

UNIVERSITI TEKNOLOGI MARA

**RAPID ENTIRE BODY ASSESSMENT TO QUANTIFY
ERGONOMIC RISK AMONG MECHANICS**

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Abstract

Rapid Entire Body Assessment To Quantify Ergonomic Risk Among Mechanics

Nurul Shamira Binti Napiah

This study conducted purposely to determine the level of ergonomic risk among mechanics working in workshops, and its relation with the health effect present, particularly those related to Musculoskeletal Disorders. The determination of ergonomic risk conducted using Rapid Entire Body Assessment to determine the level of the risk. Modified Nordic Musculoskeletal Questionnaires utilized in order to get the response from the study population regarding their health. For REBA Action Level which represent the level of ergonomic risk shows that over 50% of the study population were classified under Level 4. While 30 % falls under Level 3, and another 1.7% contribution from Level 2 category. There was none recorded for Level 5. A significant correlation proved using statistical analysis between REBA Action Level with the rate of illness, lost working time and the period of having MSDs symptoms, with r-value of 0.791, 0.654, and 0.541 respectively and p-value less than 0.05. For the body part which is the most affected due to the working nature, a significant response received showing that the lower back has become the body part which is the most affected. While fair response received for hand and wrist and neck, 48% and 43% respectively. The least number of responses was for elbow, while none is having problem with their ankle and finger. It can be concluded that mechanics were a group of workers who are at all time facing a significant level of the ergonomic risk, where this risk has a correlation with the health that may give an impact to them. Low back has become the most affected body part due since that the working nature of a mechanic requiring them to frequently apply poor ergonomic practices.

Key Words: REBA, musculoskeletal disorders, ergonomic, low back.

CHAPTER ONE

INTRODUCTION

1.0 Background

Most of us may realized that the adulteration in human knowledge nowadays enable us to manufacture various automated machinery as in return that particular stuff will helps us manufacturing some other product, which is obviously will ease up our workloads. But not to forget, in this era there are whole lots more to consider, for as a simple instance, the fact that a human being as a very powerful machine itself. With our super-ultra capability of doing so many things in life, generally it tells that the machine we have created has a very limited capability. It may be able to do this certain tasks, but at the same time it cannot completes the whole job as it cannot do the other certain things required throughout the processes. At this point then only a man force is very necessary. That is why we can see that there is some developing trend in importance of employees in workplace (Mohamad Fam et. al, 2008). The employers must have put some efforts towards considering the welfare of the workers. But in some events, they cannot afford to take care of everything. Along the way, some of the workers has either occasionally or continuously been exposed to various occupational hazards, the physical, chemical, biological, and the one that we are concern about in this study, which is the ergonomic hazard.