

# IMPACT OF DYNAMIC POSTURE IN ENHANCING ERGONOMICS OF SEWING MACHINE OPERATORS

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## **Declaration**

I declare that this is my own work and this dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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## **Abstract**

### **IMPACT OF DYNAMIC POSTURE IN ENHANCING ERGONOMICS OF SEWING MACHINE OPERATORS**

The aim of this study was to identify posture related ergonomics issues of sewing machine operators, assess the prevalence of ergonomic issues among all postures, to review interventions to identified posture related ergonomic issues and to evaluate the effectiveness of dynamic posture to enhance the ergonomic impacts among the sewing machine operators (SMO).

The prominent health hazard among the SMO is the work related musculoskeletal disorders (WMSD). Many interventions were introduced to relieve the WMSDs. Still a considerable percentage of sewing machine operators suffer from WMSD's in spite of the above interventions. Therefore, dynamic posture (standing and moving) is introduced as an intervention to prevent or mitigate MSD's among the SMO.

Data was collected through a pre-tested interviewer administered questionnaire based on the extended Nordic musculoskeletal questionnaire. For this study thousand eight hundred and twenty five (1825) sewing machine operators working in seated, static standing and dynamic postures in an apparel manufacturer were selected using stratified random sampling method.

Among the respondents, 45% worked in the static standing posture, 33.9% in the seated posture while 21% were in the dynamic posture. Pain/ discomfort was minimally declared (52.7%) by those who worked in the dynamic posture. The pain while at work, after work when at home and during the off days were also lowest among the dynamic posture respondents. However, the pain/ discomfort of the foot/ankle were common in all three postures. The relief of pain/discomfort varied according to the type of anti fatigue mat and the sewing peddle used. Satisfaction of break times, engaging in yoga/ exercises and awareness of correct working postures had a significant impact in reducing pain/discomfort of the respondents in all three postures.

Dynamic posture minimised the probability of acquiring WMSD's of the sewing machine operators contributing to overall production efficiency of the garment industry. The findings can be used to enhance ergonomics by the management of the garment industry.

Key words: ergonomics, dynamic posture, sewing machine operators, garment industry

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## **List of Abbreviations**

Abbreviation	Description
MSD	Muscular Skeletal Disorders
OSHA	Occupational Safety and Health Administration
WMSD	Work-related Musculoskeletal Disorders
SMO	Sewing Machine Operators

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