

3936552 PHIH/M : MAJOR : INDUSTRIAL HYGIENE AND SAFETY ; M.Sc.(Industrial Hygiene and Safety)

KEY WORD : ELECTROMYOGRAPHY / SUBJECTIVE FATIGUE / LOW STOOL / SIT-STAND CHAIR

WATTANA EYOSAWAT : ELECTROMYOGRAPHY AND SUBJECTIVE FATIGUE OF THAI VERMICELLI WORKERS DURING WORKING ON A LOW STOOL AND A SIT-STAND CHAIR. THESIS ADVISOR: CHALERMCHAI CHAIKITTIPORN, Dr.P.H., PRAMOOK OSIRI, M.Sc., VAJIRA SINGHAKAJEN, M.A., 82 p. ISBN 974-589-632-2

The objective of this study was to assess the fatigue of workers in a Thai vermicelli processing factory. Ten workers represented the study sample. The average weight of the subjects was 53.6 kgs.; average height 158.8 cm.; no musculo-skeletal diseases; average experience of 5 years in the Thai vermicelli making process. The subjects were objectively and subjectively assessed for fatigue while working from a low stool for 90 minutes, and while working from a sit-stand chair again for 90 minutes. The objective assessment was carried out by measuring the median frequency (MF) of an electromyogram every 10 minutes. Subjective fatigue was assessed by administering questionnaires at 10, 30, 60 and 90 minute experimental period.

The results indicate that while working in a sit-stand chair, the subjects experienced objective and subjective back muscle (erector spinae) fatigue significantly less than when working from a low stool ($\alpha=0.05$). No differences were found with regard to leg muscle fatigue (gastrocnemius and tibialis anterior). In addition, the subjects were found to experience subjective body fatigue significantly less when working from a sit-stand chair ($\alpha=0.05$). The sit-stand working posture was found to be better than working from a sitting position on a low stool, and productivity was found to be the same.

This study concluded that the sit-stand working posture is an alternative to working from a low stool which reduces back and body subjective fatigue for workers involved with the Thai vermicelli making process.