©IDOSR PUBLICATIONS

International Digital Organization for Scientific Research

IDOSR JOURNAL OF BIOCHEMISTRY, BIOTECHNOLOGY AND ALLIED FIELDS 8(1): 1-12, 2023.

Assessment of the Approach of Kiryandongo Hospital Health Workers on Adolescent Contraception to Combat Teenage Pregnancies in Kiryandongos

Christopher, Wagobera

Faculty of Clinical Medicine and Dentistry, Kampala International University Uganda

ABSTRACT

The study sought to assess the attitudes of healthcare providers in Kiryandongo District Hospital (KDH) towards providing contraceptives for teenagers in Kiryandongo, as one of the areas to combat teenage pregnancies. A descriptive cross-sectional study was conducted among 73 healthcare providers in KDH, using self-administered, pretested questionnaires. More than half (57.6%) of the respondents perceived the provision of contraceptives for adolescents as promoting sexual promiscuity, while 32.8% reported otherwise and the rest were undecided. The attitude of 42.5% of them was informed by the Ugandan culture which doesn't support premarital sex, and 49.3% reported otherwise and rest was undecided. About half (50.7%), reported that unmarried should be asked to abstain from sex rather than being provided with contraceptives, 38.3% reported otherwise and the rest were undecided. 45.2% reported that providers should not provide services for both married and unmarried adolescents,41.1% reported otherwise and the rest were undecided. 17.8% reported that adolescents shouldn't be given contraceptive counseling before they become sexually active, 71.2% reported otherwise while the rest were undecided. 52.1% reported that adolescents reported that adolescents need parental consent before contraceptive services are offered, 32.8 reported otherwise while the rest were undecided. Many healthcare providers have unfavorable attitudes towards the provision of contraceptives for unmarried adolescents. There is a need for further training of healthcare providers to address this situation.

Keywords: Adolescent, teenagers, Contraceptives, premarital sex.

INTRODUCTION

Adolescents are the country most valuable future asset because of their energy, idealism and fresh views [1, 2, 3, 4, 5, 6]. However, due to their size and characteristics, adolescents occupy an potentially exciting but dangerous position (Centre for Health Services Training Research and Development) [1, 7, 8, 9, 10]. About half of world's population under 25vrs.some 1.8billion are aged 10-25, history's largest generation of adolescents, and about 85% are in the developing world [2, 11, 12, 13,

There has been a marked though uneven decrease in birthrates among adolescent girls since 1990 but some 11% of all birth worldwide are still girls between 15-19years with about 95% of them in lowand middle-income countries [3, 15, 16,

17]. The statistics in [3] indicated that the average global birthrate among 15-19year olds is 49/1000 girls with country rates ranging from 1-299birth/1000girls, with highest rates in sub-Saharan Africa [3, 18, 19, 20] Adolescent pregnancy remains a major contributor to maternal and child mortality and to the cycle of ill health and poverty as these girls usually drop out of school before attaining any qualifications and are still dependent on their parents. pregnancies Maiority of these unwanted though some are and more than 30% of girls in low- and middle-income countries get married before 18 years and 14% of them are below 15 years [3, 21, 22, 23]. Some girls don't know how to avoid pregnancy in some countries due to lack of sex education or they feel inhibited and/or ashamed to seek contraceptive

ISSN: 2579-0811

services [24, 25, 26]. In majority of sub-Saharan countries due to cultural beliefs education. mothers less community leaders are unwilling to let adolescents start contraception, usually due to their discomfort about the subject or false belief that providing information will encourage sexual activity [4]. Also research has shown a lot of controversy among health workers in sub-Saharan Africa (Uganda inclusive) on whether to give contraceptive services reproductive health education, to the teenagers and if so then which methods and means to adapt to [4, 5, 6, 7, 27, 28, 29, 301.

Several studies have revealed that not adolescents modern many use contraceptive methods. Sexually active young people are less likely to use contraception than adults, even within marriage [5, 31, 32]. Factors influencing utilization of planning methods among adolescents include lack of information and awareness about sources and care [6]: inconvenient hours cost. legal locations. and socio-cultural restrictions, lack of decision-making [7], and of particular importance is the attitude of services providers [8][5]. Many voung adults find it easier to buy contraceptive supplies such as pills and condoms from pharmacies than go to a clinic or a professional counselor. They are often shy and fear ridicule and disapproval from providers [5, 9, 10, 11, 12].

Nevertheless, prevention of unwanted adolescent pregnancy and transmission of STIs is a health priority. Meeting the reproductive needs of adolescents requires not only providing services, but also changing altitudes. It is very important for service providers to understand what constitutes adolescent and youth friendly services in order to encourage young people to use the health facilities and also to ensure that their needs are adequately met [33, 34].

Problem statement

There is an unmet need for contraception among many adolescents. Unmet needs are evident in the high rates of unwanted pregnancy, unsafe abortion and sexually transmitted disease. They United Nations Population Fund reports that 10 to 14% of young unmarried women around the world have unwanted pregnancies [10] and at least 4.4 million abortions occur among adolescent women in developing countries each year [11][13][14][15]

With global adolescent birth rate at 49/1000 girls [3] and at 25% of all pregnancies in Uganda [12], adolescent pregnancy remains the second most common cause of death among 15-19yr old girls globally. Over 3million unsafe abortions among teenagers occur each year contributing to maternal death and lasting health problems [3, 33, 34, 35, 36]. Most of these pregnancies can be avoided several interventions through community education about dangers of early marriages and pregnancies, advice and recommend girl child education as the higher the education level, the lesser the incidence of teenage pregnancy, education on contraceptive usage and abstinence as well as addressing the risks unprotected sex to STDs pregnancy. In Uganda, despite the successful WHO interventions, in other parts of world, the rate of teenage are still pregnancies high and Kirvandongo is among the top leading districts with high incidence rates with associated maternal complications [16, 17, 18, 34, 35, 36].

Aim of the study

To assess approach of healthcare providers in KDH towards adolescent contraception as a way to combat teenage pregnancy.

Specific objectives:

- To find out the willingness of health care providers towards offering contraceptive services to unmarried teenagers at Kiryandongo district hospital.
- To identify the contraceptive methods, they could prefer to give to unmarried teenagers attending Kiryandongo district hospital.
- To find out the willingness of health care provider towards giving contraception knowledge and services to

entire community or rather to only those who seek for it.

Research questions:

- Do H/C providers at KDH agree with provision of adolescent contraceptive services?
- Which contraceptive would measures they advise and educate to the adolescents?
- Would thev encourage mass sex education and

contraception or only knowledge provide those who seek for it?

Significance of the study

studv generated documented This information on the attitude of service providers at KDH towards adolescent use of contraceptives in Kiryandongo district and is help in proper understanding of the need to combat teenage pregnancy provision of reproductive through services to unmarried adolescents.

METHODOLOGY

Study design

The study design was a descriptive crosssectional studv among health care providers in KDH.

Study site

The study was carried out in Kiryandongo General Hospital Kiryandongo, in Kiryandongo district in north western Uganda, covering 3949 square kilometers with a population of 266,197 with male being 133,701 and female 132,496 according to the national population and housing census 2014. The district is bordered by districts; Apac on its East, Masindi on its South, Buliisa on its West and Nwova on its North, Ovam in North east. Kiryandongo General Hospital has a projected population of 400,000 with a service area covering the area of Kirvandongo, Masindi, Nakasongola, Oyam, Apac, Nwoya, and Amuru. The has an actual bed capacity of hospital 156 beds.

Study population

study population included all healthcare providers in KDH and the target population was all health care providers to adolescents in KDH.

Sample size

Was calculated using the [13] formula for studies crossectional which representative of the whole population, that is:

$$n = \frac{Z^2 P(1-P)}{ME^2}$$

Where; ME is Marginal error ≈ 0.05 level, Z is standard deviation, 1.96 which corresponds to 95%,

P is Proportion of target population (estimate at 95% (0.95) of the population), n is the maximum sample size

$$n = \frac{Z^2 P(1 - P)}{ME^2}$$

$$n = \frac{1.96^2 \times 0.95(1 - 0.95)}{0.05^2}$$

 $n=72.99. \approx n=73$ health care workers.

Selection of respondents

All KDH healthcare providers' selection of respondents was dependent on number of staff present at the time of conducting research.

Sampling technique

The purposive sampling technique was used in which only KDH qualified and employed staff were selected.

Selection criteria Inclusion criteria

- All KDH staff including and restricted to:
- All medical officers.
- Clinical officers.
- Enrolled nurses and midwives.
- **Pharmacists**

Exclusion criteria

- KDH staff on leave and apparently not on ground.
- All KDH staff not directly involved in delivering reproductive health care services like administrator, human resource, secretaries in different offices, laboratory staff, imaging department, others.

Data collection tools and methods

A written questionnaire with open ended questions was used. The questionnaires

www.idosr.org

were distributed to the individual participants.

Quality control

Pretesting of the research tools was done in the same hospital on a different day before the exact day of data collection and adjustments were made accordingly before the research begun. During the study, the researcher explained in details to the research participants and guided them on what to do but never influenced their answering.

Data analysis

Data were analyzed and summarized using descriptive statistics like frequency tables, percentages. Also, inferential statistics like ANOVA (analysis of variables) was used to test relationships.

Measures

Information was collected on the type of provider, age, sex, religion and marital status. They were also asked on what form of contraceptive they would wish to educate and offer to the sexually active who seek contraceptive services. The attitude of healthcare providers towards providing contraceptive services for adolescents was assessed using a 5point linker scale (strongly agree, agree. undecided, disagree and strongly disagree). There were six statements all together; three were negatively worded while other three were positively worded. The negatively worded were; 1) providing contraceptives among adolescent promotes sexual promiscuity, unmarried adolescents should not be provided with contraceptives because the Ugandan culture doesn't support premarital sex, and 3) it's better to tell sexually active unmarried adolescents to abstain from sex when they ask for contraceptives rather than giving the service to them. The positively worded questions were? 4) healthcare providers should provide contraceptive services for both married and unmarried clients in the health care facilities. 5) adolescents should be given contraceptive counseling

Characteristics of respondents

A total of 73 providers were included in the study. Majority of them were nursemidwives (76.7%) followed by clinical before they become sexually active and 6) unmarried adolescents do not require parental consent before contraceptives are given.

Data management

obtained from the Raw data was questionnaires and the data collected was analyzed using Ms. word and Ms. Excel and presented in form of charts/graphs, percentages and tables. For each of the negatively worded statement (1, 2 &3), 4marks was awarded for choosing the option strongly disagree, 3 for disagree, 2 for agree and 1 for strongly agree. For each of the positively worded statements (4, 5 &6), 4marks were awarded for choosing the option strongly agree, 3 for agree, 2 for disagree and 1 for strongly disagree. No mark was awarded for choosing the option undecided for any of the statements. The maximum score for the 6 statements was 24. Respondents that scored 50% and above of the maximum score (> 12 marks), were classified as having a positive attitude while those that scored less than 50% classified as having negative attitude(<12marks). The mean attitudinal scores were computed and compared using the ANOVA (analysis of variables) test to assess significance of certain variables in influencing attitude towards provision of contraceptive services to unmarried adolescent.

Ethical considerations

A copy was sent to Research Ethics Committee KIUTH for ethical approval, an introductory letter was requested from the School of clinical medicine and KIUTH. Permission dentistry was requested from the medical superintendent Kiryandongo District Hospital to conduct the study in the hospital, and an informed consent was obtained from respondents before issuing out questionnaires and serial numbers were used instead of names for equal and utmost confidentiality of the information that was given.

RESULTS

officers (13.7%). Others were the medical officers (5.5%), and pharmacist (4.1%). The ages of the respondents ranged between 18-60 years. The mean age was

www.idosr.org

38+_ 9.5 years, and majority (57.6%) was above 35 years. Most were females

Wagobera (75.3%) and Christians (84.9%) and most were married (84.9%).

Table 1: Characteristics of respondents (n=73)

Variable	n (%)
Age group(years)	
<25	6 (8.2)
25-35	25(34.2)
>35	42(57.6)
Sex	
Male	18(24.7)
Female	55(75.3)
Marital status	
Married	62(84.9)
Single	11(15.1)
Religion	
Christian	62(84.9)
Islam	11(15.1)
African tradition	0(0)
Type of provider	
Registered nurse/ midwife	56(76.7)
Clinical officer	10(13.7)
Medical officer	04(5.5)
Pharmacist	03(4.1)

n- Number of respondents

Response to statements on attitudes towards providing contraceptives for unmarried adolescents

More than half (57.6%) of the providers responded that giving contraceptives to unmarried adolescent promotes sexual promiscuity. Over a third of respondents reported that unmarried adolescents should not be provided with contraceptive services, because the culture doesn't Ugandan promote premarital sex. About half of the study group (50.7%) believed that giving adolescent's advice to abstain was by far

a better option to tell them than giving them contraceptives. On the other hand, more than a third (41.1%) reported that healthcare providers should provide contraceptive services for both married clients in the healthcare facilities. Majority (71.2%) were of the opinion that adolescents be given contraceptive counseling before they become sexually active. More than a third (32.8%), reported that adolescents don't require parental consent before contraceptives provided. 15.1 % were undecided and 52.1% disagreed with the statement.

Table 2 Responses to statements on attitudes towards providing contraceptives for

unmarried adolescents.

Staten	rried adolescents. nent	Strongly agree n(%)	Agree n(%)	Undecide d n(%)	Disagr ee n(%)	Strongl y disagre e. n(%)
1.	Providing contraceptives to unmarried adolescents promotes sexual	21 (28.8)	(28.8)	7 (9.6)	18 (24.6)	6 (8.2)
2.	Unmarried adolescents should not get contraceptives because the Ugandan culture is against premarital sex.	14 (19.2)	17 (23.3)	6 (8.2)	23 (31.5)	13 (17.8)
3.	It's better to tell sexually active unmarried adolescents to abstain from sex when they ask for contraceptives rather than giving them contraceptives when they ask for it.	21 (28.8)	16 (21.9)	8 (11.0)	16 (21.9)	12 (16.4)
4.	Health care providers should offer contraceptive services to both married and unmarried clients, in health facilities.	6 (8.2)	24 (32.9)	10 (13.7)	10 (13.7)	23 (31.5)
5.	Adolescents should be given contraceptive counseling before they become sexually active.	(37.0)	25 (34.2)	8 (11.0)	7 (9.6)	6 (8.2)
6.	Unmarried adolescents do not require parental consent before contraceptives are given.	9 (12.3)	15 (20.5)	11 (15.1)	17 (23.3)	(28.8)

Attitudes towards provision of contraceptives to unmarried adolescents by type of healthcare provider.

Table 3 shows the attitude towards provision of contraceptives for unmarried

adolescents by type of provider. Majority of the nurse-midwives (69.6%), clinical officers (80%), medical officers (75.0%) and pharmacists (66.7%), had positive attitude towards providing contraceptive services for adolescents.

Table 3: Attitudes towards provision of contraceptive services to adolescents by type

of healthcare provider.

Type of provider	Positive attitude. n(%)	Negative attitude n(%)
Nurses/midwives	39(69.6)	17(30.4)
Clinical officers	8(80)	2(20)
Medical officers	3(75)	1(25)
Pharmacist	2(66.7)	1(33.3)
Total	52(71.2)	21(28.8)

Mean attitudinal scores of respondents by selected variables

Table 4 below shows the mean attitudinal scores of the respondents by selected variables. The mean attitudinal score of all respondents was 13.6+- 4.7. Those <25yrs had a higher mean attitudinal score of 17+- 0.0 compared to other age

groups. The Islamists had the highest mean attitudinal score of 14.9+- 4.9. Single respondents had a higher mean attitudinal score of 14.0+- 4.6 as compared to their counterparts. All these findings were statistically significant (p<0.05). The ANOVA formula was used.

Table 4: mean attitudinal scores of healthcare providers by selected variables.

Variables	Mean score	Standard deviation	Test statistic	p-value
Age(years)				
<25	17.0	0.0		
25-35	13.4	4.7	ANOVA	0.49
>35	14.1	4.0		
Religion				
Christian	13.4	4.6	ANOVA	0.02*
Islam	14.4	4.9		
African tradition	-	-		
Marital status				
Married	13.5	4.8	ANOVA	0.36
Single	14.0	4.6		

^{*}Statistically significant at p< 0.05

Choices of contraceptives by the healthcare providers

Table 5 below shows the most preferred form of contraceptive healthcare providers at KDH if tasked to offer adolescent contraceptive services. Majority of the health providers (68.5%) opted for injectable contraceptives, followed by oral contraceptives (20.5%), barrier methods (8.3%) and only 2.7%

Table 5: Choice of form of contraceptives by the healthcare workers.

Form of contraceptive	n (%)
Injectable	50(68.5)
Oral contraceptives	15(20.5)
Barrier methods	06(8.3)
Natural methods	02(2.7)

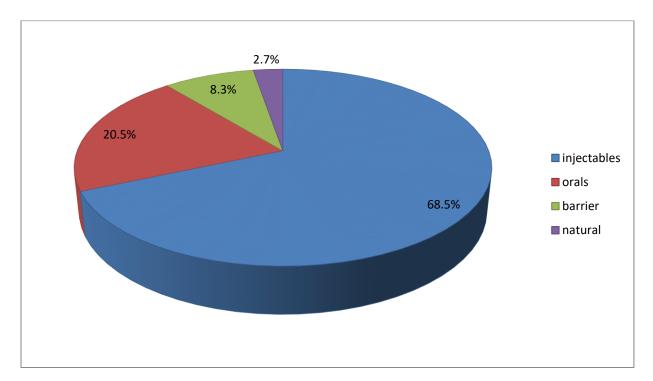


Figure 2: pie chart representing the form of contraception of choice by the health workers.

DISCUSSION

Social demographics of the respondents A total of 73 providers were included in the study. Majority of them were nursemidwives (76.7%) followed by clinical officers (13.7%). Others were the medical officers (5.5%), and pharmacist (4.1%). The ages of the respondents ranged between 18-60 years. The mean age was 38+_ 9.5 years, and majority (57.6%) was above 35 years. Most were females (75.3%) and Christians (84.9%) and most were married (84.9%).

Attitudes towards providing adolescent contraceptive services

Health providers in this study had ambivalent attitudes towards providing

contraceptives for adolescents. Over half (57.6%) were of the opinion that providing contraceptives for unmarried adolescents promotes sexual promiscuity. Similar fears have been expressed by providers in other settings even though there is no scientific evidence to support the premise that providing contraceptives adolescents promotes unmarried promiscuity. Contrary to this belief, unmarried young people who contraceptive safer sex, decrease their chances of having unwanted/unplanned well pregnancies as as sexually transmitted diseases. It could be that the held this health providers attitude www.idosr.org

because of the moral issue which stigmatizes premarital sex [4][19][20][21]. Over a third (42.5%) of the respondents in study reported that unmarried adolescents should not be provided with contraceptives because the Ugandan culture doesn't support premarital sex. This perception is not in line with the realities of adolescent sexual activities as reflected in the high rates of sexually transmitted diseases and unplanned pregnancies reported among the group. It could be that the providers believe that they owe the society the duty of protecting one of its values that is chastity. The fact remains that irrespective of this culture. many adolescents are having sex. Providing active adolescents sexually contraceptives will assist in safe-guarding their lives and future [22][23][24][4].

It was observed in this very study that some healthcare providers preferred to discourage sexually active adolescents from using contraceptives. Over half (50.7%) felt its better telling sexually active adolescents to abstain from sex other than giving contraceptives when its requested. Similar findings have been reported in other developing countries. For instance a study done in South Africa also revealed that health providers also told adolescents to abstain from sex when they come for contraceptives. This might be one of the main reasons adolescents don't visit public health facilities for professional contraceptive counseling and other reproductive health services. They instead prefer to seek advice from from chemists or their peers. Unfortunately, the information received from such sources may be incomplete or inaccurate [25][26][4].

There is no controversy that sexual abstinence is the best method for preventing unplanned pregnancies and sexually transmitted infections especially among adolescents. It should promoted as such. However, for some sexually active adolescent's boys and girls, they may see abstinence from sex as being impracticable. For this group therefore access to contraceptives is very important. Health providers care

particularly those that provide contraceptive services should provide confidential contraceptive services in a non-judgmental way [27][4].

Wagobera

Findings from this study suggest that healthcare workers may not perceive unmarried adolescents as part of their target audience. Only about a third (41.1%) of the respondents felt that contraceptive services should be provided for both married clients and unmarried adolescents. The possible explanation for this might be that healthcare providers believe that providing equal access for both married clients and unmarried adolescents will seem like encouraging among sexual activity unmarried adolescents [4][23][19]

Nevertheless. it appears that healthcare providers in this study are somewhat concerned about the reproductive health of adolescents. Majority (71.2%) were of the opinion that adolescents should be contraceptive counseling before they become sexually active. They however appeared to be unsure as to whether unmarried adolescents require parental consent before contraceptive provision. About a third (32.8%) reported that unmarried adolescents do not need parental consent before require contraceptives are given. 15.1%were undecided while 52.1% disagreed.

Also, findings from the study suggest that healthcare providers in KDH have knowledge on the different forms of contraceptives. Majority (68.5%)suggested that they would give education on the use of injectable contraceptives among the unmarried adolescents who are sexually active. This was attributed to the fact that this method is more user friendly as it promotes compliance as opposed to the other forms were compliance and consistency are heavily affected. 20.5% for of the healthcare providers opted for use οf contraceptive, 8.3% opted for use of barrier methods with the use of male condoms being mostly emphasized and 2.7 opted for use of natural methods like withdrawal.

Limitations of the study

The study was limited by the use of data which relied on provider reports. The study did not observe interactions between providers and unmarried adolescents. Thus, the relationship between attitude and behavior could not be ascertained.

CONCLUSION

Findings from this study indicate that healthcare providers felt ambivalent about giving contraceptives adolescents. Many felt the provision of contraceptive services to unmarried promote adolescents do sexual promiscuity and that the service shouldn't be practiced because the Ugandan culture is against premarital sex. The health providers reported that they discouraged sexually active adolescents from using contraceptives. Nevertheless, concerned about most are reproductive health of adolescents and were of the opinion that contraceptive counseling should be given to adolescents before they commence sexual activities.

Positive provider attitudes are a key element in enhancing contraceptive use among young people. It is important that attitudes opposing the use sexually contraceptives in active adolescents be reviewed in line with realities of adolescent sexuality. Sexual abstinence should be promoted for those willing to practice it. For those who are active and sexually want to contraceptives, access to contraceptive services shouldn't be denied because it's better to prevent unwanted pregnancies and sexually transmitted infections than to be faced with consequences that may

REFERENCES

- Center for Health Services Training Research and Development (CHESTRAD), (1997). Status of adolescents and Young Adults in Nigeria. Lagos: CSS Press
- 2. UNICEF (2008). World population day, 11th July; young people and family planning: teenage pregnancy.
- 3. McCarthy, F. P., O'Brien, U., & Kenny, L. C. (2014). The management of teenage pregnancy. *bmj*, *349*.
- 4. Ezine, L. A. (2014). Attitude of healthcare providers towards providing contraceptives for unmarried adolescents in Ibadan-Nigeria, journal of family and reproductive health, 2014 mar;8(1):33-40.
- 5. McCauley, A. P. & Salter, C. (1995). Meeting the needs of young adults. Population Reports, Series J, No. 41 Baltimore: John Hopkins University school of Public Health, Population Information Program.
- 6. Agyei, W. K. A & Epema, E. J. (1992). Sexual behavior and contractive use among 15 -24 year olds in Uganda. International

- Family Planning Perspective, 18(1), 13 17.
- 7. Berganza, C. E. Peyre, C. C. & Aguilar, G. (1989). Considerations for prevention of adolescent pregnancy. Adolescence, 24(94), 327 337.
- 8. Abdool-karim, Q, Abdool Karim. S. S. & Preston-Whyte, E. (1992). Teenagers seeking condoms at family planning services: A provider's perspective. South African Medical Journal, 82(5), 360 362.
- 9. Okonofua, F. E (1992). Factors associated with Adolescent pregnancy in rural Nigeria. Ile-Ife: OAU Press.
- 10. United United Nations Population Fund (UNFPA), (2003). State of world population 2003.making I Billion Count: Investing in adolescents' health and rights. New York: UNFPA. http://www.unfpa.org/sw/2003; Accessed 26th September, 2005.
- 11. Treffers, P. (2002). Issues in adolescent health and development, adolescent pregnancy. Geneva: WHO.

12. UDHS-2016, factors associated with adolescent pregnancy and family planning in Uganda: analysis of 2016 UDHS

- 13. Kish, L. (1965). Selection Techniques. *Genetics and the epidemiology of chronic diseases*, (1163), 165.
- 14. Gabster, A., Mohammed, D. Y., Arteaga, G. B., Castillero, O., Mojica, N., Dyamond, J. & Pascale, J. M. (2016). Correlates of sexually transmitted infections among adolescents attending public high schools, Panama, 2015. *PloS one*, 11(9), e0163391.
- 15. Herman, M., Hogan, D., Belachew, T., Tessema, F., Gebremariam, A., Lindstrom, D. & Woldemichael, K. (2011). Better-educated youth as a vanguard of social change? Adolescent transitions to later marriage and lower fertility in southwest Ethiopia. The Demographic **Transition** and Development in Africa: The Unique Case of Ethiopia, 89-101.
- 16. Nuwagaba-Biribonwoha, H., Kiragga, A. N., Yiannoutsos, C. T., Musick, B. S., Wools-Kaloustian, K. K., Ayaya, S. & International epidemiology Databases to Evaluate AIDS (IeDEA) East Africa Collaboration. (2018). Adolescent pregnancy at antiretroviral therapy (ART) initiation: a critical barrier to retention on ART. *Journal of the International AIDS Society*, 21(9), e25178.
- 17. Hassan, A., Oladeji, A., Atibioke, O., Ehimatie, B., Ojomo, O., Lannap, F., & Ladipo, O. A. (2016). Sexual behavior and knowledge of reproductive health and HIV prevention among secondary school students in Nigeria. International Journal of Public Health and Epidemiology, 231-238.
- 18. Rukundo, G. Z., Abaasa, C., Natukunda, P. B., Ashabahebwa, B. H., & Allain, D. (2015). Antenatal services for pregnant teenagers in MbararaMunicipality, Southwestern

- Uganda: health workers and community leaders' views. *BMC* pregnancy and childbirth, 15, 1-5.
- 19. John, T. A., Isaac, E. F. S., Monima, L. A., Fernandez, E., & Mohammed, B. (2019). Sexual dimorphism in the lip print pattern and size among Ugandan, Kenyan and Somali population. Forensic Science International: Reports. 100012. Volume 1, **Pages** https://doi.org/10.1016/j.fsir.201 9.100012
- 20. Mousailidis, G., Mehboob, R., Papanna, B., Bhan-Kotwal, S., & Shoka, A. (2020). Hypersexuality and new sexual orientation following aripiprazole use. *Progress in Neurology and Psychiatry*, 24(1), 14-16.
- 21. Ratcliffe, S. G., Therney, I., & Nshaho, J. (1982). The Influence of Additional Sex-Chromosomes on Cerebral Function. JOURNAL OF MEDICAL GENETICS, Volume 19, Issue 5, Pages 373-373.
- 22. Agreen, F. C. and Obeagu, E. I. (2023). Anaemia among pregnant women: A review of African pregnant teenagers. Journal of Public Health and Nutrition 6(1)138.
- 23. Ratcliffe, S. G., Tierney, I., Nshaho, J., Smith, L., Springbett, A., & Callan, S. (1982). The Edinburgh study of growth and development of children with sex chromosome abnormalities. Birth defects original article series, Volume 18, Issue 4, Pages 41-60.
- 24. Wolf, O., Glatzel, P. S., Lehnen, A., Streich, W. J., & Frölich, K. (2004). Blood values in the European bison (Bison bonasus) in relation to sex, age and balanoposthitis in bulls. Tierärztliche Praxis Ausgabe G: Großtiere/Nutztiere, 32(05), 269-273.
- 25. Alabi, A. S., Aigbogun Jr, E. O., Lemuel, A. M., & Buhari, M. B. (2020). Sex estimation from radiogrametric linear dimensions of the metacarpals and phalanges in a Nigerian population. *Forensic*

Science International: Reports, 2, 100097.

- 26. Rukundo, G. Z., Abaasa, C., Natukunda, P. B., & Allain, D. (2019). Parents' and caretakers' perceptions and concerns about accessibility of antenatal services by pregnant teenagers in Mbarara Municipality, Uganda. *Midwifery*, 72.74-79.
- 27. Byabashaija J. (2023). Prevalence of Malaria among Pregnant Women Attending Antenatal Clinic at Ishaka Adventist Hospital, Uganda. *IDOSR Journal of Experimental Sciences* 9 (1), 59-67.
- 28. Mugoya M. P. (2023). Prevalence and control of Malaria in Pregnant Antenatal Mothers at Main Hospital, Iganga District, Eastern Uganda. *IDOSR Journal of Science* and Technology 9(1):66 9 (1), 66-74
- 29. Byabashaija (2023). Assessment of Risk Factors in Antenatal Women at Ishaka Adventist Hospital, Uganda. *IDOSR Journal of Experimental Sciences* 9 (1), 50-58.
- 30. Nakibuuka H. (2023). Evaluation of factors associated with low utilization of family planning services among mothers attending maternal child health services at KIU-TH Bushenyi District, Uganda. INOSR Scientific Research 9 (1), 80-96.
- 31. Tumwesigye R. (2023). Level of Women Involvement in Voluntary Medical Male Circumcision in Maziba Sub-County Ndorwa East, Kabale District. IAA Journal of Biological Sciences 10 (1), 1-6.
- 32. Edema M. (2023). Factors that Hinder Adolescents from Seeking Reproductive Health Services: A study of Basajjabalaba Secondary School-Bushenyi District. IAA Journal of Biological Sciences 10 (1), 38-53.

- 33. Petrus B., E Nzabandora and E Agwu (2022). Evaluation of the bacterial agents associated with PID among women of reproductive age at Kampala International University Teaching Hospital. IDOSR Journal of Biochemistry, Biotechnology and Allied Fields 7 (1), 64-74.
- 34. Ikuomola EO, OS Akinsonmisoye and RO Owolabi (2022). Evaluation of the Effect of Secnidazole on the Relative Weight of the Testis and Epididymis of Male Wistar Rats. *IAA Journal of Applied Sciences*, 8 (1), 126-133.
- 35. Ikuomola EO, OS Akinsonmisoye and Owolabi, R O., MB Okon (2022). Evaluation of the Effect of Secnidazole on Sperm Motility, Morphology, Viability and Total Sperm Count of Wistar Rats. *INOSR Experimental Sciences* 8 (1), 74-83.
- 36. Ikuomola EO, OS Akinsonmisoye, RO Owolabi and MB Okon (2022). Evaluation of the effect of secnidazole on the histology of the testes and epididymis of male Wistar rats. *INOSR Experimental Sciences* 8 (1), 84-94.