

# A Quasi Experimental Study to Assess the Effectiveness of Learning Module on Knowledge, Attitude and Practice Regarding Prevention of Needle Stick Injury among Housekeeping Staff in Hospital, Perungullathur, Chennai

Maliga<sup>1</sup>, Karthikeswari .T<sup>2</sup>

<sup>1</sup>Tutor, Annai Vellankanni College of Nursing, Tamilnadu, India

<sup>2</sup>Associate Professor, Annai Vellankanni College of Nursing, Tamilnadu, India

**Abstract:** *The objectives of the study was to determine the effectiveness of learning module on knowledge, attitude and practice regarding prevention of needle stick injury between study and control group. Quantitative research approach and quasi experimental design was adopted. The sample size was 100 housekeeping staff were chosen by using convenience sampling technique. Pre-test was assessed by using self-structured knowledge, attitude and practice questionnaire on the 1<sup>st</sup> day of the data collection. Following to the pre-test, intervention of the study (Learning module on Prevention of needle stick injury) was given to the study participants with use of power point presentation for 20-30 minutes, demonstration for 5 minutes and booklets regarding prevention of needle stick injury was given to them. After 7 days post-test was assessed by using the same questionnaire. The result revealed that during post-test 76% (38) of housekeeping staff knowledge was found to be adequate with a mean value of 18.6 with standard deviation  $\pm 2.58$ . Housekeeping staff attitude were improved about 78% (39) with a mean value of 39.3 with standard deviation  $\pm 6.11$ . Regarding practice among housekeeping staff showed improvement 78% (39) with a mean value of 10.9 with standard deviation  $\pm 1.97$  which was significant  $p < 0.05$ . Whereas in control group the p value is not less than 0.05 is not significant at 5% level. Study concluded over all there was improvement in knowledge, attitude and practice of housekeeping staff on prevention of needle stick injury after giving learning module among study group.*

**Keywords:** Learning module, Prevention of needle stick injury, housekeeping staff, Effectiveness, Knowledge, Attitude and Practice.

## 1. Introduction

A needle stick injury is a percutaneous piercing wound typically set by a needle point, but possibly also by other sharp instruments or objects. Commonly encountered by people handling needles in the medical setting, such injuries are an occupational hazard in the medical community. These events are of concern because of the risk to transmit blood-borne diseases. Despite their seriousness as a medical event, needle stick injuries have been neglected, most of the needle stick injuries are unreported and it have been recognized as occupational hazards.<sup>[1]</sup>

From the studies and surveys, the Centers for Disease Control and Prevention revealed that nurses have the highest frequency of needle stick injury reports and housekeeping staff are second. Housekeeping staff plays pivotal role in ensuring an infection free and safe environment in hospitals. As they are frequently handling biomedical waste in hospitals, they are prone for needle stick injuries. Lack of literacy and mismanagement in handling sharps by housekeeping staff has caused an increase in the incidence of needle stick injuries among them.<sup>[2]</sup>

### Objectives of the study

- 1) To assess the level of knowledge, attitude and practice regarding prevention of needle stick injury among the housekeeping staff in study and control group.

- 2) To determine the effectiveness of learning module on knowledge, attitude and practice regarding prevention of needle stick injury between study and control group.
- 3) To correlate the post-test level of knowledge, attitude and practice regarding prevention of needle stick injury among study and control group.
- 4) To associate the post-test level of knowledge, attitude and practice regarding prevention of needle stick injury with their selected demographic variables.

### Research Hypotheses

- 1) **RH1** – There will be a significant difference in the post-test level of knowledge, attitude and practice regarding prevention of needle stick injury among the housekeeping staff in the study group.
- 2) **RH2** – There will be a significant correlation between post-test level of knowledge, attitude and practice regarding prevention of needle stick injury among the housekeeping staff in study and control group.
- 3) **RH3** – There will be a significant association between the post-test level of knowledge, attitude and practice regarding prevention of needle stick injury among the housekeeping staff with their demographic variables in study and control group.

## 2. Materials and Methods

**Approach:** Quantitative evaluative approach.

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**Design:** Quasi Experimental design with Study and Control group.

**Independent variable:** Learning module regarding prevention of needle stick injury.

**Dependent variables:** Knowledge, attitude and practice regarding prevention of needle stick injury.

**Setting:** The study was conducted in General Hospital, Perunkulathur, Tamil Nadu, India.

**Tools:** Self- Structured knowledge, attitude and practice questionnaire.

#### Validity of the Tool/ Ethical Consideration

The validity of the tool was judged by 2 medical experts and 3 nursing experts from other nursing college. The opinions and suggestions on the applicability of the content was modified and finalized. The formal approval was obtained

from the Institutional Ethical Committee.

#### Data Collection Procedure

Control group data collection was done among 50 participants for two weeks. Approximately twenty minutes was spent to collect data from the participants. On first day took demographic variables, pre-test on knowledge, attitude and practice was done with self- structured questionnaire., after 7 days post-test was taken. Study group data collection was done among 50 participants for the next two weeks. On the first day demographic variables, pre-test was done to assess the level of knowledge, attitude and practice by using same questionnaire and intervention was given with power point presentation for 20-30 minutes, demonstration for 5 minutes and booklet was given to them. After 7 days post-test was taken, confidentiality was maintained throughout the procedure.

### 3. Results

Comparison of Pre and Post Test Score in the Level of Knowledge, Attitude and Practice regarding Prevention of Needle Stick Injury among the Housekeeping Staff, n = 100

S. No	variables	Group	Score level of test	N	Mean	SD	t value	df	P value
1	Knowledge	Study group	Pre test	50	4.7	2.88	-32.27	49	0.000**
			Post test	50	18.6	2.59			
		Control group	Pre test	50	5.4	2.19	1.38	49	0.18
			Post test	50	4.7	2.88			
2	Attitude	Study group	Pre test	50	14.5	1.93	-29.78	49	0.000**
			Post test	50	39.3	6.11			
		Control group	Pre test	50	14.4	2.25	-0.22	49	0.82
			Post test	50	14.5	1.93			
3	Practice	Study group	Pre test	50	5.5	1.22	-12.44	49	0.000**
			Post test	50	10.9	1.97			
		Control group	Pre test	50	5.3	1.06	-0.16	49	0.88
			Post test	50	5.4	1.23			

\*-Significant at 5% level \*\*-Significant at 1% level

### 4. Discussion

The study revealed that during post-test 76% (38) of housekeeping staff knowledge on prevention of needle stick injury was found to be adequate with a mean value of 18.6 with standard deviation  $\pm$  2.58. Housekeeping staff attitude were improved about 78% (39) with a mean value of 39.3 with standard deviation  $\pm$  6.11. Regarding practice among housekeeping staff showed improvement 78% (39) with a mean value of 10.9 with standard deviation  $\pm$  1.97 which was significant  $p < 0.05$ . Correlation reveals that there was having positive correlation on knowledge with favourable attitude at  $p < 0.05$ , while all other was not having statistically significant correlation between attitude Vs practice ( $p = 0.39$ ) and knowledge Vs practice ( $p = 0.35$ ) and there is statistically significant association between the post-test level of attitude with the demographic variables "Previous knowledge regarding needle stick injury" and also post-test level of practice with the demographic variables "Type of family". Whereas in control group the p value is not less than 0.05 is not significant at 5% level.

### 5. Conclusion

The present study assessed the effectiveness of learning

module on knowledge, attitude and practice regarding prevention of needle stick injury among housekeeping staff. The result of the study revealed that in the pre-test majority of the housekeeping staff were having inadequate level of knowledge, unfavourable attitude and practice towards prevention of needle stick injury. Whereas in the post test housekeeping were found to possess adequate level of knowledge, favourable attitude and practice after the intervention.

**Conflicts of Interest:** No conflicts of interest.

**Authors Funding:** Self.

### References

- [1] Sumathi Mualidhar, Prashanth Kumar Singh, R.K.Jain, Meenakshi Malhotra and ManjuBala "Effectiveness of knowledge on prevention of needle stick injury", Asain academic research journal of multidisciplinary (2017;16- 65).
- [2] Susan Q, Wilburn BSN, MPH, Gerry Eijkemans MD "Preventing needle stick injuries among health care workers", International Journal of Occupational and Environmental Health 2004 10:451- 456.

- [3] The National Surveillance System for Healthcare Workers, summary Report for Blood and Body Fluid Exposure; 1995-2007. Available from: <https://www.cdc.gov/nhsn/PDFs/NaSH/NaSH-Report-6-2011.pdf>. [Last accessed on 2018 Feb 12].
- [4] Mehta A, Rodrigues C, Ghag S, Bavi P, Shenai S, Dastur F “Effectiveness of needlestick injuries among healthcare workers”, *International journal of advanced educational research* 2005;60:368-73.
- [5] Wilburn SQ “Needlestick and sharps injury prevention”, *Online Journal issues nursing* 2004;9:5.
- [6] Jakribettu RP, D’Souza OL, Pinto VS, Surlu VR, Bolor R, Baliga MS “Needle stick injuries among health care workers in a multispecialty hospital: A retrospective Study”, *International Journal of Current Microbiology and Applied Sciences* 2017;6:833-7.
- [7] Sangeethalakshmi GN, Bhat R “A study on awareness of needle sticks injury in students undergoing paramedical course”, *IOSR Journal of Dental and Medical Sciences* 2015;14:34-8.
- [8] Wilkins EG, Colledge NR, Walker BR, Ralston SH “HIV infection and AIDS”, *International Journal of Science and Research* 2010. p. 407.
- [9] Ndejjo R, Musinguzi G, Xiaozhong Yu “Occupational Health Hazards among Healthcare Workers in Kampala, Uganda”, *Journal of Environmental and Public Health*, 2015. doi:10.1155/2015/913741.
- [10] Toraman AR, Battal B, Ozturk K, Akcin B “Sharps Injury Prevention for Hospital Workers”, *International Journal of Occupational Safety and Ergonomics (JOSE)* 2011;17(4):455-61.
- [11] Spruce L “Back to Basics: Sharps Safety”, *Association of perioperative Registered Nurses Journal* 2016;104:30-6.
- [12] Lee JM, Botteman MF, Xanthakos N, Nicklasson L “Needlestick injuries in the United States; Epidemiologic, economic, and quality of life issues”, *American Association of Occupational Health Nurses Journal* 2005;53:117-33.
- [13] Goel V, Kumar D, Lingaiah R, Singh S “Occurrence of needlestick and injuries among health-care workers of a Tertiary Care Teaching Hospital in north India”, *Journal of Laboratory Physicians* 2017;9:20-5.
- [14] Au E, Gossage JA, Bailey SR “The reporting of needle stick injuries sustained in theatre by surgeons”, *Journal of Hospital Infection* 2008;70:66-70.
- [15] Elder A, Paterson C “Sharps injuries in UK health care: A review of injury rates, viral transmission and potential efficacy of safety devices”, *Occupational Medicine (London)* 2006;56:566-74.
- [16] Susan Q, Wilburn BSN, MPH, Gerry Eijkemans MD “Preventing needle stick injuries among health care workers”, *International Journal of Occupational and Environmental Health* 2004 10:451-456.
- [17] Purnima Gupta “Needle stick injury- consequences and prevention.”, *Health Care Management* 2006 June.
- [18] McCormick RD, Maki DG “Epidemiology of needle sticks injuries in hospital personnel”, *American Journal of Medicine* 1981; 70:928-932.