Identification of Ergonomic Risks and Postural Analysis in Small Scale Industries – A Case Study of Oil Mill and Dal Mill (pulse processing) Industries

Someshwari Agre
Student, Department of Industrial & Production Engineering, P.D.A.College of Engineering, Kalaburagi, India
someshwariagare@gmail.com

Qutubuddin S.M.
Associate Professor, Department of Industrial & Production Engineering, P.D.A.College of Engineering, Kalaburagi, India
syedqutub16@gmail.com

Smita Shabadi and Rudreshwar Hiremath
Students, Department of Industrial & Production Engineering, P.D.A.College of Engineering, Kalaburagi, India
smitasmita1919@gmail.com, rudreshwarhiremath@gmail.com

Abstract

Ergonomics is the study of the kind of work people do, the machines and tools they use and the environment they work in to perform the work. Most of the small scale industries are surrounded by ergonomic deficiencies and occupational health and safety issues. The present study is focused on identifying the ergonomic problems in traditional small scale industries like dal mills *(pulse processing)* and oil ghani *(oil mill)*. Most of these industries are a part of the unorganized sector in India, engaged in production of goods with primary objective of generating employment and contributes to the economy. The objective of study is to find out ergonomic shortcomings in the workplace and recommend suitable measures to improve the efficiency and productivity. About 5 oil mills and 5 dal mills are selected and demographic data of workers is collected. Musculoskeletal discomfort questionnaire and visual analogue scale were administered to know the prevalence of MSDs in different body parts and overall discomfort. Postural analysis using RULA and REBA was carried out to determine the risk levels due to awkward postures. Environmental parameters like noise, heat and illumination were measured using appropriate instruments. The results of MSD questionnaire indicate about 45%-60% discomfort in lower back, upper back and shoulders. The VAS score is 47% in oil mill workers and 58% in dal mil workers. The postural analysis indicated about 32% and 39% workers in high risk category in oil mill and dal mill respectively. In some activities in both industries high noise is prevalent. The poor working conditions and negligible use of personnel protective equipment add to the discomfort and health of the workers. Several ergonomic interventions like engineering controls and administrative controls are recommended so that the workers health and safety levels improves that leads to overall satisfaction and increase in productivity.

Keywords
Musculoskeletal disorders, Ergonomic evaluation, RULA, REBA, visual analogue scale

Bibliographies

		
Someshwari Agre	**Smita Shabadi**	**Rudreshwar Hiremath**

Someshwari Agre, Smita Shabadi and Rudreshwar Hiremath are students in Industrial & Production Engineering Department, P.D.A.College of Engineering, Kalaburagi. Apart from academics they are a part of the research group in Human Factors and Ergonomics Laboratory. They are also actively involved in organizing various events and local industrial visits under IEOM student chapter, and have competed in Best Student Chapter competition at 11th Annual IEOM International Conference at Singapore. 7-11 March 2021. They have presented a paper in First Asia Pacific Conference on *Industrial Engineering and Operations Management*
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Dr.Qutubuddin S.M. presently working as Associate Professor, in Industrial and Production Engineering Department, P.D.A.College of Engineering, Kalaburagi. He has more than 29 years experience in teaching and research and has published more than 35 papers in International and National journals and Conferences. Under his supervision 01 research scholar has completed PhD and 02 are undergoing. His research interest include Human Factors and Ergonomics, Occupational Health and Safety; Production/Operations Management. He has introduced the course Human Factors and Ergonomics in the curriculum in under graduate engineering and has developed laboratories such as Industrial Engineering Laboratory, Human Factors & Ergonomics Laboratory and Quality Control Laboratory. He was actively involved in getting NBA accreditation for the department. He is a life member of ISTE, IIPE, IAENG and IEOM Society USA. He has started a student chapter of Industrial Engineering and Operations Management Society (IEOM) Michigan, USA in the institute. The chapter was awarded the best student chapter in the year 2019 at IEOM International conference in Bangkok, and in 2020 at IEOM International conference held at DUBAI. He is serving regularly in various capacities as a Reviewer, Track Chair, Session Chair and Technical Committee member in IEOM International conferences since 2015. Under his guidance UG students have participated and presented papers in International Conferences in India and abroad.