IOSR Journal of Nursing and Health Science (IOSR-JNHS)
e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 9, Issue 4 Ser. VIII (Jul. – Aug. 2020), PP 40-45
www.iosrjournals.org

Study To Assess The Level Of Knowledge Regarding Occupational Health Hazards Among Cement Factory Workers At Acc Barmana, Bilaspur , Himachal Pradesh

Pallvi Ranaut
Shivalik Institute Of Nursing Bhattakuffer Sanjauli Kamlanagar Shimla Himachal Pradesh. (Himachal Pradesh University

Abstract:
Background: *Occupational health is an essential and preventive medicine. The Joint ILO/ WHO Committee on Occupational Health, in its first session held in 1950, gave the following definitions" Occupational health aimed at the promotion and maintenance of the highest degree of physical, mental and social well being of workers in all occupations, prevention of workers from different hazards in their working place, the protection of workers in their employment from risks resulting from factors adverse to health, the placing and maintenance of the workers in an occupational environment adapted to his physiological and psychological equipment , and to summarize , the adaptation of work to man and of each man to his job.*
Materials and methods: *In this descriptive study non experimental research approach and descriptive research design was used to assess the knowledge regarding occupational health hazards among cement factory workers of ACC, Barmana, Bilaspur, Himachal Pradesh. The total 100 cement factory workers were selected by convenient sampling technique. The data collection was done by the self structured knowledge questionnaire.*
Result*:- Among the cement factory workers majority of workers were male (100%) in the age group of 41-50 years , having higher secondary school education (48%), experience of more than 2 years (92%), working mainly with machines (73%) for 6-8 hours (70%), and majority of workers have no disease (84%) and got the information/ knowledge regarding occupational health hazards form radio (44%). Majority of cement factory workers >58% have below average level (<50%) of knowledge and 42% of cement factory workers have average level (50-70%) of knowledge and no worker come under good level (above 70%) of knowledge.*
Conclusion*: Qualification and age of the workers shows the level of significance with the knowledge score.*
Keywords*:-Knowledge, Cement workers, Occupational health hazards*

Date of Submission: 25-07-2020 Date of Acceptance: 09-08-2020

I. Introduction

Occupational safety and health, also commonly called as occupational health and safety, occupational health, or workplace health and safety, is a multidimensional field concerned with the safety, promotion of health, and welfare of people at work. Health, safety and welfare of the employees is an essential aspect of a company's smooth and successful functioning. It is essential factor of organizational effectiveness. It ensures an accident-free, health promotive organization environment. Organization must pay attention to the same attention towards achieving high occupational health & safety performance as they do to the other key objectives of their business activities. Occupational health deals with all areas of health and safety in the workplace and has main focus on primary prevention of hazards. Occupational and health may also protect co-workers, family members, employers, customers, and many others who might be affected by the workplace environment.

II. Material And Methods

The descriptive study was carried out on the cement factory workers at ACC Barmana, Bilaspur Himachal Pradesh from October 2018 to October 2019. A total 100 adult subjects (male) were selected for this study.
Study design: Descriptive research design was chosen for the present study.
Study location: The present study was carried on cement factory workers at ACC, Barmana, Bilaspur, Himachal Pradesh.
Study duration: October 2018 to October 2019.
Sample size: 100 cement factory workers
Sample size calculations: Sample size calculation: The sample size was estimated on the basis of a single proportion design. The target population from which sample is randomly selected was approximate 900. I have

taken the confidence interval of 10% and confidence level of 95%. The sample size actually obtained for this study was 100 cement factory workers.

Subjects & selection method: The study population was selected from the by cement factory workers by using convenient sampling technique from the cement factory workers who are working at ACC , Barmana Bilaspur, Himachal Pradesh between from October 2018 to October 2019.

Inclusion criteria:

- Workers who are working at cement factory of ACC Barmana, Bilaspur Himachal Pradesh.
- Who are working since 2 years.
- Who are directly involved with machines, production and chemical substances of cement.

Exclusion criteria:

- Workers who are not working at cement factory of ACC Barmana, Bilaspur, Himachal Pradesh.
- Who are not interested and available at the time of study.

Procedure methodology

After written informed consent was obtained, a well-designed self structured knowledge questionnaire was used to collect the data of cement factory workers conveniently. The self structured knowledge questionnaire was divided into two parts Part A and Part B.

- Part A includes the socio-demographic variables such as age, gender, qualification, work experience, area of work, duration of work, any disease, and source of information. Part B includes the self structured knowledge questionnaire to assess the level of knowledge regarding occupational health hazards among cement factory workers. Based on the extensive discussion with experts and review of both research and non research literature the self structured Knowledge Questionnaire was made. This questionnaire comprised of 30 questions based on the four criteria: Definition of occupational health hazards, types of occupational health hazards, prevention and sites of injuries and Acts related to welfare of workers.
- Blood pressure was recorded by using sphygmomanometer instrument and based on the results of blood pressure estimation health education was given.

Statistical analysis

Data was analyzed using SPSS version 20 and also with manual calculation. Firstly the percentage and frequency distribution of sample characteristics and frequency and percentage of sample according to the level of knowledge score was calculated.. After that mean, median, mode, range and standards deviation was calculated.

Area wise mean, median, mode, range and standard deviation was calculated. Chi square test was used to find out the association between the knowledge score and socio demographic variables.

III. Result

Table no.1 Shows Frequency and percentage distribution of sample characteristics. This table shows that majority of workers were males (100%) and maximum workers (38%) comes in the age group of 41-50 years .Table further shows that (48%) having higher education , (73%) working mainly with machines for 6-8 hours (70%) , only 16% of workers have presence of disease and most of them got knowledge or information related to occupational health hazards from radio/TV(44%).

Table no. 1: Frequency and percentage distribution of sample characteristics

Demographic variables	Frequency	Percentage (%)
1. Age:		
a. 21-30 years	20	20%
b. 31-40 years	29	29%
c. 41-50 years	**38**	**38%**
d.>51 years	13	13%
2. Gender:		
a. Male	**100**	**100%**
b. Female	00	0%
3. Qualification:		
a. No formal education/ illiterate	03	3%
b. Primary education	29	29%
c. Higher secondary	**48**	**48%**
d. Graduation & above	20	20%

4. Work experience:		
a. 1 year- 2 years	08	8%
b. More than 2 years	**92**	**92%**
5. Area of work:		
a. Working with machines	**73**	**73%**
b. Working with chemicals	20	20%
c. Working with raw material	07	7%
6. Duration of work:		
a. 6-8 hours	**70**	**70%**
b. >8-10 hours	29	29%
c. >10-12 hours	01	1%
d. > 12-14 hours	00	0%
7. Any disease:		
a. Yes	16	16%
b. No	**84**	**84%**
8. Source of information:		
a. Newspaper	17	17%
b. Radio/ TV	**44**	**44%**
c. Health personnel	39	39%

Table no 2 :Frequency & Percentage of sample according to level of knowledge depicted that majority of cement factory workers >58% have below average level (<50%) of knowledge and 42% of cement factory workers have average level (50-70%) of knowledge and no worker come under good level (above 70%) of knowledge

Table no 2: Frequency & percentage of sample according to level of knowledge score

Level of knowledge	Frequency	Percentage
Good (Above 70%)	00	0%
Average (50%-70%)	42	42%
Below Average (Below 50%)	58	58%

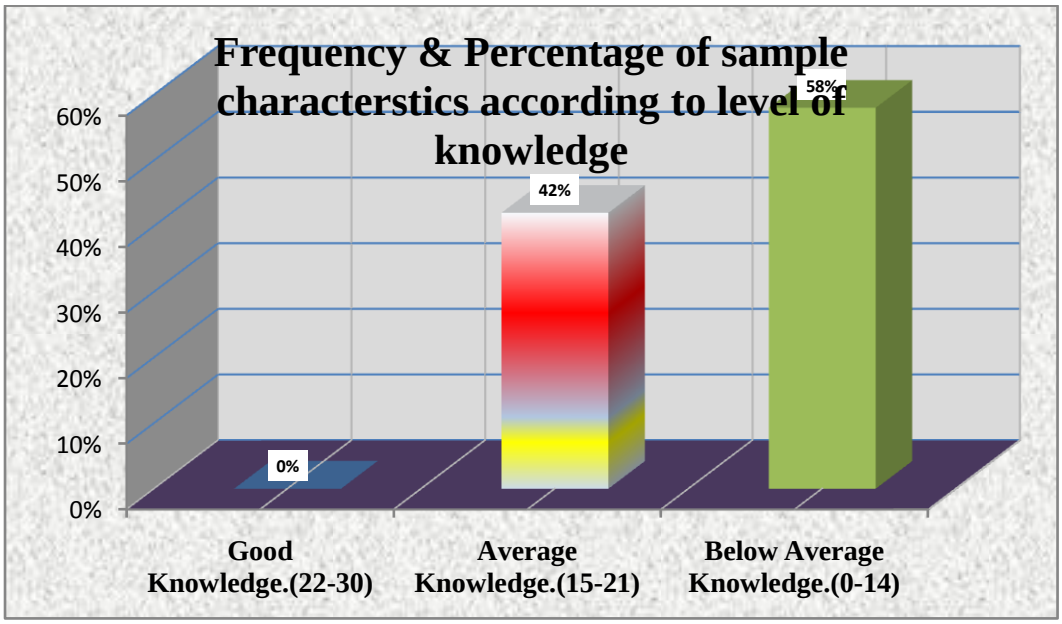

Table no. 3: Shows mean, median, mode, range and standard deviation of knowledge score. Table further depicts that the calculated mean value of the knowledge score is 13.9, median value 14, mode value 14.2. Sample knowledge table further depicts that range of knowledge score varies from 5 to 21. SD (Standard Deviation) of knowledge score is ±2.59.

Table no.3: Mean, median, mode, range and standard deviation of knowledge score

Sample Group	Mean	Median	Mode	Range	±SD
Factory workers	13.9	14	14.2	5-21	±2.59

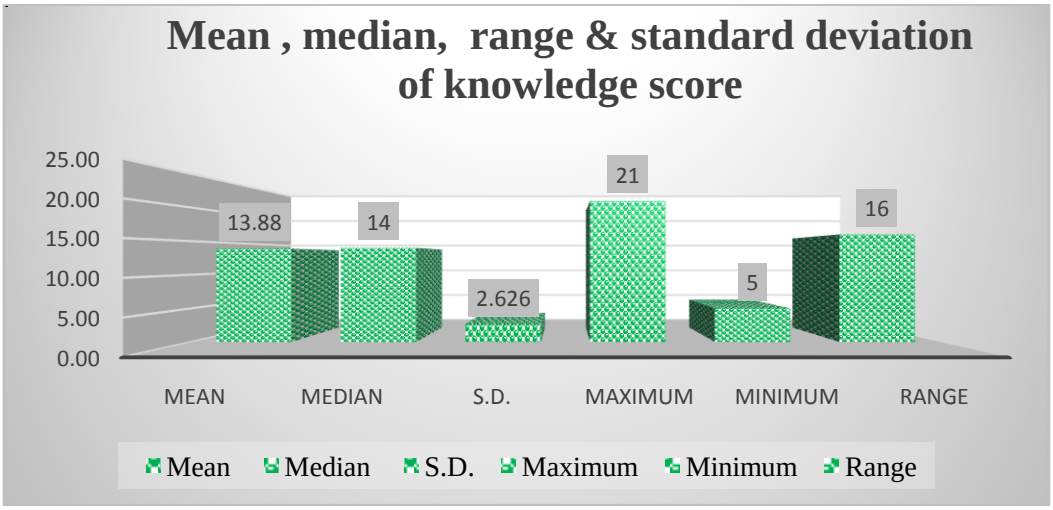

Table no.4: Area wise mean, median, mean percentage, ±SD and range shows that maximum knowledge (47.90%) comes under the area of Act related to workers welfare. Workers show least awareness/ knowledge (40.20%) regarding different types of occupational health hazards. Table further depicts that Area of Prevention and sites of injuries shows highest (4) median value, ±SD (1.363) comes under definition of occupational health hazards. Table also shows that the minimum score value is 5 and maximum score value is 21 and range calculated as 16.

Table no.4: Area wise mean, mean percentage, median, standard deviation and range of knowledge score

Areas	Mean	Mean%	Median	±SD	Range		
					Max.	Min.	Total
Definition of occupational health hazards	2.86	47.67	3	1.363	5	0	5
Types of occupational health hazards	2.01	40.20	2	0.980	4	0	4
Prevention and sites of injuries	4.22	46.89	4	1.567	8	0	8
Act related to workers welfare	4.79	47.90	5	1.113	7	1	6
Over all knowledge	13.88	46.27	14	2.626	5	21	16

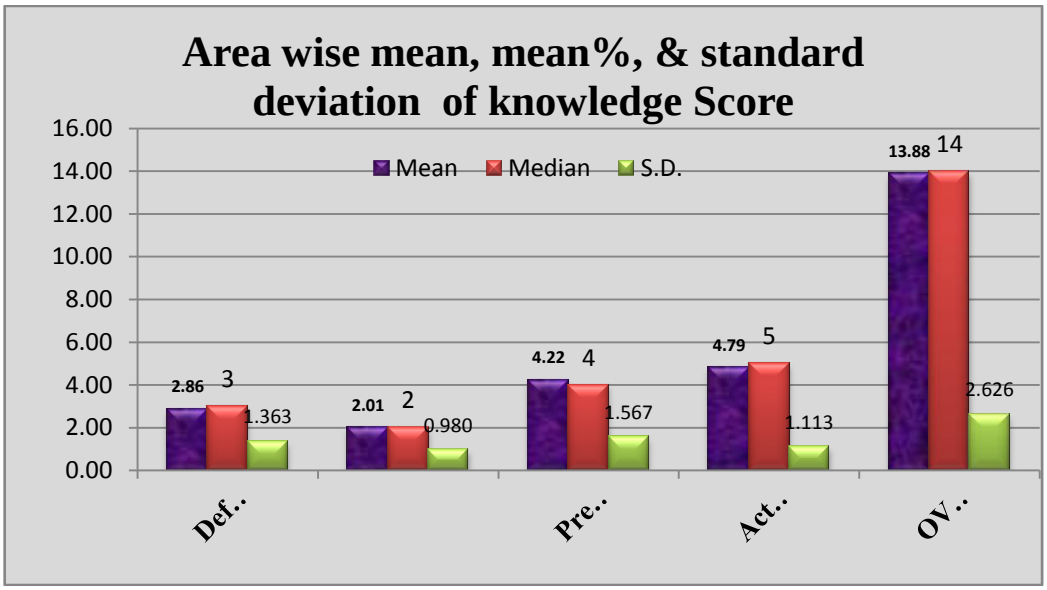

Table no. 5: Shows the association between knowledge score and selected demographic variable. The table also shows the chi square values of demographic variables, p value and level of significance .This table further shows that calculated value of chi square for age more than table value ,which shows that **age having a significant association ±11.344** with knowledge. Beside this **qualification** of workers also having a significant association with knowledge score as the calculated value of chi square for qualification is more than the table value **±13.102.**

Table no.5: Association between knowledge score and socio- demographic variables

Demographic variables	Below median	Above median	Chi square value	P value	df	Table value	Results
1. Age: a. 21-30 years b. 31-40 years c. 41-50 years d.>51 years	 12 10 25 11	 08 19 13 02	**11.344***	0.010	3	7.815	Significant*
2. Gender: a. Male b. Female	 58 00	 42 00	NA				Not significant
3. Qualification: a. No formal education/ illiterate b. Primary education c. Higher secondary d. Graduation & above	 01 10 36 11	 02 19 12 09	**13.102***	0.004	3	7.815	Significant*
4. Work experience: a. 1 year- 2 years b. More than 2 years	 06 52	 02 40	1.032	0.310	1	3.841	Not significant
5. Area of work: a. Working with machines b. Working with chemicals c. Working with raw material	 46 07 05	 27 13 02	5.615	0.060	2	5.991	Not significant
6. Duration of work: a. 6-8 hours b. >8-10 hours c. >10-12 hours d. > 12-14 hours	 44 13 01 00	 26 16 00 00	3.468	0.177	2	5.991	Not significant
7. Any disease: a. Yes b. No	 11 46	 05 38	0.904	0.342	1	3.841	Not significant

8. Source of information: a. Newspaper b. Radio/ TV c. Health personnel	 08 24 26	 09 20 13	±2.253	0.324	2	5.991	Not significant

IV. Discussion

Many studies reveal that man in the working environment may be exposed to the various threatening situations for his life and health. Due to their reaction on the human, these can be divided into: dangerous, harmful or arduous. Depending on the concentration or dose, arduous factors may become harmful (threatening the health) or dangerous (threatening life). According to the classification in the standards, factors of the working environment are divided into, chemical, biological and psychological depending on their nature.

Organization must pay attention to the same attention towards achieving high occupational health & safety performance as they do to the other key objectives of their business activities. Because, proper attention to the safety ,health promotive and welfare of the employees can yield valuable returns to a company by improving employee morale, reducing absenteeism and enhancing productivity, minimizing potential of work-related injuries and illnesses and increasing the quality of manufactured products and/ or rendered services.

The present study was an open descriptive study done to assess the level knowledge regarding occupational health hazards among cement factory workers at ACC Barmana , Bilaspur, Himchal Pradesh.

The study shows that Majority of cement factory workers >58% have below average level (<50%) of knowledge and 42% of cement factory workers have average level (50-70%) of knowledge and no worker come under good level (above 70%) of knowledge.

V. Conclusion

Qualification and age of the workers shows the level of significance with the knowledge score. This reveals that level of knowledge increases with the increase in qualification and age .

References

[1]. Park , K .(2011). *Textbook of Preventive and Social Medicine* (24th ed.). Jabalpur: Bhanot.
[2]. *Occupational safety and health.*(n. d.). Retrieved June 18, 2019, from https://en.wikipedia.org/wiki/Occupational_safety_and_health#Definition

[3]. *Occupational Health.* (n. d.). Retrieved June 20, 2019, from http://www.searo.who.int/india/topics/occupational_health/en/

Pallvi Ranaut, et. al. "Study To Assess The Level Of Knowledge Among Cement Factory Workers At Acc Barmana, Bilaspur , Himachal Pradesh." *IOSR Journal of Nursing and Health Science (IOSR-JNHS)*, 9(4), 2020, pp. 40-45.