

UNIVERSITI TEKNOLOGI MARA

**DRY EYE STATUS AMONG UiTM PUNCAK
ALAM OFFICE WORKERS USING OCULAR
SURFACE DISEASE INDEX (OSDI)
QUESTIONNAIRE**

ANIS ASYIEKIN BINTI ZAINUDIN

**BACHELOR OF OPTOMETRY (HONS)
FACULTY OF HEALTH SCIENCE**

JULY 2016

AUTHOR'S DECLARATION

I hereby declare that the works in this project was my own except for the quotations and summaries which have been acknowledge. The project had not been accepted for any degree and was concurrently submitted for any award of other degree.



NAME: ANIS ASYIEKIN BINTI ZAINUDIN

ID NUMBER: 2012453296

DATE: 25/6/2016

ABSTRACT

Purpose: Increased risk of dry eye disease (DED) was reported to be a concern among office workers and could significantly give a major impact on their quality of life, especially work productivity. The objectives of this study were to determine the prevalence of dry eye disease according to the severity and to identify the differences of OSDI score between the groups of computer usage duration, age, and gender risk factors among UiTM Puncak Alam office workers.

Method: In this current survey which conducted from February 2016 until April 2016, a total of 43 office workers (16 males and 27 females) were participated and completed the Ocular Surface Disease Index (OSDI) questionnaire in the time frame given via an electronic tool survey called Survey Monkey.

Results: The mean OSDI score for the study population was 28.47 ± 22.21 whereas the mean OSDI score according to the severity were 5.30 ± 3.95 (normal), 18.33 ± 1.95 (mild), 27.01 ± 3.96 (moderate), and 54.64 ± 12.86 (severe). Overall, 69.8% of the respondents were identified with DED (OSDI score ≥ 13). Males showed significantly higher mean OSDI score than females ($p= 0.037$). The prevalence of all dryness symptoms were markedly reported in < 25 years old age group ($p=0.037$) and longer computer usage duration of ≥ 5 hours per day. However, no significant difference between computer usage duration group was observed ($p= 0.505$). The most common reported DED symptom was sensitive to light and intense symptoms were markedly reported in the air-conditioned surrounding.

Conclusion: The results showed that symptoms of dry eye were prevalent among office workers. Males and younger age were found to be linked with dry eye symptoms in office environment.

Key Words: Dry eye disease, office workers, OSDI score, severity

TABLE OF CONTENTS

| TITLE | PAGE |
|---|-------------|
| AUTHOR'S DECLARATION | ii |
| SUPERVISOR'S SIGNATURE | iii |
| ACKNOWLEDGEMENTS | iv |
| TABLE OF CONTENTS | v |
| LIST OF TABLES | viii |
| LIST OF FIGURES | ix |
| LIST OF ABBREVIATIONS | x |
| LIST OF EQUATIONS | xi |
| LIST OF SYMBOLS | xii |
| ABSTRACT | xiii |
| ABSTRAK | xiv |
| | |
| CHAPTER 1: INTRODUCTION | |
| 1.1 BACKGROUND | 1 |
| 1.2 PROBLEM STATEMENT | 2 |
| 1.3 OBJECTIVES OF THE STUDY | 3 |
| 1.4 RESEARCH QUESTIONS | 3 |
| 1.5 RESEARCH HYPOTHESIS | 3 |
| | |
| CHAPTER 2: LITERATURE REVIEW | |
| 2.1 OFFICE ERGONOMICS RELATED TO EYE HEALTH PROBLEM | 4 |
| 2.2 DRY EYE STATUS USING OSDI QUESTIONNAIRE | 5 |
| 2.3 INDOOR AIR QUALITY RELATED TO DRY EYE SYNDROME | 7 |
| 2.4 PREVALENCE OF DRY EYE DISEASE WITH AGING | 8 |
| 2.5 DOES GENDER PLAY A SIGNIFICANT ROLE AS A RISK FACTOR FOR DRY EYE DISEASE? | 9 |

CHAPTER 3: METHODOLOGY

| | | |
|-------|---------------------------------------|----|
| 3.1 | STUDY DESIGN | 10 |
| 3.2 | SAMPLING CRITERIA | 10 |
| 3.2.1 | Sampling Design | 10 |
| 3.2.2 | Sample Size | 10 |
| 3.2.3 | Inclusion Criteria | 10 |
| 3.2.4 | Exclusion Criteria | 11 |
| 3.3 | STUDY TOOLS | 11 |
| 3.3.1 | Part A and Part B Questionnaire Items | 11 |
| 3.3.2 | OSDI Questionnaire | 13 |
| 3.4 | PROCEDURES | 14 |
| 3.5 | ETHICAL APPROVAL | 15 |
| 3.6 | STATISTICAL ANALYSIS | 15 |

CHAPTER 4: RESULTS

| | | |
|-------|--|----|
| 4.1 | DEMOGRAPHIC DATA | 16 |
| 4.2 | NORMALITY TEST | 17 |
| 4.3 | THE PREVALENCE OF DRY EYE DISEASE AMONG UiTM PUNCAK ALAM OFFICE WORKERS ACCORDING TO THE SEVERITY (NORMAL, MILD, MODERATE, AND SEVERE) | 18 |
| 4.4 | PREVALENCE OF DRY EYE DISEASE AND DIFFERENCES OF OSDI SCORE BETWEEN MALE AND FEMALE | 19 |
| 4.5 | PREVALENCE OF DRY EYE DISEASE AND DIFFERENCES OF OSDI SCORE BETWEEN AGE GROUP | 20 |
| 4.6 | PREVALENCE OF DRY EYE DISEASE AND DIFFERENCES OF OSDI SCORE BETWEEN COMPUTER USAGE DURATION GROUP | 22 |
| 4.7 | DRY EYE SYMPTOMS ACCORDING TO OSDI | 23 |
| 4.7.1 | Percentage and Severity Of Ocular Symptoms | 23 |
| 4.7.2 | Impacts Of DED Symptoms On Daily Activities | 24 |
| 4.7.3 | Environmental Condition Triggers The DED Symptoms. | 24 |