

A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Handling of Occupational Blood and Body Fluids Among the Staff Nurses Working at HSK Hospital and Research Centre Bagalkot Karnataka

Rakesh S

M.Sc Nursing

Dept of Medical Surgical Nursing

BVVS Sajjalashree Inst of Nursing Sciences Navanagar Bagalkot Karnataka-587103

Shridhar G Pujari

Associate professor

Dept of Medical Surgical Nursing

BVVS Sajjalashree Inst of Nursing Sciences Navanagar
Bagalkot Karnataka-587103

Dr. Deelip S Natekar, M.Sc (N), Ph.D (N)

Principal

BVVS Sajjalashree Inst of Nursing Sciences Navanagar
Bagalkot Karnataka-587103

Shivakumar Chawan

M.Sc Nursing

Dept of Medical Surgical Nursing

BVVS Sajjalashree Inst of Nursing Sciences Navanagar
Bagalkot Karnataka-587103

Vinod Rathod

M.Sc Nursing

Dept Medical Surgical Nursing

BVVS Sajjalashree Inst of Nursing Sciences Navanagar
Bagalkot Karnataka-587103

Abstract:-

Aims: The aims of study are as follows: (1) To assess the pre-existing knowledge regarding handling of occupational blood and body fluids among the staff nurses. (2) To evaluate the effectiveness of structured teaching programme on knowledge regarding handling of occupational blood and body fluids. (3) To determine the association between post-test levels of knowledge scores regarding handling of occupational blood and body fluids with selected socio-demographic variables.

Materials and Methods: Study approach- This was an evaluative study and follow the examination plan as pre-exploratory, for example one gathering pre-test and post-test without control group. The population associated with this investigation was staff medical caretakers working at HSK Hospital and Research Center at Bagalkot. Tests are staff nurses working at HSK Hospital and Research center at Bagalkot. Test size is 50 (Total) staff nurses were remembered for the investigation. Further information were gathered by organized shut finished information poll.

Results: The general finding uncovers that the post-test mean information score was 27.58 with SD ± 2.232 which is 81.11% of complete score 15.88 with SD ± 3.192 which

is 46.70% of all out score. The general viability of STP on treatment of word related BBFs, mean score was 11.7 with SD ± 1.087 which is 34.41% of all out score hence it shows that the STP was successful in upgrading the information on the staff nurses in regards to treatment of work related BBFs. As the determined worth was a lot higher than table worth (1.96) thus the hypothesis H_1 stated is accepted. Findings reveal that the difference between mean pre-test (15.88 ± 3.192) and post-test (27.58 ± 2.232) knowledge scores of staff nurses found to be statistically significant at 0.05 level of significance [$t = 40.1066$ & $p < 0.05$]. There is no significant association was found between post-test knowledge scores of handling of occupational blood and body fluids among the staff nurses and their socio-demographic variable like age, educational status, gender, working area, years of working experience, Immunized against any infectious diseases, Attended any educational program related to handling of occupational BBFs.

Conclusion: After exhaustive examination of the information, specialist inferred that a huge distinction was found between the pre-test and post-test information scores of the staff nurses. The investigation demonstrated that STP was viable in improving the information on staff medical attendants on treatment of word related blood and body fluids.

Keywords:- Effectiveness, Structured Teaching Program, Knowledge, Handling Of Occupational Blood And Body Fluids, Socio-Demographic Variables, Staff Nurses.

I. INTRODUCTION

An occupational hazard is a hazard experienced in the workplace. Occupational hazards encompass many types of hazards, including chemical, biological, psychological, and physical hazards¹.

Work related blood and body fluids exposure varies greatly among health care workers and hospital settings, ranging from 31% to 40% of sharps injuries among nurses and 40% in doctors. Numerous factors such as the use of safety devices, procedures performed, patient blood borne pathogen status, size of hospital and staff workloads are likely to contribute to the risk of occupational blood exposures. Risk of occupational transmission of blood borne pathogen following a percutaneous injury or significant blood exposure has been estimated to range from 0.3% to 0.5% for HIV from 10% to 35% for HBV and from 1.8% to 10% for HCV. Despite seemingly low transmission rates, employers have a duty of care to provide a safe workplace as the consequences of BBP infection are potentially life threatening. Thus, health care workers should be alert to the risk of work-related blood and body fluids exposure².

The work related danger openness to blood and body fluids and needle stick injuries not just influences the security and prosperity of health care experts, yet additionally bargains the nature of medical care conveyed. Medical services experts, in working, conveyance, and trauma centres and in research facilities have improved danger of openness and they experience critical dread, tension, and enthusiastic misery, which can at times bring about work related and social changes³.

Blood borne microorganism, for example, HCV, HBV, and HIV are the most genuine and comprise the significant dangers in the working environment, the world health organization estimated that, of the 35 million health care experts around the world, 3,000,000 experience percutaneous openness to blood microorganism every year, of these openings: 2,000,000 health care proficient were presented to HBV; 0.9 million to HCV; and 170,000 to HIV, 70,000 contracted HIV, and 500 contracted HIV each year. Over 90% of these diseases happened in non-industrial nations, particularly those in sub-Saharan Africa, which represent the most noteworthy commonness of HIV-contaminated patients on the planet and report the most elevated rate of work related openness to these viruses³.

Nurses are in danger of work related openness to blood and body fluids (BBFs), which is a significant danger factor in the transmission of contaminations like human immunodeficiency virus (HIV), Hepatitis B virus (HBV), and Hepatitis C virus (HCV) through percutaneous and mucocutaneous routes. The places for disease control and counteraction have proposed Standard precaution (SPs).

Which are arrangement of method for forecasting work related openness and for dealing with conceivably irresistible material like BBFs. HCPs are encouraged to rehearse (SPs). Such as: noticing standard individual cleanliness; utilizing defensive obstructions, for example gloves and outfits, at whatever point there is contact with the mucous film or BBFs of patients; and discarding sharps and other clinical waste correctly³.

Finding from developed and developing countries have shown that there is no uniform adherence to standard safeguard by health care experts. For example, in India just about 66% (64.0%). In Malaysia 3/4 and Nigeria just 38.8% of health care experts had good information on the act of all inclusive safeguard. About 80.8% of health care experts were presented to blood and body fluids in that previous a year and about 44.8% of health care experts revealed that they were disappointed with the stock of infusion avoidance materials³.

In developing nations, the HCWs are at more serious danger because of imperfect contamination control rehearses like absence of equipment, preparing, and consistence with Ups. An investigation among HCWs in rural health care facilities showed that proportion exposed to BBF and NSI during last year was 37.1% and 63.2% respectively⁴.

Every year, among the 35 million HCWs around the world, around 3 million are presented to blood-borne microorganism through a percutaneous route. These injuries bring about 15,000 hepatitis C infection diseases, 70,000 HBV contaminations and 500 HIV contaminations every year. The danger of contamination of HCWs from blood-borne microorganisms relies upon the commonness of these microbes among the patient population and the nature and recurrence of exposures⁵.

A cross-sectional study was conducted among residents of interns, nurses and technicians (n=830). In teaching hospital to estimate the incidence of exposure to blood and body fluids in the 12 month period. The result shows that the response rate of the study was 89.76% occupational exposure to blood and body fluids in 12 month period was 32.75% of the respondents. The needle stick injury is the highest risk of exposure (92.21%) and about 50% of the affected health care professionals based on HIV status of the source patient⁶.

Nurses have a high risk of work related openness, which is related with the transmission of > 20 microbes, including hepatitis B infection (HBV), hepatitis C infection (HCV), and human immunodeficiency infection (HIV). In china, HBV and HCV contaminations are viewed as pestilence. Information dependent on china's 6th cross country registration uncovered that around 100,000,000 Chinese residents are ongoing HBV transporters or patients, and 30,000,000 residents have HCV contamination. The HIV contamination commonness is additionally unsettling. Toward the finish of 2013, in china, of 263,000 individuals living with HIV, 174,000 created AIDS, and 136,000 passing were identified with HIV. Our new after effects of

observing work related openness among healthcare workers (HCWs) over a two year checking period showed that 47.65% of HCWs with openness to blood other body fluids had discernible degrees of blood borne microorganisms, including HBV, HCV, or HIV. Also, 25.6% of source patients were positive for hepatitis B virus surface antigen (HbsAg), 8.7% for HCV RNA, and 3.5% for HIV. The extent of source people with blood borne microbes (47.65%) was far higher than the “one of every five” beforehand reported⁷.

The examination was lead to assess the effectiveness of a continuing education program for prevention of occupational exposures to nursing staff dependent on Kirkpatrick’s model. In this examination, 120 medical caretakers were chosen in the experimental group (proceeding with training program performed) and control gatherings. After the schooling program, its adequacy has been assessed across four levels (Reaction, Learning, Behaviour, Results) of the Kirkpatrick model. The exploratory gathering of 24 attendants (40%) were presented to needle stick injury before schooling, yet this number was decreased to 9 (15%) after mediation. This investigation inferred that the intercession from proceeding with instruction program showed that information was improved through planning preparing projects and bringing issues to light in nursing personnel⁸.

Hence with the aim to assess the effectiveness of STP on knowledge regarding handling of occupational blood and body fluids among the staff nurses at HSK hospital Bagalkot was planned.

Aims

The aims of the study are as follows:

1. To assess the pre-existing knowledge regarding handling of occupational blood and body fluids among the staff nurses.
2. To evaluate the effectiveness of structured teaching programme on knowledge regarding handling of occupational blood and body fluids.
3. To determine the association between post-test levels of knowledge scores regarding handling of occupational blood and body fluids with selected socio demographic variable.

II. MATERIALS AND METHODS

The present study was conducted on a evaluative research approach and pre-experimental one group pre-test without control group design. The target population is the staff nurses working at various hospitals of Bagalkot. Accessible population is staff nurses working at HSK hospital and research center Bagalkot was selected by a convenient sampling technique and 50 staff nurses were selected. The data were collected by structured closed ended knowledge questionnaire. Data analysis and interpretation were performed using descriptive such as frequency distribution. Mean, median, percentage, and inferential statistics such as Chi-square, Fisher’s exact test.

III. RESULTS

Part I: Description of socio-demographic characteristics of sample.

Percentage wise distribution of staff nurses according to their age in years shows that majority (58%) of the staff nurses were between age group of 22-30 years old, 36% of between the age group of 31-40 years old, and least of staff nurses aged between 41-50 years 6%. And there were no staff nurses according to their educational status shows that majority (84%) of the staff nurses were completed GNM, 16% of the staff nurses were completed PB.BSc nursing, and there is no one staff nurses not completed an B.BSc nursing and M.Sc nursing respectively.

Percentage wise distribution of staff nurses according to their gender represents that majority of (56%) of staff nurses were females and 44% of staff nurses are males working in HSK hospital and research center Bagalkot.

Percentage wise distribution of staff nurses according to their working area shows that the majority (48%) of staff nurses working in general ward, 22% of staff nurses working in ICU, 20% of staff nurses working in OPD, 8% of staff nurses working in other department but only less percentage (2%) of staff nurses working in emergency area.

Percentage wise distribution of staff nurses according to their years of working experience represents that the majority (52%) of staff nurses belongs to below 5 years of working experience, 24% of staff nurses belongs to 6 to 10 years of working experience. 18% of staff nurses belongs to 11 to 15 years of working experience and only 6% of staff nurses belongs to 16 years and above working experience.

Percentage wise distribution of staff nurses according to immunized against any infectious diseases shows that the majority of staff nurses (52%) were immunized against infectious diseases, and remaining 48% of the staff nurses were not immunized against any infectious diseases.

Percentage wise distribution of staff nurses according to attended any educational program related to handling of occupational blood and body fluids shows that the majority of staff nurses (62%) were attended the educational program related to handling of occupational BBFs, and remaining 38% of staff nurses were not attended any educational program.

Part II: Assessment of the pre-test knowledge of staff nurses regarding handling occupational blood and body fluids.

Assessment of the level of knowledge of the staff nurses reveals that majority (76%) of the staff nurses had average knowledge, 24% of them had poor knowledge there were no staff nurses who had very poor knowledge, good knowledge, and very good knowledge regarding handling of occupational blood and body fluids.

Part III: Evaluation of the effectiveness of the STP on knowledge regarding handling of occupational blood and body fluids.

After STP (post-test) majority (66%) of the staff nurses had good knowledge, 34% of them had very good knowledge and no staff nurses had average, poor, and very poor knowledge regarding handling of occupational BBFs.

Part IV: Association between post-test knowledge scores of the staff nurses regarding handling of occupational

blood and body fluids and selected socio-demographic variables.

Finding reveals that there is no significant association was found between post-test knowledge scores of handling of occupational blood and body fluids among the staff nurses and their selected socio-demographic variables like age, educational status, gender, working area, years of working experience, immunized against any infectious diseases, attended any educational program related to handling of occupational BBFs. Thus H_2 stated is rejected with their socio-demographic variables.

Table 1: Level of pre-test knowledge of the staff nurses regarding handling of occupational blood and body fluids. N=50

Level of knowledge	Range of scores	Number of respondents	Percentage (%)
Very poor	00-07	00	00%
Poor	08-14	12	24%
Average	15-21	38	76%
Good	22-28	00	00%
Very good	29-34	00	00%
Total		50	100%

Table 2: Comparison of level of knowledge of staff nurses in pre-test and post-test N=50

Level of knowledge	Pre-test		Post-test	
	No. Of respondents	percentage	No. Of respondents	Percentage
Very poor	00	00%	00	00%
Poor	12	24%	00	00%
Poor	38	76%	00	00%
Average	00	00%	33	66%
Good	00	00%	17	34%
Very good	50	100%	50	100%

Table 3: Association between the post-test knowledge scores of the staff nurses regarding handling of occupational blood and body fluids and selected socio-demographic variables. The hypothesis was tested using Chi-square test N=50

SI No	Socio-demographic variables	Df	Chi-square value/Fisher value	Table value	'P' value	Significance of Association
1	Age	1	1.1162	3.84	0.290	NS
2	Educational status	1	0.6994 (F)	3.84	P<0.05	NS
3	Gender	1	2.2247	3.84	0.135	NS
4	Working area	1	0.0526 (F)	3.84	P<0.05	NS
5	Years of working Experience	1	0.9354	3.84	0.333	NS
6	Immunized against any infectious disease	1	3.5656	3.84	0.058	NS
7	Attended any educational program related to handling of occupational BBFs	1	0.8064	3.84	0.369	NS

Df- Degree of freedom $\alpha=0.05$ *Significant F-Fisher value NS-Not significant

IV. DISCUSSION

In the wake of auditing numerous investigations information identified with treatment of work related blood and body fluids among staff nurses and an expensive it has tremendously affected me to take up the current examination. The examinations impacted me to lead this current investigation as follows.

A cross-sectional examination was directed at Ghana, to decide the information on standard safeguards and

obstructions to consistence with standard precaution among health care professionals in two health facilities. Test included 100 HCWs. The investigation shows that most respondents had been filling in as wellbeing staff for 0-5 years (65.0%). By and large, information on the fundamental ides of SP incorporates hand washing when any immediate contact with the patient, 50% of respondents consistently secure themselves against BBFs of patients. About a fourth of the respondents don't recap needles after use and 28.0% of respondents here and there immediately wipe all blood spills. The investigation presumed that

education programs on the advantages of SP ought to be coordinated.

A cross-sectional investigation was directed to know the knowledge, perspectives, and practices of medical services suppliers identified with work related openness to blood borne microbes were surveyed in a tertiary-care emergency clinic in middle east, and utilized a self-controlled poll dependent on 3 matched (infectivity known versus not known-suspected) contextual investigations. Just 17 out of 230 respondents had an openness in the a year preceding the study, the examination result shows that the hypothetical reactions of partaking wellbeing experts showed a more prominent inclination for starting self-coordinated treatment with antiviral or vaccination as opposed to following the clinic convention, when the patient was known to be tainted. The distinctions practically speaking when presented to a patient with suspected blood microbes contrasted with patient known to be tainted was genuinely critical ($p < 0.001$) altogether 3 combined cases. Inability to test a contaminated patient's blood implied that a satisfactory danger appraisal and proper optional anticipation couldn't be performed, and mirrored the reluctance to report the work related openness. What's more, accordingly the investigation presumed that medical care suppliers selected to get themselves when uncovered patient with irresistible sickness, as opposed to conform to the emergency clinic revealing and appraisal convention. The investigation suggested that equivalent examination should be possible on a utilizing organized shut finished questionnaire¹⁰.

V. CONCLUSION

After exhaustive investigation of the information, it is perceived that only 66% of staff nurses are with acceptable information identified with treatment of work related blood and body fluids. Thus more investigation can be led by utilizing distinctive strategy for educating to accomplish ideal information identified with treatment of work related blood and body fluids.

RECOMMENDATIONS

- ✓ A similar study can be repeated in different regions of the states or nations so as to compare the results.
- ✓ The same study can be replicated on large sample to generalize the findings.
- ✓ The study can be conducted by including additional demographic variables.
- ✓ A similar study can be recommended by using different method of teaching.

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