A study to assess the knowledge regarding safety measures among tea factory workers in the high field tea factory at Coonoor, the Nilgiris

Mrs. Mary Minolin*¹, Ms. Susila. S²
¹Associate Professor, Department of Child Health Nursing, Saveetha College of Nursing, SIMATS, Chennai, India.
²BSc (N) IV Year, Saveetha College of Nursing, SIMATS, Chennai India.
*Corresponding Author: Mrs. Mary Minolin
Email id: minolinbabu@gmail.com

ABSTRACT
The working population represents half of the world’s population, are being the major contributors to socioeconomic development: their health is determined not only by work place but also social, individual factors as well as access to available health services. Any industry plays an important role in building up of a Nation. It was carried out among 100 workers from the factories. Data was analyzed by structured questionnaire methods. The study revealed that most of the workers didn’t have the proper knowledge regarding work related hazards and its prevention. Out of hundred samples 70(70%) workers have inadequate knowledge, 10(10%) have moderate knowledge and 20% workers have adequate knowledge. So the workers who were not using personal protective equipments had more chance to get the injuries. A proper researcher control measure should be the first target for prevention of hazard. It should be implemented for factory workers to reduce the burden to overall morbidity.

Keywords: Factories, injuries, PPE, safety, safety measure.

INTRODUCTION
Occupational Health aims at prevention of disease and maintenance of the highest degree of physical, mental and social well being of the workers in all occupations. The joint ILO/WHO committee of occupational health, gave the following definition” Occupational Health should aim at the promotion and maintenance highest degree of physical, mental and social well being in all occupation, the prevention among workers of departures from health caused by working conditions”¹. Safety and health is the key of any business. Safety and productivity are two sides of the same coin. Even though the tea industry in Assam, India, provides livelihood to one million people directly and is a significant source of foreign exchange to the state exchequer, it faces challenges in ensuring work place safety to its workers mainly for two reasons. Firstly its management’s erroneous mindset of accepting safety as a liability to the business and, secondly the lack of safety amongst the workers ². Statistics of the accident reveals that every year numerous accidents take place in the tea industry, causing physical injury, disability, proper loss of production time. Traditional system of assessing the safety and health status such as safety auditing produce qualitative results. Occupational health is
primarily designed to cater to the needs of industry that pose a major accident hazard. Globally there are 2.9 billion workers who are exposed to hazardous risks at their workplace. The famous country says the annual mortality rate of 1,249 per 100,000 workers in Ethiopia in the past decade. Varieties of hazards exist almost as numerous as different types of work, including chemicals, biological agents, and adverse ergonomic conditions. Occupational health is concerned with its relation to work and working environment. It implies not only health promotion but also health protection, emergency care, wide range of preventive, curative services, rehabilitative services, a concept which includes everything that can apply to promote health capacity of the workers [3].

However, the importance of occupational health and safety practice is often overlooked. This is because, the level of occupational health and safety in Africa is low compared with the rest of the world. According to available literature, risk factors leading to injuries are present in every occupation and among all occupations with industrial and factory workers having high risks. Accidents can cause various forms of disabilities. Loss of man power leading to decreased productivity and in severe cases may lead to death. There is a death of literature in the area of occupational risk and hazards among industrial workers in the world and also limited studies among industrial workers in the northern part of the country [4].

Occupation and health are closely related. The occupational environment of the worker cannot be separated from his domestic environment. Both are complementary to each other. Stress at work may disturb his domestic life just as stress at home may affect his work [5].

Occupational health aims at prevention of disease and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations. The Joint ILO/WHO Committee on Occupational Health, gave the following definition. “Occupational Health should aim at the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations, the prevention among workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological equipment, and, the adaptation of work to man and of each man to his job” [6].

**OBJECTIVES**

- To assess knowledge on safety measures among tea factory workers to various health problems.
- To Association between level of knowledge on safety measures and selected demographic variables among Tea factory workers.

**METHODS**

We conducted a descriptive study in Tea Factory in the High Field Tea Factory, Coonoor. The Research approach adopted in the study was qualitative research approach by using descriptive research design. Formal permission was obtained from the high field tea factory in Ooty. After obtaining the permission from the authority of the Tea Factories. The investigator was first select the sample by using inclusion criteria 100 workers will be selected by using convenient sampling technique. After the sample selection informed consent was obtain from each Sample after the general instructions. The investigator was collected the demographic variables and structured questionnaire given to assess the knowledge regarding safety measures. The data was analyzed by using descriptive and inferential statistics. Data collection was done utilizing an interviewer administered questionnaire containing questions assessing socio demographic variables, age, sex, educational status, marital status, type of the family, number of the family etc. Data collections were collected to the factory workers. Data was analyzed by descriptive statisticis.

**RESULTS**

Shows that the age out of 100 sample, 25% samples were under the age group of less than 20, 57% samples were under the age group of 25-35, 18% samples were under the age of more than 36. Regarding gender out of 100 samples, 47% samples were under the group of male, 53% samples were under the group of female. Regarding education out of 100 samples, 57% samples were illiterate, 34% samples were primary, 4% samples were secondary, 5% samples were degree holder.
Regarding the type of family, 62% samples were of nuclear family, 38% samples were of joint family. Regarding number of children, 12% samples were have 1 children, 18% samples were have 2 children, 4% samples were have 3 children, 76% samples were have more than 3 children.

Table 1: shows the frequency and percentage distribution of level of knowledge on safety measures of tea factory workers. The data revealed that, 70(70%) had inadequate knowledge, 10(10%) had moderately, 20(20%) had adequate knowledge on safety measures of tea factory workers.

**Level of knowledge**

![Level of Knowledge Chart]

<table>
<thead>
<tr>
<th>LEVEL OF KNOWLEDGE</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequate knowledge</td>
<td>70</td>
</tr>
<tr>
<td>Moderate knowledge</td>
<td>10</td>
</tr>
<tr>
<td>Adequate knowledge</td>
<td>20</td>
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<tr>
<td>Total</td>
<td>100</td>
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</tbody>
</table>

Table 1: Frequency and percentage distribution of level of knowledge n=100

<table>
<thead>
<tr>
<th>LEVEL OF KNOWLEDGE</th>
<th>%</th>
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<tbody>
<tr>
<td>Inadequate knowledge</td>
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<td>Adequate knowledge</td>
<td>20</td>
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<tr>
<td>Total</td>
<td>100</td>
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</tbody>
</table>

Table 2: Mean and standard deviation on safety Measures of Tea Factory Workers (n=100)

<table>
<thead>
<tr>
<th>Knowledge on tea factory workers</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean knowledge</td>
<td>12.1</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>5.8</td>
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</tbody>
</table>

Table 2: The table reveals that the Mean and standard deviation on selected tea factory workers. In frequency, the overall knowledge aspects safety measures on tea factory workers, the mean value of 12.1 with a standard deviation of 5.8.

**Section-D**

Table: 3 Association between pretest level of knowledge and selected demographic variables among tea factory workers:

<table>
<thead>
<tr>
<th>S.NO</th>
<th>Demographic variables</th>
<th>Adequate</th>
<th>Moderate</th>
<th>Inadequate</th>
<th>Chi Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
</tbody>
</table>
Table 3: The variables namely sex, educational status, marital status, type of family, no. of children were statistically with the safety measures of tea factory workers. The variables namely age were non-statistically with the safety measures of tea factory workers.

**DISCUSSION**

The working population represents half of the world’s population are being the major contributors to social economic developments. Out of 100 samples 70 (70%) workers have inadequate knowledge, 10(10%) have moderate knowledge and 20(20%) workers have adequate knowledge. Absar Ahmad—as the study conducted on Awareness of workplace hazards and preventive measures among sandstone mineworkers in Rajasthan, India. A cross-sectional study of 218 miners was conducted, in India. Almost all respondents were aware of at least one hazards in mining occupation 93.6% but no of them trained by a recent (within one year) health and safety training course. However mine workers recognized only the risk of injury 74.3%. In other study conducted by Teklit Gebregiorgis Amabye with a close ended structured questionnaire adapted and modified from the Weymouth health safety questionnaire was used to investigate health and safety of the workplace. Sample of convenience was used to recruit a total of 231 workers of the company. It is a male dominated workplace compromising of 226 males with mean age 25.2 years. Exposure to occupational risks and hazards exposure in this leather company was majorly moderate among the workers 48.5% with 24.7% high exposure among workers. Significant association was found between occupational risks and hazards gender and educational health status of participants.

**CONCLUSION**

Occupational health is concerned with in its relation to work and working environment. It implies not only health promotion but also health protection, emergency care, wide range of preventive, curative services, rehabilitative services, a concept which includes everything that can apply to promote health working capacity of the workers. Workers are poorly educated about how to handle the safety measures. However the importance of occupational health and safety practice is often overlooked.

This study therefore seeks to assess the level of exposure to occupational health and safety practices and precautionary measures and use of personal protective equipment among workers in various industries.
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