

## AN ERGONOMICS ASSESSMENT OF WORK STRESS OF DAIRY WORKERS IN TERMS OF MUSCULO-SKELETAL PROBLEMS DURING CLEANING OF CATTLE-SHED

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### ABSTRACT

Objective of the study was to find out musculo-skeletal problems among the male and female dairy workers in cleaning of cattle-shed. It is greatest occupational health concern and seems to be a global problem. For the study, respondents of higher (40-50yrs) and Lower (30-40 yrs) age groups were randomly selected from three selected villages. The data for different parameters were collected through a questionnaire prepared for the purpose and analysed using statistical methods. It was found that cleaning of cattle-shed is a physically arduous activity and involves various risk factors which may be responsible for the development of various musculo-skeletal disorders among dairy workers. Further, it was noticed that females were more prone to musculo-skeletal disorders as compared to males. Both male and female dairy workers of higher age group were found most susceptible for WMSDs than dairy workers of lower age group. Hence, there is great need for the development of appropriate tools and techniques which may be safer for the health of dairy workers.

**Key words :** Dairy workers, Cattle-shed, Musculo-skeletal disorders, Risk factors

Work related musculo-skeletal disorders (Wises) are one of the greatest occupational health concern today. Similar to communicable diseases, occupational disorders can be regarded as traditional, emerging and re-emerging. Problems of work related to musculo-skeletal disorders are global in scope and widespread in many industries. Cleaning of cattle-shed involves manual material handling with heavy lifting, pushing, pulling and bent forward posture in standing position as well as repetitive motion. All these have been recognized as risk factors for occupational health by NIOSH. Pressure on the disk was considerably increased when trunk was bent forward as compared to standing posture in a upright position (Nechamson and Elistrom, 1970; Anderson and Ostengzen, 1974; Nechamos, 1974). Findings of the study conducted by Nechamson and Elistrom (1970) showed that posture such as stooping and lifting or carrying loads caused damage to the spinal discs and included health hazards on the supporting system of the spine, while sometime increased level of muscular tension in cervical region was noticed when the neck was kept bent. Moreover, dairy farming is highly gender sensitive because of most of the dairy activities are generally performed by female workers with less or no contribution from counterpart. Therefore, the objective of the present study

was to find out musculo-skeletal problems among male and female dairy workers involved in cleaning of cattle-shed.

### METHODOLOGY

Kalyanpur block of Kanpur district was randomly selected as a study area for present study. Further, three villages namely- Hirdayapur, Ishwarigunj and Dharmpur were selected randomly for data collection. Forty male and thirty female respondents of two age-group (30-40 yrs and 40-50 yrs) were selected purposively on the basis of physical fitness. Thirty male and twenty-two female respondents of 30-40 yrs and ten male and eight female respondents of 40-50 yrs were found physically fit from the selected samples of phase-I. Physical fitness was assessed through body mass index, body temperature, blood pressure and heart rate.

*The subjects who met the following conditions were selected for the experiments :*

Physical fitness : BMI index  
Body temperature : not above 99°F  
Blood Pressure : 120/80 ± 10  
Heart rate : 70-90 beats/min.

Musculo-skeletal problems among dairy workers were studied by assessing intensity of body pain in upper and lower extremity of dairy workers. To study the resultant and chronic effect of selected dairy farming