

**PREVALENCE OF WORK-RELATED MUSCULOSKELETAL SYMPTOMS  
AND THEIR ASSOCIATION WITH DEMOGRAPHIC AND ERGONOMIC  
RISK FACTORS AMONGST THE WORKERS OF SMALL & MEDIUM  
SIZED METAL TOOLS MANUFACTURING FACTORIES  
IN THE BSCIC INDUSTRIAL ZONE, TONGI,  
BANGLADESH**

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## ABSTRACT

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The economic loss due to Work-related musculoskeletal symptoms (WRMSS) affects the wellbeing of workers as well as on the development of industry, society and the country. On the other hand, metal handling is a labor intensive and vigorously demanding job which may cause high prevalence of WRMSS. In spite of the numerous reports on this issue in various specific groups of workers, little data on the prevalence of WRMSS in the metal tools manufacturing factories of Bangladeshi workers are available that is not enough for making plan on effective ergonomic intervention. The aim of the study was to determine the prevalence of work-related musculoskeletal symptoms and their association with demographic and ergonomic risk factors amongst the workers of the small and medium sized metal tools manufacturing factories in the BSCIC industrial zone, Tongi, Bangladesh. A prospective survey was designed and approved by the Ethical Committee of BHPI. Multi stage random sampling was administered to have a primary representative sample. Then the desired sample was screened out according to the inclusion and exclusion criteria. Finally the survey was done by using the short translated Bengali version of Dutch Musculoskeletal Questionnaire (DMQ). Single blind procedure was used to collect data. Researcher also observed the activities of the workers to verify the information about risk factors by using an observation checklist. 91.70%, 85% and 68.30% of the workers reported respectively life- time, 12- month and 7- day prevalence of WRMSS. The most affected area was the upper and lower back. Women had greater prevalence than men at 12- month prevalence however opposite in 7- day prevalence. Older workers reported more complained compared to younger ones. Worker with long employment duration, low income and low educational level reported high prevalence. The workers who travelled to the factory on foot also reported high prevalence. The workers of these factories reported that they were highly exposed to ergonomic risk factors. These are the main causes of occurring high prevalence of WRMSS in metal handling task. Considering the findings, appropriate intervention program should acknowledge to improve workplace safety.

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### Key terms

Work-related musculoskeletal symptoms, Metal handling tasks, BSCIC (Small sized metal tools manufacturing factory).