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### Abstract

**Introduction:** Musculoskeletal disorders are major concerns of the modern world due to their effect on the physical health and productivity of the workforce. More extensive research is therefore required to identify and prevent these injuries and control the risk factors causing their development.

**Materials and Methods:** The present study uses a theoretical model of ergonomic interventions to examine and improve ergonomic conditions in an automobile spare part manufacturing plant. A total of 44 employees were selected through simple random sampling and according to the Morgan table from the 50 personnel working at the plant. The Nordic Musculoskeletal questionnaire and the review of ergonomics tips inventory were used to identify the ergonomic risk factors. Based on the theoretical model used in the research, the ergonomic intervention was performed in two stages.

**Findings:** In the macro stage of the ergonomic intervention, 7 goals were set and 13 ergonomic recommendations were made in the form of several workshops and task forces. In the micro stage of the ergonomic intervention, 20 ergonomic risk factors were identified and 13 strategies and plans were suggested. With the senior manager's approval, 11 strategies entered the implementation stage with the aim of improving ergonomic conditions and increasing productivity at the workplace.

**Conclusion:** The main outcome of the comprehensive ergonomic interventions performed in the present study was a modified organizational culture, entailing both direct and indirect benefits, such as providing low-cost or no-cost solutions to the problems, creating an active environment of continuous improvement, increasing employees' motivation for participation and being innovative in solving the problems, increasing the inclination among the employees to be an innovative thinker, improving communication between the authorities and the personnel and increasing the employees' general knowledge and capabilities.

**KEYWORDS:** Micro-ergonomics, Macro-ergonomics, Ergonomic risk factors, Productivity, Musculoskeletal disorders.

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