Research Article

ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING NEEDLE STICK INJURIES AMONG STAFF NURSES AT SELECTED HOSPITAL OF BUDGAM KASHMIR

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Abstract

Background: Needle stick injury as stated by United States National Institute of occupational safety and health, it is percutaneous wound caused by needle that accidently puncture the skin. Percutaneous injury and splashes of fluids have been recognized as source of exposure to blood borne pathogens such as hepatitis B, C virus and HIV for health care workers. Unsafe injection is one of the major risk factors in the occurrence of needle stick and other sharps related injuries in both HCWs and the general public.

Objectives: Of the study were; To assess the pre-test knowledge score of staff nurses regarding needle stick injury, To assess the post-test knowledge score of staff nurses regarding needle stick injury, To assess the effectiveness of structured teaching program by comparing pre-test and post-test knowledge score of staff nurses regarding needle stick injury, To find out the association of the pre-test knowledge score of staff nurses regarding needle stick injury with their selected demographic variables [age, gender, education, religion, previous knowledge regarding needle stick injury, occupation of father and mother, education of father and mother, residence)

Materials and Methods: A pre-experimental quantitative research approach design was used to conduct the study on sample of 40 nursing staff which were selected through purposive sampling technique at ibn sina hospital Budgam. The data was collected through self structured knowledge questionnaire was used for data collection which consists of two sections. Section 1 consists of Socio demographic data and section 11 consists of knowledge related to needle stick injury and further consists of three parts and total of 50 items. In total, the maximum score was 50 and minimum score was 0.

Results: The findings of the study revealed that the mean post test knowledge score of the study subjects regarding needle stick injury which was significantly higher there is increase of knowledge after post test as compared to pretest knowledge score.

Conclusion: Study concluded that knowledge of study subjects regarding needle stick injuries among staff nurses was inadequate, therefore structured teaching program was effective in enhancing their knowledge.

Hence, it can be concluded that knowledge of study subjects after implementation of structured teaching program has increased.

Keywords: Knowledge, Structured Teaching Program, Needle Stick Injuries, Staff Nurses

1. Introduction

Needle stick injuries are the injuries that are caused by needles such as hypodermic needles, blood collection needles, intravenous stylets, and needles used to connect parts of intravenous delivery systems[1]. Centers for disease control (CDC) of the united states of America estimated that exposure to blood and body fluids by sharps and NSIs affect around 3 million health workers annually with an estimated occurrence of 6 million needle stick injuries every year[2]. Needle stick injuries are very common and in many instances unavoidable among health care providers when they are delivering patient care. In the health care sector, needle stick injuries are one of the most preventable occupational hazards among health care providers[3]. The risk of transmission of blood born infections such as human immune deficiency virus (HIV), hepatitis B virus, and hepatitis C virus are common in needle stick injuries and thus safety practices and guidelines must be practiced by all health care providers to protect themselves from infection[3] the risk of infection for different diseases varies highly. Due to needle stick injuries the risk of infection varies from 0.5-40% for HIV and hepatitis B virus infections, respectively[4].

Needle stick injuries exposing workers to blood borne pathogens pose a major risk to healthcare workers. These incidents can transmit many bloods borne infectious diseases, especially viruses. Despite implementation of preventive measures to reduce sharp injuries they continue to occur in every step of sharp devices usage, disassembly, or disposal. The US Occupational Health and safety Administration estimated that 5.6 million of HCWs are at risk of occupational exposure to different blood-borne pathogens due to NSIs[5].

2. Need for the Study

According to the center for disease control and prevention (CDC). There are nearly 3,85,000 sharps related injuries that occur annually in the US health care industry which is an average of 1,000 per day[6]. According to WHO 2 million health care worker exposure per year in which 40% hepatitis B and 40% hepatitis C and 4.4% HIV. And due to needle stick injury 50% infections health care workers taken by patient and risk of infection of hepatitis B virus 6-30 out of 100 people in health care workers and for hepatitis C virus 3-10% out of 100 health care workers and HIV 1 out of 300 people[7]. Each day 1000 of health care workers around the world suffer accidently occupational exposure during the course of their role of caring for nursing students. These injuries can result in a variety of serious and chronic illness. A needle stick injury is major cause that responsible to blood born infection to the health care workers in the hospital setting. It is found that 30-50% all needle stick injuries occur during clinical procedures[8]. Keeping in view all the above facts we (researchers) felt that it is high time for the need to conduct a study and create awareness among nurses regarding cause , risk, health hazards and preventions of needle stick injuries thereby helping the nurses to protect themselves as well as the patients undergoing the treatment, from the harmful exposure, to create a safe working environment and to empower them to manage any complications. Needle stick injuries are major occupational hazards that are commonly associated with health care worker practice standards[9]. Keeping in view all the above facts the researchers felt that it is high time for the need to conduct a study and create awareness among nurses regarding prevention of needle stick injuries, thereby helping the nurses to protect themselves as well as the patients undergoing the treatment, from the harmful exposures, to create a safe working environment and to empower them to manage any complications.

2.1 Hypotheses

H^1: The mean post-test knowledge score is significantly higher than the mean pre-test knowledge score at-P valve< 0.05.

H^2: There is significant association between pre-test knowledge score with their selected demographic variables [age, gender, education, religion, previous knowledge.

3. Methodology

Pre experimental research approach was selected to carry out this study. Permission was obtained from the concerned authorities of ibn-Sina Hospital ompura Budgam to conduct the final study. Ethical clearance was obtained from the institutional committee and the study was ethically exempted.

A sample of 40 nursing staff were selected by using purposive sampling. Permission was also obtained by taking informed consent from each study subject ,prior to their inclusion as sample in the study .Privacy confidentiality and anonymity were being guarded, Data was collected from study subjects by using self structured knowledge questionnaire regarding prevention of needle stick injury. It comprises of 30 knowledge items covering the following content area, concept of needle stick injury, causes, symptoms, prevention, complications and management of needle stick injury.

4. Results

Findings related to demographic variables of study subjects.

Criteria Measure of Pretest	Knowledge
Score Level (N= 40)	PRE-TEST f (%)
Nadequate Knowledge (0-10)	2 (5%)
Moderate Knowledge (11-20)	37 (92.5%)
Adequate Knowledge (21-30)	1 (2.5%)
Maximum Score=30 Minimum Score=0	

S. No.	Category	Score	Percentage
1.	Good	20-30	66-100%
2.	Average	10-19	33-66%
3.	Below Average	0-09	0-33%

Table 1: Frequency and percentage distribution of study subjects according to demographic variables (n=40)

Variables	Opts	Percentage e	Frequency
Age	19-20 years	0.0%	0
	25-28 years	95.0%	38
	29-32 years	5.0%	2
	33-35 years	0.0%	0
Gender	Male	47.5%	19
	Female	52.5%	21
Education	B.Sc.	62.5%	25
	GNM	22.5%	9
	FMPHW	15.0%	6
Residence	Urban	27.5%	11
	Rural	72.5%	29
Religion	Muslim	95.0%	38
	Hindu	5.0%	2

Type of family	Nuclear	45.0%	18
	Joint	55.0%	22
Education of father	Primary education	32.5%	13
	Secondary education	30.0%	12
	Graduation or above	27.5%	11
	Illiterate	10.0%	4
Occupation of father	Govt sector employee	30.0%	12
	Private sector employee	7.5%	3
	Business man	52.5%	21
	Retired	10.0%	4
Education of Mother	Primary education	45.0%	18
	Secondary education	7.5%	3
	Graduation or above	7.5%	3
	Illiterate	40.0%	16
Occupation of mother	Govt sector employee	10.0%	4
	Private sector employee	0.0%	0
	Business woman	0.0%	0
	House wife	90.0%	36

Table 2: Frequency and percentage distribution of pre and post-test knowledge score of study subjects (n=40)

Knowledge score of study subjects	Pre-test f (%) post test score obtained
Inadequate Knowledge (0-10)	2 (5%)
Moderate Knowledge (11-20)	37 (92.5%) 7 (17.5)
Adequate Knowledge (21-30)	1 (2.5%) 33 (82.5)

Table 3: Frequency and percentage distribution of pre-test and post-test knowledge scores of study subjects

Paired t-test	Mean	ds	Mean%	range	Mean diff.	paired t-test	p value
Pre-test	14.1	2.394	47.00	9.22	9.580	14.813	<0.001
Post-test	23.68	3.238	78.90	15.29			

Table 4: Comparison of pre-test means percentage and post test mean % of knowledge of study subjects regarding needle stick injury

Knowledge score	Mean	S.D	Mean %	Mean difference
Pre-test	14.1	2.394	47.00%	31.92%
Post-test	23.68	3.238	78.92%	

Table 5: Association between pre-test knowledge score of study Subjects with selected demographic variables (N=40)

Variables	Opts	Adequate Knowledge	Moderate Knowledge	Inadequate Knowledge	Chi Test	P value	df	Table Value	Result
Age	19-20 years	0	0	0	1.540	0.215	1	3.841	NS
	25-28 years	32	6	0					
	29-32 years	1	1	0					
	33-35 years	0	0	0					
Gender	Male	16	3	0	0.073	0.787	1	3.841	NS
	Female	17	4	0					
Education	B.sc	21	4	0	1.335	0.513	2	5.991	NS
	Gnm	8	1	0					
	Fmphw	4	2	0					
Residence	Urban	9	2	0	0.005	0.944	1	3.841	NS
	Rural	24	5	0					
Religion	Muslim	31	7	0	0.447	0.504	1	3.841	NS
	Hindu	2	0	0					
Type of family	Nuclear	15	3	0	0.016	0.900	1	3.841	NS
	Joint	18	4	0					
Education of father	Primary education	12	1	0	1.755	0.625	3	7.815	NS
	Secondary education	10	2	0					
	Graduation or above	8	3	0					
	Illiterate	3	1	0					
Occupation of father	Govt sector employee	11	1	0	1.410	0.703	3	7.815	NS
	Private sector employee	2	1	0					
	Business man	17	4	0					
	Retired	3	1	0					
Education of mother	Primary education	14	4	0	1.712	0.634	3	7.815	NS
	Secondary education	2	1	0					
	Graduation or above	3	0	0					
	Illiterate	14	2	0					
Occupation of mother	Govt sector employee	3	1	0	0.173	0.677	1	3.841	NS
	Private sector employee	0	0	0					
	Business woman	0	0	0					
	House wife	30	6	0					

5. Discussion

The study was conducted using Pre-Experimental research design .Subjects were selected by the purposive sampling method. A Self structured questionnaire was used to assess effectiveness of organised teaching program on knowledge regarding needle stick injury among staff nurses of IBN-SINA hospital Ompora Budgam. The response was analyzed through Descriptive statistics (chi-square). The discussion of the results was arranged according in the study objectives. (1): To assess the pre-test level of knowledge regarding needle stick injury among staff nurses.**"**The present study concluded that during in pre-test 2 (5%) staff nurses had inadequate knowledge, 37(92.5%) had moderate knowledge and 1 (2.5%) had adequate knowledge. These findings are consistent to a study conducted by Bolbol SA, Hassan AA, El-Naggar SA and Zaitoun MF (2016) that majority of studied nurses 48 (96%) had inadequate level of knowledge about cytotoxic drugs. (2): To assess the post-test level of knowledge score regarding needle stick injury among staff nurses." The present study concluded that during post-test 0(0%) staff nurses had inadequate knowledge, 7(17.5%) had moderate knowledge and 33(82.5%) had adequate knowledge. These findings are consistent to a study conducted by Muthu ram G (2018) that in posttest, majority of the nursing students had acquired moderately adequate level of knowledge regarding chemotherapy for cancer patients (93.8%). The mean and standard deviation of the posttest knowledge scores regarding chemotherapy for cancer patients (Mean=18.10, SD =1.84) was high compared to the pretest knowledge scores (Mean =14.30, SD =2.78) among nursing students ($t = 10.54$ significant at $p<0.001$). The third objective of this study was to determine the association of pre-test knowledge scores regarding the needle stick injury with their selected demographic variables in Ibn Sina hospital Budgam. This study revealed that there was no significant association between the pre score level with selected demographic variables.

6. Conclusions

Based on findings of study following conclusions drawn. Pretest findings showed that the majority of the study subjects had inadequate knowledge. It may be due to lack of previous exposure and education regarding needle stick injury. So there was a need to educate them. There was an improvement in the knowledge of study subjects after implementation of STP regarding needle stick injury which was evident from post-test knowledge scores. No significant association was found between pretest knowledge score with their selected demographic variables. Hence, it can be concluded that knowledge of study subjects after implementation of STP has increased. The findings of this study may guide the development of programs targeted to specific risk categories in order to more effectively prevent these injuries. The hospitals must arrange awareness programs, workshops for Health care workers to train them on preventive measures.

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