

A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Post Exposure Prophylaxis of HIV / AIDS among B.Sc. Nursing Ist Year Students

Priyanka Bhatt

bhattpriyanka261094[at]gmail.com

Abstract: HIV/AIDS is a global pandemic. Needle Stick Injury is a serious hazard in any healthcare setting. It is an accidental skin penetration by a needle containing another person's blood or body fluid. Exposure to contaminated needles may expose the recipient to blood that contains pathogens which cause a potential risk. A pre-experimental study was conducted to assess the effectiveness of Structured Teaching Programme on knowledge regarding post exposure prophylaxis of HIV /AIDS among B.Sc. nursing Ist year students. Quantitative research approach was selected for the study and the research design was pre experimental one group pre- test post- test design. Sample size was 60 and the sampling technique was convenient. Structured knowledge questionnaire was used to collect the data and analysis of data is done by descriptive and inferential statistics. Results shows that among demographic variables most of the subjects were of age group 18-20 years (96.7%), place of residence was rural (55%), no clinical exposure to sero positive client (91.7%) and source of information was through attending any program/ workshop related to HIV/AIDS (66.7%). The pre-test knowledge score shows that maximum participants, i.e. 52 (86.7%) had average knowledge, 8 (13.3%) participants had good knowledge. The post-test knowledge score shows that maximum participants, i.e. 48 (80%) had good knowledge, 10 (16.7%) had excellent knowledge, 2 (3.3%) had average knowledge and none participant had poor knowledge regarding post exposure prophylaxis of HIV/AIDS. Thus, it shows that mean post- test knowledge score (27%) after the intervention was higher than the mean pre-test knowledge score (17.92). The paired T test value was 49.629, which was greater than the table value, 2.00. Hence it was considered as significant at the level of 0.05 level of significance. Hence, hypothesis H_1 was accepted. The study findings indicated that there was increase in the knowledge regarding post exposure prophylaxis of HIV/AIDS after structured teaching programme and the same can be achieved through continuous ongoing conferences, workshops for students.

Keywords: STP, knowledge, post exposure prophylaxis, needle stick injury

1. Introduction

An occupational exposure may place a worker at risk of HIV infection through injuries such as those involving a potentially contaminated needle or sharp instrument or chapped, abraded skin or contact with mucous membranes. Health care workers including student nurses are at substantial risk for HIV infection during the course of their training. This problem is compounded with inadequate supply of protective equipments in the hospitals and lack of knowledge on universal precautions among health care workers.¹ The incidence of needle stick injury is considerably higher than the current estimates, due to gross underreporting. Health care workers are exposed to NSI from unsafe practices such as recapping of needles, bending, breaking hypodermic needles or passing of needles from one workers to another. It is revealed that the most common clinical activity to cause NSI was blood withdrawal, followed by suturing and vaccinations .Health care professionals are most negligent as far as their own health is concerned. Health care workers incur 2 million needle stick injuries per year as needle stick injuries present the single greatest occupational hazard to medical personnel.² The first report of HIV transmitted to a health care worker because of needle stick injury was published in 1984. Adherence to standard precautions awareness about post exposure prophylaxis is poor in developing countries among health care workers and documentation of exposure is suboptimal. Such studies in India documenting the frequency, PEP

protocols followed and consequences of needle stick injuries are very less. Therefore health care workers develop blood borne transmission infection.HCW at all levels are occupationally exposed to hazards of infections like HIV, HBV and HCV. With an increasing HIV positive population and non feasibility of subjecting all cases to HIV testing, risk of HIV transmission through occupational exposure is a real threat.³

On literature review, I have found that the burden of HIV/AIDS and needle stick injuries is increasing day by day so there is a need of improving the knowledge about post exposure prophylaxis of HIV/AIDS among health care workers and nursing students, because the student nurses are highly prone to have risk of HIV/AIDS because of needle stick injuries, contact with infected blood etc. while working in the clinical setting. There is strong need to fill knowledge gap regarding HIV, modes of transmission. Education will go long way not only in preventing disease but in dispelling many of myths that surrounds the world. So I have decided to assess the current knowledge of nursing students regarding PEP of HIV/AIDS, enable them to protect themselves and become advocates for HIV/AIDS prevention. There are many research studies conducted in this field which shows that the incidence is increasing with time so that's why I felt the need to conduct a study on this topic.

Volume 11 Issue 4, April 2022

www.ijsr.net

Licensed Under Creative Commons Attribution CC BY

2. Literature Survey

Review of Literature on Awareness and Knowledge on PEP of HIV/AIDS

Sudha. B, Dr. Selvanayaki. V(2019) A descriptive study was carried out to assess the knowledge of first year nursing students on needle stick injuries. Sample selection was done by convenient sampling technique. The sample size was 107 and the study was conducted in selected colleges of Puducherry. Data on needle stick injuries was collected by using structured knowledge questionnaires. Data analysis was done by using descriptive statistics & inferential statistics. The findings of this study showed that 88 (82.2%) of the student had poor knowledge and 18(16.82%) student had average level of knowledge and 1(0.3%) student had good knowledge on needle stick injuries. There was a significant association found between level of knowledge with income of father at $P < 0.05$ level. The study concludes that it is the need of the hour to educate the nursing students on the prevention and the consequences of needle stick injuries.⁴

M. Sindhu , Reshmi R.S (2019) A pre experimental one group pre-test post-test design was selected to evaluate the effectiveness of STP on knowledge regarding needle stick injury among first year B.Sc. nursing students of selected colleges of nursing at Ernakulam district. This study was conducted among 40 B.Sc. nursing first year students. The data for the study was collected by structured questionnaire following which samples were subjected to STP .The pre-test knowledge score were 20% of the participants obtained between the range of good, 65% obtained score in the range of average and 15% obtained poor score. Similarly post test score were 85% obtained good score and 15% obtained average and nobody obtained poor score. The result shows that there was a significant increase in knowledge after structured teaching programme.⁵

Eticha. E. M and Gameda. A.B (2019) A cross-sectional study was conducted among 311 health care workers of Hiwot Fana Specialized University Hospital in 2016. Among all participants 83% had adequate knowledge of postexposure prophylaxis of HIV. All the respondents had heard about postexposure prophylaxis for HIV; however, only 37 (22.4%) workers know the definition of the postexposure prophylaxis. Majority of participant, 272 (87.5%), knew the preferable time to initiate postexposure chemoprophylaxis. A significant number of the workers (43.4%) had an unfavorable attitude towards postexposure prophylaxis. Among 53 health care workers who have potential exposure to HIV, 38 (71.7%) took chemoprophylaxis and only 26 (44.8%) completed postexposure prophylaxis correctly. Most of the health care workers had appropriate knowledge about postexposure prophylaxis of HIV/AIDS. The result shows that a significant number of health care workers had a negative attitude and poor practice regarding postexposure prophylaxis. Therefore, there is need of formal training that aims to improve attitudes and support to improve postexposure prophylaxis.⁶

Kiranmayi. K (2018) A descriptive study was conducted to assess the knowledge about post exposure prophylaxis of HIV infection among fourth year students studying in government college of Nursing, Kurnool, Andhra Pradesh. Data collection was done by using structured questionnaire among 25 students. The findings of the study shows that 14.6 % and 38.6% of the IV year B.Sc. nursing students have inadequate knowledge about HIV infection and PEP , where as 85.3% and 61.3% of the students have adequate knowledge about HIV infection and PEP respectively; which shows that rate of students knowledge about PEP is low than the knowledge about HIV infection.⁷

3. Review of Literature on Prevalence and Occurrence of NSI

Sriram. S (2019) A cross sectional study was conducted to see the evidence of needle stick injuries among healthcare providers in Narayana Medical College and Hospital in Nellore, state. Data employing a structured questionnaire were collected among all the 1525 healthcare providers working within the teaching hospital. Around 10.81% of the entire healthcare providers within the teaching hospital were exposed to NSIs. Syringe needles (75%) were the foremost common devices resulting in NSIs. Majority of NSIs materialized within the wards of the various departments (75%). Morning shift (70%) was the foremost common measure of the day for the occurrence of NSIs. Only 65% of the healthcare providers were wearing gloves at the time of injury. Majority (82%) took immediate treatment after NSIs. Establishment of formal reporting mechanisms, immediate reporting of NSIs, and also the establishment of a comprehensive NSI prevention program will help within the reduction within the occurrence of NSIs and help in taking immediate remedial action within the style of prophylaxis and treatment.⁸

Sharma. A, Tripura. K , Acharjee. A (2018) A cross sectional study was conducted to assess the prevalence of needle stick injury and management practices among doctors working in an exceedingly teaching hospital, Tripura. A sample size of 120 medical experts was selected. The prevalence of needle stick injury within the present study found to be 76.7%. The nursing staffs were more (21.7%) exposed to needle stick injury. Majority of the needle stick injury thanks to injection needle (82.60%) and occurred during day time (83.70%). Finger was the foremost common site (90.22%) site for injury and most of the injury (40.21%) occurred during blood drawing. Majority (56.52%) of the participants didn't report after needle stick injury to the authority. So, more emphasis should incline to the regular training/workshop of the doctors on needle stick injury, proper reporting of needle stick injury, universal precaution guidelines and proper use of safety devices during performing of procedures.⁹

Pervaiz M, Gilbert R, Ali N. (2018) conducted a study to review literature to estimate the prevalence and reporting rates of NSIs among dental-HCWs in Pakistan. 713 relevant citations were identified by electronic databases and hand searching of articles. The results of the included studies indicate that the prevalence of NSIs among Pakistani dental-HCWs was between 30% and 73%. the speed of reporting of

NSIs was between 15% and 76%, and also the most typical reason was found to be the dearth of awareness regarding the reporting system, or of the necessity to report NSIs. It's concluded that there's a significantly high prevalence and an occasional rate of reporting of NSIs among dental-HCWs, suggesting the necessity to setup an occupational health department in dental settings, for preventing, managing, recording, and monitoring NSIs.¹⁰

Problem Definition

“A pre-experimental study to assess the effectiveness of Structured Teaching Programme on knowledge regarding post exposure prophylaxis of HIV /AIDS among B.Sc. nursing Ist year students of Sister Nivedita Govt. Nursing College, I.G.M.C, Shimla, Himachal Pradesh.”

4. Methodology/ Approach

Research approach: Quantitative approach

Research Design: Pre-experimental design

Setting of the study: Sister Nivedita Govt. Nursing College, I.G.M.C, Shimla, Himachal Pradesh.

Variables under the study:

Independent variable: Structured teaching programme.

Dependent variable: Knowledge regarding post exposure prophylaxis of HIV /AIDS.

Demographic variables: Age, place of residence, any personal or family history of HIV/AIDS, occupation of father, clinical exposure to seropositive patient, source of information.

Population: Target population: B.Sc. nursing Ist year students who were present at the time of data collection.

Accessible population: B.Sc. nursing Ist year students who fulfilled the inclusion and exclusion criteria.

Sample and sample size: The sample for the present study were 60 B.Sc. nursing Ist year students of Sister Nivedita Govt. Nursing College, I.G.M.C, Shimla, Himachal Pradesh.

Sampling technique: Sampling technique adopted for the study was “Convenient sampling technique”.

Criteria for sample selection

Inclusion criteria:

- 1) Students studying in B.Sc. nursing Ist year in S.N.G.N.C, I.G.M.C, Shimla.
- 2) Students willing to participate.
- 3) Students who understand Hindi/English.

Exclusion criteria:

Students not present at the time of data collection.

Description of tool:

Tool was prepared on the objectives of the study. A self structured knowledge questionnaire was prepared to assess the knowledge regarding post exposure prophylaxis of HIV /AIDS.

Tool consists of the following sections-

- **Section-I:** It was comprise of socio- demographic variables.
- **Section-II:** It was comprise of self structured questionnaire to assess the knowledge regarding post exposure prophylaxis of HIV /AIDS.

Each item was multiple choices in nature with four options, having one correct answer. Each correct answer was allotted a score of “one” and each incorrect answer was given the score “zero”.

Plan for data analysis:

Analysis and interpretation of data was done by using descriptive and inferential statistics. The plan of analysis was:

- Data was organized in a master sheet.
- Socio-demographic data of students was analyzed by no. of frequency and percentage distribution.
- Mean, mean percentage, standard deviation and inferential measures, t tests were used to compare the pre-test and post-test knowledge scores of students.
- Chi square test was used to determine the association between knowledge score of students with selected socio-demographic variables.

5. Results & Discussion

Table 1: Frequency and percentage distribution of Socio-demographic variables, N=60

Socio Demographic Variable		Frequency (f)	Percentage (%)
Age	18-20 Years	96.7%	58
	20-22 Years	3.3%	2
	22-24 Years	-	-
	24-26 Years	-	-
Place of Residence	Rural	55.0%	33
	Urban	45.0%	27
Any personal or Family History of HIV AIDS	Yes	-	-
	No	100.0%	60
Occupation of Father	Govt. employee	46.7%	28
	Private employee	40.0%	24
	Other	13.3%	8
Clinical Exposure to Sero positive Client	Yes	8.3%	5
	No	91.7%	55
Source of Information	Attended any program/ workshop related to HIV/AIDS	66.7%	40
	Internet	33.3%	20
	Journal	-	-
	Newspaper	-	-

Findings related to effectiveness of Structured Teaching Programme on post exposure prophylaxis of HIV/AIDS among B.Sc. nursing Ist year students.

Table 2: Depicts comparison of pre-test and post-test knowledge scores of B.Sc. nursing Ist year students regarding post exposure prophylaxis of HIV/AIDS, N=60

Comparison of Knowledge Scores		
Score Level (N=60)	Pre-test	Post-test
POOR.(0-10)	0(0%)	0(0%)
AVERAGE.(11-20)	52(86.7%)	2(3.3%)
GOOD.(21-30)	8(13.3%)	48(80%)
EXCELLENT(31-40)	0(0%)	10(16.7%)

Maximum score= 40

Minimum score=0

In pre-test, maximum participants 52 (86.7%) had average knowledge, 8 (13.3%) participants had good knowledge regarding post exposure prophylaxis of HIV/AIDS.

In post-test, maximum participants 48 (80%) had good knowledge, 10 (16.7%) had excellent knowledge, 2 (3.3%) had average knowledge and none participant had poor knowledge regarding post exposure prophylaxis of HIV/AIDS. Hence, these findings indicate that **structured teaching programme increases the level of knowledge** of B.Sc. nursing Ist year students.

Descriptive statistics of comparison of pre-test and post-test knowledge scores of B.Sc. nursing Ist year students regarding post exposure prophylaxis of HIV/AIDS.

Table 3:

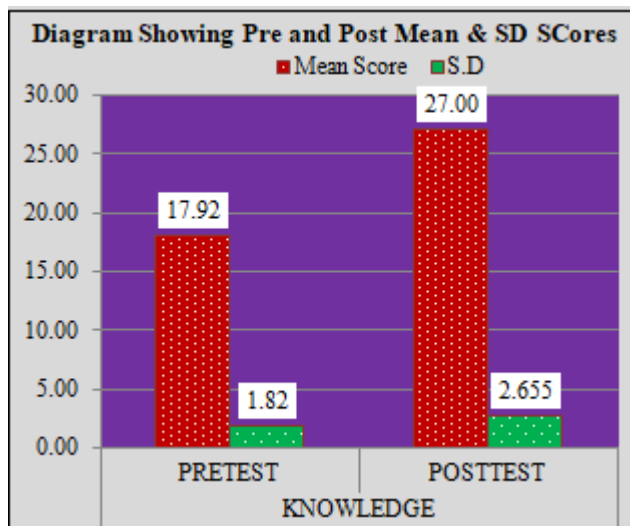
N=60

Paired T Test	Mean±S.D.	Mean%	Range	Mean Diff.	Paired T Test	P value	Table Value at 0.05
Pretest knowledge	17.92±1.816	44.80	14-22	9.080	49.629 *Sig	<0.001	2.00
Posttest knowledge	27±2.655	67.50	20-33				

** Significance Level 0.05

Maximum=40

Minimum=0



6. Conclusion

On the basis of the findings of the present study, the following results were drawn:

- In pre-test knowledge score, maximum participants 52 (86.7%) had average knowledge, 8 (13.3%) participants had good knowledge and none participant had poor, excellent knowledge regarding post exposure prophylaxis of HIV/AIDS.
- In post-test knowledge score, maximum participants 48 (80%) had good knowledge, 10 (16.7%) had excellent knowledge, 2 (3.3%) had average knowledge and none participant, had poor knowledge regarding post exposure prophylaxis of HIV/AIDS.
- There was a significant increase in the post-test knowledge score of B.Sc. nursing Ist year students after administering the Structured Teaching Programme .
- There was significant association between the pre-test knowledge score with socio-demographic variables such as source of information regarding post exposure

prophylaxis of HIV/AIDS. There was no significant association between the knowledge score with other socio-demographic variables such as age, place of residence, any personal or family history of HIV/AIDS, occupation of father, clinical exposure to seropositive client.

- There was significant association between the post-test knowledge score with socio-demographic variable such as source of information regarding post exposure prophylaxis of HIV/AIDS. There was no significant association between the knowledge score with other socio-demographic variables such as age, place of residence, any personal or family history of HIV/AIDS, occupation of father, clinical exposure to seropositive client.

The study findings indicate that there is a need for further increase in the knowledge regarding post exposure prophylaxis of HIV/AIDS and the same can be achieved through continuous ongoing conferences, workshops for students.

7. Future Scope

Based on the interpretations and the conclusions of the present study, the following recommendations are put forth:

- 1) A similar longitudinal study can be conducted on a larger scale using a wider sample, to enhance the generalization of the findings.
- 2) A similar study can be conducted with quasi-experimental design using a control group and an experimental group to find out the effectiveness of the Structured Teaching Programme in a more reliable manner.
- 3) Similar study can be done on staff nurses to assess their level of knowledge related to post exposure prophylaxis related to HIV/AIDS.

- 4) A comparative study can be done to compare the knowledge of medical professionals and Non-medical professionals and their attitude toward HIV AIDS patients.
- 5) A descriptive study can be undertaken to assess knowledge using large sample and wider setting like covering various districts in a state, which can be helpful to collect important statistics and then give useful recommendations.

- [10] Pervaiz M, Gilbert .R, Ali. N. The Prevalence and Underreporting of Needlestick Injuries among Dental Healthcare Workers. International Journal of Dentistry. Volume 2018, Article ID 9609038 ,14 pages. Available from: <https://www.hindawi.com/journals/ijd/2018/9609038/>

References

- [1] Eramova I, Matic S, Munz M. HIV/ AIDS Treatment and Care; Clinical protocol for the WHO Europeon Region. Available from: http://www.euro.who.int/__data/assets/pdf_file/0004/78106/E90840.pdf
- [2] Sharma .A, Singh. C, Solanki. S , Kumar .S, Mehrishi. P, Singh .F. S. Prevalence and Knowledge of Needle Stick Injury among the Health Care Workers in a Tertiary Care Hospital Solan H.P, India, International Journal of Current Microbiology and Applied Sciences ISSN: 2319-7706 Volume 6 Number 8 (2017) pp. 2486-2492 Journal homepage: <http://www.ijcmas.com>
- [3] Wig. N. HIV: awareness of management of occupational exposure in health care workers. Indian J Med Sci. 2003 May 11;57: 192-198. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/14514250>
- [4] Sudha. B, Dr. Selvanayaki.V. A study to assess the knowledge of first year nursing students on Needle Stick Injuries at selected colleges of Puducherry. IJRAR. 2019;6(1):884-887 Available from: <http://ijrar.com>
- [5] M. Sindhu, Reshmi R.S. A study to evaluate effectiveness of structured teaching programme regarding Needle Stick Injury among first year B.Sc Nursing students in selected colleges at Ernakulam District. International journal of research culture society Volume - 3, Issue - 9, Sept – 2019 (83-93) Available from: WWW.IJRCS.ORG
- [6] Eticha EM, Gemeda AB. Knowledge, Attitude, and Practice of Postexposure Prophylaxis against HIV Infection among Healthcare Workers in Hiwot Fana Specialized University Hospital, Eastern Ethiopia. AIDS Res Treat. 2019 Feb 21;2019:7947086. doi: 10.1155/2019/7947086 Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30918724>
- [7] Kiranmayi. K. A study to assess the knowledge about post exposure prophylaxis of HIV infection among IV year B.Sc. nursing students studying in government college of Nursing, Kurnool, Andhra Pradesh, India. International Journal of Applied Research 2018; 4(12): 30-34 Available from: www.allresearchjournal.com
- [8] Sriram S. Study of needle stick injuries among healthcare providers: Evidence from a teaching hospital in India. J Family Med Prim Care 2019;8:599-603 Available from: <http://www.jfmprc.com>
- [9] Sharma. A, Tripura. K , Acharjee. A . A Cross Sectional Study on Prevalence of Needle Stick Injury And Management Practices Among Health Workers Working In A Teaching Hospital, Tripura. IOSR Journal of Dental and Medical Sciences , vol. 17, no. 1, 2018, pp. 05-07. Available from: www.iosrjournals.org

Author Profile

Priyanka Bhatt, M.Sc. Nursing (Medical Surgical Nursing)