

**UNIVERSITI TEKNOLOGI MARA**

**RELATIONSHIP BETWEEN POSTURAL  
ANGLE AND WORK – RELATED  
MUSCULOSKELETAL DISORDER (WMSD)  
AMONG THERMAL FOGGING OPERATORS**

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Project submitted in fulfillment of the requirements for the  
degree of  
**Bachelor in Environmental Health and Safety**  
(Hons.)

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## DECLARATION BY STUDENT

Project entitled “Relationship between Postural Angle and Work – Related Musculoskeletal Disorder (WMSD) among Thermal fogging Operators” 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, Dr. Abdul Mujid bin Abdullah. 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).

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*In the name of Allah, The Most Gracious, The Most Merciful*

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# TABLE OF CONTENTS

<b>TITLE PAGE</b>	
<b>DECLARATION BY STUDENT</b>	<b>ii</b>
<b>INTELLECTUAL PROPERTIES</b>	<b>iii</b>
<b>APPROVAL BY SUPERVISOR</b>	<b>ii</b>
<b>ACKNOWLEDGEMENT</b>	<b>ii</b>
<b>TABLE OF CONTENTS</b>	<b>xi</b>
<b>LIST OF TABLES</b>	<b>xi</b>
<b>LIST OF FIGURES</b>	<b>xii</b>
<b>LIST OF PLATES</b>	<b>xiii</b>
<b>LIST OF ABBREVIATION</b>	<b>xiv</b>
<b>LIST OF APPENDICES</b>	<b>xv</b>
<b>ABSTRACT</b>	<b>xvi</b>
<b>ABSTRAK</b>	<b>xvii</b>
<b>CHAPTER 1</b>	<b>1</b>
1.1 Background of study	1
1.2 Problem Statement	2
1.3 Significant of study	4
1.4 Conceptual Framework	5
1.5 Objectives	7
1.6 Hypothesis	7
1.7 Operational Definition	7
1.8 Study Flowchart	9
<b>CHAPTER 2</b>	<b>10</b>
2.1 Introduction	10
2.2 Ergonomic	10
2.3 Work-related Musculoskeletal Disorder (WMSDs)	12

## ABSTRACT

**Introduction:** Thermal fogging operators were exposed to heavy physical activity that involves awkward posture and lifting heavy load. The objective of this study was to investigate the relationship between postural angle and work-related Musculoskeletal Disorders (WMSDs) amongst thermal fogging operators. **Methods:** A cross-sectional study was conducted on 24 thermal fogging machine operators at Melaka Tengah District Health Office. The inclusion criteria were male, age (20-50 years old), thermal fogging operator at Melaka Tengah District Health Office, working experience more than one year and able to read and write; literate. Standardize Nordic Musculoskeletal Questionnaire (SNMQ) was distributed to determine the prevalence of WMSDs. A video camera was used to observe the changes of postural angles while performing thermal fogging activities. A Chi-Square test was used to identify the relationship between postural angle and WMSDs. **Result:** There was a significant relationship between the changes of selected postural angles (neck, shoulder, arm, wrist, upper and lower limb) with WMSDs,  $P < 0.05$ . **Conclusion:** Lifting heavy thermal fogging machine leads to the changes of postural angle and eventually contributing to WMSDs. Therefore, converting to a lighter thermal fogging machine is the practical approach to reduce the incidence of WMSDs in the future.

*Keywords: WMSDs, postural angle, thermal fogging operators*