

TO STUDY VARIOUS HEALTH CARE AND SAFETY FACILITIES PROVIDED AT CONSTRUCTION SITES TO CEMENT PORTERS

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ABSTRACT

Cement porters often work in dusty circumstances with high labour intend sites. Cement can cause ill health mainly by skin contact, inhalation of dust and manual handling. Exposure to cement dust may cause irritation of the eyes, nose and skin. It may cause chronic irritation of the eyes, nose ulcers, and skin rashes. Therefore, it is important for cement porters wear protective clothing while working.

KEYWORDS: Cement porters, Health care, Protective clothing

INTRODUCTION

The construction industry is one of the largest industries in any given society with the many challenges of health and safety risks. Cement porters face these risks, because of exposure throughout the building process. They are exposed to a wide variety of health hazards at work and these exposures differ from job to job. These health hazards are classified into three classes; Chemical, physical and biological hazards. As cement being an important ingredient of construction, can lead to several health problems. Exposure to dust produced during the cement manufacturing process is known to cause chronic respiratory ailments in the form of cough, sputum, wheezing, shortness of breath, chronic bronchitis and adversely alter the pulmonary function. Allergic skin rashes may also occur. Repeated exposure over a long period of time to cement dust has produced changes in the lungs and an increased amount of wheezing, shortness of breath, and cough with sputum. The present study, an attempt was made to study the health care and safety facilities provided to them.

METHODOLOGY

In order to study various health care and safety facilities provided at construction sites to cement porters and construction supervisors, they were randomly selected from different construction sites in South Delhi, considering that they should have been working at construction sites for at least the past two years. Thus, a total of 200 cement porters and 25 supervisors were selected for the investigation. Information was collected regarding health care and safety facilities provided to the cement porters at the construction sites that included

- First aid facility
- ESI facility
- Pre-employment medical examination
- Facility of doctor
- Periodic medical examination

- Provision of protective equipments
- Maintenance of protective equipments

RESULTS AND DISCUSSION

In this part of the study, the information was gathered on the different health care and safety facilities such as first aid, ESI, regular medical checkups and provision of protective clothing available to the cement porters and supervisors in construction for their safety and healthy environment (Table 1 & 2).

Table 1: Provision of Health Care Facilities to Cement Porters at Construction Sites

S.No	Characteristics	Construction sites N=200	%
1.	First Aid Facility		
	Yes	194	97
	No	6	3
2.	ESI Facility		
	Yes	20	10
	No	180	90
3.	Facility of Doctor		
	Yes	102	51
	No	98	49
4.	Pre-Employment Medical Examination		
	Yes	0	0
	No	200	100
5.	Periodic Medical Examination: Yes	5	2.5
	No	195	97.5
6.	Advise by Company on how to Use Chemicals		
	Yes	59	29.5
	No	141	70.5
7.	Provision of Personal Protective Clothing		
	Yes	45	22.5
	No	155	77.5

Table 2: Provision of Health Care Facilities to Supervisors at Construction Sites

S.No	Characteristics	Construction Sites N=25	%
1.	First Aid Facility		
	Yes	23	92
	No	0	0
2.	ESI Facility		
	Yes	5	20
	No	20	80
3.	Facility of Doctor		
	Yes	18	72
	No	7	28
4.	Pre-Employment Medical Examination		
	Yes	0	0
	No	25	100
5.	Periodic Medical Examination		
	Yes	15	60
	No	10	40
6.	Advise by Company on How to Use Chemicals		
	Yes	15	60
	No	10	40
7.	Provision of Personal Protective Clothing		
	Yes	10	40
	No	15	60

First aid is the provision of immediate care to a victim with an injury or illness, usually affected by a lay person, and performed within a limited skill range. First aid is normally performed until the injury or illness satisfactorily deals with (such as in the case of small cuts, minor bruises, and blisters) or until the next level of care, such as an ambulance or doctor arrives. Analysis indicated that the majority of the workers (97%) and supervisors (92%) were getting the **first aid facility**

The promulgation of **Employees' State Insurance Act, 1948** envisaged an integrated need based social insurance scheme that would protect the interest of workers in contingencies such as sickness, maternity, temporary or permanent physical disablement, death due to employment injury resulting in loss of wages or earning capacity. The Act also guarantees reasonably good medical care to workers and their immediate dependants (ESI Act, 1948), (<http://esicvijayawada.gov.in/esicact.html>). Analysis of the results had indicated that only (10%) of cement porters were getting ESI facility and on the other hand (20%) of supervisors were getting ESI facility. Before any recruitment of the cement porters, none of the site was conducting any pre-employment medical examination. As far as facility of doctor is concerned, it was found that (51%) cement porters and (72%) supervisors were getting such facility on their respective construction site.

An attempt was also made to know whether cement porters and supervisors at construction sites are using Personal protective equipment (PPE) or not. Personal protective equipment (PPE) is designed to protect employees from serious workplace injuries or illnesses resulting from contact with chemical, radiological, physical, electrical, mechanical, or other workplace hazards. Besides face shields, safety glasses, hard hats, and safety shoes, PPE includes a variety of devices and garments such as goggles, coveralls, gloves, vests, ear plugs, and respirators (OSHA) (www.osha.gov). It was observed that only (22.5%) of cement porters and (40%) of supervisors were provided the protective clothing. Further, it is shown in (**Figure 1 & 2**) that porters were not using the any kind of protection while handling of cement, which may lead to cracks and ultimately a route for the entry of chemicals in the body. In (**Figure 3, 4 & 5**) cracks can be seen on the hands of the porter, he was working since long in the industry without using any kind of the protection. It is shown in (**Figure 6**) that porters, were in casual wear, they were not provided any kind protective wear. In (**Figure 7**) the porter was collecting dry cement in cement bag without using gloves, on the other side in (**Figure 8**) is shown that porters were working without safety boots.

Muema et al., (2015) had reported the existence of injuries and ailments associated with working in the construction sites and PPE utilisation among the construction workers. They were not provided with PPE by the management of the construction sites, some construction workers continue to have a rather low utilization of protective clothing, despite the fact that they were very much aware of the association between PPE utilization and associated injuries/ailments. The results of other studies were carried out on knowledge, attitude and practice on PPEs to show that majority of the workers had low knowledge on PPEs and also the usage was low. Workers, especially those working in the construction industry are ignorant and have low awareness of prevention measures which involves utilization of PPE in injury prevention in building construction industry especially of falling debris and manual handling of loads.

Studies conducted by Safe work Australia had indicated that construction workers were most commonly exposed to airborne dust and fumes (69%), vibration (55%) and loud noise (53%) in their workplace. Those exposed to loud noise reported the highest levels of control measures (e.g. Personal protective equipment), while almost one quarter of workers exposed to vibration were not provided with any control measures.

Ranganathan et al., (2016) reported that most of the cement porters coming to metropolitan cities are mainly from rural background. The contractors and subcontractors are taking the advantages of this and employing them in construction activities. As majority is illiterates and don't know the labor laws, what are the basic facilities they must get, working condition or hygiene. Maximum workers for short term only for need basis. One of the major disadvantages is, these labours are not available for any follow up. Most of the contractors or companies don't have any policies to these workforce.



Figure 1: Cement Porters Working Without Protective Clothing



Figure 2: Cement Porters Handling, Cement Without Protective Clothing



Figure 3: Cement Porter Handling, Cement Without Gloves



Figure 4: Cement Dust and Cracks on the Hands of the Cement Porters



Figure 5: Hand Conditions of Cement Porter



Figure 6: Cement Porter Handling Dry Cement Without Protective Clothing



Figure 7: Cement Porter Collecting Cement in Bag Without Gloves



Figure 8: Porter Working Without Protective Boots

CONCLUSIONS

Analysis indicated that the majority of the cement porters and supervisors were getting the first aid facility. It was found that very few cement porters and supervisors were getting ESI facility. None of the construction site was conducting any pre-employment and periodical medical examination. Data indicated that only some of cement porters and the supervisors were provided with protective clothing and none of the unit was conducting any training for the proper use of protective clothing.

REFERENCES

1. Employees' State Insurance Act, 1948, <http://esicvijayawada.gov.in/esicact.html> (Accessed on 30th, March 2017).
2. Muema, L.M., Gatebe, E., Kirui, B., Adrian, A.A. (2015), Awareness of Construction Workers on Occupational Hazards, Illness and Injuries Associated With Construction Industry in Mombasa County, *IOSR Journal of Nursing and Health Science*, Vol- 4, pp 75-82.
3. Occupational Health Guideline for Portland Cement (OSHA), (1978), U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, *National Institute for Occupational Safety and Health*.
4. Ranganathan, B.A. (2016), Skin and Respiratory problems in Construction workers, *International Research Journal of Engineering and Technology*, Vol-3, pp 2395-0072.