

Perceptions and Practices of Occupational Safety Measures Among Factory Workers

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Abstract

Occupational safety is a very important issue at an individual, social and national level and this study is carried out to get a general outline of the perception & practices of safety measures among factory workers. A descriptive study was done among 124 factory workers with at least a year of experience. Data was collected using a Semi-structured questionnaire and analysed in MS-Excel. 95% of the workers have good knowledge about occupational safety measures. Since most of the workers had knowledge of personal protective equipment (PPE), they were using PPE regularly. Relationship between level of education and practice of safety measures shows that all workers have good level of practice based on their education level. So these variables should be taken into consideration in any program promoting Occupational health and safety.

Keywords: Perception; Occupational Safety Measures; Factory Workers.

Introduction

According to International Labour Office (ILO) and the WHO, Occupational health defines, as 'the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations.' Construction site workers and brick kiln workers, are mostly 'periodic labour force'; and protecting their health at the work site may not be always on priority of the employer.¹

India is the second largest brick producer after China & produces 200–250 billion clay bricks annually in 150,000 to 200,000 brick kiln, accounting for more than 10 per cent of the global production.² It has been found that 20,000 working people are being injured and 200 deaths occur every year because of having occupational accidents. Generally

causes of accidents can be mentioned due to unsafe working conditions, lack of supervision and training, use of old machinery and equipment, lack of sufficient maintenance, bad house-keeping practices, violation of safety rules, and overcrowded production units with very congested space (Nahyan, 1999; Merenu et al., 2007; Gautam and Prasain, 2011).¹

Disease and injury from the exposure to extreme heat, cold, dust and smoke and unsafe working environment (working with machine and equipment, exposure to dust and thermal stress), lack of supervision and training, use of old machinery and equipment, lack of sufficient maintenance, bad house-keeping practices, violation of safety rules are the

major problems of the brick factory workers. These incidents may even be greater than reported due to under reporting, lack of data and misdiagnosis. It also causes considerable damage to environment and local people living near by the brick factory. This could be another step to bring better working practices in brick factory so that disease and disabilities may not arise in person and community.³

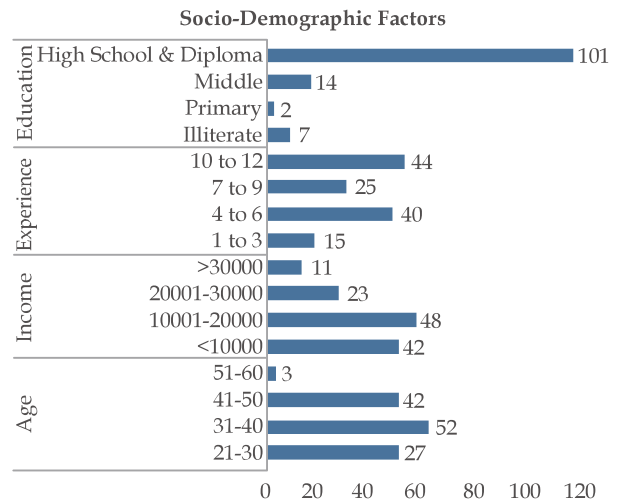
Although occupational safety and health is a very important issue at an individual, social and national level, it has not received much attention so far. This is evident by the very limited literature available on the status of occupational safety and health in Karnataka. Thus, this study is carried out to get a general outline of the perception & practices of safety measures among factory workers.

Materials & Methods

Ethical approval was taken from the Institutional Ethic Committee of Raja Rajeswari Medical College & Hospital. Participants were informed about the purpose, benefits of participation in the study and verbal consent was obtained. It was a cross sectional descriptive study. A total of 124 workers with at least a year of experience were included in the study. The data was collected through face-to-face interviews using a semi-structured pretested questionnaire. The study variables in the questionnaire were social factors, educational factors, and institutional factors like training given, availability and use of personal prophylactic equipment (PPE). The independent variables were categorized as socio-demographic factors (age, sex, income, education, years of experience), related variables (knowledge on risk, law, cause of hazards, benefit of PPE, effect on health), practice related variable (types of safety measures, use of PPE, using of medical services). Collected data were verified, coded as required and entered in MS-Excel. Descriptive statistics were presented with frequency tables. Association between various attributes were tested using chi-square statistics.

Results & Discussions

This cross-sectional study was conducted to explore the level of perception and current practice related occupational safety measures among factory workers. Data were collected by questionnaire method on 124 brick factory workers and were analysed using MS-Excel.



According to socio-demographic characteristics of the study sample, the age of the workers ranged from 21- 58 years, with a mean age of 39.5? 8.45 years. Concerning education, it revealed that 95% participants were literate and 6% were illiterate. 88% workers were living in joint family and other workers were with three generation family, 34% had monthly income <Rs.10000 and among them 35% of workers have experience of 10-12 years.

Regarding perception of workers on occupational safety measures, 95% of the workers have good knowledge about occupational safety measures. They are aware of ill effects of dust on health, factory policies, different types of PPE & its benefits. Practice of workers regarding occupational safety measures: most of the workers had knowledge of PPE and so they were using PPE regularly, except 5% of workers. 5% of participants used to visit health institution for treatment whereas 93% used to treat inside the factory & 2% ignore it. Majority of workers (90%) regularly washed their body after returning from job and only 10% workers were found to be lazy who returned home and remained without prior bathing. All workers use to wash their hands before taking meal. Among them, 78% workers use to wash their hand only by plain water where as 22% workers wash with soap and water.

Table 1 Association between age and perception among study participants.

Age	Perception	
	≤ 4	>4
21-30	7	20
31-40	18	34
41-50	15	27
51-60	2	1

$\chi^2=2.2781$, $df=3$, $p=0.516$

Table 1 shows there is no significant difference between age and perception among study participants

Table 2: Association between education and perception among study participants.

Education	Perception	
	≤ 4	>4
Illiterate	4	3
Primary	0	2
Middle	7	7
High-school	13	38
Diploma	18	32

$\chi^2 = 4.96$, $df = 3$, $p = 0.29$

Table 2 reveals the relationship between level of education and perception among factory workers, it shows that satisfactory level of education among workers are not statistically significant with their levels of perception about safety measures.

Table 3: Association between experience and perception among study participants.

Experience	Perception	
	≤ 4	>4
1-3	3	12
4-6	16	27
7-9	7	18
10-12	16	28

$\chi^2 = 1.996$, $df = 3$, $p = 0.573$

Table 3 shows there is no significance between experience level and perception among factory workers.

Table 4: Association between age and practice of safety measures among study participants.

Age	Practice	
	≤ 5	>5
21-30	0	27
31-40	1	51
41-50	2	40
51-60	1	2

$\chi^2 = 7.32$, $df = 3$, $p = 0.062$

Table 4 reveals the relationship between age and practise among factory workers and shows there is no significance between age and their practices.

Table 5: Association between education and practice of safety measures among study participants.

Education	Practice	
	≤ 5	>5
Illiterate	2	5
Primary	0	2
Middle	0	14
High-school	1	50
Diploma	1	49

$\chi^2 = 19.3751$, $df = 3$, $p = 0.000663$

Table 5 analysis shows that all workers have good level of practice based on their education level. This relationship was found to be statistically significant

Table 6: Association between experience and practice of safety measures among study participants.

Experience	Practice	
	<5	>5
1-3	0	6
4-6	2	38
7-9	1	24
10-12	1	43

$\chi^2 = 2.6932$, $df = 3$, $p = 0.4414$

Table 6 illustrates that experience of workers are found to be statistically not significant with their practice.

Conclusion & Recommendations

So, we conclude that the variables having significant influence on the perception and practice of workers about occupational safety measure is level of education. In spite of having knowledge about the adverse health effects and benefit of PPE among workers; use of these skills are poor in their daily life among those are who less educated. These variables should be taken into consideration in any program addressing occupational health and safety issues.

It has been estimated through various studies that workers usually have less knowledge regarding occupational hazards which affect health in many ways. Hence, it is essential to provide education related to health in order to reduce the exposure of hazards and promote the health in an effective and efficient manner.

General Recommendations

- ◆ Employees training and education are essential either when new to job or when there have been changes in equipment or the process.
- ◆ Materials safety data sheets must be provided for each of the chemical products which explain the chemical & physical hazards, in regional language and at educational levels that ensure they will be understood by workers.
- ◆ Competence testing, periodic re-training, close supervision should be done to make sure that the procedures are being followed.
- ◆ Medical alarms should be provided and maintained in working order, the workers drilled in using it properly.
- ◆ The workplace can be further designed and

maintained to allow adequately drained & slip resistant floors.

- ◆ Housekeeping needs constant monitoring to keep the work areas clean & free from accumulation of materials.
- ◆ Work stations need further use of ergonomic principles to minimize strains, sprains & excessive fatigue.

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