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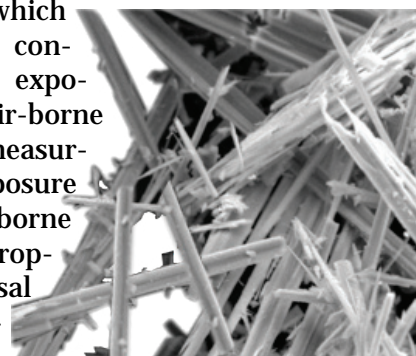
Asbestos Risk Assessment in Pakistan: Current Scenario and Way Forward

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Asbestos is used widely in various manufacturing industries in Pakistan despite the adverse health affects associated with it. Around 70% of the global consumption of asbestos is from Asian countries like China, India, Thailand, Vietnam and Indonesia,¹ where it is used in manufacturing of products for insulation, roofing, building materials, car brakes, *etc.* Prolonged exposure to asbestos is predominantly linked to diseases like asbestosis, mesothelioma and asbestos-related lung cancer; all forms of asbestos are classified as human carcinogens.^{1,2} According to WHO, it has been estimated that around 125 million people are being exposed to asbestos globally leading to an estimated 90 000 deaths annually.³ Various international organizations like international labor organization (ILO), WHO and others joined together to call for a worldwide ban on asbestos use in 2006.³ However, only around 23% of WHO member states have imposed the ban so far while majority of the low- and middle-income countries continue to use it in various products to date.³ ILO in 1986 has established asbestos convention to promote national laws and regulations for the “prevention, control and protection of workers against health hazards due to occupational exposure to asbestos.”⁴ International standards are also available for work involving asbestos containing par-

ticles which include controlling exposure to air-borne fibres, measuring exposure to air-borne fibres, proper disposal of asbestos



containing material (ACM) to protect the community and environment, identifying asbestos materials and training of the personnel who would be involved in inspections, maintenance, removal or laboratory analysis.⁴

Pakistan has still not banned asbestos generation and use in the country.¹ Mining of asbestos has been done in various parts of Pakistan. Approximately 90% of these deposits of asbestos are in Khyber Pakhtunkhwa (KPK) province. The labor workers in these mines do not use any precautionary or protective measures to protect themselves from occupational and environmental hazard of asbestos. There are large number of milling and manufacturing units of local and imported asbestos in KPK. These units produce corrugated sheets, ceiling tiles and other asbestos containing materials.⁵ In Pakistan, between 1995 and 2003, 601 cases of mesothelioma were diagnosed only in

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the KPK province.¹ The geographical distribution of mesothelioma showed that the cases belong to the same area where extensive asbestos-related activities are going on.⁴

Little work has been done in the country regarding asbestos risk assessment and there is lack of published literature available regarding asbestos in Pakistan.^{6,7} However, some grey literature is available regarding this important issue.⁵ Various studies have been conducted to find out the exposure level of asbestos in different areas of KPK province.⁵⁻⁷ The concentration of asbestos fibres in mining fields in the form of respirable particulate were higher than the permissible limit in indoor environment.⁶ A study conducted in marble deposits of Swabi district found that samples collected from Ghundai Tarako area were mostly fibrous tremolite belonging to the amphibole group. Skin allergies and asthma were also commonly observed among the marble miners in that area.⁷

Risk assessment of asbestos has only been done in one part of Pakistan—Khyber Pakhtunkhwa province.⁵ In various areas of KPK, both quantitative and qualitative methods revealed that the concentration of asbestos fibers was 100 times greater than the permissible exposure limit in all samples. It was also found that almost 90% of patients suffering from various lung diseases were exposed to airborne asbestos fiber somewhere, sometime in their life.⁵

In addition to increasing awareness about adverse health outcomes associated with continuous asbestos exposure, there is an urgent need to develop capacity for conducting risk assessments for

asbestos in Pakistan. Strict precautionary measures must be adopted to control and reduce the air-borne asbestos fibers in indoor and outdoor environment.

Conflicts of Interest: None declared.

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For more information on asbestos and malignant mesothelioma see www.theijoem.com/ijoem/index.php/ijoem/article/view/107/210