INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD)
© 2026 IJNRD | Volume 11, Issue 2, February 2026 | ISSN: 2456-4184 | IJNRD.ORG

A PRE-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF STP REGARDING OCCUPATIONAL HEALTH HAZARDS AMONG THE WORKERS IN SELECTED TYRE INDUSTRIES OF NORTH INDIA

Sapna Rani[1] *Dr Suman[2] Dr Ullas Udayan[3] Priyanka Gupta[4] Shabnam Dhiman[5] Meenakashi[6] Shilpa Rani [7] Manish Saxena[8]

[1]Tutor (Community Health Nursing) National College of Nursing, Barwala (Haryana)
[2*]Professor (Community Health Nursing) Maharishi Markandeshwar Deemed to be University, Mullana, (Haryana)
[3] Chief Nursing Officer & Quality Head (Smt. Rasilaben Sevantilal Shah, Venus Hospital)

[4]Professor cum HOD (Medical Surgical Nursing), SBDS College of Nursing, Ratia (Haryana)
[5]Assistant Professor (Child Health Nursing) Maharishi Markandeshwar Deemed to be University, Sadopur, (Haryana)

[6] Associate Professor cum HOD (Child Health Nursing) National College of Nursing, Barwala (Haryana)
[7]Associate Professor (Mental Health Nursing) SBDS College of Nursing, Ratia (Haryana)
[8]Associate Professor (Community Health Nursing) Govt College of Nursing, Firozabad (UP)

Abstract:

Background and aim: An occupational hazard is a hazard experienced in the workplace. This encompasses many types of hazards, including chemical hazards, biological hazards (biohazards), psychosocial hazards and physical hazards. In the United States, the National Institute for Occupational Safety and Health **(NIOSH)** conduct workplace investigations and research addressing workplace health and safety hazards resulting in guidelines. The aim of the study to assess the effectiveness of STP regarding occupational health hazards among workers in the tyre industry of North India. **Materials and Methods:** A pre-experimental study was conducted. A non-probability purposive sampling technique was used with 60 permanent workers of the tyre industry. Data was collected using a self-structured questionnaire to assess the effectiveness of STP among workers in the tyre industry.

Results: The result revealed that in pre-test majority of workers have 35(51.7%) have average knowledge regarding occupational health hazards while in post-test majority of workers 48(80%) have good knowledge score. The result depicts that there is a significant association between the educational variable and knowledge regarding occupational health hazards at the 0.05 level of significance. Hence, STP is effective. **Conclusion:** The overall finding discloses that there was some knowledge among workers regarding occupational health hazards, which is 80% had good knowledge. The study suggests that more studies should be done in which we can impact knowledge to workers regarding occupational health hazards.

Key words: pre-experimental, Study, Effectiveness, STP, Occupational health hazards, Workers

INTRODUCTION

Occupational health deals with all aspects of health and safety at the workplace, with special emphasis on primary prevention of hazards. The health of the workers has several determinants, including risk factors at the workplace leading to concerns, accidents, musculoskeletal diseases, respiratory diseases, hearing loss, circulatory diseases, stress-related disorders, communicable diseases and others.

Currently, only 15% of workers worldwide have access to a specialized occupational health service. They mostly carry out prevention of occupational risks, health surveillance, training in safe working methods, first aid and advising employers on aspects related to occupational health and safety.[1]

Safety: This category includes any condition, substance or object that can injure a worker like working from heights, spills on floors, machinery with moving parts, confined spaces, steep stairs or exposed electrical wiring. Chemical: There are many kinds of hazardous chemical and toxins in different workplaces, including environmental smoke cleaning products, acids, pesticides, carbon monoxide and flammable object.

Biological: In some settings such as fame, zoos, hospitals or medical offices or veterinary clinics, workers can be exposed to biological health hazards like blood, fungi, mold, viruses, animal dropping and insect bites.

Physical: These are hazards in the environment that can harm your body without you actually touching it, like radiation, prolonged exposure to sunlight, extreme high or low temperature and loud noise. Work organization hazards: Workplace violence, discrimination, lack of respect, sexual harassment and other conditions are hazardous to mental, emotional and physical health.[2]

Rubber is one of the most important commodities in the world. Globally, workers are facing so many problems of hazards that produce by rubber process. There are several data of occupational problems such as respiratory diseases, muscle and skeletal diseases, gastrointestinal diseases, diseases of teeth and oral cavity, skin diseases and skin tissue. Furthermore, workers are facing with amputation problems. [3]

Even though some research had conducted, the number of cases of occupational injuries and illnesses are still high, hopefully, by reducing the number of working injuries and illnesses in rubber industry. It can reduce the number of workers dead. So, due to that reason, the aim of researcher is to provide the profile of occupational injuries and illnesses and in rubber factory in order to prevent the workers from these hazards.[4]

Generally, people with the highest risk for occupational disease have worked the longest in the tire and rubber industries. People employed by factories before industry reforms in 1980s also have a significantly higher risk for work related illnesses.[5]

To prevent them, workers need to follow ergonomic best practices. This includes safe lifting techniques, good posture and avoiding repetitive motions while carrying out their work tasks.[6]

OBJECTIVES

1. To assess the pre-test knowledge score regarding occupational health hazards among workers in the selected industries
2. To plan and implement a structured teaching programme regarding occupational health hazards among workers in selected industries.

3. To assess the post-test knowledge score regarding occupational health hazards among workers in the selected industries.

4. To compare pre-test and post-test knowledge scores regarding occupational health hazards among workers in the selected industries

5. To find out the association between pre-test and post-test knowledge scores and selected socio-demographic variables.

METHODOLOGY

- **Research approach:** Pre-experimental approach
- **Research design:** Pre experimental one group pre-test post-test design will be adopted for this study.
- **Setting of the study:** Tyre workers selected industries of North India.
- **Population:** workers in the selected industries of North India
- **Sample:** Who works in Tyre Industries of North India
- **Sample size:** The sample size consists of 60 Workers of North India
- **Sampling Technique:** A non-probability purposive sampling technique was used.

RESULTS

SOCIO-DEMOGRAPHIC CHARACTERISTICS

Table 1

Frequency and Percentage distribution of socio-demographic variables of workers.

N-60

	Demographic variables	Frequency (f)	Percentage (%)
1)	Age (in years)		
a)	19-27	14	23.3
b)	28-36	16	26.7
c)	37-45	17	28.3
d)	>45	13	21.7
2)	**Education**		
a)	Matriculation	28	46.7
b)	Senior Secondary	25	41.7
c)	Graduation	7	11.7
3)	**Dietary Pattern**		
a)	Veg	25	41.6

b)	Non-Veg	35	53.3
4)	**Types of family**		
a)	Nuclear Family	19	31.7
b)	Joint Family	17	28.3
c)	Extended	15	25.0
d)	Blended	9	15.0
5)	**Monthly Income**		
a)	Less than Rs. 5000	11	18.3
b)	Rs.5001-10,000/-	16	26.7
c)	Rsl0,001-15,000/-	20	33.3
d)	More than 15,000/-	13	21.7
6)	**Source of information**		
a)	Newspaper	18	30.0
b)	Magazine	**1**	1.7
c)	Mass Media	25	41.7
d)	Health Workers	16	26.7

1: To assess the pre-test knowledge score regarding occupational health hazards among workers in selected industries.

Table 2

Assessment of the pretest knowledge score of workers regarding occupational health hazards.
N: 60

S No.	Level of knowledge	Score range	Frequency	Percentage
1.	Good	21-30	00%	
2.	Average	10-20	3151.7%	
3.	Below average	0-10	4848.3%	

Maximum score =30
Minimum score =0

2 To assess the post-test knowledge score regarding occupational health hazards among workers in selected industries.

Table 3

Assessment of post-test knowledge score of workers regarding occupational health hazards

N=60

	Level of knowledge	Score rangeFrequency	Percentage
1.	Good	21-3048	80%
2.	Average	10-2012	20%
3.	Below average	0-100	0%

Maximum score=0Minimum score=30

Table 3 reveals that in the post-test, maximum workers (80%) had good knowledge about health hazards, (20%) had average knowledge about occupational health hazards.

3 To compare pre-test and post-test knowledge scores regarding occupational health hazards among workers in selected industries

Table 4

Comparison of pre-test and post-test scores of knowledges regarding occupational health hazards

N: 60

S No.	Test	Mean	df	SD	Paired 't' value
1.	Pre-test	9.73	59	1.821	38.718*
2	Post-test	22.60		2.093	

*Significant P<0.05 NS- Nothing significant

Table 4 shows that for all subjects, the mean percentage of knowledge score of post-test is higher, whereas the mean percentage score in pre-test is 9.73, SD is 2.093, and the 't' value for total pre-test and post-test is 38.718. The relationship was found statistically significant at p<0.05 level. It can be concluded that there is a huge comparative difference between pre-test and post-test knowledge after a structured teaching programme. The study concludes that a structured teaching programme is more effective. reveals that the association between level of knowledge and socio demographic variable was tested by using chi-square. The result shows that there is significant association of education demographic variable with the

level of knowledge regarding occupational health hazards at 0.05% level of significance.

NURSING IMPLICATIONS

Nursing practice: Several implications can be drawn from the present study for nursing practice. Educational conducted by the nursing personnel both in the hospital and in the community, areas help in preventing effects of occupational hazards. Planned program once developed and evaluated for its effectiveness can be modified to teach others groups of clients. Health information can be important through various methods like lecture, mass media, pamphlets, planned teaching program etc.

Nursing education:

Nursing students should be made aware of the importance of educating about how to prevents health and occupational hazards. Researchers have to develop their skill in preparing health teaching material according to the community level of understanding. Improved and newer techniques have to be used for motivating public participation in preventing occupational hazards.

Nursing administration:

The nurse administrator should take interest in providing on health, maintaining many types of hazards to the public community. The nurse as an administrator should plan and organize educational programs for nursing personnel and motivating them in conducting occupational hazards to the public.

Nursing research:

Researcher to engage in multi-disciplinary research, so that it will help to improve the knowledge b regarding occupational hazards and their complications and by applying it, many health problems can be solved.

RECOMMENDATIONS

- A similar study can be done on a large sample to generalise the findings.
- A similar study can be conducted to other industries using same teaching programme.
- A pre-experimental study can be done to find out the knowledge of workers regarding occupational hazards.

CONCLUSION

This study was conducted on other workers of any other industries. The major findings of the study showed that it improved the knowledge regarding occupational hazards and its prevention.

Acknowledgements: Nil

Declarations

Ethics Conflict: All financial and non-financial conflicts, as I feel.

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