Original Research Article

A Study to Assess the Level of Awareness , Knowledge and Attitude in Medical, Nursing and Paramedical students about HIV and AIDS in tertiary care Hospital of Uttarakhand,India

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Received: 19-11-2020 / Revised: 21-12-2020 / Accepted: 17-01-2021

Abstract

Background: HIV/ AIDS pandemic has became one of the most important public health problem. There is an acknowledged burden of HIV/AIDS in India. As the prevalence of HIV/AIDS infection rises, health care professionals worldwide can expect more clinical exposure to infected patients. Exposure to blood-borne diseases during clinical training by medical, nursing and paramedical students raises medical, legal, ethical and professional issues. Students are at greater risk of acquiring blood-borne disease exposure, as they are not aware. **Aim:** The aim of the present study was to assess the level of awareness , knowledge and attitude of medical , nursing and paramedical students regarding HIV/AIDS.**Materials and Methods:** A cross-sectional survey was carried out among 350 medical, nursing and paramedical students . An anonymous, self–administered questionnaire eliciting information about the etiopathogenesis of the disease, mode of transmission, precautions to be taken in handling HIV/AIDS patients, disinfection procedures and attitude towards the people with HIV/AIDS was circulated. Data entry and analysis were carried out using MS excel 2016.**Results:** The response analyses showed that majority of students were aware of the etiopathogenesis, mode of transmission , precautions and treatment of HIV/AIDS. Few students (10%) knew how the virus could be deactivated and the types of high-level disinfectant agents used. Most of them knew the correct methods for collection and transportation of blood samples. Majority of them were not aware of the exact management and notification of accidental exposure. Students willing to work with HIV/AIDS patients was very less (1%) but increased to (59%) if proper training was given and they are promised for insurance coverage or adequate compensation in case of acquiring infection. Most of the students (72%) were aware of the 'universal precautions". All students were aware of the concept of safe sex.**Conclusion:** Our findings highlight the need for a training programme in "universal precautions" for medical , nursing and paramedical students to help in reducing the risk of transmission and to improve knowledge, skill and competency in treating HIV/AIDS patients.

Key words: Medical,Nursing , Paramedical, HIV, AIDS.

Introduction

Globally , the number of people living with HIVis estimated to be nearly 33.4 million as per year 2008 data. Number of estimated people with newly infected HIV and AIDS related death stood at 2.7 million and 2.0 million. Nearly , 40 % of new HIV infection was among the age of 15 – 24 years.[1]In india, overall prevalence among different population groups continues to reflect the concentrated epidemic situation in the country with 2.3 million people living with HIV/AIDS and estimated adult prevalence of 0.34 % (0.25-0.43%). [2]Healthcare providers have faced potentially lethal infection risks throughout the medical history but HIV/AIDS has motivated doctors and other healthcare workers to address their occupational health risk with a greater intensity.[3,4]HIV-related stigma and discrimination remains an enormous barrier to effectively fighting the HIV and AIDS epidemic. Stigma is increased when the disease concerned is thought to be acquired entirely by the patient's fault, for example, immoral behavior.[5] Stigma and discrimination can result in People Living With HIV/AIDS (PLWHA) being shunned by family and the community, poor treatment in healthcare and educational settings, an erosion of rights, and psychological damage.Stigmatization would make people hesitant to get the test done, therefore, more PLWHA are unaware that they are suffering from HIV/AIDS, and are thereby putting his/her sexual partners and/or needle sharers at risk of getting infected, due to lack of precautionary measures.[6]There are several reasons for the stigma toward PLWHA among the general population, one of them could be inaccurate information about the transmission of HIV; creating irrational behavior and misperceptions of personal risks.[6]The HIV retrovirus undergoes rapid mutation making it impossible to prepare an effective vaccine. The mode of transmission is through sexual intercourse and the disease is spread from human to human via blood and body fluids.[7] The best way to minimize the spread of this infection is by educating people.Young medical ,nursing and paramedical students are exposed to patients and are expected to perform minor bed side, patient care , minor surgical procedures where they are likely to get exposed to infective clinical waste, blood products or accidental injuries by sharp instruments . Students therefore face a greater risk of acquiring this blood-borne disease. Coupled to this, the rate at which HIV positive cases are increasing is becoming more of a threat to medical ,nursing and paramedical students, healthcare workers and the government. Reports have already shown that healthcare providers have a 0.3% risk of acquiring HIV following a contaminated needle stick injury.[8,9] Accidental exposure to blood-borne diseases during clinical training of students therefore raises medical, legal, ethical

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and professional issues for students, faculty and administrators.A large number of accidental exposures due to infected clinical material and procedure can be prevented through knowledgeable handling of sharp instruments and blood products. Therefore, the concept of "universal precautions" was introduced by the World Health Organization (W.H.O.) which is a set of guidelines that aim to protect people working in health care from blood-borne infections.[10]The aim of the present study was to assess the level of awareness,knowledge and attitude of medical,nursing and para-medical students in SGRRIMHS, Dehradun about HIV/AIDS, using a cross-sectional survey.

Material and Methods

Study Design, Setting, Participants and Data Collection

The present study is an anonymous random cross-sectional survey which was done among the 350 medical ,nursing and paramedical students at the SGRRIMHS, Dehradun from August 2019 to March 2020. The study aims were explained to the students and verbal consents were obtained from them. They were advised that participation in the survey was anonymous and voluntary. They were also informed that gender and age would be the only personal information required.A questionnaire containing Twenty One items was circulated . Information was elicited about the etiopathogenesis of the disease, mode of transmission , precautions to be taken in handling the patients, disinfection methods and attitude towards HIV/AIDS patients .

Results

The total number of respondents was 350 within the age group of 18 to 24 years. Majority of the students were females (62%) . The data analyses showed that majority of students were aware of the etiopathogenesis of the disease . Eighty two percent of respondents indicated correctly that the causative agent was a virus . Only 11% of the population believed that a bacteria or fungus were the causative agents of HIV whereas 7% indicated that a protozoa was the causative agent. Regarding systems involved, 86% indicated correctly in their responses that the immune system was the major system affected whereas 4% believed it to be the musculoskeletal system, 6% the vascular system and 4% the nervous system.The majority of respondents (70%) rightly select that the virus attacked white blood cells whereas 21% believed that red blood cells where attacked and 9 % belived that platelets were attacked. Regarding the mode of the transmission of infection, 90% students rightly believed that the infection was commonly transmitted by sexual intercourse/transfusion of infected blood/sharing of infected needles. Few students had misconceptions about the mode of disease transmission with 8% thinking that the disease could be spread by sharing utensils, 4% by shaking hands with infected persons (touch), mosquito bites, kiss on cheek and 8% by using public toilets. However, only 35 % knew breast-feeding as a mode of transmission.This proves that knowledge regarding how HIV/AIDS is NOT spread is less than the knowledge about how it is spread. Awareness about infected clinical material responsible for transmission of infection, 90% respondents choose the correct response that infection spread through infected blood transfusion and blood products . In comparison, few students believed that other bodily excreted material spread the infection such as stool indicated by 3%, saliva indicated by 4% and sweat indicated by 3% of the student population. It was noted that the chemical agent used as high-level disinfectants to inactivate the virus were glutaraldehyde was answered correctly only by 20% of students, whereas false responses are chlorine (30%), sodium hypochlorite (35%) and benzene (25%). The data collected for the responses on how to do needle disposal and what to do in case of accidental needle stick injury. Regarding disposal of used needles, 45% of students select the right answer indicating that uncapped needles should be placed in a puncture resistant container as a disposal method. 15% respondents suggested that the needle should be destroyed after use. A few students (40%) indicated that the needle should be recapped before disposal, 0% suggested that the needle can be re-used after boiling. In the case of accidental exposure to body fluids or injury by needle or sharp instruments, the correct protocol was to immediately wash the exposed area with soap and water and then notify a senior doctor along with higher authorities and start post exposure prophylaxsis. Only 44 % of respondents suggested the correct protocol, while 56 % suggest a only blood test for HIV infection . Regarding the concept of safe sex, 100% of respondents agreed to the use of condoms with a single partner which was the correct response. Regarding universal precautions, 72% of respondents were aware of this. The willingness to treat HIV/AIDS patients was however low. Only 1% were ready to handle HIV/AIDS patients.Among the respondents, only 48 % were of the opinion that patient should not be isolated from the society , 42 % had opinion that infected children should attend regular schools , 76% would dismiss their HIV positive maid, 82% would hesitate to sit next to a HIV positive person , 43 % would help an HIV positive raod accident victim , 42 % wanted to allowed HIV positive people to attend social funcyion , 82 % thought HIV positive deserve to suffer, 76% wanted that the names of HIV positive should be made public. If adequate training was provided along with the promise of insurance coverage or adequate compensation in case of acquiring infection as an occupational hazard, then willingness increased to 59%.

Discussion

The present study was conducted to assess the awareness, knowledge and attitude of medical , nursing and paramedical students in SGRRIMHS, Dehradun about HIV and AIDS. An anonymous cross-sectional survey was carried out among the students. The purpose of the study was explained to the students to minimize any apprehension. The group of respondents ranged between the age group 18 to 24 years. Regarding the transmission of infection, a subset of students had misconceptions about the mode of disease transmission thinking that the disease could be spread by sharing utensils, by shaking hands with infected persons, kiss on cheeks, mosquito bytes or by using public toilets. These results indicate the importance of getting over the misconceptions, myths and stigma, that also have been reported previously amongst students in other studies.[11-14] A study done among slum – dwellers in Chennai showed that 67% males and 55% females were aware of the sexual mode of transmission but 45% males and 62% females thought AIDS could spread through mosquito bites [15] ,whereas in our study population 90% of students are aware of sexual mode of transmission and only 4% had misconception that AIDS spread through mosquito bites also.In the another study conducted in Karnataka(India) 98% of study population were aware of sexual mode of transmission and only 9% thought that AIDS could spread through mosquito bites[16]. Another study on awareness was done in China where they compared the responses from clients and from prostitutes. Interestingly, the prostitutes had a better knowledge regarding HIV transmission through needle sharing (77%) and from mother-to-child (75%) as compared to the 53% of clients, in both cases.[17] Whereas in the study conducted by B Unnikrishnan et al. [16] only 48% of study population knew about HIV transmission through breast feeding but 94% were aware of HIV transmission through needle sharing, similar to our study where 90% of students were aware of HIV transmission through needle sharing and only 35 % thought that HIV transmission occur through breast feeding also. An interesting observation made in the present study was that minority of the students were aware about notification to the senior doctor or higher authorities in case of accidental exposure to

body fluids or needle stick injury and similar observation was found by Saurabh Agarwal et. al.[11]. In another study, 47 students received needle stick injury but only 14 students reported the incident to a senior consultant.[18] According to a study by Norsayani and Noor Hassim.[19] the numbers of episodes of needle stick injury decreased with proper use of universal precautions. The group also reported that medical students faced a higher risk of needle stick injury. These findings are in agreement with those by Esin and co-workers[20] who reported that knowledge of post exposure prophylaxis against HIV infection was very low.In an another study conducted in Nigeria and Delhi , proportion of respondents who were aware about existence of anti retroviral drugs for HIV/AIDS was 52.6 % and 28.6 % respectively . [21,22] But our study recorded 46 % for the same indicator inspite of availability of free ART in India. In the study conducted by Saurabh Agarwal et. al. [11] on the 200 medical students ,the awareness about the existence of anti – retroviral drugs for HIV/AIDS was only 27.4 %.Majority of students in our study were aware of universal precautions. Diekema and group[23,24] observed that after a proper training session, knowledge about the universal precautions was much improved. However, Kwee and Ka'anehe[25] stated that knowledge of universal precautions may not correlate with minimized risk of occupational exposure among medical students. Helfgott and group[26] observed that knowledge about the universal precautions was 100% among the resident doctors of Gynaecology and Obstetrics, while overall compliance was only 89%. Based on our findings, we recommend that the teaching curriculum should have adequate coverage regarding universal precautions in order to increase knowledge in this area. In this study, the willingness to treat HIV/AIDS patients was low; however, if adequate training was provided,then willingness increased thus indicating the need for a proper training session. Our findings are in alignment with the study by Diekema et. al .(1995) [23] who also reported that willingness to handle HIV positive cases increased after a post training session.In the study conducted in Hyderabad (india) [27]and karnataka (india)[16] percentage of general public wanted names of PLWHA to be made public were 51 % and 8% respectively, as compared to 76 % in our study. In the study conducted by B Unnikrishnan et al [16] , 81 % study population felt that PLWHA should not be stopped from attending public functions , 89 % had opinion that infected children should attend regular schools , 45% would dismiss their HIV positive maid, 5.2% would hesitate to sit next to a HIV positive person , 80 % would help an HIV positive road accident victim, 24 % thought HIV positive deserve to suffer, where as in our study the attitude was not positive towards PLWHA. Hentgen et. al.[28] also noted the negative attitudes towards HIV – positive patients across the respondents.

Conclusion

Our findings highlight the need for a training program in “universal precautions” for medical, nursing and paramedical students to help in reducing the risk of transmission and to improve knowledge, skill and competency in treating HIV/AIDS patients. Our study has provided information on the Level of awareness , knowledge and attitude in medical , nursing and paramedical students about HIV/AIDS .There is no positive attitude of the students toward PLWHA and they also exhibited certain misconceptions about the modes of transmission of HIV/AIDS but satisfactory levels of awareness and knowledge regarding HIV / AIDS.

Thus there is urgent need to plan and implement the various new strategies for educating students and to make a rule by the government of India for the insurance coverage or adequate compensation in case of acquiring infection as an occupational hazard .A teaching curriculum should contain comprehensive information about HIV/AIDS and associated medical, ethical and legal issues will be beneficial in alleviating these negative attitudes and thus assist in improving the health care system.

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Conflict of Interest: Nil
Source of support:Nil