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Research Paper :

Assessing and preventing self-reported work-related musculoskeletal disorder of workers in brick making factories

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ABSTRACT

The main aim of this study was to investigate the self-reported work-related musculoskeletal disorders by male and female workers during individual raw brick making activities and to analyse the causes of discomfort related to various postures adopted by the workers. Twenty male and 20 female workers from raw brick making unit were randomly selected and a detailed work related musculoskeletal pain/ discomfort were analysed in different activities with the revised Nordic Questionnaire. All the selected workers had given their responses, which were analyzed. It was reported that 100 per cent of the respondents complained pain in digging and crushing clay activities. Thirty per cent of males and nearly 38 per cent females *i.e.* approx 68 per cent respondents said that the activity of wetting clay caused the pain. All the respondents suffered from pain and discomfort due to mixing clay, carrying clay, loading and pushing wheelbarrow caused to almost all the workers of the brick making unit. On the other hand, nearly 33 per cent of males and 40 per cent of females felt the pain while shaping the bricks. Majority of the respondents were feeling pain and discomfort in different body parts. It was also observed that the workers work continuously in awkward postures during certain raw brick making activities. Consequently they may suffer from discomfort in different parts of the body. Even mostly they were from middle generation and were felt the musculoskeletal pain/discomfort in different body parts.

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Work-related musculoskeletal disorders (WMSDs) have become a major problem in many industrialized countries (Hagberg *et al.,* 1995) including India. These disorders have caused a considerable human suffering and are also economically very costly, because of reduced working capacity and lessoned production. High incidence rate for WMSDs of the upper extremities have been reported for workers in office work, manufacturing and agriculture which includes numerous material handling occupation in various factories (Faucet *et al.,* 2002).

The scientific committee for Musculoskeletal Disorders of the International Health (ICOH) recognizes WMSDs which describe a wide range of inflammatory and degenerative disease, and disorders that result in pain and functional impairment (Kilbome *et al.,* 1996) and may affect the body's soft tissues, including damage to the tendons, tendon sheaths, muscles and nerves of hands, wrists, elbows, shoulders, neck and back. The conditions for these regions are collectively referred to as the neck and upper limb musculoskeletal disorder (Saldana, 1996).

Brick factory workers are mainly involved in different factory activities related to brick making. Most of those workers come from poor socio-economic conditions. They are compelled to perform brick making activities with the family members so that they can earn money to help their families.

The workers mainly perform the following activities: digging and crushing clay, wetting clay, mixing clay, loading and pushing the wheelbarrow, shaping raw bricks, arranging bricks to dry, loading bricks on to the truck, tractor, and cycle or on others. To carryout such activities, workers most often have adopt awkward postures for a longer period *i.e.* near about 12 hours that result in musculoskeletal pain/discomfort affecting different body parts and have a poor body mass index.

In this study, an attempt has been made to correlate workers discomfort with their activities and year of working.

METHODOLOGY

For this study, 5 brick factories, which were 20 per