

**UNIVERSITI TEKNOLOGI MARA**

**ERGONOMIC RISK FACTORS AND  
MUSCULOSKELETAL DISORDERS AMONG  
FOGGERS IN HEALTH OFFICE OF PUTRAJAYA**

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Project submitted in fulfillment of the requirements for

the degree of

**Bachelor in Environmental and Safety**

**(Hons.)**

**Faculty of Health Sciences**

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## **DECLARATION BY STUDENT**

Project entitled “Ergonomic Risk Factors and Musculoskeletal Disorders Problem among Foggers in Health Office of Putrajaya” is a presentation of my original research work. Whenever contributions of others are involved, every effort is made to indicate this clearly, with due reference to literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Project Supervisor Prof. Razi Ikhwan bin Md Rashid. It has been submitted to the Faculty of Health Sciences in partial fulfilment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons).

**Student’s Signature:**

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Thank you.

Sincerely,

.....

(Farawahida Binti Abd Rahim)

# TABLE OF CONTENTS

|                                  |            |
|----------------------------------|------------|
| <b>TITLE PAGE</b>                |            |
| <b>DECLARATION BY STUDENT</b>    | <b>i</b>   |
| <b>INTELLECTUAL PROPERTIES</b>   | <b>ii</b>  |
| <b>APPROVAL BY SUPERVISOR</b>    | <b>v</b>   |
| <b>ACKNOWLEDGEMENT</b>           | <b>vi</b>  |
| <b>TABLE OF CONTENTS</b>         | <b>vii</b> |
| <b>LIST OF TABLES</b>            | <b>x</b>   |
| <b>LIST OF FIGURES</b>           | <b>xi</b>  |
| <b>LIST OF ABBREVIATIONS</b>     | <b>xii</b> |
| <b>ABSTRACT</b>                  | <b>xv</b>  |
| <br>                             |            |
| <b>CHAPTER ONE: INTRODUCTION</b> |            |
| 1.1 Background Study             | 1          |
| 1.2 Problem Statement            | 4          |
| 1.3 Study Objectives             | 6          |
| 1.3.1 General Objective          | 6          |
| 1.3.2 Specific Objective         | 6          |
| 1.4 Study Hypothesis             | 7          |
| 1.5 Selection Criteria           |            |
| 1.5.1 Inclusion Criteria         | 7          |
| 1.5.2 Exclusion Criteria         | 7          |
| 1.6 Conceptual Framework         | 7          |

## **ABSTRACT**

### **Introduction**

Ergonomic risk factors are job activities that may contribute to or result in an increased risk of strain and injury. All of the factors may prevent injuries from occurring if action taken. Musculoskeletal disorders (MSDs) are classified as occupational disease. They are described as disorders that affect the musculoskeletal system, and affect the health, productivity and careers of the working population. Any job task are at risk of MSDs as much as professionals as a result of their daily activities which involves manual work or they could be labour intensive. The risk factors for MSDs among foggers are multifactorial.

### **Problem statement**

There are currently no established statistics on ergonomic risk factors and musculoskeletal disorders problems among foggers in health care services that can cause health effects.

### **Purpose**

The purpose of the study was to assess ergonomic risk factors and musculoskeletal disorders problem among foggers in Health Office of Putrajaya.

### **Research method**

A quantitative research approach using a cross sectional was adopted for this study. Using a fogging worker as a respondent for sampling. A modified Nordic Musculoskeletal Questionnaire (NMQ) was used to collect data in purpose for analysis of musculoskeletal symptom with 22 foggers responded for analysis. Another techniques were apply for musculoskeletal risk factors by using Rapid Entire Body Assessment (REBA) sheet. This kind of tool provide quick and easy observational postural analysis.

## **Results**

MSDs was reported in all body parts and across all ages and genders. The prevalence for shoulder and back were the highest, having the same rate at 68.2%. The risk factors for MSDs

in at least one body part that were identified in this study are bending, vibration and repetitive movement. There was no significant relationship between gender, period of services, smoking and MSDs in any body part.

## **Conclusion**

The major risk factors for the subjects were bending, vibration and repetitive hand movement while the main risk factors for the subjects in the field area were repeated heavy lifting during moving fogging from one place to another place especially when they have to carry a machine to high building using stairs. Through changes in hardware and management, the symptoms of MSD can be improved, and long-term accumulation of injuries which may lead to greater losses can be avoided.

*Key word: ergonomic risk factors, musculoskeletal disorder, foggers*