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ASSESSMENT OF APPREHENSION AND INSIGHT OF HIV/AIDS IN PHARMACY STUDENTS

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ABSTRACT

The main purpose behind this survey study is to evaluate the alertness, response and attentiveness of pharmacy student for this life intimidating disease HIV/AIDS. This study was conducted at Jinnah University for Women, Karachi. Pakistan. A designed Questionnaire of five questions was filled by 100 pharmacy students and the duration was up to 2 weeks. The study selection criteria was planned to be 50 students are trained means which are on pharmacy practice training and 50 students are not done their training yet. The data was analyzed statistically through SPSS version 20.The consequences shows that 65% of the students were completely aware and responded well to the questions and 35% were not well responsive. Hence this may depicted that there should be some proper knowledge regarding this transmitted disease and main purpose is to generate alertness.

KEYWORDS: HIV response, Pharmacy students, AIDS, Pharmacy practice, Life intimidating disease. Transmitted disease.

INRODUCTION

Human Immune deficiency virus (HIV) that causes the acquired immunodeficiency syndrome (AIDS), a condition in humans in which progressive failure of the immune system allows life threatening and opportunistic infections and cancer to thrive. Infection with HIV occurs by the relocate of blood, semen, viginal fluid, pre ejection, or breast milk. Within these physical fluids, HIV is present as both free virus subdivisions and virus within infected

immune cells. It is caused by a retro virus in the retroviridae family, lentivirus genus which are RNA virus whose basic characteristics is that they change into DNA by reverse transcriptase enzyme which is present in the virus and only those virus change into DNA and they change into RNA again when the penetration by CD4 receptor of retro virus in the host cell take place three enzyme are used in it (1) integrase (for the entry of virus) (2)protease (for the protein synthesis) and(3)transcriptase (for the change in the sequence RNA-DNA) and then after all finally virons in blood are seen. There are three stages in HIV infection.

1. Acute Infection is the starting of the infection and in this time period, large amount of the virus are being produced in the body. Many, but not all people develop flu like symptoms often described as the worst flu ever.

2. Clinical Latency at this stage, HIV reproduces at low levels, although it is still active. During this phase, you not have symptoms with appropriate HIV cure people may survive with clinical latency for numerous decades. Without treatment, this period lasts a normal of 10 ten years, other than a quantity of people may show improvement all the way through this stage earlier.

3. AIDS as your CD4 cells fall below 200 cells/mm3 you are measured to have progressed to AIDS exclusive of cure, people typically survive three years.

- Normal range of CD4 (500-1500cells/mm3)
- Early stage (500-600)
- Mild stage (200-500)
- Late stage (75-200) in which opportunistic infections take place
- Advanced stage (<75)

HIV infects the vital cells in the human immune system such as helper T cells (specifically CD4* T cells), macrophages and dendrites cells. HIV infection leads to low levels of CD4 T cells through a number of mechanism including: apoptosis of infected by stander cells direct viral killing of infected cells. When the CD4 T cells number decline below the serious level, cell mediated invulnerability is lost and the body becomes increasingly more predisposed to

a) Opportunistic infection b) Atypical infection

c) Malignance

(A) Opportunistic infections include

1. **Pneumocystis Jerovici:** which is fungal disease and more frequent in AIDS and we extravagance it by giving Co-trimaxazole (combination of trimethoprim+ sulphamathazole) 120mg/kg/day. If it is not obtainable then in alternative depsone 100mg on a daily basis may be given.
2. **Cytomegalovirus:** As the name indicates it is caused by virus and mostly it coursed the eye syndrome that may leads towards the blindness and we treat it by giving cidofovir 5mg/kg.
3. **Toxoplasmosis** which is protozoal infection in the CNS disease occurs in AIDS in which we do the CT scan and sometimes lesions and rings form appear in brain and we can do the brain biopsy and we treat it by giving the combination of sulphadiazine, pyrimethamine and folic acid. Folic acid is given that myelin sheath inhibition may not take place and immunity may boost up.

(B) Atypical infections include

1. **Salmonellae** caused by E-coli and we treat it by giving trimethoprim 200mg.
2. **Mycobacterium Avium Complex** (non tuberculin bovine African) if with HIV we give the regimen for T.B= (isoniazid, rifampicin, para-isoniazid and ethambutanol) and for HIV= (macrolide [calarithomycin, azithromycin], fluoroquinolones+ amino glycosides).
3. **Herpes Simplex Virus (HSV)** in which we give acyclovir 5-10mg/kg IV three times, 200-400mg orally five times a day. To reduce the renal toxicity we give acyclovir in dilute form. HIV infections with atypical infections are prolong and difficult to treat because in it immunity is nil and compromised and there is prolong illness.

(C) Malignancies include

1. **Kaposi sarcoma** is the tumor in the blood vessels and in it purple or red lesions are formed on skin and we treat it by giving doxorubicin.
2. **Non-Hodgkin lymphoma** is the cervical lymphoma and it is of white blood cells. These both are the cancer in HIV in severe stage.

TRANSMISSION OF HIV takes place through sexual and non sexual.

1. **Sexual Transmission** sexual contact with an infected person e.g. anal sex, viginal sex, orally sex (kissing).

2. **Non- Sexual Transmission** e.g. injection drug use, tattoos and piercing, mother to child transmission, sharing needles, syringes, or other injections equipment with someone who is infected, transmission through donated blood or blood clotting factor.

HIV Is Not Transmitted Through: urine sweat, showers, sexual contact with animals (since HIV is a human virus and is not carried by animals), mosquito bite, going to school, socializing or working with HIV positive persons.

Symptoms of HIV: Recurring fever, rapid weight loss, profuse night sweats, extreme and unexplained tiredness, diarrhea that lasts for more than a week.

DIAGNOSIS OF HIV: HIV is most commonly diagnosed by testing your blood or saliva for the presence of antibodies to the virus. These HIV test are not exact immediately after illness. So we confirm the subsequent test for the accurate result: **CD4 count, viral load test, ELISA test** (enzyme link immune absorbent assay) if ELISA test becomes positive then we do **western blot blood test** for the confirmation of ELISA test, **blood test** [CBC, RBC count, hemoglobin, mean corpuscular volume (MCV), mean corpuscular hemoglobin (MHC), platelet count, WBC count, cholesterol and triglyceride, glucose, protein. **Diagnosis Tests For The Complications**: tuberculosis, hepatitis, sexually transmitted infections, urinary tract infections, toxoplasmosis.

Treatment of HIV: for HIV infectivity we take care of it with anti–retroviral HAART psychotherapy. (Highly active anti-retroviral therapy) in which we have two phases (1) induction (2) maintenance. We give 3 anti retroviral combination depend on the duration of CD4 count when increase so we give the drug holiday because of having too much side effects. The major side effect of anti-retroviral is lipodystrophy.

- **First line of treatment:** 2NRTIS+1NNRTS.
- **Second line of treatment:** 2NRTS+protease inhibitor (PI) [PI+PI boosted].PI (ritonavir) in a dose of 100mg, PI boosted and it will enhance the activity ritonavir in a dose of 600 mg.
- **Third line of treatment:** 3NRTIS.

Some time we give drug holiday because of: toxicity of drug cost of drug, adherence of patient to drug.

Treatment of HIV in Pakistan is not affordable because of the economy of country and increase rate of poverty in the country and HIV is the disease which is not curable until or unless we take the medicine throughout life because through taking the medicines we can suppress the virus but may not completely removes it.

New therapies for HIV treatment are: Attachment blocker maturation inhibitor fusion inhibitors, and immune-modulatory therapy.

Toxicity of anti-retroviral: mitochondrial toxicity, rash, metabolic disturbance and renal impairment.[1-4]

METHODOLOGY

This research is established to study the awareness on Human Immune Deficiency Virus (HIV) i.e. AIDS. This data was composed for pharmacy student of Jinnah University for women, Karachi. This survey is based on 2 weeks. 100 forms were filled by student, 50 students are training and 50 are non-training students. This research was not experimental and there is no need to approach ethics commission for evaluation before conducting the study. All the data were analyzed in SPSS version 20. The questions asked from students are given below.

1) Do you know about AIDS/ HIV?
2) Do you aware that the HIV is not transmitted?
3) Do you aware about the symptoms of AIDS?
4) Do you think that the treatment of HIV is affordable?
5) Do you know about the diagnostic test of HIV/AIDS?

RESULTS AND DISCUSSION

It is experiential that the student of pharmacy have quite consciousness about Human Immune Deficiency Virus (HIV). As we have surveyed on those students who were totally aware about HIV and those who don't be acquainted with HIV. For this purpose 100 Questionnaire forms was been filled by the students. 65% of students highly aware about HIV and 35% of student have no such awareness.

First question was asked about HIV that "do you know about AIDS/ HIV?" to

100(50 training. 50 non-training) students at Jinnah university, Karachi, training student (47 beyond 50) and non-training (49 beyond 50) students have knowledge about HIV, the second question we asked was "do you aware that the HIV is not transmitted?", according to our survey majority of students have knowledge about HIV transmission (46 beyond 50) and non-training (36 beyond 50). And then we asked third question our students "aware about the symptoms of AIDS?" so the response was highly positive that the majority of the students were familiar with their symptoms (36 beyond 50), non-training (21 beyond 50, the forth question inquired regarding HIV "think that the treatment of HIV is affordable?" greater part of training students responded yes it is affordable (43 beyond 50) and non-training (9 beyond 50). And last question was "do you know about the diagnostic test of HIV/AIDS?" training student (37 beyond 50), non-training (21 beyond 50).

The fundamental intention of this research is to make sure the responsiveness about this disease in pharmacy students because they are the supreme part of allied health care and needs to bring out the wakefulness from its beginning as this is a life threatening disease and people ought to have aware and future pharmacist be supposed to brace them self's for its proper monitoring and new drug development and its appropriate management.[5-27]

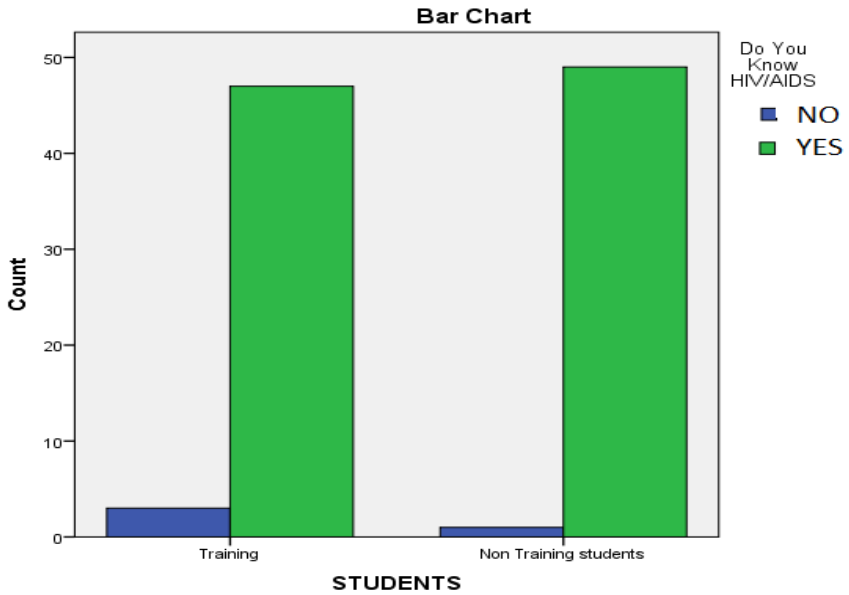

Figure 1: Awareness about HIV.

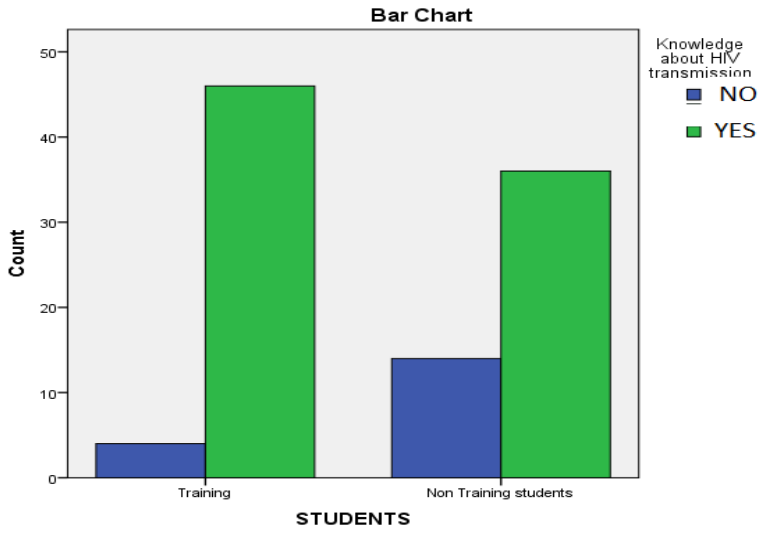

Figure 2:Awareness about transmission of HIV

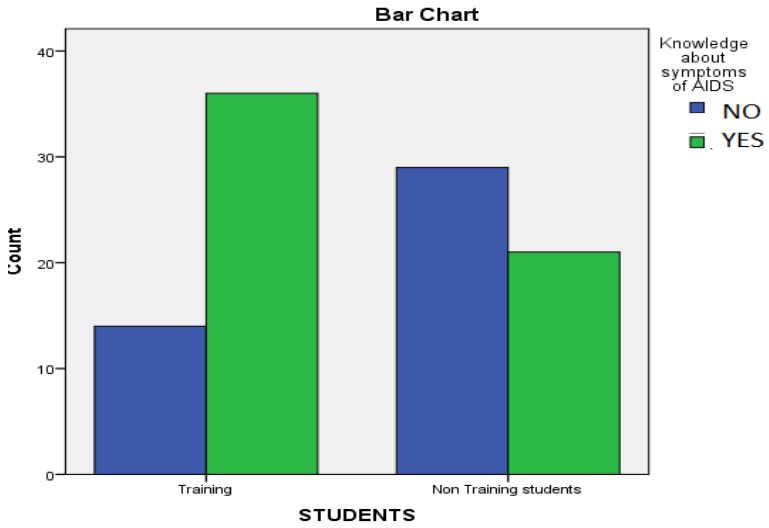

Figure 3:Awareness about symptoms of HIV

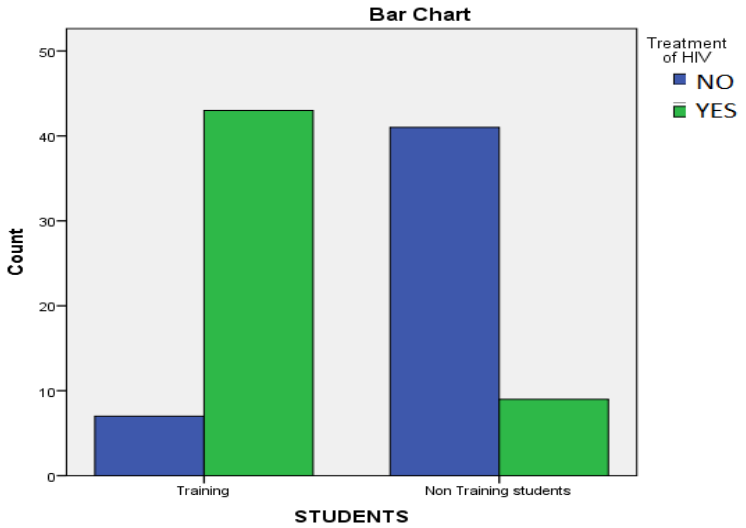

Figure 4:Awareness about treatment of HIV

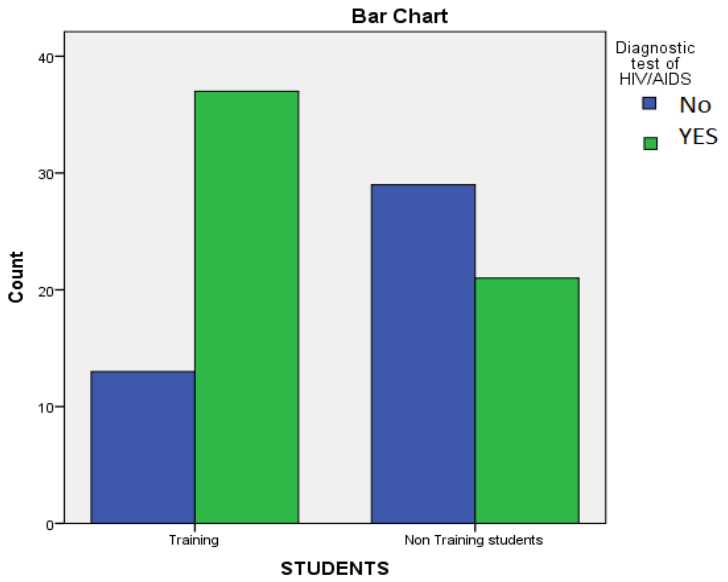

Figure 5:Awareness about diagnosis of HIV

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