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Effect of planned teaching program on knowledge regarding occupational hazards among sweepers

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Abstract

A study to assess effectivness planned teaching program on knowledge regarding occupational hazards among the sweepers working in railway colony in Sangli, Miraj & Kupwad Corporation Area. The study objectives were to assess the existing knowledge regarding occupational hazards among street sweepers, to assess the pre-test knowledge score after plan teaching program, to compare post-test post knowledge score and to find out the association between the pre-test knowledge score with selected socio demographic variables. The study was conducted by using Quasi experimental one group pre-test and post-test design. The population were selected Street sweepers in railway colonies. In this study the simple random sampling method was used with sample size 50. Study included the workers who were willing to participate in the study and were able to understand Marathi and English language, and excluded the samples those not present on the day of pre-test and post-test. A self structured questionnaire and Demographic variables were used as a tool. Data analysis wa done using Descriptive and Inferential Statistics. Chi-square test was used to analyse the association between with selected socio demographic variable. The research study revealed that 'p' value is less than 0.05 so the planned teaching program on knowledge regarding occupational hazards among the sweepers working in railway colony was effective.

Keywords: Assess, Effectiveness, Knowledge, Sweepers, Planned teaching program, Occupational Hazard.

Introduction

Waste is any substance of which is discarded after primary use or it is worthless defective and of no use. It includes municipal solid waste (household, garbage/waste) Western hazardous, wastewater such as sewage, containing bodily waste (faeces and urine) and radioactive surface runoff waste and other different type of solid waste are generated in city. It includes municipal solid waste, road dust, garbage etc. This waste is being collected by worker which include manual scavengers, street sweeping worker drain and manhole cleanness and rag pickers.[1]

Sweepers are exposed to road dust and other contaminants irritates respiratory symptoms and railway obstruction and are mostly affected by different kinds of health problems, and are most likely to suffer health accidents a side from the fact that they became prone in getting trouble with rubbers, drug addict and hooligans. [2]

Personal Protective Equipment, commonly referred to as "PPE", is equipment worn to reduce exposure to the hazards of serious injury and illness on the job. It includes gloves, uniforms, respirators, hard hats, safety glasses, high visibility clothing, and safety footwear. They are exposed to occupational health and accident risks related to the content of the materials they handled, emissions from those materials, and the equipment being used. A hazard control hierarchy is a system used in industry to reduce or eliminate the possibility of exposure to hazards.[3]

LITERATURE SURVEY

Yogesh D Sabde and Sanjay P Zodpey conducted a study of morbidity pattern in Street Sweepers at Nagpur Municipal Corporation, Nagpur. In cities, street sweepers are crucial to preserving public health and hygiene. This occupation uncovered the road sweepers to an assortment of hazard factors, for example, residue, poisons and diesel fumes contamination, which make them helpless against foster specific word related illnesses. Consequently, it was figured important to concentrate on the dismalness profile in this word related bunch. To concentrate on the pervasiveness of morbidities among road sweepers and correlation bunch. a comparison group in a cross-sectional study. The Nagpur Municipal Corporation There were two groups in the study: 1) A 273 street sweepers strong study group 2) A correlation bunch containing 142 class IV laborers working in the places of business of Nagpur Civil Partnership, Nagpur. The necessary data, such as the patient's medical history, sociodemographic factors, and clinical examination and investigation outcomes, were recorded on a pretested proforma. The significant morbidities distinguished among road sweepers were the accompanying: sickliness (20.5%), hypertension (9.5%), upper respiratory parcel diseases (URTI) (7.3%) and Two people in the comparison group, or 1.4%, had chronic bronchitis. Street sweepers had a significantly higher rate of chronic bronchitis than subjects in the comparison group. Subsequently, it is suggested that further examinations with a bigger example size can be done [4]

Vera van Kampen, Frank Hoffmeyer, Christoph Seifert, Thomas Brüning, Jürgen Bünger conducted study on Occupational health hazards of street cleaners - a literature review considering prevention practices at the workplace. The system for managing solid waste includes street cleaning. The availability of equipment, the amount and type of dirt, the surface conditions encountered, and traffic conditions all influence the methods used to maintain clean streets. Hand sweeping by a single worker or a group, hose flushing, machine sweeping, or flushing, are typically used. The current international literature and the corresponding German regulations were looked at and evaluated to learn more about the prevalence and significance of occupational health risks for street cleaners. Physical, chemical, and biological exposures are the sources of the dangers; other possible causes include stress on the body and mind or insufficient safety measures. Musculoskeletal and respiratory conditions, cuts, slips, and falls,

as well as traffic accidents, are the most frequently cited workplace complaints.[5]

RESEARCH METHODOLOGY:

Problem Statement: "A study to asses effectiveness planned teaching program on knowledge regarding occupational hazards among the sweepers working in railway colony in Sangli, Miraj , Kupwad corporation area."

Objectives:

1.To assess the existing knowledge regarding occupational hazards among street sweepers.

2.To assess the pre-test knowledge score after plan teaching program.

3.To compare post-test post knowledge score.

4.To find out the association between the pre-test knowledge score with selected socio demographic variable.

Hypothesis:

H0 – There is no significant difference in pre test and post test score after planned teaching programme.

H1 – There is significant difference in pre test and post test score after planned teaching programme.

Operational definitions:

Assess: In this study, assess means gathering information through structured knowledge questionnaires.

Knowledge: Refers to correct response from sweepers regarding ill effects of occupational hazards and its preventive measures as elicited through structured knowledge questionnaire.

Effectiveness: Refers to gain in knowledge among sweepers regarding ill effects of occupational hazards and its preventive measures as determined by difference in pre-test and post-test knowledge scores.[6]

Planned Teaching Programme: Systematically organized programme designed to provide to information about knowledge regarding occupational hazards.[7]

Occupational hazards: A general term covering all work place hazards i.e attributable to all forms of environmental contamination and physical , ergonomic ,psychological and social stress.

Material and Methods:

Research approach: A quantitative research approach .

Research design: Quasi experimental one group pre test and post test design.

Variable:

Independent variable: Planed teaching program on occupational hazards.

Dependent variable: knowledge regarding occupational hazards.

SETTING OF THE STUDY:

Population: Street sweepers.

Target Population : Street sweepers in railway colonies.

Sample accessible: Selected Street sweepers in railway colonies.

Sample size – 50.

Sampling technique- Simple random sampling method,

SAMPLE SELECTION CRITERIA:

Inclusion criteria –

The workers who are :

1.willing to participate in the study.

2.Able to understand Marathi, and English.

Exclusion criteria –

The workers who are:

1. Not present on the day of pre test and post test.

DISCRIPTION OF THE TOOL

The format of the questionnaire comprises of to section or parts.

Section 1: It consist of items describing sample characteristics such

DEMOGRAPHOIC DATA:

1.Age of the sweepers.

2.Education of the sweepers .

3.Gender.

4.Duration of work or occupation.

SECTION II

A] Questionnaire: It consist of its item related to knowledge and practices of sweepers regarding occupational hazards.

The contain included were

1.Explane the introduction of occupational hazards.

2.Explane the definition of occupational hazards.

3.Explane the types of occupational hazards.

4.Explane the health problems among the street sweepers.

5.Explane the causes of occupational hazards.

6.Explane the preventive measures of occupational hazards.

7.Explane the immunization of occupational hazards.

8.Explane the health education on occupational hazards.

Each item had one correct response is coded with one mark. The total numbers of possible responses were 20 for questionnaire .

PROCEDURE OF DATA COLLECTION:

The formal written permission was obtained from the manager of railway department ,Miraj. The purpose of the study was explained. Consent from the sample were taken before administration of knowledge questionnaire. Data was collected from 7/03/2023 to 14/03/2023. On the first day pre-test was conducted. After pre-test plan teaching was given regarding occupational hazards after 7th day post test was conducted by the same tool. After data collection the was kept confidential.

PLAN FOR DATA ANALYSIS

The demographic variables will be computed by using descriptive and inferential statistics. Frequency and percentage distribution will be used to determine demographic variables. Mean and standard deviation will be used to assess the pre intervention and post intervention knowledge regarding occupational hazards. Paired ‘t’ test will be used to evaluate the effectiveness of planned teaching program on knowledge regarding occupational hazards. Chi-square test will be used to analyse the association between with selected socio demographic variable.

a] Descriptive statistic to descriptive characteristics of data
-frequency
-percentage
-mean
-standard deviation
b] Inferential statistics paired ‘t’ test to find out effectiveness of planed teaching program on occupational hazards

Result:

“A study to assess the effectiveness of planned teaching programme on knowledge regarding occupational hazard among street sweepers working in railway colonies of Sangli, Miraj and Kupwad corporation area”.

Table No. 1: Frequency and percentage distribution of samples with the selected demographical variables.

n=50

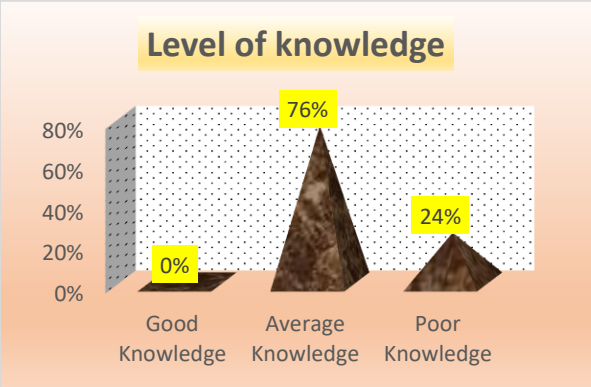
Sr. No.	**Demographic Variables**		**Frequency**	**Percentage**
		25-35	33	66%

1.	**Age in years**	36-45	16	32%
		46-55	1	2%
2.	**Gender**	Male	23	46%
		Female	27	54%
3.	**Education**	No Formal Education	18	36%
		Primary	13	26%
		Secondary	19	38%
4.	**Duration of work in Hrs.**	1 to 5	26	52%
		6 to 10	24	48%
		11 to 15	0	0%
		15 to 20	0	0%
		20 and above	0	0%

Table No. 2: Frequency and percentage distribution of pre-test level of knowledge

n= 50

Level of knowledge	**Frequency**	**Percentage**
(14 to 20) Good Knowledge	0	0%
(7 to 13) Average Knowledge	38	76%
(0 to 6) Poor Knowledge	12	24%

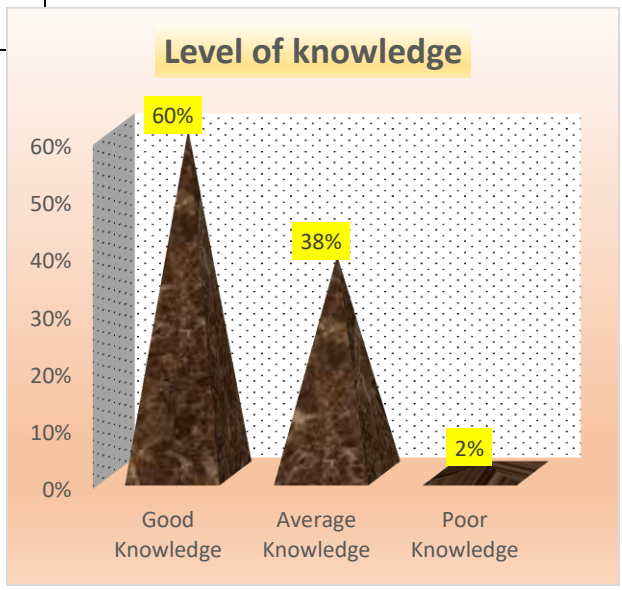


Result: The above table shows that, most of the street sweeper 38 (76%) have average knowledge and 12 (24%) have poor knowledge regarding occupational hazard. And none of them had good knowledge regarding occupational hazard

Table No. 3: Frequency and percentage distribution of post-test level of knowledge

n= 50

Level of knowledge	**Frequency**	**Percentage**
(14 to 20) Good Knowledge	30	60%
(7 to 13) Average Knowledge	19	38%
(0 to 6) Poor Knowledge	1	2%



Result: The above table shows that, majority of the street sweeper 30 (60%) gained good knowledge, 19 (38%) had average knowledge and 1 (2%) had poor knowledge regarding occupational hazard.

Conclusion: Very less number of the street sweepers had poor knowledge regarding occupational hazard as compared to pre-test.

This reveals that after the planned teaching program level of knowledge regarding occupational hazard among street sweepers has increased.

Table No. 4: Significant association of knowledge level regarding occupational hazard among street sweepers working in railway colonies with selected socio- demographical variables according to pre- test.

Demographic Variables		frequency	Knowledge Level			d.f	Chi-square value	p- value	Significance
			Poor	Average	Good				
Age in years	25-35	33	9	24	0	2	0.751	0.687 > 0.05	Not Significant
	36-45	16	3	13	0				
	46-55	1	0	1	0				
Gender	Male	23	5	18	0	1	0.119	0.730 > 0.05	Not Significant
	Female	27	7	20	27				
Education	NoFormal Education	18	1	17	0	2	9.797	0.007 < 0.05	Significant
	Primary	13	7	6	0				
	Secondary	19	4	15	0				
Duration of work in Hrs.	1 to 5	26	8	18	0	1	1.361	0.243 > 0.05	Not Sig
	6 to 10	24	4	20	0				
	11 to 15	0	0	0	0				
	15 to 20	0	0	0	0				
	20 and above	0	0	0	0				

Result: The above table depicts,

The association with their education the p-value is less than 0.05 (5%level of significance).

The association with their age, gender, working hours the p- value is greater than 0.05 (5%level of significance).

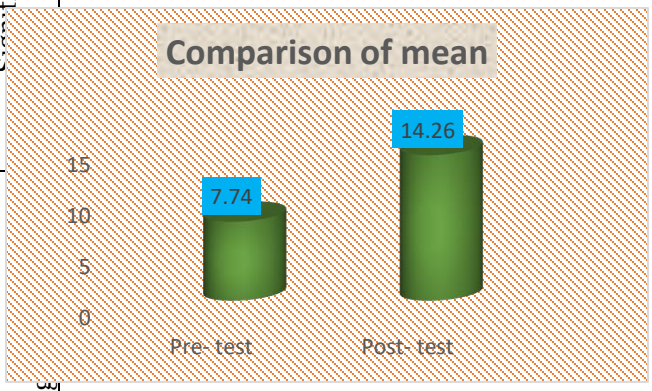
Interpretation: So there is significant association between the education with their pre-test level of knowledge of occupational hazard.

There is no significant association between the age, gender, working hours with their pre- test level of knowledge of occupational hazard.

Table No. 5: Shows Mean & SD of pre-test & post-test knowledge scores and the p-value which is <0.05 level of significance.

n= 50

Aspects	Mean	S.D.	d.f.	Paired t- test	p- value
Pre-test	7.74	2.0584	49	13.8560	0.00001 < 0.05
Post-test	14.26	3.0359			



Result: The above table shows that, according to knowledge level, the mean score of knowledge before giving planned teaching programme was 7.74, S.D. is 2.0584 and the mean score of knowledge after giving planned teaching programme was 14.26, S.D. is 3.0359 and t –

value is 13.8560 and p – value is 0.00001 < 0.05 (at 5 % level of significance).

Conclusion: Since the test is statistically significant at p= 0.00001, it shows highly significant difference between pre- test and post-test mean score of knowledge among street sweepers.

This clearly shows that the planned teaching programme regarding occupational hazard among street sweepers had significant improvement in their level of knowledge in the post- test and proves that the planned teaching was effective.

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