

## Computational responses of young adult about sexual transmitted diseases in Federal Polytechnic, Mubi, Adamawa State, Nigeria

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### Abstract

Sexually Transmitted Diseases (STDs) described a condition passed from one person to another through sexual contact. Depending on the specific STDs, infections may also be transmitted through sharing needles and breastfeeding example HIV. The best treatment for STDs will always be prevention. Among the new infections that occur each year, over half occur among young people (15-24 years old) meaning, more at risk for STDs than older adults. STDs create great social problems in the community among which is death toll raising especially the working population (Kimberly, & Gail, 2015). The questionnaire that was given to respondents served as the research instrument. From the result in Table 1, the study revealed that 42% fall within the age limit of 15-24, while 33% fall within age limit of 20-24, and 25% aged above 25. In table 2, 30% of the populations are men, while 70% are female. Majority of the students that filled the forms are females which support vulnerability of females to STDs. Figure 2, shows that young teenagers know about the STDs through friends mostly. 45% of them know dangers about STDs while 55 don't know which shows that the students' practices unprotected sex because they do not know the negative effects of STDs. A very good number of the students can identify STDs client. The study concluded that adolescents in Federal Polytechnic, Mubi are mostly aware of sexually transmitted diseases(STDs) but have deficiencies in having correct knowledge about these diseases, their basic symptoms, and modes of transmission. From the chi-square distribution table, we reject the null hypothesis (11.070), and accept the alternative hypothesis(635), hence conclude that most students are somehow ignorance of STDs danger especially Syphilis and gonorrhoea in Federal Polytechnic, Mubi. Finally there shall be wider publicity to enrich the campaigns about STDs in Nigeria and world at large.

**Keywords:** Computational; Responses; Sexually; Transmitted; Diseases

### 1. Introduction

The sexual transmitted diseases (STD) continue to pose threats to populations around the world. In 2016 the arrival of Zika virus in the United States required significant disease control efforts including STD screening and counseling (Marini, Guzzetta, Rosà & Merler, 2017).

Sexually Transmitted Diseases (STDs) described a condition passed from one person to another through sexual contact. Depending on the specific STDs, infections may also be transmitted through sharing needles and breastfeeding example Human Immunodeficiency Virus (HIV). The best treatment for STDs will always be prevention. There are more than 20 types of STDs, caused by virus, bacteria and parasites. Some STDs like chlamydia, syphilis, gonorrhoea, crabs and trichomoniasis are curable with antibiotics or other treatments while the incurable STDs are HIV, Human Papillomavirus (HPV) and herpes. STD that cannot be cured can be managed (Kimberly & Gail, 2015).

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Among the new infections that occur each year, over half occur among young people (15-24 years old) meaning, more at risk for STDs than older adults, because:

- Cervix (passage between vagina and womb) in young people lined with cells more vulnerable to STDs
- Teenagers, young adults may have problems getting information, services, they need to avoid STDs
- May have trouble getting STDs prevention services
- May not feel comfortable in places designed for adults
- May have concerns about confidentiality

More so, teenage girls and women have some of the highest rates of STDs especially, gonorrhoea as result of several factors, which includes, higher rates of poverty, Less access to health care, already high rate of STDs in their communities. As practiced in United State of America, yearly screening is recommended for all sexually active women under 25, older women with new or multiple sex partners (The Well Project, 2021).

The origins of HIV dated back to the late nineteenth or early twentieth century in west-central Africa. HIV, were first identified and recognized in the early 1980s. It is a virus that gradually attacks the immune system, which is the body's natural defense against illness. If a person becomes infected with HIV, he/she will find it harder to fight off infectious diseases. The virus destroys a type of white blood cell called CD4+ T-lymphocyte (CD4) cells. There are many different types of HIV. The two main types are: HIV-1: the most common type found worldwide, HIV-2: this is found mainly in Western Africa, with some cases in India and Europe. HIV is found in the body fluids of an infected person (semen and vaginal fluids, blood and breast milk). The virus is passed from one person to another through blood-to-blood and sexual contact. In addition, infected pregnant women can pass HIV to their babies during pregnancy (Nigeria Galleria, 2021).

The main driver of the HIV pandemic in Nigeria include: poverty, negative peer influence, absence of or ineffective public health education and counselling about safer sex practices, poor access to quality healthcare services and poor health seeking behavior of most Nigerians (Garba & Gumel, 2010). About 80% of HIV transmissions in Nigeria resulted from heterosexual contacts, while blood transfusion accounts for 5% of infections. Mother-to-child transmission and needle-sharing (related to poor healthcare delivery) constitute the remaining 15% (UNAIDS, 2021).

### 1.1. The Syphilis and its Stages

Syphilis is caused by the bacterium *Treponema pallidum*. Disease begins with primary syphilis, which generally occurs within a few weeks to months of infection. Primary syphilis manifests as a genital sore(s) or lesion(s), generally at the anatomical site where the bacteria first entered the body. Secondary syphilis is characterized by skin rashes and mucous membrane lesions (sores) or both at a site(s) distant from the primary lesion (CDC fact sheet, 2020). After a period of latency (during which time there are no visible signs or symptoms), often decades later, it may progress because of a lack of diagnosis, treatment, and/or timely care to tertiary syphilis, the most advanced stage of the disease. Tertiary syphilis is rare but can affect multiple organ systems including the brain, nerves, eyes, heart, blood vessels, liver, bones, and joints (CDC fact sheet, 2020). However, ocular and neurologic syphilis can occur at any stage of disease. Congenital syphilis occurs when a pregnant woman passes the infection to her fetus during pregnancy. Though syphilis can be treated and curable, but if syphilis is not treated can cause increased risk of HIV. Congenital syphilis, can lead to preterm birth, stillbirth, and infant death. Symptoms of syphilis can include: rash, fatigue, fever, headaches, joint pain, weight loss and hair loss. If left untreated, late-stage syphilis can lead to: loss of vision, loss of hearing, loss of memory, mental illness, infections of the brain or spinal cord, heart disease and death (CDC fact sheet, 2020).

According to CDC (2021), STDs are common among young people. There are more than million new sexually transmitted infections every year in the world. About half of these infections occur between the ages of fifteen and twenty four years. Young people are at greater risk of getting an STD for the followings reasons:

- Young women's bodies are biologically more prone to STDs.
- Some young people do not get the recommended STD tests.
- Difficulty for young people to access STD testing centres.
- Some young people have more than one sex partner.

For these reasons, there is need to study how young adult get to know about STDs and provide ways of curtailing the spread of STDs especially HIV, gonorrhoea and syphilis and find ways of controlling the spread of some STDs especially among the young adult.

## 1.2. Statement of problem

Sexual transmitted diseases (STDs) are the most commonly reported type of infection in teenagers and young adults. Anyone who is sexually active is potentially at risk of getting infected, aged between 15-49years (Bulus, Wadzani & Sajoh, 2018). In sub-Saharan Africa 16 percent of young females (aged 15-19) and 12 percent of young males reported having sex before they were 15years old. STDs has created great social problems in the community among which are; death toll rising especially the working population (Kimberly, & Gail, 2015).

## 1.3. Objectives

The aim of the study is to know the current responses of young adult towards STDs such as HIV, gonorrhoea and syphilis, and suggest possible ways of reducing the occurrence in young adult especially towards practicing of un-protective sex patterns.

## 1.4. Research Question

What are the responses of young adult about STDs in Federal Polytechnic Mubi?

## 1.5. Hypothesis

- H0: Knowledge of sexually Transmitted diseases (STDs): HIV, Syphilis and Gonorrhoea.
- H1: Ignorance of sexually Transmitted diseases (STDs): HIV, Syphilis and Gonorrhoea.

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## 2. Material and method

### 2.1. Background to the Study

The Federal Polytechnic, Mubi is one of the seven (7) Federal Polytechnics established by Decree No. 33 of 1979. It started running on the 25th July, 1979. It is located at Mubi, Adamawa. The Polytechnic commenced operations with programames in Preliminary Studies in the Sciences and Management. The products of these programmes formed the bulk of the candidates admitted for the pioneer National Diploma Programames in the ten (10) Departments of the Polytechnic as at then. Presently the institution has thirty six (36) academic departments with over 5000 students. Adamawa state is located North East region of Nigeria. This sort of area usually experience two kinds of season. There is the dry and rainy season. During the dry season, temperature could rise as 20 degree high as and likewise during the rainy temperatures could drop as low as 18 degree (Federal Polytechnic, Students Companion, 2022).

### 2.2. The study Population

We targeted male and female students of the federal polytechnic, Mubi, Adamawa State, Nigeria. The study population was, OND, ND and HND students. In the Polytechnic system, students spend 2 years in OND, ND, a year industrial training and 2 years in HND. At the end, students are expected to go for Compulsory National Youth Service Corps (NYSC). Questionnaire was used to find out the respondents knowledge of STDs. six hundred Questionnaires were issued out to respondents of OND, ND and HND students of Federal Polytechnic Mubi, Adamawa state, Nigeria.

### 2.3. Instrument for Data Collection

The research instrument is the questionnaire, titled "Computational Responses of Young Adult about Sexual Transmitted Diseases in Federal Polytechnic, Mubi, Adamawa State Nigeria" was administered to respondents.

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## 3. Results and discussion

Six hundred questionnaires were issued out, five hundred and forty six (546) were returned filled; respondents' age, sex, religion and programme were specified. From Table 1, the study revealed that 42% fall within the age limit of 15-24, 33% fall within age limit of 20-24, while 25% aged above 25. In table 2, 30% of the populations are men, while 70% are female. Table 3 the study further examined religion status, Christianity, Islam, and others are 57%, 39% and 4% respectively. Table 4 revealed that, 3% for OND, 73% for ND and 24% for HND students respectively for programme of study. This results show that, good number of students fall within the age limit of 15-20, majority of the students that filled the forms are females which support vulnerability of females to STDs in a community, more than half of the students are Christians and ND students carry the largest number.

From Figure 1, 96% of the respondents heard about STDs and only 4% did not heard of STDs. From figure 2, it shows that young teenagers know about the STDs through friends mostly. 70% of the students were once counsel on the STDs while 30% did not have counseling on STDs. 45% of the them know dangers about STDs while 55 don't know which shows that the students practices unprotected sex because they do not know the real dangers of STDs. They also confess that 90% know one or two STDs especially HIV/AIDS while only 10% do not know any of the STDs (see figure 1). Figure 3 shows the familiar STDs known to them which is HIV. In figure 4, indicate that most STDs are contracted through unprotected sex as seen from the figure 4. 92% of the students are aware of the common complain of STDs patients while only 8% are not aware as seen in figure 1. From table 4, more than half of the students can identify the sign and symptoms of STDs patients. They identify this with weight loss commonly. And finally 85% of the respondents can identify STDs client while 15% cannot identify them as seen in figure 1.

From the above analysis, it confirm with Abiodun (2012) that asserted "In sub-Saharan Africa 16 percent of young females (aged 15-19) and 12 percent of young males reported having sex before they were 15years old".

### 3.1. Major findings

The study concluded that adolescents in Federal Polytechnic, Mubi are mostly aware of sexually transmitted diseases(STDs) but have deficiencies in having correct knowledge about these diseases, their basic symptoms, and modes of transmission. Sexually transmitted diseases sensitization message to the younger generation should be a priority of government at all level to educate the populace. We also encourage all social networking site users should build awareness of sexual transmitted diseases plus media enlightenment campaigns about dangers of these diseases should also be emphasized.

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## 4. Conclusion

With limited pharmaceutical interventions in Nigeria where STDs is spreading fast among the young adult, there is need to educate the populace mainly on behavioural change towards risk factors. This could be achieved through effective public health campaign.

### *Recommendations*

Below are some of the recommendations made from the study:

- Effort should be made towards spreading sufficient information on STDs danger to young adults on practicing safe sex
- The young generation has to be educated on the used of condom by both men and women where vulnerability in females is greater than males in terms of sexual activities.
- Nigeria should improve on resources effective counseling and testing facilities for STDs.
- People should not dwell mostly on noticed symptoms but take good preventive measures before sign and symptoms especially among sex age groups.

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## Compliance with ethical standards

### *Acknowledgments*

All respondents of the questionnaires are highly acknowledged and authors of different books, journals, and articles used are duly appreciated.

### *Statement of informed consent*

The students or the respondent's consent was obtained prior their participation in the study.

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## Appendices

**Table 1** Respondents Age group

Age group	Frequency	Percentage (%)
15-20	230	42
21-24	180	33
25 & above	136	25
Total	546	100

Source: Field Survey, 2023

**Table 2** Respondents Sex

Sex	Frequency	Percentage (%)
Male	166	30
Female	380	70
Total	546	100

Source: Field Survey, 2023

**Table 3** Religion

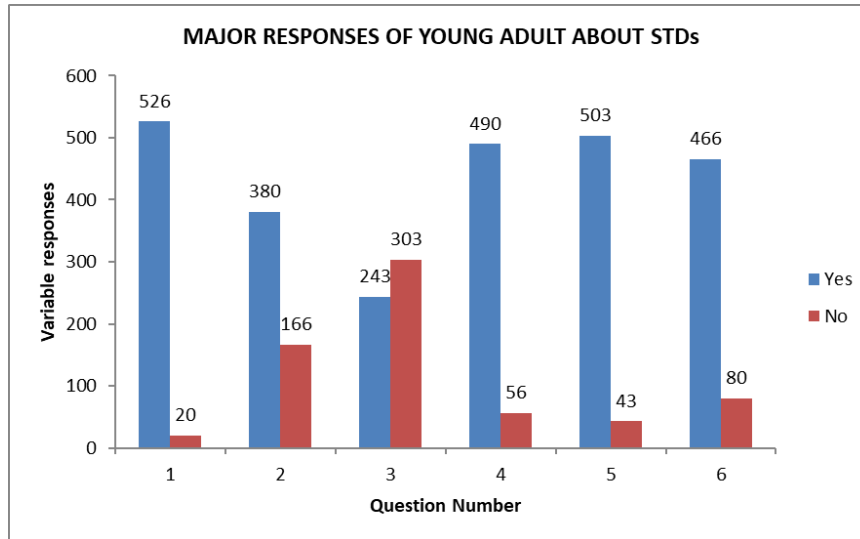
Sex	Frequency	Percentage (%)
Christianity	310	57
Islam	211	39
Others	25	4
Total	546	100

Source: Field Survey, 2023

**Table 4** Programme of Study

Sex	Frequency	Percentage (%)
OND	15	3
ND	400	73
HND	131	24
Total	546	100

Source: Field Survey, 2023



**Figure 1** Respondents Response (Source: Field Survey, 2023)

Have you ever heard of sexually transmitted Diseases (STDs)? Yes[526 ], No[20 ]

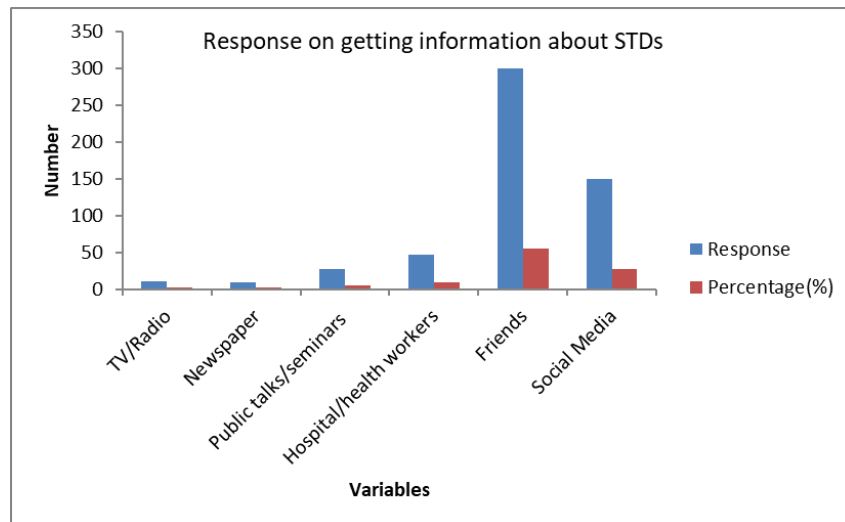
Have you ever gone for counseling on STDs? Yes [380], No [166]

Do you know the dangers of STDs? Yes [243], No [303]

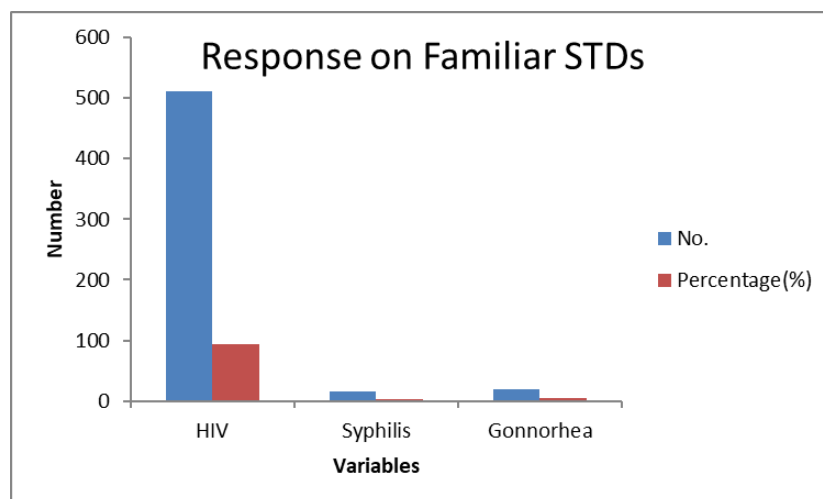
Do you know any sexually transmitted infection? Yes[ 490], No[56 ]

Do you know any of the common complaints in people with STDs? Yes[ 503], No[ 43]

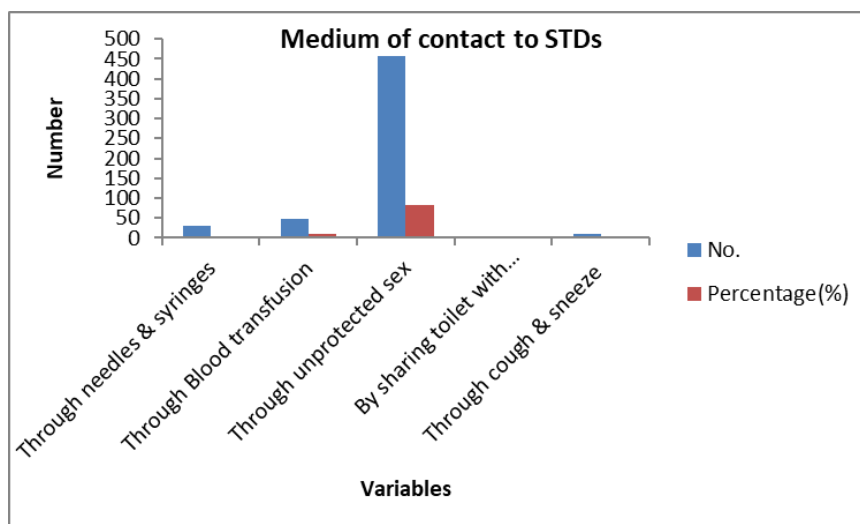
Can you identify those infected with STDs? Yes[ 466 ] No[80 ]



**Figure 2** Ways of getting information about STDs



**Figure 3** Familiar STDs



**Figure 4** Medium of contracting STDs

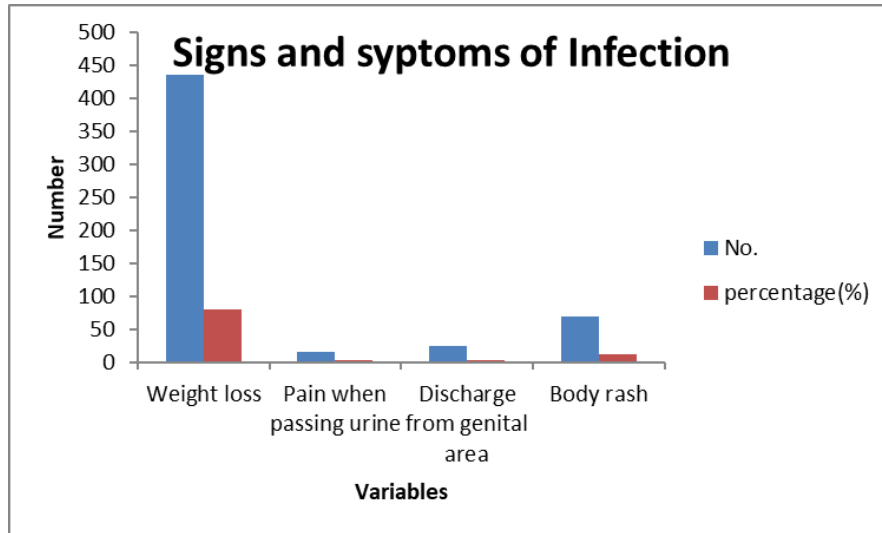


Figure 5 Sign and symptoms of STDs client

Table 5 Responses of Young Adult about STDs

No./Responses	Yes	No	Total
1	526	20	546
2	380	166	546
3	243	303	546
4	490	56	546
5	503	43	546
6	466	80	546
Total	2608	668	3276

$$C_{ij} = \frac{(R \times C)}{G}$$

Table 6 Chi-square computational table

O	E	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
526	435	91	8281	19
380	435	-55	3025	2
243	435	-192	36864	85
490	435	55	3025	7
503	435	68	4624	10
466	435	31	961	2
20	111	-91	8281	74
166	111	55	3025	27
303	111	192	36864	332
56	111	-55	3025	27
43	111	-68	4624	41



80	111	-31	961	9
				635

$X^2$  = chi- square value, O = observed value, E = expected value

$$X_{tab}^2 = (R - 1)(C - 1), \quad df = (6-1)(2-1) = 5, \quad 5, 5\% = 11.070$$

$$X_{cal}^2 = \sum_{i=1}^n \frac{(O_{ij} - E_{ij})^2}{E_{ij}}, \quad X_{cal}^2 = 635$$

Decision Rule:  $x^2_{cal} 635 > x^2_{tab1}$  that is,  $H_0 > H_1$  we reject the  $H_0$  and accept  $H_1$

We reject the null hypothesis and accept the alternative hypothesis. Hence conclude that most students are somehow ignorance of STDs especially Syphilis and gonorrhoea in Federal Polytechnic, Mubi.