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Research Article

EFFECTIVENESS OF POSTER DISPLAY ON SAFE INJECTION PRACTICE AMONG THE STAFF NURSES AT HCG EKO CANCER CENTRE, KOLKATA

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A B S T R A C T

In order to break the chain of blood borne disease transmission brought on by unsafe injection practices, which put patients and healthcare professionals at risk for infectious and non-infectious adverse events, it is crucial that nurses have solid information and employ competent practices. Patients, the public, and injection providers (healthcare professionals) all bear responsibility for dangerous injection practices. Due to, unsafe practices like recapping needles, handling used sharps (bending, breaking, or cutting hypodermic needles), passing sharps from one healthcare worker to another, and carelessly leaving sharps in unexpected places, injection providers are at risk of needle stick injuries. To avoid these incidences, the concerned study has been taken up to assess the effectiveness of Poster display on Safe Injection Practice regarding knowledge & skill among staff nurses, from January 2023 to June 2023 which depicts a significant increase in knowledge level of nurses 'whose 't' value is 15.147 at 0.05 level & on the other hand for determination of skill, 't' test value is 31.53 at 0.05 level which shows a significant increase in skill level of nurses 'on Safe Injection Practices.

INTRODUCTION

Patients and healthcare professionals are at risk of adverse infectious and non-infectious events due to unsafe injection techniques. The most frequent medical operation carried out in healthcare institutions is the administering of injections. According to the WHO, around 16 billion injections are given each year globally.[1]

Since injections are intrusive operations that are regularly performed during a nurse's shift, having the right information, and using safe practices are crucial to prevent the spread of infections or harm to patients. With an estimated 20 billion injections done annually around the world, injections are among the most common medical operations.[2]

An injection risk if adhered safe it doesn't cause harm to the recipient, doesn't put the provider a in any unnecessary risk, and doesn't produce waste that is hazardous to the surrounding area.[3]

Unsafe injection practices are widespread in a variety of healthcare facilities in underdeveloped nations and are connected to a few healthcare-related problems that can be avoided. Even while great efforts have been made to lower the number of dangerous injections in developing nations, the number is still very high.[4]

Health care professionals that lack the necessary knowledge, inadequate training, and not having adherence to the safe injection practices guidelines for handling injections or their disposal run the risk of exacerbating the issue. These negative effects, in turn, increase the risk of blood-borne illnesses being transmitted to patients or healthcare providers through needle sticks, increasing the cost of treating them.[5]

Objectives of the Study

1. To assess the pre-test level of knowledge regarding safe injection practice among nurses.
2. To assess the pre-test level of skill performance regarding safe injection practice among nurses.
3. To administer Poster display regarding Safe injection practice among nurses.
4. To assess the post-test level of knowledge regarding safe injection practice among nurses.
5. To assess the post-test level of skill performance regarding safe injection practice among nurses.
6. To evaluate the effectiveness of Poster Display by comparing pre & post-test knowledge & skill score.

MATERIALS & METHODS

The research approach adopted was Quantitative Evaluatory approach. Pre-experimental research design (one group pre-test post-test design) was adopted for the study. Pre-test self-

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structured knowledge assessment as well as skill performance assessment regarding safe injection practice was done via administering multiple choice questions & skill audit checklist among the nurses. Poster display on safe injection practices after the pre-test & post-test was evaluated after 7 days of teaching. The researcher clarified the objective of the research and reassured the topics that the information gathered will be kept confidential.

Study samples comprise of 60 participants. A self- structured questionnaire was used for the data collection.

Random sampling technique was obtained for 60 participants population who are available at morning and evening shift.

Inclusion Criteria: Nursing staff who are available in Morning or evening duty.

Exclusion Criteria: i) Night shift Nursing staff

- Staffs who were not willing to participate.
- Clinical staff who are dealing with sharps like-Doctor, Phlebotomist, Housekeeping staff.

The tool consists of 2 Sections

- Section A- Structured questionnaire to elicit demographic variables.
- Section B- Structured questionnaire to elicit knowledge level of participants.
- Section C- Skill audit checklist to assess the performance level of participants.

RESULTS

Statistical Analysis

Descriptive statistics and inferential statistics were applied for the data analysis. The collected data were analyzed by Paired "t" test which was used to know the difference in mean knowledge score.

Table 1 Distribution of demographic variables of participants according to frequency & percentage

(n=60)

S.No	Socio-demographic Variables	Frequency	Percentage
1.	**Degree of Qualification**		
a)	GNM	45	75
b)	B.Sc	15	25
2.	**Department of Work**		
a)	General OPD	30	50
b)	Critical Area	30	50
3.	**Year Of Experience**		
a)	Below 2 yr	25	41
b)	2 yr & more than	35	58

Regarding socio-demographic variables, in view of nurses degree of Qualification 45(75%) of them belong to have diploma & 15(25%) of them were Under graduated. With regard to the department of work, 30(50%) of them were posted in OPD, 30(50%) of them were in critical area. Concern to the year of experience, 35(58%) were having more than 2 years of experience & 25(41%) of them were having below 2 years of experience.

Table 2 Frequency and percentage distribution of knowledge score before intervention and after intervention among participants

n=60

S.No	Level of Knowledge	Pre-test		Post-test	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Inadequate knowledge (<50%)	35	58.33	-	-
2.	Moderately Adequate knowledge (51-75%)	19	31.66	13	21.66
3.	Adequate knowledge (>76%)	6	10	47	78.33

Table 2 represents that in ***pre-test*** 6(10%) of the nurses had adequate knowledge, 19(31.66%) of nurses had moderately adequate knowledge and 35(58.33%) nurses had inadequate knowledge, whereas in ***post-test*** 47(78.33 %) of nurses had adequate knowledge & 13(21.66%) nurses had moderately adequate knowledge regarding Safe injection practice.

In the present study, step wise data analysis was conducted, and the knowledge score was increased after the implementation of Poster Display. We can see the significant difference between pretest and posttest knowledge score in Table (2).

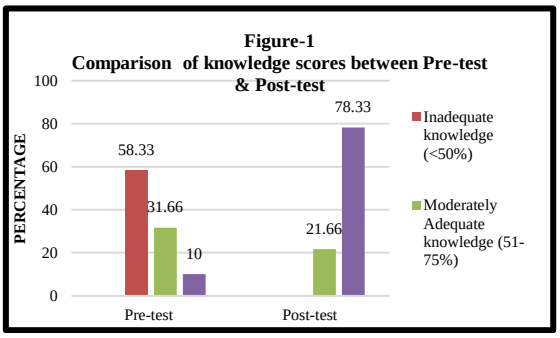

Figure 1 depicts a bar graph that represents the comparison of level of knowledge scores in terms of pre & post-test.

Table 3 Frequency and percentage distribution of skill score before intervention and after intervention among participants n=60

S.No	Level of Skill	Pre-test		Post-test	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Poor performance (≤50%)	13	21.66	-	-
2.	Average performance (51-75%)	47	78.33	-	-
3.	Good performance (≥76%)	-	-	60	100

Table-3 represents that in pre-test none of the nurses showed good performance, 47(78.33%) nurses showed average performance and 13(21.66%) nurses showed poor performance whereas in post-test 60(100%) nurses showed good performance, regarding safe injection practice.

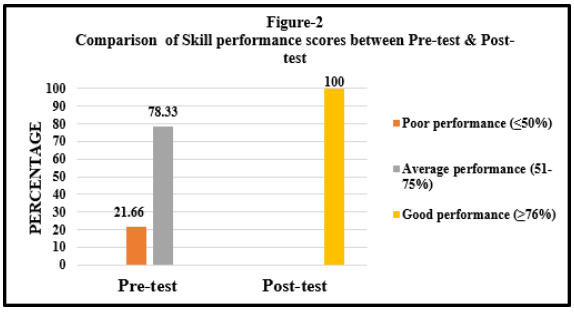

Figure 2 Comparison of Skill performance scores between Pre-test & Post-test

Table 4 "t" test analysis to evaluate the effectiveness of Poster display regarding knowledge level between pre-test and post-test

Group (n)	Mean score	Mean Score %	SD	SE	'p' value	df	Critical value at 0.05	Inference
Pre-Test (Knowledge level)	3.78	6.305	2.3	0.343	15.147	59	2	**Significant p>0.05**
Post-Test (Knowledge level)	8.9	14.972	1.33					

Table-4 represents an increase in level of knowledge scores of nurses during post-test after administration of Poster display as compared to the knowledge of nurses during pre-test. The mean score and mean score percentage during post-test are 8.9 and 14.972 % respectively, whereas in pre-test the mean score and mean score percentage are 3.78 and 6.305 % respectively. The calculated p-value is 15.17 which is ***highly significant*** i.e. greater than the table value 2.00 at 0.05 level of significance at df=59. This data signifies that Poster display is effective in imparting an increase in the level of performance of nurses in terms of knowledge scores regarding Safe Injection Practice.

Table 5 "t" test analysis to evaluate the effectiveness of Poster display regarding skill level between pre-test and post-test

Group (n)	Mean score	Mean Score %	SD	SE	'p' value	df	Critical value at 0.05	Inference
Pre-Test (Skill level)	12.46667	20.77778	1.641289	0.227284	31.53	59	2.00	**Significant p>0.05**
Post-Test (Skill level)	19.63333	32.72222	0.636915					

Table-5 represents an increase in level of skill scores of nurses during post-test after administration of Poster Display as compared to the skill of nurses during pre-test. The mean score and mean score percentage during post-test are 19.63 and 32.722% respectively, whereas in pre-test the mean score and mean score percentage are 12.46 and 20.77% respectively. The calculated p-value is 31.53 which is ***highly significant,*** i.e. greater than the table value 2.00 at 0.05 level of significance at df=59. This data signifies that Poster Display is effective in imparting an increase in the level of performance of nurses in terms of skill scores regarding Safe Injection Practice.

DISCUSSION

The present study has taken up to evaluate the effectiveness of Poster Display on Safe Injection Practice. In order to achieve the objectives a ***pre-experimental research design*** has been adopted and ***random sampling technique*** is being used to select the sample.

As, overall knowledge scores of the participants' revealed that in ***pre-test*** represents that 6(10%) of the nurses had adequate knowledge whereas in post-test 47(78.33%) have adequate knowledge about safe injection practices.[6] As this also implicates that there is a need to educate, train and motivate service providers in proper method of handling injection equipments.[7]

On the other hand, with related to skill pre-test none of the nurses showed good performance, whereas in post-test 60(100%) nurses showed good performance.[6]

As a result, Safe injection practices in healthcare facilities reflect the nurse's degree of injection expertise, their attitude towards safe injection practices, and their ability to provide the required support. It also impacts the patient's health outcome and length of stay in medical facilities. Although significant efforts have been made to lessen the negative consequences of improper handling of injections and the resulting biomedical wastes, there is a need to evaluate how nurses' knowledge, attitudes, and practices affect the administration of safe injection to patients.[8]

CONCLUSION

The study found that participants had an average understanding of injection safety, but there were gaps in their knowledge & practices. Nurses must be proficient in basic psychomotor skills to ensure safe and effective care cautiously while administering injection. There should be a balance between the theoretical knowledge and practical skills, which are practiced in the simulation lab, or practice laboratories. Undergraduate nursing students are future nurses. The analysis of many studies shows that despite their theoretical knowledge, newly graduated nurses lack clinical skills, and entering the profession is risky for the patients.

Thereafter, specific safe injection methods were used, but there are still some murky areas where dangerous techniques continue to be used, putting patients and medical personnel at risk of related risks. Thus, the key factors affecting nurses' ability to develop their knowledge and practices are the requirement for regular training and constant monitoring.

Conflicts of Interest: The author has declared that they have no conflicts of interest.

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