge and Awareness Level of Contraceptive Usage Among Adolescents in Mankranso of Ahafo-Ano South District. Biomedical. <https://biomedres.us/fulltexts/BJSTR.MS.ID.005123.php#APA>
- [27] Parker, J., Veldhuis, C., & Haider, S., (2019) Barriers to contraceptive use among adolescents in Nicaragua. Annals of Global Health, 82(3). www.annalsglobalhealth.org>abstract
- [28] Ramos, V., Lee, J., & Jaccard, J., (2016). Adolescent-parent communication about contraception. PubMed. www.pubmed.ncbi.nlm.nih.gov
- [29] Resnick, M. (1997). Protecting Adolescents from harm: Findings from National Longitudinal Study on Adolescent Health. JAMA, 278:823-32
- [30] Seif, S., Kohi T, Mselle L. (2016). Caretaker's perceptions on caretaker- adolescent communication on sexual and reproductive

- health in Unguja-Zanzibai: Implication for intervention. Research gate,Health, 8,5/8-530
<http://dx.doi.org/10.4236/health.2016.86055>
- [31] Singh S, Remez, L., Sedgh, G., Kwok, L., Onda, T. (2018). Abortion worldwide 2017: Uneven progress and unequal access. Guttmacher Institute
- [32] Slaymaker, E, Walker, Neff, Zaba, B & Collumbien, M. (2004). Comparative Risk Assessment: Unsafe Sex. Research Gate/
www.researchgate.net
- [33] Slogrove, A. & Sohn, A. (2017) The Global Epidemiology of adolescents living with HIV: Time for more granular data to improve adolescent health outcomes. PMC
www.ncbi.nlm.nih.gov/pmc/5929160
- [34] Skrzeczkowska, Agnieszka & Heimrath, Jerzy & Surdyka, Justyna & Zalewski, Jerzy. (2015). Knowledge of contraceptive methods among adolescents/young adults. Polish Journal of Public Health. 125. 144-148. 10.1515/pjph-2015-0042.
- [35] United Nation International Children Emergency Fund {UNICEF} (2019). HIV/AIDS. www.unicef.org
- [36] United Nations Population Fund {UNFPA}, (2015). Girlhood, not motherhood: Preventing adolescent pregnancy. UNFPA New York
- [37] United Nations Population Fund {UNFPA}, (2013). Adolescent Pregnancy: A review of evidence. UNFPA New York.
- [38] United Nations Population Fund {UNFPA}, (2015). Girlhood, not motherhood: Preventing adolescent pregnancy. New York: UNFPA.
- [39] World Health Organization {WHO}, (2015). Adolescent Pregnancy. Human Reproductive Programme. Research for Impact. www.who.int/reproductivehealth
- [40] World Health Organization (2016). Global Health estimates 2015: Deaths by cause, age, sex, by country and by region 2000 – 2015. WHO Geneva
- [41] World health Organization (2018). Adolescent pregnancy. www.who.int