

Effect of Structured Teaching Programme on Knowledge and Practice regarding Prevention of Occupational Health Hazards among Class IV Workers

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Abstract

Occupational health is neglected public health issues among the healthcare workers. Lack of adequate knowledge regarding the prevention of occupational hazards may be life threatening. Hence the study was undertaken to evaluate the effect of structured teaching programme on knowledge and practice regarding prevention of occupational health hazards among Class IV workers in selected hospital, Thrissur. The other objectives of the study were to assess the pre test knowledge and practice scores to correlate the knowledge and practices of Class IV workers and to find out the association of knowledge and practices with selected demographic variables. A pre-experimental one group pretest post test design was adopted for the study. It was conducted over 30 Class IV workers and was selected by using purposive sampling technique. Pre test was done using structured knowledge questionnaire and self-reported practice checklist. After that, the researcher rendered structured teaching programme regarding prevention of occupational health hazards. Post test was done after seven days and analysis showed that there was a significant increase in knowledge and practice after rendering structured teaching programme. The pre test and post test mean of knowledge scores were 12.67 and 20.70, and practice score were 11.70 and 14.73, respectively. The findings also showed that there was no correlation between knowledge and practice ($r=0.355$, $p=0.054$). The significant association was found only with the practice and age of Class IV workers. Thus, the study concluded that structured teaching programme was effective in improving knowledge and practice regarding prevention of occupational health hazards.

Keywords: Class IV Workers; Occupational Health Hazards; Structured Teaching Programme; Knowledge; Practice.

Introduction

Worldwide, the health care workforce represents 12 percentage of the working population. Health care workers operate in an environment that is considered to be one of the most hazardous occupational settings. In addition to the usual workplace related

exposures, health care workers encounter diverse hazards due to their work related activities [1].

According to World Health Organization (WHO), occupational health should aim at the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupation. Occupational hazard is defined as a working condition that can lead to illness or death [2].

The International Labor Organization (ILO) constitution sets forth the principle that the workers should be protected from sickness, diseases and injury arising from their employment. Every day 6,300 people die as a result of occupational accidents or

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work related diseases and there are more than 2.3 million deaths per year. It also estimated that 160 million people from the world's work force suffer from work related diseases such as musculoskeletal diseases and mental health problems, while there are 270 million cases of fatal and non-fatal hazards. As a result of occupational hazards 4% of the world's annual Gross Domestic Profit (GDP) is lost often the employers are faced with loss of staff, absenteeism, migration, early retirements and high insurance premiums due to exposure from occupational accidents and diseases [3].

Hospital is an institution meant to ensure health but it is not as safe as we think. Health care workers consist of doctors, nurses, paramedical staff and Class IV employees. Among them, Class IV workers are the more neglected group regarding health when their own health is concerned. Occupational hazards are mostly under-reported due to inadequate research [4].

Studies on hospital cleaning staff are scarce. Hospital cleaning is more risk job than cleaning offices or schools. Class IV workers are more neglected group in hospital setting, and they are handling with most of the infectious material. Hospital cleaning staff therefore requires teaching and training on occupational health and safety precautions. In the light of background information, literature reviewed by the investigator and her own experience, the investigator felt that the knowledge and practice of Class IV workers related to health aspects is very poor. Hence the investigator is interested to enhance their knowledge and practice regarding prevention of occupational health hazards through a structured teaching programme.

Statement of the Problem

A study to assess the effect of structured teaching programme on knowledge and practice regarding prevention of occupational health hazards among Class IV workers in selected hospital, Thrissur.

Objectives

1. To assess the knowledge and practice regarding prevention of occupational health hazards among Class IV workers.
2. To evaluate the effect of structured teaching programme on knowledge and practice regarding prevention of occupational health hazards among Class IV workers.
3. To find out the relationship between the knowledge and practice regarding prevention of

occupational health hazards among Class IV workers.

4. To find out the association of knowledge and practice regarding prevention of occupational hazards among Class IV workers with their selected demographic variables.

Operational Definitions

Effect

In this study effect refers to change in the knowledge and practice score regarding prevention of occupational health hazards among Class IV workers.

Structured Teaching Programme

In this study structured teaching programme refers to a systematically developed lecture cum discussion method of teaching programme, regarding prevention of occupational health hazards by using power point presentation for 45 minutes.

Knowledge

In this study knowledge refers to the correct response of Class IV workers to a structured knowledge questionnaire regarding prevention of occupational health hazards.

Practice

In this study practice refers to skill in performing prevention of occupational health hazards, which is measured by using self-reported practice checklist.

Occupational Health Hazards

In this study Occupational health hazards refer to biological, physical, chemical and psychological harm during the working time, which will affect the health.

Class IV Workers

In this study Class IV workers refers to the employees who are involved in cleaning and maintenance of the patient care units in the hospital.

Assumptions

The Class IV workers may have inadequate knowledge and practice on prevention of occupational health hazards.

Structured teaching programme may improve the knowledge and practice of Class IV workers regarding prevention of occupational health hazards.

Hypotheses

H₁: There is a significant difference between pre and posttest knowledge and practice on prevention of occupational health hazards among Class IV workers.

H₂: There is a significant relation between knowledge and practice on prevention of occupational health hazards among Class IV workers.

H₃: There is a significant association of knowledge and practice on prevention of occupational health hazards among Class IV workers with their selected demographic variables.

Research Methodology

Research Approach: Quantitative research

Research Design: Pre experimental one group pre testpost test design

Settings of the Study: Aswini Hospital, Thrissur

Population: All Class IV workers who were working in hospitals in Thrissur.

Sample and Sampling Technique: 30 Class IV workers, purposive sampling technique Criteria of Sample Selection.

Inclusion Criteria

- Class IV workers who are involved in cleaning the patient unit.
- Class IV workers who are willing to participate in the study.

Exclusion Criteria

- Class IV workers who are not willing to participate in the study.
- Class IV workers who are in night shift.

Tools and Techniques

Section A: Demographic profile

Section B: Structured knowledge questionnaire on prevention of occupational health hazards

Section C: Self-reported practice checklist on prevention of occupational health hazards.

Section D: Structured teaching programme on prevention of occupational health hazards.

Data Collection Process

Step1: Selection of ClassIV workers.

Step 2: Pre test administration of structured knowledge questionnaire and self-reported practice checklist by the investigator to the samples.

Step 3: Administration of structured teaching programme to the sample by the investigator.

Step 4: Post test evaluation of the sample by the investigator after 7 days.

Results

Description of Demographic Profile of Class IV Workers

- Regarding the age, it implies that majority of samples 12 (40%) belongs to the age of 41-50, 11 (36.7%) of samples were in the age group of > 50 years, 6 (20%) were belongs to 31-40 and only 1 (3.3%) sample belongs to age group of ≤ 30 years.
- With reference to the gender 29 (96.7%) samples were females and only 1 (3.3%) was male.
- In a view to the religion of Class IV workers 22 (73.3%) were belongs to Hindu, 8 (26.7%) belongs to Christian and no samples belongs to Muslim.
- With reference to marital status majority of samples 29 (96.7%) were married and only 1 (3.3%) was unmarried.
- In accordance with the monthly income of samples, majority 18 (60%) were getting Rs. ≤ 7000, 6 (20%) Class IV workers were getting the salary in between Rs.7001-8500, 5 (16.7%) getting Rs.>10,000 and only 1 (3.3%) getting the salary in between Rs.8501-10,000.
- Regarding the educational qualification, 17 (56.7%) of Class IV workers were have the higher secondary education, 10 (33.3%) class IV workers were have secondary education and only 3 (10%) were having higher secondary education.
- In the perspective of availability of source of health information 7 (23.3%) were not getting the any information 23 (76.7%) were getting the some information on occupational health hazards, out of this 16 (69.6%) samples among these got information from the health professionals, 3 (13%) from co-workers, 3 (13%) got from mass media

and only 1 (4.35%) got information is from their relatives.

- In accordance with the area of working majority, 25 (83.8%) Class IV workers were working in wards, 3 (10%) were in labour room and 1 (3.3%) was in ICU's and operation theatre.
- With respect to the years of working experience of the Class IV workers, majority of samples 12 (40%) had 1 -5 years of experience, 8 (26.7%) of samples have got the experience of >10 year, 7 (23.3%) Class IV workers have experience in between 6-10 years and 3(10%) belongs to experience category of <1 year.
- Regarding the immunization against hepatitis B, majority of samples 29 (96.7%) were not taken immunization and only 1 (3.3%) had taken the immunization against hepatitis B.
- Regarding the previous history of attending the educational programme, majority of sample 24 (80%) were not attended and 6 (20%) were attended to the educational programme on occupational health hazard. Among these 4 (66.7%) attended the programme > 6 months and 2 (33.3%) attended < 6 months back.

- In the perspective of the previous history of occupational health hazard and its type, 14 (46.7%) had no history of occupational health hazard and 16 (53.3%) had a history of occupational health hazard, out of which 9 (56.3%) had physical hazard, 4 (25%) had chemical hazard and 3 (18.8%) Class IV workers had biological hazard.

Description on the assessment of pre test and post test knowledge scores of Class IV workers

Table 1 summarizes that majority of the samples 20 (66.7%) had moderate knowledge, 8 (26.7%) of Class IV workers had inadequate knowledge and only 2 (6.7%) of samples had adequate knowledge.

Table 2 depicts that majority of samples 16 (53.3%) had moderate knowledge, 14 (46.7%) of samples had adequate knowledge and none of samples had inadequate knowledge level.

Description on the assessment of pre test and post test practice of Class IV workers regarding prevention of occupational health hazards.

Table 3 shows that most of the samples 26 (86.7%) were showed average level of practice and 4 (13.3%) samples showed good practice level and none of the sample had poor practice.

Table 1: Frequency and percentage distribution of pre test knowledge score of Class IV workers regarding prevention of occupational health hazards (N=30)

Level of knowledge	Scoring grade	Frequency (n)	Percentage (%)
Adequate knowledge	21-30	2	6.7
Moderate knowledge	11-20	20	66.7
Inadequate knowledge	0-10	8	26.7

Table 2: Frequency and percentage distribution of the post test knowledge score of Class IV workers regarding prevention of occupational health hazards (N=30)

Level of knowledge	Scoring grade	Frequency (n)	Percentage (%)
Adequate knowledge	21-30	14	46.7
Moderate knowledge	11-20	16	53.3
Inadequate knowledge	0-10	0	0

Table 3: Frequency and percentage distribution of pre test practice score of Class IV workers regarding prevention of occupational health hazards (N=30)

Level of practice	Scoring grade	Frequency (n)	Percentage (%)
Good	14-20	4	13.3
Average	7-13	26	86.7
Poor	0-6	0	0

Table 4: Frequency and percentage distribution of post test practice score of Class IV workers regarding prevention of occupational health hazards (N=30)

Level of practice	Scoring grade	Frequency (n)	Percentage (%)
Good	14-20	22	73.3
Average	7-13	8	26.7
Poor	0-6	0	0

Table 4 depicts that most of the samples 22 (73.3%) had good practice, 8 (26.7%) had average practice and none with poor practice.

Description on effect of structured teaching programme on knowledge and practice of Class IV workers regarding prevention of occupational health hazards.

Table 5 depicts that, the calculated 't' value was 13.267 with a p value <0.001 which was significant at 0.01 level. Hence, there is a significant difference between pre and post test knowledge on prevention of occupational health hazards among Class IV workers.

Table 6 shows that, the calculated 't' value was 10.774 with a p value <0.001 which was significant at 0.01 level. So it is concluded that there was a significant difference between pre and post test practice score.

Description on relation between knowledge and practice of Class IV workers regarding prevention of occupational health hazards

Table 7 showed the correlation between knowledge and practice, it exhibits the r value was 0.355 with a 'p' value 0.054 which is non-significant at 0.05 level. So, it is concluded that there was no significant relation between level of knowledge and practice.

Description on the association between knowledge and practice of Class IV workers regarding prevention of occupational health hazards with selected demographic variables.

As many of the frequencies are less than 5; instead of chi square test, Spearman's rank correlation was done for finding the association.

Study findings revealed that Spearman's Rank Correlation value obtained for age was -0.279, and the p value was 0.135 which is non-significant at 0.05 level.

Table 9 exhibits the Spearman's Rank Correlation value obtained for the age of Class IV workers was -0.374 with a p value of 0.042, which is significant at 0.05 level other variables are not significant.

Table 5: Assessment of effect of structured teaching programme on knowledge (N=30)

Knowledge	Mean	SD	N	t value	P value
Pre	12.67	4.365	30	13.267**	<0.001
Post	20.70	4.236			

**Significant at 0.01 level

Table 6: Assessment of effect of structured teaching programme on practice (N=30)

Practice	Mean	SD	N	t value	P value
Pre	11.70	20.003	30	10.774**	<0.001
Post	14.73	1.617			

**Significant at 0.01 level

Table 7: Relation between level of knowledge and practice of Class IV workers regarding prevention of occupational health hazards

Variable	N	r value	P value
Knowledge Practice	30	0.355 ^{ns}	0.054

ns- Non-Significant at 0.05 level

Table 8: Association between knowledge with selected demographic variables of Class IV workers (N=30)

Sl. No.	Demographic variables	Correlation	P-value
1	Age	-0.279 ^{ns}	0.135
2	Monthly income	-0.172 ^{ns}	0.363
3	Educational qualification	-0.243 ^{ns}	0.195
4	Years of working experience	-0.133 ^{ns}	0.483

ns- Non-significant at 0.05 level

Table 9: Association between practices with demographic variable of Class IV workers

Sl. No.	Selected variables	Correlation	P-value
1	Age	-0.374*	0.042
2	Monthly income	-0.086 ^{ns}	0.65
3	Educational Qualification	-0.025 ^{ns}	0.896
4	Years of working experience	-0.071 ^{ns}	0.709

Conclusion

Hospital is an institution in which the health care workers prone to get different type of hazards. So awareness of occupational health and safety among the employees is important to maintain a good health.

The investigator found that the structured teaching programme was effective in raising the knowledge and practice among Class IV workers on prevention of occupational health hazards and it will help to enhance occupational safety among workers.

Nursing Implications

Nursing Practice

- Structured teaching programme is a guiding resource for all nurses to implement measures to prevent occupational health hazards.
- Nurses can guide and teach Class IV workers to prevent occupational health hazards by using lesson plan of this study.
- Class IV workers can utilize self-reported practice check list of this study for their self-evaluation related to prevention of occupational health hazards.

Nursing Education

- Content of the STP on prevention of occupational health hazards is a guide for all nursing teachers to teach and demonstrate their students on prevention of occupational health hazards.
- Content of the STP on prevention of occupational health hazards can be utilized by nursing teachers for conducting clinical teaching sessions on biomedical waste management, personal protective equipment etc.
- Structured knowledge questionnaire on prevention of occupational health hazards can be used as an evaluation tool to weigh the knowledge of nursing students.

Nursing Administration

- Nurse as an administrator can plan and organize educational programme for class IV workers with a view to update their knowledge on prevention of occupational health hazards.
- Nurse administrator can evaluate the practice of all Class IV workers by using self-reported practice checklist.
- Continuous quality assurance can be ensured by all nursing administrators in relation to prevention of occupational health hazards by using practice checklist.
- Contents of the STP are a resource material for developing nursing standards and protocols related to prevention of occupational health hazards.

Nursing Research

- Findings of this study are a guiding force for nurse researcher to conduct several studies on prevention of occupational health hazards among health professionals.
- Findings of this study give an insight to all nurse researchers to develop and evaluate newer teaching methods on prevention of occupational health hazards.
- Contents of the STP on prevention of occupational health hazards are a resource material for developing innovative nursing models on occupational health hazards.
- The findings can be presented in international, national and state level conferences and it may help all the workers to be aware about the need of having preventive measures and thereby strengthen the knowledge regarding occupational health hazards.

Recommendations

- A longitudinal study can be conducted among health professionals to assess their practice on prevention of occupational health hazards.
- A similar study can be replicated in large sample for wider generalizations.

- An experimental study can be undertaken with control group for effective comparison of the result.
- A comparative study can be conducted between government and private hospitals on knowledge and practice regarding prevention of occupational health hazards.
- Appointment of waste management officer should be made compulsory in all the health care establishments through legislation.

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