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Ergonomic evaluation of postures of workers, working in painting of buildings in India and suggesting for design improvements of implements

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The demography of India is such that the country has never faced any shortage of manpower in its history. This has resulted in various manpower-intensive industries and a large pool of unorganized labourers. This study has focused on such an unorganized sector, namely the painting industry, and specifically painting of buildings, houses etc. Three ergonomic methods, Strain Index, REBA and RULA have been applied to judge the postures used to evaluate the risks of work related musculo-skeletal disorders (WMSDs) related to the postures. The studies were conducted by observing and using questionnaire during the painting of Jadavpur University during April-June 2014. The Strain Index uses a semi quantitative job analysis to determine the risk level at the wrist during any hand intensive jobs. The SI showed that the job can be categorized as hazardous. REBA and RULA, on the other hand, evaluate the postures of the workers during various stages of painting. A REBA score of 10 showed the job to be of very high risk and a RULA score of 6 showed that the postures needed to be investigated and changed soon. So, a few alternatives have been suggested, which even though in use in some parts of the world, is not popular in India. A comparison of the suggested method using the same three methods shows a drastic reduction of risks.

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