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KNOWLEDGE ON OCCUPATIONAL HAZARDS AND THE PRACTICE OF USING PROTECTIVE DEVICES AMONG THE WORKERS OF PLASTIC PACKAGE INDUSTRY, PUDUCHERRY, INDIA

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ABSTRACT

The Industrial workers constitute only regiment of the population and the factors that influence the health of the population and also apply equally among the industrial workers. The death of the industrial workers in large measures is influenced by the conditions prevailing at the working place. The objectives are to assess the knowledge on occupational hazards among workers of plastic package industry. To assess the practice of using protective devices among the workers of plastic package industry. To find out the association between the knowledge on occupational hazards with selected demographic variables.

Methodology Quantitative non- experimental descriptive survey was adapted, the study was conducted among 30 workers of plastic package industry, Puducherry. Non-Probability convenient Sampling Technique was used and data collected through a structured questionnaire. The Study Findings shown, the workers knowledge regarding occupational hazards was 27% and all the workers have excellent level of practice of using protective devices. There was a significant relationship between socio demographic variables with the knowledge level of workers of plastic package industry.

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INTRODUCTION

Industrialization introduces a form of philosophical change where people obtain a different attitude towards their perception of nature and a sociological process of ubiquitous rationalization. The 1st country to industrialize was the united kingdom during the industrial revolution commencing in the 18th century.

Before 1900, infectious diseases and malnutrition were the most common causes of death throughout the world. But at present, non-communicable diseases like respiratory problem, cardiovascular diseases and cancer are the leading cause of death, accounting for 70-75% of total death due to lifestyle changes, environmental factors, stress factors, working condition, cigarette, smoking and alcohol. The number of industries has increased the incidence of occupational hazards which increasing day by day.

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Need for the Study

In India millions of workers are involved in manufacturing of plastics. However there are few epidemiological studies from India that have assessed the magnitude of health problems associated with plastic industries. Although exposure to plastic and dyes was identified as a source of dermatitis more than 300 years ago. Dermatitis has been recognized as an occupational disease for workers in plastic industry. More than 8,00,000 workers in the plastic industry are exposed in the work place to plastic and dyes that can cause dermatitis.

Problem Statement: To assess the Knowledge On Occupational Hazards and The Practice Of Using Protective Devices Among The Workers Of Plastic Package Industry, Puducherry, India

The objectives of the study are

- To assess the knowledge on occupational hazards among workers of plastic package industry.
- To assess the practice of using protective devices among the workers of plastic package industry.
- To find out the association between the knowledge on occupational hazards with selected demographic variables.

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REVIEW LITERATURE

J.G.M. Van Rooji *et al* [2009] performed a study on Trends in occupational exposure to styrene in the European glass fiber re in forced plastic industry. Trend analysis of the available styrene exposure data showed that the average styrene concentration in the breathing zone of open mould workers in the European GPR industry has decreased on average by 5.3% per year. The sample size was 50 workers.

M.Spasoovski [2008] performed a study on “Health hazards in the production and processing of some fibers, resins, and plastic in Bulgaria”. An extremely high occupational hazards for workers in the production of poly vinyl chloride, resin and porous materials from polyurethane resins and urea – formaldehyde glue has been established for 150 workers.

R.E.Eckardt [2006] conducted a study in UK for 350 workers on the topic “Occupational and environmental health hazards in the plastic industry“. In general, these hazards are due to the monomer contained within the finished products, and to the fillers, stabilizers, pigments, inhibitors, and initiators used in fabricating the finished products.

HOLGER.M.*et al*. [2000] performed a study on Human body burdens of chemicals used in plastic manufacture. We present and review the most relevant research on biomarkers of exposure for phthalates and Bisphenol A, including novel and most comprehensive bio monitoring data from Germany and the United states. The study was conducted for 250 workers.

METHODS AND MATERIALS

The study was quantitative, non-experimental descriptive survey in nature was carried out in plastic package industry, Puducherry. The target population of the study include workers of plastic package industry. The sample consisted of 30 in the industry, Random Sampling technique was used to select the samples.

A structured questionnaire was developed to collect data from samples. It had 4 sections. Part-I-deals with demographic variables. Part-II-deals with Knowledge assessment and Part III deals with the assessment of practice of using protective devices. Collected data was analyzed using descriptive and inferential statistics in terms of frequencies, percentages, mean, standard deviation, correlation-coefficient and chi-square analysis.

Data Analysis

The data collected through structured questionnaire were analyzed by using descriptive and inferential statistics, which are necessary to provide a substantive summary of results in relation to the following specified objectives

Presentation of Data

The data is organized and presented under the following sections

Section I: Description of demographic variables of workers of plastic package industry using percentage analysis.

Section II : Descriptive analysis of knowledge on occupational hazards among workers of plastic package were described through measures of mean, median, standard deviation and mean score percentage.

RESULT

Assessment of the workers knowledge regarding occupational hazards

Knowledge of workers regarding occupational hazards was assessed by with structured questionnaire. Each correct answer was given a score of one.

Table 1 Frequency and percentage distribution of overall knowledge level of mothers on occupational hazards.

SI.NO.	Level of knowledge	Frequency	Percentage
1.	Inadequate Knowledge	15	50
2.	Moderately adequate Knowledge.	07	23
3.	Adequate Knowledge.	08	27

Table 1, depicts the overall knowledge score of workers in plastic package industry was 15[50%] have inadequate knowledge,7[23] have moderately adequate knowledge,8 [27] have adequate knowledge regarding the occupational hazards.

Assessment of practice protective Devices among the workers of plastic package industry

Table2 Frequency and percentage distribution of workers by their practice of using Protective Devices.

SI.NO.	Level of Practice	Frequency	Percentage
1.	Excellent	30	100

Table 2, depicts that the workers of plastic package industry 30[100%] have excellent level of practice on using Protective Devices.

Major Findings of the Study Are Summarized Below

- With respect to the age of workers in the industry 6 (20%) belongs to the age group below 25yrs, 13 (43.33%) belongs to age group between 25-35 years, 11(36.67%) belongs to the age group between 36-45 years.
- With respect to the sex, 8(26.67%) were male and 22 (73.33%) were female.
- With respect to the workers educational status 19(63.33%) have primary level education, 6(20%) have secondary level education, 5(16.67%) were graduate.
- With respect to monthly income 29(96.67%) were getting below Rs.5,000/- 1(3.33%) were getting between Rs. 5001-Rs.8,000/-
- With respect to the year of experience 5 (16.67%) have less than 1 year of experience, 11(36.67%) have 1-3 years of experience, 6(20%) have 3-5 years of experience, 8 (26.66%) have the experience of 5 years and above. regarding working hours per day 30 (100%) were working 8 ours per day.
- With respect to habits 1 (3.33%) is having the habit of both smoking and alcohol, 2(6.67%) were having other habits.

- With respect to respiratory infection 1 (3.33%) is having frequent respiratory infection, 29(96.67%) were not affected with any respiratory infection.
- With respect to previous injury 1 (3.33%) has got injured previously 28(93.33%) were not injured previously.
- With respect to the time interval of health check up 25 (83.33%) were undergoing check up 6 months once, 2 (6.67%) undergoing 1 year once, 3 (10%) were undergoing above 1 year.
- The overall knowledge score of 30 workers in plastic package industry was 15[50%] have inadequate knowledge,7[23] have moderately adequate knowledge,8 [27] have adequate knowledge regarding the occupational hazards
- All the workers of plastic package industry 30[100%] have excellent level of practice on using Protective Devices.

It is evident that there is significant relationship between socio demographic variables[Age, sex, education, monthly family income, years of experience in package industry, habit, occurrence of frequent respiratory infections, previous history of injury, time interval of medical check-up and source of information] with occupational hazards faced by the mothers because the p value is less than 0.5. It is evident that the demographic variables such as religion, residential area, factory situated, working hours per day and allergic reactions has non-significant association because the p value is more than 0.5.

DISCUSSION

In this study, the researcher had made an attempt to assess the workers knowledge on occupational hazards and the practice of using protective devices among the workers of plastic package industry. The findings of the study have been discussed under the following sections with the objectives.

1. To assess the knowledge on occupational hazards among workers of plastic package industry.
The overall knowledge score of workers in plastic package industry was 15[50%] have inadequate knowledge,7[23] have moderately adequate knowledge,8 [27] have adequate knowledge regarding the occupational hazards.
2. To assess the practice of using protective devices among the workers of plastic package industry.
That the workers of plastic package industry 30[100%] have excellent level of practice on using Protective Devices
3. To find out the association between the knowledge on occupational hazards with selected demographic variables
The variables like age, sex, education, monthly income, years of experience, habit, frequent respiratory infection, previous infection, previous injury and medical checkup was found to be significant.

Recommendation

- A similar study can be conducted with a large sample to generalize the findings.

- A comparative study can be done between different Industries.
- A study can be done to assess the knowledge regarding prevention of occupational hazards.
- A similar study can be conducted with a experimental and control group.

CONCLUSION

The study concluded that out of 30 samples, each subject had an excellent level of practice of using protective Devices. Regarding the knowledge 27% have adequate knowledge,23% have moderate knowledge and 50% have inadequate knowledge on regarding the occupational hazards in plastic package industry the study findings enable the nurses to plan and implement the health education programs improve their knowledge of workers, their preventing the occupational hazards by adopting the use of protective in their industry

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