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A descriptive study on the knowledge of early diagnosis and treatment of HIV/AIDS and experiences of suspected exposure among nursing students in a selected nursing college, Ajitgarh, 2014

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Abstract

AIDS is a chronic, potentially life-threatening condition caused by the human immunodeficiency virus (HIV). The present study conducted on the “the knowledge of early diagnosis and treatment of HIV/AIDS and experiences of suspected exposure among nursing students in a selected nursing college, Ajitgarh, 2014”. Target populations were 450 i.e nursing students of all the courses of Rattan Professional Education College of Nursing. Sample size was 301 nursing students. Data was collected with the help of 2 sets of questionnaire first to assess the knowledge of early diagnosis and treatment of HIV/AIDS and to identify the study subjects who had suspected exposure and second questionnaire to describe the experiences who had suspected exposure among nursing students. The data was collected at Rattan Professional Education college of Nursing in the month of March. Data was analysed by using descriptive and inferential statistics. Findings revealed that majority of students had moderately adequate knowledge that is 62% and 36% had inadequate knowledge and only 2% had adequate knowledge. Further it revealed that Mild exposure was observed among 79.40% study subject followed by 13.62% of moderate exposure, 0.33% had severe exposure and 6.64% had no exposure. Further it concluded that 28% study subjects had needle stick injury during their clinical posting 19% study subjects provided care to HIV positive patients without precaution and 17% were exposed to infected blood. Anxiety, nervousness, tension, fear and worry were felt by the 43% of study subjects. Out of identified exposed cases 12% immediately cleansed the pricked area with spirit swab and other 12% did hand washing. Staff members in medical ward were informed about exposure by 26% exposed cases. There were no life style changes among 52% of exposed cases and 12% of exposed cases use precautions. The findings of the research study will help in building and strengthening the body of knowledge in the discipline of Nursing.

Keywords: HIV/AIDS, early diagnosis and treatment, suspected exposure

1. Introduction

“Don't harm yourself but arm yourself with knowledge to combat HIV/AIDS”

The world first case of HIV was identified in the year 1981 in USA among gays [1]. At present in India 2-3.6 million peoples are affected with HIV/AIDS. Prevalence rate of HIV in India among adult population is 0.3%. Out of this 0.36% among men and 0.25% in women². HIV virus acts on T cell of immune system which is responsible for helping B-cells to produce antibodies or killing foreign cells within the body [3] The transmission of HIV from mother to child can take place within the uterus, during birth or through breast feeding. This vertical transmission can be drastically reduced by following Prevention of Parent to Child Transmission (PPTCT) guidelines [4]. Clinical manifestations of AIDS with advancing disease includes: pulmonary manifestations i.e. persistent cough, shortness of breath; GI manifestations i.e. diarrhea, anorexia, weight loss; oral manifestations i.e appearance of oral lesions, white plaques on oral mucosa, particularly in the posterior pharynx; CNS manifestations i.e. headache, meningitis, neuropathic pain; ocular manifestations i.e. retinopathy, visual impairment [5]. People with AIDS have an increased risk of developing various viral induced cancers including: Kaposi's sarcoma, Burkitt's lymphoma, primary central nervous system lymphoma, and cervical cancer [6]. Diarrhea is another common symptom presents in about 90% of people with AIDS [7].

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The causative virus is transmitted from person to person, most frequently through sexual activity^[8]. There is no risk of acquiring HIV if exposed to feces, nasal secretions, saliva, sputum, sweat, tears, urine, or vomit unless these are contaminated with blood⁹. It is possible to be co-infected by more than one strain of HIV—a condition known as HIV super infection^[10]. Occupational exposure to HIV refers to needle stick and other accidents that happen in the health care worker setting, like a hospital^[12] Non-occupational exposure to HIV includes: being stuck with a used syringe (accidentally or on purpose), sharing needles or other injection drug equipment.¹¹ Common blood tests are EIA (enzyme immunoassay), western blot, viral load, CD4/CD8 ratio. The EIA test, formerly referred to as ELISA (enzyme-linked immunosorbent assay) test, identifies antibodies directed specifically against HIV^[12] Treatment consists of high active antiretroviral therapy (HAART) which slows progression of the disease^[13] There are more than 20 approved antiretroviral agents, belonging to four classes, with which to design combination regimens containing at least three medications. Due to the difficulty in treating HIV infection, preventing infection is a key aim in controlling the AIDS^[14]

2. Methodology

Research methodology is the significant part of any research study, which enables the researcher to project a blue print of the research understanding. The research approach adopted in the study was non-experimental research approach. A descriptive research design was selected for the present study. The study was conducted at Rattan Professional Education College, Ajitgarh. Institute is run by Rattan Professional Education Society, established in 1997. It started with GNM diploma course but presently it offers number of courses like ANM, GNM, BSc Nursing, post basic B. Sc and MSc Nursing. Target population were 450 including students of the following courses: ANM, GNM, B. Sc. Nursing, Post Basic B. Sc Nursing and M.Sc. Nursing. Sample size for the study was 301 nursing students as per presence and availability. With the consultation of guide, self-experience and after the literature review of books, journals and web research closed ended questionnaire was prepared having three sections: Section A - demographic data, Section B- knowledge on early diagnosis and treatment of HIV/AIDS, Section C- questions on identification of suspected exposure of HIV/AIDS and Open ended questionnaire was prepared on experiences of suspected exposure. Validity of tool was established by experts from nursing field for content. The reliability of the tool was determined by using split half method and the tool was found to be reliable with the value of $r=0.70$. Hence the tool was considered reliable for proceeding with the main study. Ethical approval to conduct the study was obtained from the head of the nursing college. The purpose and details of the study was explained to the study subjects. Verbal consent was taken from the study subjects. Data was collected in the month of March at Rattan Professional College of Nursing, Ajitgarh. Physical arrangement of classroom was done. Data was collected in their respective classes and investigator took help of co investigators. Questionnaire sheet was distributed to study subjects to assess their knowledge regarding early diagnosis and treatment of HIV/AIDS and identification of suspected exposure. Study subjects have taken approximate 40-50

minutes to complete the questionnaire. Follow up was done to collect data related to the experiences of the subjects who had suspected exposure with the help of open ended questionnaire. Study subjects have taken approximate 25-30 minutes to complete the questionnaire. Questionnaire sheet was collected and counted to match attendance. The study subjects who were not present at the time of data collection were not included.

3. Results

Section A: Description of sociodemographic variable in terms of frequency (%) i.e. age, class, year of study, gender, previous knowledge regarding HIV/AIDS, source of information, duration of clinical experience, duration of teaching experience.

Age	Percentage
17-22	224 (74%)
22-27	75 (25%)
27-32	2(1%)
32 yrs and above	0
Class	
ANM	22(7%)
GNM	112(37%)
B.Sc	119(40%)
Post B.Sc	36(12%)
M.Sc	12(4%)
Year of study	
1 st year	115(38%)
2 nd year	96(32%)
3 rd year	59(20%)
4 th year	31(10%)
Gender	
Female	301(100%)
Male	0
Previous knowledge regarding HIV/AIDS	
Yes	278(92%)
No	23(8%)
Source of information	
Books	243(81%)
Clinical	31(10%)
Mass-media	21(7%)
Others, specify	6(2%)
Duration of clinical experience if any:	
Fresher	289 (96.01%)
1month-1year	8(2.65%)
1year-2year	3 (0.99%)
2year-3year	1(0.33%)
More than 3 years	0
Duration of teaching experience if any:	
Fresher	289 (96%)
1month-1year	6 (2%)
1year-2year	4(1%)
2year-3year	0
More than 3 years	2(1%)

Data presented in table no 1 showed 74% study sample comes under age group of 17-22, 25% comes under 22-27age group, 1% comes under 27-32 age group. Mean score of age were 20.81 with standard deviation ± 4.56 . In class 7% study samples were doing ANM, 37% GNM, 40% B. Sc, 12% post B. Sc and 4% M.Sc. Further it depicted 1st year contributed 38%, 2nd year contributed 32%, 3rd year contributed 20% and 4th year contributed 10% of total sample. All study samples were females. Among them 92% of study samples had previous knowledge regarding

HIV/AIDS and 8% of study sample had no previous knowledge. Further it depicted the source of information among study subjects i.e. books contributes 81%, clinical contributes 10%, mass-media contributes 7% and others contributes 2%, 96.01% of study sample were fresher, 2.65% had clinical experience of 1month-1year, 0.99% had 1year-2year, 0.33% had 2year-3year and no one comes under more than 3 years of clinical experience. Then it depicted 96% study sample were fresher and had no teaching experience, 2% having 1month-1year of teaching experience, only 1% of study sample had experience in teaching i.e. 1year-2year and more than 3 years.

Section B: Deals with knowledge among study subjects related to early diagnosis and treatment of HIV/AIDS N=301

S.NO	Grading of knowledge Score (%)	Frequency (f)	Percentage (%)
1.	Inadequate	109	36%
2.	Moderately adequate	185	62%
3.	Adequate	7	2%

Table no 2 depicted that majority of students (62%) had moderately adequate knowledge and thirty-six percent (36%) had inadequate knowledge and only two percent (2%) had adequate knowledge.

Section C: Grading of suspected exposure of HIV/AIDS among students

S. No	Exposure	Frequency	%
1	No exposure	20	6.64%
1	Mild exposure	239	79.40%
2	Moderate exposure	41	13.62
3	Severe exposure	1	0.33%

Table no 3 Mild exposure was observed among 79.40% study subject (refer table 6) followed by 13.62% of moderate exposure, 0.33% had severe exposure and 6.64% had no exposure.

Section D: Experiences of suspected exposure

➤ **Experience of Suspected Exposure**

Table 4: Reveals the association between knowledge level and age of study subjects N=301

Age(in years)	Inadequate	Moderately adequate	Adequate	chi square value	df	Table value	Result
17-22	91	129	4	2.719	4	9.49	NS
22-27	18	55	2				
27-32	0	1	1				

NS*- not significant p - 0.05

Above table revealed that there was no association between knowledge level and age of study subjects as the chisquare calculated value (2.719) was not higher than table value.

Table 5: Reveals the association between knowledge level and class of subjects N=301

Class	Inadequate	Moderately adequate	adequate	Chi square Value	df	Table value	Result
ANM	18	4	0	7.658	8	15.51	NS
GNM	57	53	2				
B.SC	26	91	2				
POST BSC	7	29	0				
MSC	1	8	3				

NS*- not significant p - 0.05

Needle stick injury was found to be main reason for the exposure. Among 28% study subjects had needle stick injury during their clinical postings in civil hospital, Mohali and Rajindra hospital, Patiala. Out of identified exposed cases 19% study subjects provided care to HIV positive patients without precaution and 17% were exposed to infected blood.

➤ **Mental feel about the exposure**

Anxiety, nervousness, tension, fear and worry were felt by 43% of the study subjects. Consultation with doctors on duty and their assurance made 21% of study subjects feel relaxed even after exposure.

➤ **Immediate action after being exposed**

Out of identified exposed cases 12% immediately cleansed the pricked area with spirit swab and other 12% did hand washing and applied spirit swab on finger. Staff members in medical ward were informed about exposure by 26% exposed cases and no action was taken by 14% of exposed cases.

➤ **Changes occurred in lifestyle after being exposed**

There were no life styl changes reported by 52% of exposed cases and 12% of exposed cases used precautions and were more alert during procedures, wore gloves and carefully used needles and syringes after exposure. Universal precautions have been adopted by them.

➤ **Advised treatment for that exposure**

Among identified exposed cases 7% consulted doctor and doctor assured them that they were not in danger and 12% exposed cases were advised to use gloves during any procedure. T.T injection were advised by the health care personnel for 7% of study subjects and waste management was taught to 24% of exposed cases with mainly sharp disposals but no treatment.

Section E: Association of knowledge with different variables i.e age, class, duration of clinical experience, duration of teaching experience.

Above table depicted that the calculated chi square value of 7.658 is lesser than table value of 15.51, showed that the association between knowledge level and class of subjects

were not significant. Hence the conclusion was drawn that class didn't affect knowledge of study subjects

Table 6: Reveals the association between knowledge level and year of study subjects

Year of study	Inadequate	Moderately adequate	adequate	Chi square value	df	Table value	Result
1 ST YEAR	59	53	2	2.837	6	12.59	NS
2 ND YEAR	34	60	3				
3 RD YEAR	13	44	2				
4 TH YEAR	3	28	0				

N=301

NS*- not significant p - 0.05

Above table depicted the association between knowledge level and year of study subjects and it showed the calculated chi square value of 2.837, df 6, p-0.05 were not statistically

significant. Hence the conclusion was drawn that year of study didn't affect knowledge of study subjects

Table 7: Reveals the association between knowledge level and source of information N=301

Source of information	Inadequate	Moderately Adequate	Adequate	Chi square Value	df	Table Value	Result
Books	76	159	7	1.420	6	12.59	NS
Clinical	16	15	0				
Mass-Media	12	9	0				
Others	5	2	0				

NS*- not significant p- 0.05

Above table showed that the association between knowledge level and source of information was not significant with the chi square value 1.420, df 6, p-0.05.Hence the conclusion

was drawn that source of information didn't affect knowledge of study subjects.

Table 8: Reveals the association between knowledge level and duration of clinical experience N=301.

Duration of clinical experience	Inadequate	Moderately adequate	Adequate	Mean value	Chi square value	Df	Table value	Result
Fresher	107	177	5	96.33	2.014	6	12.59	NS
1month-1year	1	5	2	2.66				
1year-2years	1	2	0	1				
2years-3years	0	1	0	0.33				

NS*- not significant p-0.05

In order to prove the statistical significance chi square was calculated and the value was found to be 2.014, df 6, p-0.05

Table 9: Reveals the association between knowledge level and duration of teaching experience N=301

Duration of teaching experience	Inadequate	Moderately adequate	Adequate	Mean value	Chi Square Value	df	Table Value	Result
Fresher	107	177	5	96.33	3.140	6	12.59	NS
1month-1year	2	4	0	2				
1year-2years	0	3	1	1.33				
More Than 3 Years	0	1	1	0.66				

NS*- not significant p- 0.05

The mean is higher among the study subjects who had no experience which in turn proved that knowledge level is not dependent on teaching experience. In order to prove the statistical significance chi square was calculated and the value was found to be 3.140, df 6, p-0.05

4. Discussion

The findings of the study were discussed in terms of objective. The overall sociodemographic data revealed that 74% study sample came under age group of 17-22, 25% came under 22-27age group, 1% came under 27-32 age group. In class 7% study samples were doing ANM, 37% GNM, 40% B. Sc, 12% post B.Sc and 4% M.Sc. Among them 92% of study samples had previous knowledge regarding HIV/AIDS and 8% of study sample had no

previous knowledge. Further it depicted the source of information among study subjects i.e books contributes 81% among other sources. The overall knowledge among study subjects revealed that majority of student's i.e. 62% had moderately adequate knowledge and 36% had inadequate knowledge and only 2% percent had adequate knowledge regarding HIV/AIDS. The study findings revealed that the association of knowledge score with demographic variable i.e age, class, year, previous knowledge regarding HIV/AIDS, source of information, duration of clinical experience, and duration of teaching experience at p-0.05 were found to be statistically not significant. Mild exposure had been observed among 79.40% study subjects followed by 13.62% of moderate exposure, 0.33% had severe exposure and 6.64% had no exposure. Needle stick injury

was found to be main reason for the exposure. Among 28% study subjects had needle stick injury during their clinical posting in civil hospital, Mohali and Rajindra hospital, Patiala. Anxiety, nervousness, tension, fear and worry were felt by the 43% of study subjects. Consultation with doctors on duty and their assurance made 21% of study subjects. Among exposed cases 12% immediately cleansed the pricked area with spirit swab and other 12% did hand washing and applied spirit swab on finger. There were no life style changes among 52% of exposed cases. Among identified exposed cases 7% consulted doctor and doctor assured them that they were not in danger and 12% exposed cases were advised to use gloves during any procedure. Out of them 14% of exposed cases had not concerned anyone for advice and treatment.

5. Conclusion

The following conclusion is drawn from the findings of the study. Nursing students had moderately adequate knowledge regarding early diagnosis and treatment of HIV/AIDS and Needle stick injury was found to be main reason for the suspected exposure towards AIDS. Majority of suspected exposure cases felt anxiety and nervousness.

6. Recommendations

Similar study can be done on occupational and non-occupational suspected exposure of HIV/AIDS among health care personnels. A comparative study can be conducted to assess the level of knowledge regarding HIV/AIDS among nursing students of different colleges. A cross-sectional study can also be done on knowledge of HIV/AIDS and experiences of suspected exposure. A survey can be done on the occupational exposure among the health care personnel. Experimental studies can be conducted among nursing students to check the effectiveness of teaching module regarding HIV/AIDS.

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