

UNIVERSITI TEKNOLOGI MARA

**A STUDY ON PROLONGED SITTING AND LOW
BACK PAIN AMONG RUBBER PRODUCT
MANUFACTURING WORKERS**

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Requirements for the Degree of
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Declaration by Student

Project entitled "A Study on Prolonged Sitting and Low Back Pain among Rubber Product Manufacturing Workers" is a presentation of my original research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Mr. Chua Say Tiong as Project Supervisor and Associate Professor Hazilia Hussain as Co-Supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfillment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons.)

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Abstract

A Study on Prolonged Sitting and Low Back Pain among Rubber Product Manufacturing Workers

Nur Hasyimah Binti Ab Halim

Introduction : Static work postures is an isometric positions where very little movement occurs, along with cramped or inactive postures that cause static loading on the muscles. Sitting, especially prolonged sitting is generally accepted as a risk factor in developing low back pain. The workers at this factory exposed to prolonged sitting by the processes called cementing and finishing and about 50 workers was selected to be a subject. **Objective** : To study the association between prolonged sitting posture and occupational low back pain among workers at rubber product manufacturing factory. **Methodology** : The study was conducted in rubber based manufacturing industry located at Jitra, Kedah Darul Aman. The study located at some processes that need the workers to prolong sitting such as cementing, finishing and inspection. The study design of this study is cross-sectional study. Data was collected using Modified Nordic Musculoskeletal Disorder Questionnaire, oral interview, direct observation, measuring work station dimension, photograph and rapid entire body assessment (REBA). The statistical analysis was carried out using statistical package for the social science (SPSS) version 16.0. **Results**: The one year prevalence of low back pain among Operators in the rubber manufacturing industry was 70%. There was an association between prolonged sitting and low back which was ($p < 0.001$). The other musculoskeletal disorders that related to prolonged sitting and significantly associated were eye strain which ($p = 0.013$) and wrist pain ($p = 0.033$). The scores of REBA mostly about 8-10 and it indicated an Action Level 3. It showed that the working posture of prolonged sitting is high risk job, must be investigated and implement change. For work station, the chairs provided did not follow the Guidelines by Department of Occupational Safety and Health (DOSH) and not suitable for various anthropometric of humans. Control Group has lower prevalence of low back pain which was 9 (18%) and they were not caused by prolonged sitting since they did not expose to it. Result showed that risk factors of low back pain are from lifting heavy load 5 (10%), prolonged standing 2 (4%) and not sure is 2(4%). **Conclusion** : In conclusion, there was an association between prolonged sitting and low back pain at this factory.

Keywords : Low Back Pain, Prolonged Sitting, REBA, MSDs.