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Knowledge and Attitude towards Asbestos Hazards among Asbestos Workers in India

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Inhalation of asbestos fibres is known to cause asbestosis, which is characterised by the fibrosis of both the pleura and the pulmonary parenchyma.¹ Asbestosis has a long latent period and by the time when the disease becomes overt and the worker becomes symptomatic, the lungs have already been seriously damaged. Furthermore, asbestos has been classified as a group I carcinogen by International Agency for Research on Cancer and is acknowledged as a well-known carcinogen of lung cancer and malignant mesothelioma.²

Asbestos is used in India mainly in two types of units—large organized units and small unorganized units. While the organized units fall within the ambit of Indian Factories Act, the smaller unorganized sectors are mostly not covered by the law. Therefore, more often than never these units flout the norms for the welfare of the workers. This makes the workers of unorganized sectors more susceptible for exposure to harmful substances by virtue of workplace pollution.

Though there is no treatment for the asbestos-related diseases, it can be prevented. However, it requires the workers to be aware of the material being used and the hazards it poses. The understanding of workers regarding mode of exposure, the bodily system it affects, legal issues associated with the disease and the preventive measures available are important for

reducing the burden of the disease. We therefore conducted this cross-sectional study to assess the knowledge, attitude, and practices of asbestos workers of small-scale asbestos products manufacturing units regarding health effects of asbestos, preventive measures to be taken, and safe disposal of asbestos.

A list was obtained from the concerned department where we found there were only six operational units at the time of study. We therefore studied all the six units. A purposive sampling method to include all the workers in the selected units; there were 117 workers. Two units were manufacturing friction materials while other four units were engaged in asbestos textile production. All studied workers were male. All workers were interviewed. *Data were collected by a predesigned questionnaire.* Responses to the questions were dichotomized and graded on a scale of '0' to '1' with '1' indicating the correct response and '0' being incorrect response. SPSS® for Windows® ver 15.0 was used to calculate the mean and median scores of the responses.

Most of studied workers were young with mean age of 31.6 (SD 9.8) years; the mean length of service was 5.3 years. Seventy percent of studied workers had up to the secondary level of education that is a positive factor while imparting knowledge about the asbestos hazards and safe han-

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Received: Jun 17, 2014
Accepted: Oct 6, 2014

Cite this article as: Tiwari RR, Saha A. Knowledge and attitude towards asbestos hazards among asbestos workers in India. *Int J Occup Environ Med* 2015;6:58-60. doi: 10.15171/ijoem.2015.465

Table 1: Mean and median score on KAP questionnaire

Question	Mean (SD) score	Median score
Know that asbestos is used at work process	1.00 (0.00)	1
Asbestos is harmful for health	1.00 (0.00)	1
How severe is the harm	0.58 (0.49)	1
Type of health hazards caused by asbestos	0.65 (0.48)	1
What is the protective measure	0.92 (0.27)	1
Received training for safe handling of asbestos	0.09 (0.28)	0
Asbestos hazards are compensable	0.03 (0.16)	0
Use PPE* while working	1.00 (0.00)	1
Use PPE because	0.97 (0.16)	1
Frequency of usage of PPE	0.96 (0.20)	1
Disposal of asbestos waste	0.71 (0.46)	1
Undergone periodic medical examination	0.05 (0.22)	0
Chest x-ray done any time since joining job	0.06 (0.24)	0

*PPE: Personal protective equipment

dling.

The mean and median score in response to the questions related to knowledge of and attitude towards asbestos-related health hazards are presented in Table 1. The mean score regarding usage of asbestos at workplace, its harmfulness and use of personal protective equipment (PPE) suggest that study participants were having correct knowledge and practice. However, the score suggested that the knowledge, attitude, and practice were either grossly incorrect or still required improvement.

Nearly half of the workers did not know that they are handling harmful substances such as asbestos at their workplace. This would imply that in most instances the employers do not inform the workers of asbestos so as to not lose their labor. It

is mandatory for the employer under the Indian Factories Act, 1948³ to disclose the information involving a hazardous process to the workers employed in the factory. Furthermore, about one-third of the workers were ignorant about the harmful nature of the asbestos. Majority of the worker had never undergone training for safe handling of the asbestos and compensable nature of the disease caused due to its exposure. This makes the workers to adopt bad manufacturing practices, which further increase the chance of exposure to dust and neglect the advice to use personal protective measures.

Instead of an appropriate respirator, the workers were using a piece of cloth as mask to prevent inhalation of dust and fibres at the workplace. This may be the impact of health survey being taken and

thereby workers being told by the employer to respond affirmatively to the use of PPEs. However, the principles of workplace hygiene suggest that use of personal protective measures should be a complementary measure for prevention rather than a supplementary measure. Against the provisions in the Indian Factories Act for pre-placement and periodical medical examination including chest radiography of the workers exposed to dust in workplace environment, none of studied workers was subjected to pre-placement examination, about one-fourth underwent periodic medical examination, and only 13.7% were ever radiographed after joining the job.

The ignorance of the workers about safe disposal of asbestos-containing waste is also posing an environmental threat due to ambient air pollution. However, it was fortunate that because of the cost of the asbestos, most of the workers were recycling

the waste.

Therefore, there is a need to impart knowledge regarding asbestos and its safe disposal to the workers. This will not only increase their safety awareness, but also prevent the environmental threats through safe disposal of such substances.

Conflicts of Interest: None declared.

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For more information on the asbestos risk assessment in Pakistan see <http://www.theijoem.com/ijoem/index.php/ijoem/article/view/161>



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