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Abhimanyu Singh Chauhan

ABSTRACT

Abhimanyu Singh Chauhan

Situation Analysis: Knowledge and attitude of medical students of kalinga Institute of medical sciences for HIV/AIDS.

The increased likelihood of HIV/AIDS infection reaching epidemics heights in south –east Asia countries like India makes it crucial for health care workers to be well informed and adequate prepared to encounter this challenge .medical students plays an important role in the early diagnosis and detection of HIV/AIDS .The attitudes of medical students with regards to AIDS are of prime importance because medical students represents the future of the profession. The purpose of this study was to assess the knowledge and attitudes related to HIV/AIDS of MBBS, BDS and BPT students of kalinga institute of medical sciences .A sample of 205 students at KIMS has participated in the study .A survey questionnaire KABP of WHO was utilized to collect data for the study.The findings of the study present insight on how well the medical students are prepared to deal with the HIV/AIDS epidemic in India and what additional efforts are warranted in this direction.

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Part Ist

Internship Report

Organization Details:

The Public Health Foundation of India (PHFI) is a response to redress the limited institutional capacity in India for strengthening training, research and policy development in the area of PublicHealth.

It is a public private partnership that has collaboratively evolved through consultations with multiple constituencies including Indian and international academia, state and central governments, multi & bi-lateral agencies and civil society groups.

Structured as an independent foundation, PHFI adopts a broad, integrative approach to public health, tailoring its endeavours to Indian conditions and bearing relevance to countries facing similar challenges and concerns. The PHFI focuses on broad dimensions of public health that encompass promotive, preventive and therapeutic services, many of which are frequently lost sight of in policy planning as well as in popular understanding.

The PHFI is working towards building public health capacity in India by:

Establishing 5 -7 new institutes of public health over the next 6 years; **Assisting the growth of existing public health training institutions/ departments** and facilitating their evolution into major institutes of public health;

Establishing a strong national research network of public health and allied institutions which would undertake policy and programme relevant research that will advance public health goals in prioritized areas **- with suitable international partnerships where useful and appropriate;**

Engaging public health expertise to collectively undertake analytical work for **generating policy recommendations** related to public health action, in not only the health sector but also in all other sectors which impact upon health of people, and **developing a vigorous advocacy platform** to effectively communicate these recommendations to policy makers and other

relevant stake holder groups (including civil society organizations which represent the interests of people's health);

- **Establishing an independent accreditation body** for degrees in public health which are awarded by training institutions across India.

Chronic diseases - which include cardiovascular diseases, diabetes, mental disorders, cataract and cancers account for over two-thirds of the global burden of disease and are the leading causes of death and disability in the south Asian region. Although many chronic diseases are preventable disease burden is projected to increase dramatically. Research on the causes, prevention and management of chronic disease is also limited in scope and scale and South Asia does not have any major international research centre focused on chronic diseases.

The Public Health Foundation of India received a grant from the Wellcome Trust to establish a Centre of Excellence for Chronic Diseases at Delhi (called SANCD - South Asia Network for Chronic Diseases in India), which will augment PHFI's capacity for research in chronic diseases in India. This centre is a collaborative venture with constituent colleges of the Wellcome Trust Bloomsbury Centre for Clinical Tropical Medicine, UK.

This Centre hopes to build international quality research capacity, harness scientific talent within the region, fuel breakthroughs in knowledge needed to make real differences to health policy and practice, and ultimately contribute to reducing chronic disease burden. Our focus is on establishing a sustainable framework for building research capacity and policy relevant evidence for the prevention and control of chronic diseases in south Asia.

Objectives of the Centre:

- Network to facilitate dissemination of evidence and advocacy for changes in health care priorities and practices to policy makers, practitioners and researchers
- Establish building and infrastructure, with core interdisciplinary scientific staff

- Build state of the art research infrastructure in terms of field methodology, develop research methodology, research laboratory service, create health databases and research governance
- Conduct translational research, health care evaluation studies, including RCTs, evidence synthesis, health systems and health policy research
- Mentor and provide career structures for researchers at all stages of their careers

Public Health Foundation of India (PHFI), All India Institute of Medical Sciences (AIIMS), Madras Diabetes Research Foundation (MDRF) and EMORY University of USA are working together and have established a Centre of Excellence (COE) in cardiometabolic diseases namely **'Center of Excellence - Center for cArdio-metabolic Risk Reduction in South Asia (CARRS)'** with support from the National Heart, Lung and Blood Institute (NHLBI) of USA. The COE-CARRS housed at PHFI is one of eleven centers in the world that is supported through the Global Health Initiative of NHLBI and the UnitedHealth Chronic Disease Initiative.

As part of COE-CARRS, two major studies are being conducted:

1. CARRS - Surveillance Study (Development & Evaluation of a Model Sentinel Surveillance System in South Asia)

This is a cohort-modelled surveillance study. While the primary study design for the surveillance model is cross-sectional, a cohort study design will be used to follow-up the participants for three years subsequently. The study aims to develop a model surveillance system for Cardio Metabolic Diseases (CMD) and its risk factors which can be adopted for continuing surveillance both within and across countries in South Asia and to measure the incidence of CMD risk factors and disease events, as well as the associated morbidity and mortality.

Objectives of the study:

Primary objectives

- To implement and evaluate a model surveillance system in two study sites in India namely; Delhi and Chennai and one study site in Pakistan; Karachi, which is collaborating with Emory University.
- To assess the prevalence of CMD risk factors and diseases among adults aged 20 years and above, permanently residing in well-defined urban communities in the three study sites
- Ascertain factors that influence knowledge, attitudes, and practice (KAP) of the sample population regarding CMD and their risk factors

Secondary objectives

- Determine the incidence of intermediate risk factors (in previously risk-free individuals), new-onset complications, and the associated morbidity and mortality
- To derive cost and health-utilization indices which can be used to model projected burdens of CMD in order to formulate cost-effective and timely interventions

2. CARRS - Translation Trial (Developing and Testing Integrated, Multi-factorial Cardiovascular Disease Risk Reduction Strategies in South Asia)

The study is a multi-site, individually randomized, controlled translation trial of a cardiovascular risk reduction intervention in 1,120 Type 2 diabetes patients attending 8 established out-patient clinics in South Asia, for a mean follow-up of 30 months. Half of the patients will be randomized to the intervention, which utilizes a combination of health care management strategies: (1) a web-enhanced decision-support software that serves to store patient health records; provide patient management advice; and prompt and remind care providers and participants of recommended care processes; and (2) a non-physician care coordinator to facilitate physician adherence to evidence-based management guidelines and aid in patient self-management.

Objective of the study:

- To test the effectiveness and sustainability of a comprehensive cardiovascular disease (CVD) risk reduction intervention, using clinical decision-support software and non-physician care coordinators, in Type 2 diabetes patients attending out-patient clinics in South Asia, compared to standard care.

COE-CARRS is accredited as a Fogarty International Clinical Research (FICR) Fellows and Scholars site. It consists of a carefully-constructed consortium of world-class investigators and institutions, and aims to build a global research hub. In addition to the India collaborators, National Center for Chronic Diseases (NCCD) of the U.S. Centers for Disease Control and Prevention (CDC) is a strategic partner. The experience and breadth of knowledge of the investigators, combined with rich traditions of research and training among partner institutions, will enable this COE to contribute to enhancing CMD research capacity in the region, and generate new collaborative relationships.

Deliverables:

- Development of training and research proposals for upcoming programs
- Planning meetings with stakeholders for planning and designing the training and research programs
- Demand generation and marketing of training programs
- Coordinating and facilitating training needs assessment
- Organization and execution of short term training programs
- Coordination with PHFI Training Division related to training activities
- Organization and execution of conferences, workshops, CME programs
- Maintenance of training and research documents: Submitted proposals / grants, ongoing projects, project
- reports, publications, etc related to training programs.

- Participation in data collection, analysis and report writing for research projects.
- Maintenance of data related to involvement of faculty in trainings and research.
- Keep faculty updated on opportunities related to training and research programs.
- Maintenance of data on faculty profile / expertise / areas of interest / CVs, etc.
- Coordination with other IIPHs and PHFI related to short term training activities
- Evaluation of the training programs

PART 2nd

Dissertation Report

Chapter I

INTRODUCTION

India has the world's third-largest population suffering from HIV/AIDS [UNAIDS 2010]. However, the estimated number of human immunodeficiency virus (HIV) infections in India has declined drastically in recent years—from 5.5 million in 2005 to below 2.5 million in 2007. These new figures are supported by the World Health Organization and UNAIDS. According to the United Nations 2011 Aids report, there has been a 50% decline in the number of new HIV infections in the last 10 years in India

Despite being home to the world's third-largest population suffering from HIV/AIDS, the AIDS prevalence rate in India is lower than in many other countries. In 2007, India's AIDS prevalence rate stood at approximately 0.30%—the 89th highest in the world. The spread of HIV in India is primarily restricted to the southern and north-eastern regions of the country and India has also been praised for its extensive anti-AIDS campaign. The US$2.5 billion National AIDS Control Plan III was set up by India in 2007 and received support from UNAIDS The main factors which have contributed to India's large HIV-infected population are extensive labor migration and low literacy levels in certain rural areas resulting in lack of awareness and gender disparity.The Government of India has also raised concerns about the role of intravenous drug use and prostitution in spreading AIDS, especially in north-east India and certain urban pockets. A recent study published in the British medical journal "The Lancet" in (2006) reported an approximately 30% decline in HIV infections among young women aged 15 to 24 years attending prenatal clinics in selected southern states of India from 2000 to 2004 where the epidemic is thought to be concentrated. The authors cautiously attribute observed declines to increased condom use by men who visit commercial sex workers and cite several pieces of corroborating evidence. Some efforts have been made to tailor educational literature to those with low literacy levels, mainly through local libraries as this is the most readily accessible locus of information for interested parties. Increased awareness regarding the disease and citizen's related rights is in line with the Universal Declaration on Human Rights.

n 2009, 2.4 million people was estimated to be infected with HIV in India. Having a population of around a billion, an increase in 0.1% of HIV prevalence would mean an increase by over half a million in the HIV-infected patients.

The estimated adult HIV prevalence was 0.32% in 2008 and 0.31% in 2009. The states with high HIV prevalence rates include Manipur (1.40%), Andhra Pradesh (0.90%), Mizoram (0.81%), Nagaland (0.78%), Karnataka (0.63%) and Maharashtra (0.55%).

The adult HIV prevalence in India is declining from estimated level of 0.41% in 2000 through 0.36% in 2006 to 0.31% in 2009. Adult HIV prevalence at a national level has declined notably in many states, but variations still exist across the states. A decreasing trend is also evident in HIV prevalence among the young population of 15–24 years. The estimated number of new annual HIV infections has declined by more than 50% over the past decade.

According to Mr Michel Sidibé, Executive Director of UNAIDS, he stated that India's success comes from using an evidence-informed and human rights-based approach that is backed by sustained political leadership and civil society engagement. India must now strive to achieve universal access to HIV prevention, treatment, care and support.

In 1986, the first known case of HIV was diagnosed by Dr. Suniti Solmon amongst female sex workers in Chennai.Later that year, sex workers began showing signs of this deadly disease. At that time, foreigners in India were traveling in and out of the country. It is thought that these foreigners were the ones responsible for the first infections. By 1987, about 135 more cases came to light. Among these 14 had already progressed to AIDS. Prevalence in high risk groups reached above 5% by 1990. As per UNDP's 2010 report, India had 2.39 million (23.95 lakh) people living with HIV at the end of 2009, up from 2.27 million (22.7 lakh) in 2008. Adult prevalence also rose from 0.29% in 2008 to 0.31% in 2009.

In 1986, HIV started its epidermic in India, attacking sex workers in Chennai, Tamil Nadu. Setting up HIV screening centres was the first step taken by the government to screen its citizens and the blood bank.To control the spread of the virus, the Indian government set up

the National AIDS Control Programme in 1987 to co-ordinate national responses such as blood screening and health education.

In 1992, the government set up the National AIDS Control Organisation (NACO) to oversee policies and prevention and control programmes relating to HIV and AIDS and the National AIDS Control Programme (NACP) for HIV prevention. The State AIDS Control Societies (SACS) was set up in 25 societies and 7 union territories to improving blood safety.In 1999, the second phase of the National AIDS Control Programme (NACP II) was introduced to decrease the reach of HIV by promoting behaviour change. The prevention of mother-to-child transmission programme (PMTCT) and the provision of antiretroviral treatment were materialized.

In 2007, the third phase of the National AIDS Control Programme (NACP III) targeted the high-risk groups, conducted outreach programmes, amongst others. It also decentralised the effort to local levels and non-governmental organisations (NGOs) to provide welfare services to the affected.

Rationale

In light of evidence that the number of HIV/AIDS cases are continuously on the rise in developing countries like India , health care professionals need to be adequately prepared to combat the epidemic .Medical students including MBBS,BPT and BDS has a significant role to play in the battle against HIV/AIDS. Although it is well known that the chances of acquiring HIV infection in the various setups is rare and only few cases are reported so far, healthcare professionals continuously refuse care to HIV/AIDS patients.

Minimum research has been conducted in developing countries like India to assess the knowledge and attitudes of healthcare professionals in relation to HIV/AIDS. Furthermore, results from the very studies that have been conducted indicate a definite lacuna in the knowledge of HIV/AIDS among health care workers. The Attitudes of healthcare students with regard to AIDS are of prime importance because medical students represents the future of the profession. If medical students are not confident about the knowledge of the disease , and are not adequately prepared to treat HIV positive patients, then curbing the growth of the epidemic in countries like india ,will be questionable.

REVIEW OF LITERATURE

The review of literature was done to provide empirical basis for the study. Very few studies have assessed the knowledge and attitude of medical students towards HIV/AIDS. Even fewer have assessed these variables among medical, dental and paramedical students in India. Due to alck of research with medical students, the literature review will discuss studies that have assessed these variables in relation to healthcare workers all over the world.

With almost twenty years of existence, HIV/AIDS has become one of the greatest epidemics to affect mankind. More people die of AIDS each year than any other infectious disease .HIV/AIDS has been declared as a global crisis .over the last twenty years different strains of the virus have continued to infect humans. Although new antiretroviral drugs have been developed to treat infected individuals, there is neither a cure for the disease nor a vaccine to prevent it (Hwang, 2001).Despite increased human efforts, HIV /AIDS number are continually on the rise .As of December 2003, almost 20 million people have died of AIDS and approximately 38 million people are living with the virus. In 2003 alone,almost 5 million individuals became newly infected accounting for the greatest number in one year since discovery of the virus in 1981:in the same year almost 3 million individual died of AIDS(UNAIDS,2004).

The epidemic varies geographically with some countries being more effected than the others,and within these countries,there seems to be variations between states,provinces, and districts in the rate of infection(UNAIDS,2004).Although initially diagnosed in developed countries,the disease is now firmly entrenched in the developing countries of the world. The epidemic seems to be advancing unchecked in asian countries like india and china .it is believed that many of these asian countries have yet to reach the epidemiological"set point" for the disease (Cock $ weiss,2000).In 2003, almost 0.5 million Asians died of AIDS and about 1 million people became newly infected(UNAIDS,2004).Asian countries like india and china accounts for more than one-third of the world's population,and the course of the epidemic in these two countries will dictate its future(Cock @ weiss,2000).

Epidemiology of HIV/AIDS in India

India is not only drawing global attention because of its population explosion but also because of its deterioting health care condition(Patil,Somasundaram, & Goyal,2002).the first AIDS case in india was detected in 1986 in chennai in a commercial sex workers. Since then,the epidemic has expanded vigorously in various states and provinces of india.Although only 0.7% of its 1 billion population is HIV positive ,india accounts for the maximum number of cases than any other nation in the world (Solomon,chakraborty,& yepthomi,2004).As of 2004,at least 5 milllion Indians are estimated to be HIV positive .In the coming years,India is going to experience an explosion of HIV/AIDS cases. In 2002,the united states national intelligence council projected that about 20-25 million Indians will be lib=ving with the virus by 2010.if no effective intervention are implemented at the earliest by the Indian government ,then the virus is expected to infect almost 51 million Indians by 2015,as projected by thoroughly researched mathematical models(Arora,cyriac &jha,2004).

Africa has been the center of HIV epidemic for years but now the spotlight is on india.the epidemic in india is a combination of several different epidemics seen in different parts of the country .large number of commercial sex wrkers ,mobile male workers(primarily truck drivers),a high prevalence of SRD's,and low-reported condom use,all have contributed to the expanding epidemic .the most common route of transmission has been heterosexual contact accounting for 83% of the cases,4% through intravenous frug use ,less than 4% through blood and blood products and about 7.5% through other modes.For the data that has been documented ,infection rates are found to be higher among males (76%) than in females(23%);however infection among womens is constantly on the rise in india and world wide.about 41% of the AIDS cases are between 15-29 years of age group,46% are between 30-44 years,and about 9% are more than 45 years old. As evident, the majority of the AIDS cases fall between 15-49 years of age group. Globally,this age group is the most sexually active and hence at a greater risk of contraction of the disease(Ghosh ,2002).

Denial that HIV is a serious problem,and stigmatization of HIV positive individual are two major obstacles in india's fight against HIV/AIDS.the population of the country is escalating .A large sector of the Indian population lives below poverty line.illiteracy(42% of Indian adults) and lack

of HIV awareness among people aggravates the situation .Lack of testing centers in the rural areas leads to unsatisfactory levels of HIV/AIDS diagnosis.Discrimination against women especially in the rural areas, and their inability to protect themselves and negotiate for safer sex,accounts for increased rate of HIV infection in this population .As a developing nation,india cannot afford to provide anti –retro viral treatment to all its infected citizen nor implement HIV/AIDS programs to their full effect . In addition ,the health care workers do not have adequate education and are not confident to handle the HIV/AIDS patient (Solomon,Chakraborty,yethomi,2004).Because of the tendency in the culture to believe in the myths ans superstitions ,there by fueling the existing condition(pontoon & Lees, 1998).

Knowledge and attitude of health care professionals in india towards HIV/AIDS.

According to a recent action-based peer implemented study conducted by the asia pacific network of people living with HIV/AIDS(APN+),major areas of discrimination was identified within the health sector in india,Indonesia,thialand and phillippines. Fifteen percent of the interviewed participants (N=764 HIV positive)were denied treatment and 17% had experienced a delayin the provision of health care services (Paxton,Gonzale,Uppakaew,Abraham,Okta,Green,Nair,Merati,Thephthein,Marin & Quesada,2005).A strong misconception among the health care peofessional that HOV can be transmitted through airborne droplets,leads to refusal of treatment of many AIDSpateints in private as well as government hospitals in india.Some hospitals even set aside separate wards to isolate HIV/AIDS patients(Daniel ,2003).

Accordingly to a report in the national press,a 38 year old drug addict was refused treatment by doctors at a prestigious hospital in india.In yet another instance,a patient when tested positive for HIV was relocated to an unintended isolated ward.A placard was palced on his chest and above his bed announcing his condition,staff at the hosoital refused to treat him,resulting in this death withi in few hours (Ninian,2000).In a study conducted in 1994 to assess the knowledge ,attitude and practices of Indian health care workers in relation to HIV/AIDS,it was found that 65% of the servants has not heard of AIDS,85% of the nursing personnel did not follow the Universal safety precaution (USP),13.5% of the medical residents thought that HIV

was not transmitted through blood and 30% of the visiting consultants would avoid contact with an HIV positive patient (Menon & bharucha,1994).Health care professionals can serve as the key force in the battle against HIV/AIDS epidemic .inadequate knowledge and fear of contagion can negatively impact the health care professionals attitude and treatment practices towards HIV positive patients,there by aggravating the course of the epidemic in countries like india and china ,with global implication(Paxton et al,2005).

KNOWLEDGE AND ATTITUDES OF HEALTH TOWARDS HIV/AIDS

Dentist,like other health care professionals,exhibhits concerns about providing treatment to HIV/AIDS patients .Despite the slim chances of contracting HIV infection in the clinic ,dentist show distributing reluctance to treat these patient ,including refusal of treatment in many instances(McCartan,&Samaranayake,1991).Barriers to caring for HIV Positive patients as expressed by dentist include-fear of contracting the infection,resistance by staff,fear of losing potential HIV negative patients,perceived lack of adequate clinical skils(gerbert,manguire et al.,1988).This matter is of serious concern as dentist can provide both disgnostic and therapeutic care for these patients .Many HIV positive patient present patients with lesions in and around the oral cavity candidiasis, oral herpes simplex, and oral hairy leukoplakia,with other head and neck manifestations in about 45% of the patients.kaposi's sarcoma,a lesion characteristics of HIV infection can be diagnosed in the oral cavity of more than 51% of the patients who have AIDS.Accurate and early diagnosis of these lesions by the dentist can lead to therapeutic treatment of AIDS patients(Gerbert,1987).As the incidence of HIV infection continues to rise,dentist will encountermany more HIV positive patients in their clinical practice.thus ,it becomes imperative to monitor knowledge of and attitudes related to HIV/AIDS held by dentists.

In a study conducted with California dentists to ascertain their attitudes,knowledge and behavior regarding infection control and HIV/AIDS,it was found that dentist demonstrated moderate knowledge about HIV/AIDS and nearly three-quarter of the dentist were reluctant to treat AIDS patient (Gerbert, 1987.In a similar study conducted among dentist in Ireland ,it was found that one half of the respondents reported saliva as a route of transmission for HIV an

around 10% respondents identified insect bites and hairdressers as a source of transmission .Forty-Eight percent of these respondents informed that they would implement additional precautionary measures in the treatment of family and friends of HIV positive patients(McCartan,& Samaranayake,1991).Inadequate knowledge instills more fear about the infection, affecting the attitude and behavior of dentist towards treatment of HIV/AIDS patients.

Since the identification of the first AIDS case in 1981,more scientific information is available in terms of nature and transmission of the virus,In spite of this,dentist fail to demonstrate adequate knowledge.In a recent study conducted in 2003,46% of the dentist in south Cheshire in United Kingdom(UK)incorrectly indentified saliva as a mode of transmission of HIV in dental Clinic. A few others incorrectly identified mucus, tears and sweat which suggest that there is still a considerable uncertainty about the infection(Crossley,2004).If the dentist in developed countries like the United States and United Kingdom demonstrate moderate knowledge about HIV, the knowledge level of dentists in developing countries like India and china becomes questionable.

In a study conducted in 1999 to assess knowledge and attitudes of Chinese dentist towards HIV/AIDS, it was disturbing to note that 40% of the dentist has poor knowledge of the infection and believed that HIV could not be transmitted via blood. Almost 80% of these respondents identified saliva as a main mode of transmission of the virus. Eighty five percent of the dentist did not sterilize the hand pieces while treating patients (Du, jian, Wu& Bedi, 2002).

KNOWLEDGE AND ATTITUDES OF INDIA HEALTHCARE PROFESSIONALS TOWARDS HIV/AIDS

Very limited research of this nature has been conducted with the healthcare professional in India. Sixty nice percent of the respondent of a study in 1994 estimated that there was more than a 1% risk of contracting HIV infection through a needle –stick injury and almost 90% of the respondents believed that the likelihood of HIV transmission in the dental clinic is very likely. Around 10-15% did not know the answers to a large number of knowledge –based questions on HIV/AIDS (Nair, Bhat & Anil, 1995).Extensive efforts in the education and clinical training of dentist towards HIV/AIDS especially in countries like India are warranted.

Limited studies that have assessed the knowledge and attitude of healthcare professionals towards HIV/AIDS indicate inadequate knowledge and insufficient clinical training .Healthcare professional are expected to have a strong knowledge of the facts about HIV/AIDS but the studies show otherwise .Results from the very few studies that are done with health care professionals in India are disturbing. Health care professionals in India demonstrated limited knowledge in HIV/AIDS as compared to their Counterparts in other countries. Healthcare professionals ,a population that needs to be well prepared to fight the battle against HIV/AIDS have been neglected .Data from the very limited studies that have assessed the knowledge and attitude of dental students towards HIV/AIDS suggests need for changes in the undergraduate curriculum to better prepare the students for their clinical practice.

OBJECTIVE:

General Objective:

To Carry out a Situational analysis of Knowledge and Attitude level of Medical Students of Kalinga Institute of Medical Sciences to develop a training programme.

Specific Objectives:

1. To calculate the mean scores on the knowledge scale of Medical students (MBBS, BDS and BPT Students).
2. To calculate the mean scores on the attitude scale of Medical students (MBBS, BDS and BPT Students).
3. To find the difference of knowledge and attitude for HIV/AIDS among the different category of students i.e. MBBS, BDS and BPT Students

HYPOTHESIS:

There is no significance difference in the overall knowledge level of HIV/AIDS between all three streams(i.e:MBBS ,BDS and BPT.(Null hypothesis)

Definition of Terms:

Knowledge – "Familiarity ,awareness, or understanding gained through experience or study"(Morris,1981,p.725)

Attitude –"A relatively constant feeling ,predisposition ,or set of beliefs directed towards an object, person , or situation"(Green and kreuter,2005,p.159).

Human Immunodeficiency Virus (HIV) – is a retrovirus that breaks down the body's immune systems leaving the victims vulnerable to a variety of opportunistic infections .

Acquired Immunodeficiency syndrome (AIDS) – is the terminal stage of HIV infection, and has poor prognosis.

ASSUMPTIONS

1. The survey questionnaire utilized for the study was valid

2. The participants of the study were able to read and comprehend the survey questionnaire

3. The participants of the study provided honest responses to the survey.

CHAPTER II

METHODOLOGY

SAMPLING

In month of February 2011(09th to 27th), study was conducted through distributing self-administered anonymous survey questionnaires. The study sample Comprised of the 1st students of MBBS, BDS and BPT students of Kalinga Institute of Medical Sciences.

Convenient sampling is used to assess the knowledge and attitude of sample from KIMS.

Sample Size :

MBBS – 85

BDS – 60

BPT – 60

INSTRUMENTATION:

A self-Administered structured survey questionnaire was used for the study (Appendix 1).Both knowledge and attitude items related to HIV/AIDS were used. The survey questionnaire covered demographic data like age ,sex and education. The survey questionnaire also comprised of 15 closed ended questions and 2 open –ended questions to measure knowledge of the study participants on HIV/AIDS.

The knowledge section addressed multiple –choice questions on: sources of information on HIV/AIDS, modes of transmission, risk groups and preventive measures in treatment of patients. Participants were required to respond to the questions with a “TRUE”,”FALSE” or a “don’t Know” response.

The 13-item attitudinal section of the survey focused on issues related with willingness to treat HIV positive patients patient, ethical responsibility of healthcare workers towards HIV/AIDS patients ,willingness to work with the other workers who are HIV positive, confidence in practicing possible universal precautions and attitude towards further education and training on HIV/AIDS. A six-point Likert scale (1=strongly disagree, 6=strongly agree) was utilized to determine the degree to which respondents agreed or disagreed with each attitudinal items on the survey questionnaire.

DATA ANALYSIS:

Descriptive Statistics were used to analyze the data .Because a majority of the data was categorical ,frequencies and percentage distribution were used to describe the sample, and chi-square test of association were used to test for significant between the categorical variables. Independent sample t-test was also utilized to test for differences between the level of the demographic variables on the knowledge and attitude scores.

Software Utilized:

Ms Excel

SPSS (Statistical package for Social Sciences)

CHAPTER III

RESULTS

FREQUENCIES AND PERCENTAGE OF KNOWLEDGE ITEM ANSWERS (MBBS STUDENTS)

For Item No. 2 of the questionnaire,"HIV cannot be transmitted through contact with blood of HIV positive patient", 74(87.1%) of the participants selected false (correct response), while 9(10.6%) selected true. For Item No.3"Saliva is an important source of HIV transmission in dental practice", 45(52.9%) participants selected false (correct response) while 32(37.6%) selected true. for Item No. 4,"females are more likely to be infected with HIV/AIDS than males", 45(52.9%) participants selected false (correct response), while 28(32.9%) selected true. For Item No. 5,"people of age group 15-29years are at lower risk of contracting HIV/AIDS than those of age group 5-15 years",67(78.8%) participants selected false (correct response),while 9(10.65) selected true. For item no 6,"HIV infected persons can stay asymptomatic for many months or even many years", 74(87.1%) participant selected true (correct response), while 4(4.7%) participant selected false. For item no 7,"there is a vaccine to prevent HIV transmission", 68(80.0%) participants selected false (correct response), while 16(18.8%) selected true. For Item No. 8,"there is no test to detect HIV in the blood", 84(98.8%) participants selected false (correct response) while 1(1.2%) selected true. For item no.9,"there is a known cure for AIDS", 55(64.7%) participants selected false (correct response) while 26(30.6%) selected true. For Item No.10,"there are no intra-oral signs of HIV infections", 32(37.6%) participants selected false (correct response),while 31(36.5%) participants selected true. For item No. 11,"hepatitis B is more infective than HIV",37(43.5%) participant selected true (correct response) while 33(38.8%) participants selected false. For Item no.12 "Latex gloves cannot provide protection against HIV", 38(44.7%) participants selected false (correct response) while 19(22.4%) selected true .For Item No. 13,"Double gloves should be worn while treating HIV positive patients", 43(40%) participant selected false (correct response),while 30(35.3%) selected true. For Item No. 14,"Heat sterilization (autoclaving) cannot kill HIV",31(36.5%) participants selected false(correct response) while 49(57.6%) selected true. For Item No. 15,"a rubber dam should be used while treating HIV patients", 19(22.4%) selected

false while 17(20%) selected true . For item no. 16,"dental impressions need not be washed with a disinfectant every time they are removed from the mouth of any patient", 57(67.1%) participants selected false (correct response) while 21(24.7%) selected true. For Item No.17,"there is more than 1% risk of getting HIV from a needle stick injury",

Table 1

FREQUENCIES AND PERCENTAGE OF KNOWLEDGE ITEM ANSWERS (MBBS STUDENTS)

	TRUE		FALSE	
	Frequency	%	Frequency	%
Item 2	9	10.6	74	87.1
Item 3	32	37.6	45	52.9
Item 4	28	32.9	45	52.9
Item 5	9	10.6	67	78.8
Item 6	74	87.1	4	4.7
Item 7	16	18.8	68	80.0
Item 8	1	1.2	84	98.8
Item 9	26	30.6	55	64.7
Item 10	31	36.5	32	37.6
Item 11	37	43.5	33	38.8
Item 12	19	22.4	38	44.7
Item 13	30	35.3	34	40.0
Item 14	49	57.6	31	36.5
Item 15	17	20.0	19	22.4
Item 16	21	24.7	57	67.1
Item 17	64	75.3	18	21.2

FREQUENCIES AND PERCENTAGE OF KNOWLEDGE ITEM ANSWERS (BDS STUDENTS)

For Item No. 2 of the questionnaire,"HIV cannot be transmitted through contact with blood of HIV positive patient", 54(90%) of the participants selected false (correct response), while 6(10%) selected true. For Item No.3"Saliva is an important source of HIV transmission in dental practice", 35(58.3%) participants selected false (correct response) while 20(33.3%) selected true. for Item No. 4,"females are more likely to be infected with HIV/AIDS than males", 22(36.7%) participants selected false (correct response), while 25(41.7%) selected true. For Item No. 5,"people of age group 15-29years are at lower risk of contracting HIV/AIDS than those of age group 5-15 years",55(91.7%) participants selected false (correct response),while 2(3.3%) selected true. For item no 6,"HIV infected persons can stay asymptomatic for many months or even many years", 53(88.3%) participant selected true (correct response), while 3(5.0%) participant selected false. For item no 7,"there is a vaccine to prevent HIV transmission", 38(63.0%) participants selected false (correct response), while 11(18.3%) selected true. For Item No. 8,"there is no test to detect HIV in the blood", 57(95.0%) participants selected false (correct response) while 2(3.3%) selected true. For item no.9,"there is a known cure for AIDS", 34(56.7%) participants selected false (correct response) while 20(33.3%) selected true. For Item No.10,"there are no intra-oral signs of HIV infections", 14(23.3%) participants selected false (correct response),while 20(33.3%) participants selected true. For item No. 11,"hepatitis B is more infective than HIV",24(40%) participant selected true (correct response) while 23(38.3%) participants selected false. For Item no.12 "Latex gloves cannot provide protection against HIV", 28(46.7%) participants selected false (correct response) while 6(10.0%) selected true .For Item No. 13,"Double gloves should be worn while treating HIV positive patients", 18(30%) participant selected false (correct response),while 16(26.7%) selected true. For Item No. 14,"Heat sterilization (autoclaving) cannot kill HIV", 14(23.3%) participants selected false (correct response) while 31(51.7%) selected true. For Item No. 15,"a rubber dam should be used while treating HIV patients", 2(3.3%) selected false while 11(18.3%) selected true . For item no. 16,"dental impressions need not be washed with a disinfectant every time they are removed from the mouth of any patient", 42(70.0%) participants selected

false (correct response) while 11(18.3%) selected true. For Item No.17,"there is more than 1% risk of getting HIV from a needle stick injury",

Table 2

Frequencies and Percentage of knowledge Item Answers (BDS students)

	TRUE		FALSE	
	Frequency	%	Frequency	%
Item 2	6	10.0	54	90
Item 3	20	33.3	35	58.3
Item 4	25	41.7	22	36.7
Item 5	2	3.3	55	91.7
Item 6	53	88.3	3	5.0
Item 7	11	18.3	38	63.3
Item 8	2	3.3	57	95.0
Item 9	20	33.3	34	56.7
Item 10	20	33.3	14	23.3
Item 11	24	40.0	23	38.3
Item 12	6	10.0	28	46.7
Item 13	16	26.7	18	30.0
Item 14	31	51.7	14	23.3
Item 15	11	18.3	2	3.3
Item 16	11	18.3	42	70.0
Item 17	43	71.7	13	21.7

FREQUENCIES AND PERCENTAGE OF KNOWLEDGE ITEM ANSWERS (BPT STUDENTS)

For Item No. 2 of the questionnaire,"HIV cannot be transmitted through contact with blood of HIV positive patient", 54(90%) of the participants selected false (correct response), while 6(10.0%) selected true. For Item No.3"Saliva is an important source of HIV transmission in dental practice", 47(78.3%) participants selected false (correct response) while 8(13.3%) selected true. for Item No. 4,"females are more likely to be infected with HIV/AIDS than males", 32(53.3%) participants selected false (correct response), while 20(33.3%) selected true. For Item No. 5,"people of age group 15-29years are at lower risk of contracting HIV/AIDS than those of age group 5-15 years",52(86.7%) participants selected false (correct response),while 6(10.0%) selected true. For item no 6,"HIV infected persons can stay asymptomatic for many months or even many years", 38(63.3%) participant selected true (correct response), while 15(25.0%) participant selected false. For item no 7,"there is a vaccine to prevent HIV transmission", 31(51.7%) participants selected false (correct response), while 26(43.3%) selected true. For Item No. 8,"there is no test to detect HIV in the blood", 57(95.0%) participants selected false (correct response) while 3(5.0%) selected true. For item no.9,"there is a known cure for AIDS", 40(66.7%) participants selected false (correct response) while 17(28.3%) selected true. For Item No.10,"there are no intra-oral signs of HIV infections", 25(41.7%) participants selected false (correct response), while 17(28.3%) participants selected true. For item No. 11,"hepatitis B is more infective than HIV",18(30.0%) participant selected true (correct response) while 41(68.3%) participants selected false. For Item no.12 "Latex gloves cannot provide protection against HIV", 23(38.3%) participants selected false (correct response) while 22(36.7%) selected true .For Item No. 13,"Double gloves should be worn while treating HIV positive patients", 21(35.0%) participant selected false (correct response),while 23(38.3%) selected true. For Item No. 14,"Heat sterilization (autoclaving) cannot kill HIV",12(20.0%) participants selected false(correct response) while 40(66.7%) selected true. For Item No. 15,"a rubber dam should be used while treating HIV patients", 10(16.7%) selected false while 28(46.7%) selected true . For item no. 16,"dental impressions need not be washed with a disinfectant every time they are removed from the mouth of any patient", 36(60.0%)

participants selected false (correct response) while 20(33.3%) selected true. For Item No.17,"there is more than 1% risk of getting HIV from a needle stick injury",

Table 3

Frequencies and Percentage of knowledge Item Answers (BPT students)

	TRUE		FALSE	
	Frequency	%	Frequency	%
Item 2	6	10	54	90.0
Item 3	8	13.3	47	78.3
Item 4	20	33.3	32	53.3
Item 5	6	10.0	52	86.7
Item 6	38	63.3	15	25.0
Item 7	26	43.4	31	51.7
Item 8	3	5.0	57	95.0
Item 9	17	28.3	40	66.7
Item 10	17	28.3	25	41.7
Item 11	18	30.0	41	68.3
Item 12	22	36.7	23	38.3
Item 13	23	38.3	21	35.0
Item 14	40	66.7	12	20.0
Item 15	28	46.7	10	16.7
Item 16	20	33.3	36	60.0
Item 17	46	76.7	14	23.3

Table 4. Attitudes and knowledge

Variable	Mean	SD
KNOWLEDGE		
MBBS	**9.83**	**1.67**
BDS	**8.87**	**1.68**
BPT	**8.90**	**1.72**
ATTITUDE		
Caution		
MBBS	**5.38**	**1.02**
BDS	**5.54**	**.98**
BPT	**5.21**	**.97**
Training		
MBBS	**3.59**	**.91**
BDS	**4.62**	**1.18**
BPT	**4.96**	**.88**
Willingness		
MBBS	**4.67**	**.92**
BDS	**4.91**	**.88**
BPT	**5.21**	**1.12**
Ethics		
MBBS	**5.34**	**.67**
BDS	**4.98**	**.76**
BPT	**4.90**	**.55**

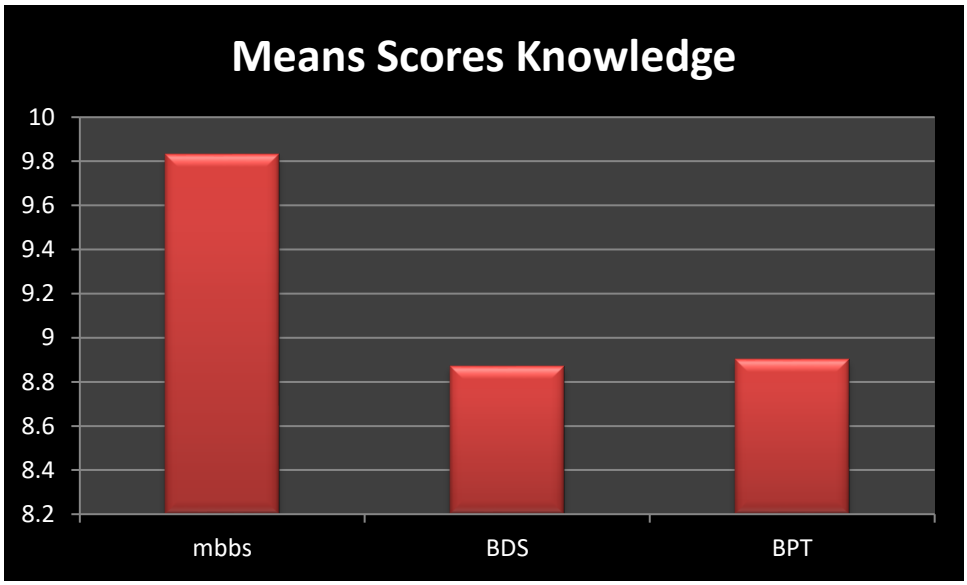

Fig. 1

Mean Knowledge Score of the three Categories.

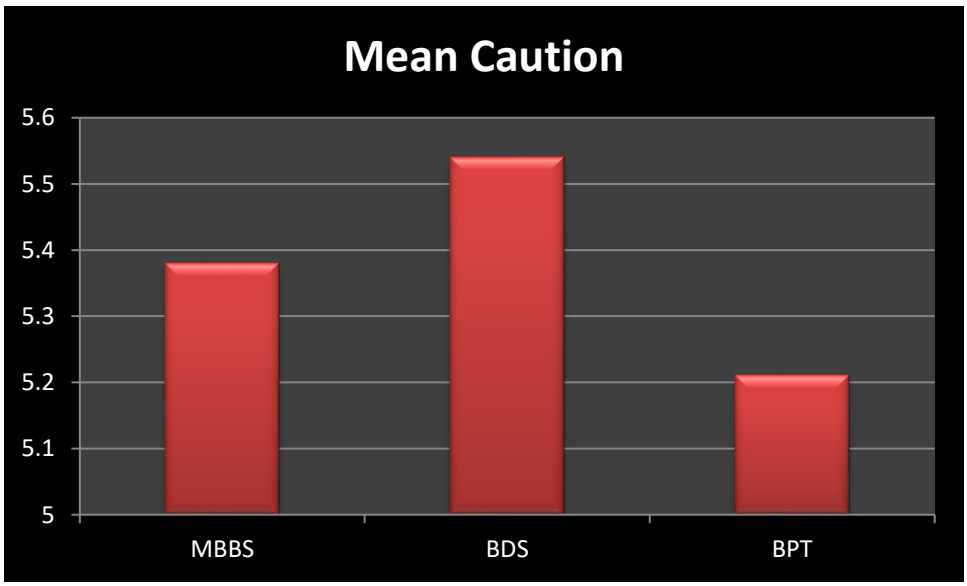

Fig.2

Mean Caution Score of the three Categories.

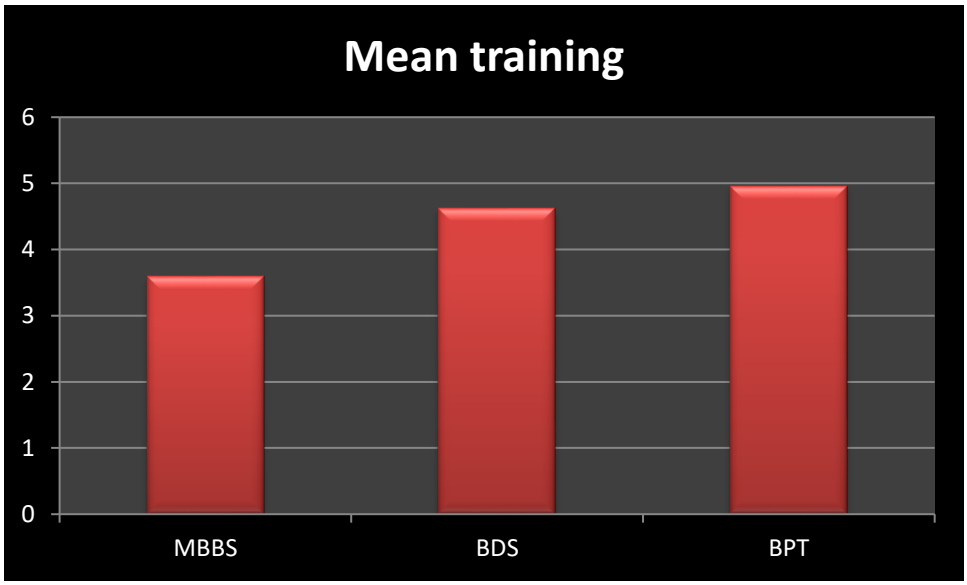

Fig.3

Mean Training Score of the three Categories.

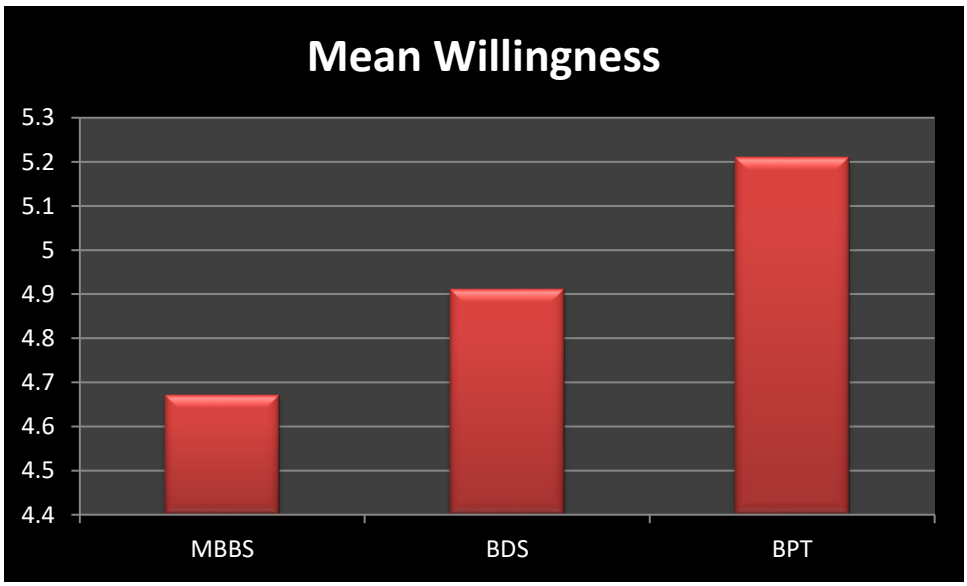

Fig.4

Mean willingness score of the three categories.

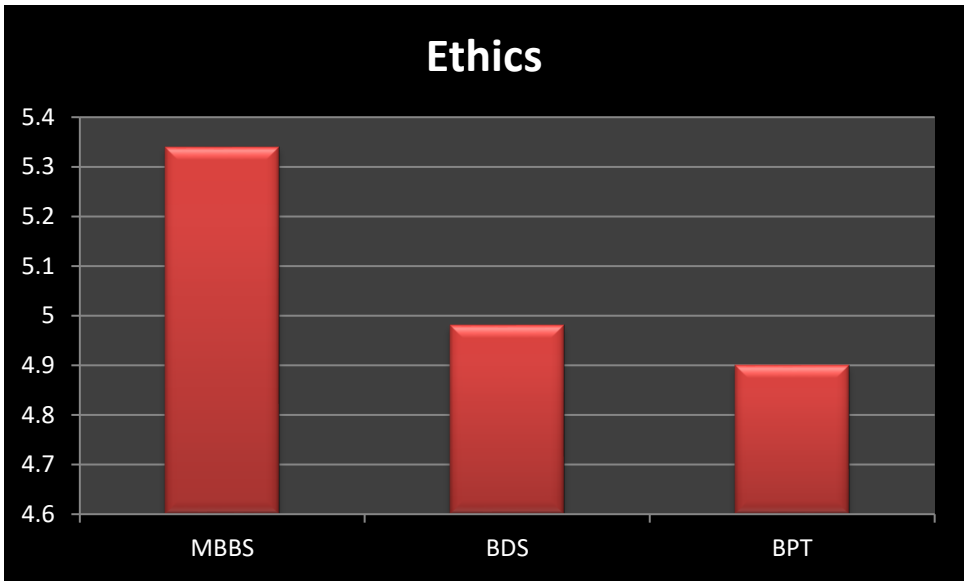

Fig.5

Mean willingness score of the three categories

T Test Scores:

Table 5: T-Test comparison of medical students Knowledge:

Variable	Mean	t	*p*
Knowledge			
MBBS	*9.83*	2.34	.023
BDS	*8.87*		
MBBS	*9.83*	2.31	.034
BPT	*8.90*		
BDS	*8.87*	-.27	.819
BPT	*8.90*		

Table 6: Mean for different categories of attitudes of All medical students:

Variable	Mean	(Sample =205)
Attitudes		
Caution	*5.36*	
Training	*4.39*	
Willingness	*3.69*	
Ethics	*5.07*	

FINDINGS, DISCUSSIONS AND RECOMMENDATION

THE NULL HYPOTHESIS WAS TESTED AT THE 0.5 LEVEL OF SIGNIFICANCE:

There is a significant difference between the overall knowledge levels of HIV/AIDS between MBBS and BDS students (Table 5).

Similarly there is a statistically significant difference between the overall knowledge levels of HIV/AIDS between MBBS and BPT students (Table 5).

There is no statistical significance observed between BDS and BPT students (Table 5).

OTHER FINDINGS:

97% of the participants identified television as the prime source of HIV/AIDS information. Of all the sources, the internet was the least identified source with only 34.6% participants having used it to obtain information.

Over all Knowledge of HIV/AIDS among the all participants is (M=9.20) .The students demonstrated an overall fairly good positive attitude (M=4.62) towards issues concerning HIV/AIDS.

Discussions

The participant's demonstrated overall high positive attitudes towards issues concerning HIV/AIDS. This is comforting but it cannot be relied upon because the survey was self reporting nature. Likewise, it is not guaranteed that the attitudes expressed here will be practiced by the students in the future. The least positive attitude is reported towards the willingness, this finding suggests that it is important to boost up the morals and the behavioral change of the medical students towards HIV/AIDS patients.

Statistically there is a significant difference between the knowledge level of the MBBS students when compared to BPT and BDS students .The academic standards and reading habits could be the possible reason for this statistical difference .

Limitations

Since Convenient sampling techniques is used ,the results cannot be generalized ,its is also important to note that the instrument used in this study did not address all of the items related to knowledge and attitudes on the HIV/AIDS. Some of the items in the knowledge section of the instrument could have been better worded in a manner that best summarized the information that was to be collected.

Recommendation

1. Due to the seriousness of HIV/AIDS epidemic in India and china, more studies of this nature are required.
2. A study with larger sample of the medical student's population extending to a majority of medical colleges in India would more generaliazable results.
3. A quantitative research instrument will be more instrumental in gathering specific and extensive information in relation to HIV/AIDS.
4. An integral aspect of professional medical training incorporated in their curriculum might well develop an understanding of and modifying negative attitudes towards HIV.
5. Medical students should be encouraged to read professional journals and visit accredited online resources to enhance their knowledge on infectious diseases.

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