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KNOWLEDGE, ATTITUDE AND SAFETY PRACTICES RELATED TO OCCUPATIONAL HEALTH AMONG GLASS FACTORY WORKERS IN DIST. FIROZABAD (U.P.), INDIA- A DESCRIPTIVE CROSS-SECTIONAL STUDY

Anusha Dubey — Student, Post Graduate Diploma in Public Health Management, National Institute of Health and Family, New Delhi.

Ankur Yadav* — Assistant Professor, National Institute of Health and Family, New Delhi.
*Corresponding Author

ABSTRACT **Introduction:** Work in the glass industry is often associated with exposure to Silica, Lead, Alkaline dust, high fire, fuel pollution and hydrochloric acid chemicals. The aims of this study were to describe the Knowledge, Attitude and Practice (KAP) concerning occupational health hazards among glass factory workers and to compare the KAP among workers and managers. **Methods:** A cross-sectional study design was used to collect data by structured questionnaires in 7 glass factories of Firozabad district, India. A total of 97 workers and 7 managers participated in this study. Both closed ended and open-ended questions were included in the interviews. Chi-square tests and correlation analyses were used for categorical and continuous data. **Results:** The majority of the respondents were in the age group of 20-40 years with 0-5 years of service. 36% for respondent were having excellent knowledge about Occupational Health. 66.0% for respondent were knowledge about Safety Measures but out of them only 50.5% of the respondents were not using Safety Measures. **Conclusions:** The findings revealed that manager have higher proportion of positive response on knowledge and attitude towards occupational health than workers. However, practice in use of safety measures depended on availability to the worker from the factory management.

KEYWORDS : Attitude, Glass factory, Knowledge

INTRODUCTION-

Occupational health is aimed at the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations. It also covers the prevention amongst 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 and the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological capabilities (International labour organization).

Occupational safety and health is a right enshrined in the Constitution of India Section 39(e & f), which calls upon the Government to direct its policies in such a way, "that the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter vocations unsuited to their age or strength". In a similar manner, the Section 42 directs the State to "make provisions for securing just and humane conditions of work and for maternity relief".

Safety and health in the workplace has become an integral component of occupational health as employers, labor unions and Government agencies in general carry out a series of techniques, trainings and procedures to ensure compliance with safety standards. Naturally, a need for safety is an intrinsically human concern; the primary need is therefore for safety measures to be in place to prevent injury to the staff members while protecting the equipment and environment at the same time. Hazards inherent in a workplace ideally should be identified, documented, monitored and managed. However, in reality, hazards not eliminated entirely are subjected to control measures which minimize the effects. Workplace settings vary widely in size, sector, design, location, work processes, workplace culture, and resources. In addition, workers themselves are different in terms of age, gender, training, education, cultural background, health practices, and access to preventive health care.

Therefore this study is conducted among the Worker and Mangers of Glass industries of Firozabad district, Uttar Pradesh to know the knowledge attitude with occupational health & safety practices among glass factory workers and Mangers.

METHODOLOGY

The present study was a descriptive cross sectional survey conducted through structured questionnaire from seven glass factories of Firozabad district, Uttar Pradesh, India. A total of 104 respondents (97 workers & 7 managers) were interviewed. The data were analyzed using SPSS version 21. Each positive response to knowledge and practices was scored as 1or subsequent number and negative response as zero. Association between categorical variables were assesses using Chi square test. Level of significance was set as $p<0.05$.

RESULTS

Table 1 revealed that there were 83 (85.5%) respondents were male and 14 (14.4%) were female. The majority 78 (80.4%) of workers in this study were married compared to 19 (19.6%) were single. 66 (68%) respondents aged 20 – 40 years. It might be due to young men usually performing hard work. Results showed that the mean age of the respondents was 34±17.98yrs which was higher than that of a study carried out in central India (Kishore et all; 2013) with a mean age of 30 ± 9.9 yrs. The most of the worker were 33 (34%) had grade 6 to 10th education and therefore they might have had a better knowledge about occupational Health and safety measures. The illiterate workers 32 (33%) could have contributed to inadequate knowledge and non-use of safety measures. (Taha, 2000:742) mentioned that no or low level of education might form a barrier between effective health education and the training programme. 25.7% (n = 24) of the workers had worked for more than fifteen years at the factory. If an employee had worked for many years, there was a high chance that training was done and knowledge about occupational Health and safety measures. Table also shows that there was more younger respondent (n= 26) who had less experience (0-5 years) in comparison to more experienced respondents(above 15 years) who had age more between 41-60 yrs that means these respondents might be start their work as a child labour. But during the study no child labour found in operational area.

Table 1 Demographic characteristic of Respondents (Workers)

Variable	AbsoluteNumbers	Percentage
Sex		
Male	83	85.5
Female	14	14.4
Marital Status		
Married	78	80.4
Unmarried	19	19.6
Age Group of Respondents (Workers)		
20-40 Years	66	68.0
41-60 Years	28	28.8
61 Years & above	3	3.0
Education level		
Illiterate	32	32.9
Primary	25	25.7
Upto 10th	33	34.0
Graduate	7	7.2
Length of Service in years		
0-5 Years	30	30.9
6-10 Years	26	26.8
11-15 Years	17	17.5
15 Years and above	24	25.7

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Table 2 Knowledge & practice of Respondents (workers) about Occupational Health and Safety Measures

Knowledge Occupational Health	Absolute Numbers	Percentage
No knowledge	10	10.5
Poor Knowledge	24	24.7
Good Knowledge	28	28.8
Excellent Knowledge	35	36.0
Knowledge about safety measures		
No knowledge	14	14.4
Poor Knowledge	33	34.0
Good Knowledge	4	4.2
Excellent Knowledge	45	46.4
Practice use of safety measures		
Not using	49	50.0
Occasionally using	5	5.1
Mostly using	32	32.9
Regularly using	11	11.3
Reasons for not using safety measures (ab=49)		
Felt no need	7	14.2%
Factory not provided	11	22.4%
Hot environment	24	48.9%
Financial condition	7	14.2%

Table 2 revealed that there were 35 (36.0%) respondents were excellent knowledge about Occupational Health followed by good knowledge 28 (28.8%), poor knowledge 24 (24.7%) & no knowledge 10 (10.5%). 45 (46.4%) respondents have excellent Knowledge about safety measures followed by poor knowledge 33 (34.0%), good knowledge 4 (4.2%) & no knowledge 14 (14.4%). 49 (50.0%) respondents have not practice use of safety measures during their jobs followed by 32 (32.9%) mostly practice use of safety measures then 5 (5.1%) Occasionally using practice use of safety measures. Amongst the respondents those are not practice use of safety measures during their jobs 24 (48.9%) is not using any items due to hot environment followed 11 (22.4%) factory is not providing then 7 (14.2%) not felt need and financial condition respectively.

Table -3 the association between level of education of the respondents and knowledge about Occupational Safety & Health

Highest level of education	Illiterate	Primary	High school	Graduation	Total
Good knowledge	20(20.6%)	16(16.4%)	22(22.6%)	6(6.1%)	64
Poor knowledge	12(12.3%)	9(9.27%)	11(11.3%)	1(1%)	33
Total	32	25	33	7	97

Chi square= 1.1443654 df= 7.815 sig= 0.69335 p > 0.05

Table 3 reveals the association between the level of education of the respondents and knowledge about Personal Protective Equipments was not statistically significant. That means knowledge is not relate with level of education.

Table 4 the association between level of education of the respondents and the practice with regard to Safety Measures

Highest level of education	Illiterate	Primary	High school	Graduation	Total
Good practice	9(9.2%)	11(11.3%)	22(22.6%)	1(1%)	43
Poor practice	23(23.7%)	14(14.4%)	11(11.3%)	6(6.1%)	54
Total	32	25	33	7	97

Chi square= 12.6382 df= 7.815 sig= 0.0054 p< 0.05

Table 4 reveals there is influence of being educated or not being educated and the practice with regard to Safety Measures. It means that there was association between level of education and practice regarding Safety Measures.

Table 5 The association between type of work of the respondents and knowledge with regard to Occupational Safety & Health

Type of work	Raw material	Spiral roll	Cutting	Joint	Dying	Others	Total
Good knowledge	12	10	10	11	6	6	55
Poor knowledge	6	3	1	3	13	16	42
Total	18	13	11	14	19	22	97

Chi square= 23.50808 df= 11.07 sig= 0.0002 p < 0.05

Table 5 reveals the association between type of work of the respondents and knowledge regarding Occupational Safety & Health was statistically significant. There was an association between type of work and knowledge. More risky section workers had good knowledge in compare to less risky section workers.

Table 6 The association between type of work of the respondents and practice with regard to Safety Measures

Type of section	Raw material	Spiral roll	Cutting	Joint	Dying	Others	Total
Good practice	13 (13.4%)	10 (10.3%)	7(7.2%)	7(7.2%)	7(7.2%)	5(5.1%)	49
Poor practice	6(6.1%)	3(3%)	4(4.1%)	7(7.2%)	11 (11.3%)	17 (17.5%)	48
Total	19	13	11	14	18	22	97

Chi square= 14.5919 df= 11.07 sig=0.01225 p < 0.05

Table 6 reveals the association between the occupation of the respondents and the practice with regard to Safety Measures was statistically significant. There was an association between the type of work and practice of Safety Measures. More risky section workers had good practice of SM in comparison to less risky section workers.

Table 7 The association between year of experience of the respondents and knowledge with regard to Occupational Safety & Health.

Year of experience	0-5 years	6-10 years	11-15 years	Above 15 years	Total
Good knowledge	7(7.2%)	11(11.3%)	14(14.6%)	20(20.6%)	52
Poor knowledge	22(22.6%)	14(14.6%)	4(4.1%)	5(5.1%)	45
Total	29	25	18	25	97

Chi square= 22.28 df=7.815 sig=0.0045 p < 0.05

Table 7 reveals the association between year of experience of the respondents and knowledge with regard to Occupational Safety & Health is statically significant. More experienced workers had good knowledge about Occupational Safety & Health.

Table 8 The association between year of experience of the respondents and practice with regard to Safety Measures.

Year of experience	0-5 years	6-10 years	11- 15 years	Above 15 years	Total

Good practice	7(7.2%)	12(12.3%)	9(9.2%)	16(16.4%)	44
Poor practice	22(22.6%)	13(13.4%)	9(9.2%)	9(9.2%)	53
Total	29	25	18	25	97

Chi square= 9.001057 df= 7.815 sig=0.0292 $p < 0.05$.

Table 8 reveals the association between year of experience of the respondents and practice with regard to Safety Measures is also statically significant that means more experienced worker practiced well the Safety Measures.

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