A MIXED METHODS STUDY TO EXPLORE THE ASSOCIATION BETWEEN PSYCHOSOCIAL FACTORS WITH MENTAL WELL-BEING AMONGST IIUM DENTAL STUDENTS

BY

LIM SHEA LEE

A thesis submitted in fulfillment of the requirement for the degree of Master of Health Science

Kulliyyah of Nursing
International Islamic University Malaysia

JULY 2022

ABSTRACT

Background: Dentistry is considered to be a very stressful profession and this stress is said to begin during the dental students' undergraduate days. Chronic stress has been found to negatively impact one's overall well-being. High prevalence of common mental disorders including depression, stress and anxiety were common amongst dental students worldwide. Dental students are at risk of poor mental health which puts them at risk of poor mental well-being. Therefore, it is important that students who are at risk but clinically 'well' be identified so mental well-being promotion and early intervention can be introduced to prevent these students from falling through the gaps. This study aimed to explore the association between psychosocial factors and mental well-being amongst dental students and identify steps that can better support the students' mental well-being. **Method:** This study employed the mixed methods which consisted of a quantitative study and a qualitative study. The quantitative study provided information on the prevalence of depression, anxiety, stress and mental well-being and factors that are correlated with mental well-being. The qualitative study employed individual interviews to provide a deeper insight into the dental students' mental health experiences. **Results:** This study found that the over half the students had anxiety although the prevalence of stress and depression were low. Overall, the mental well-being level of the students are average. Gender, phase of study, history of psychiatric treatment, personality traits and mental health were correlated with their mental well-being. The interviews revealed the dental students' s individual struggles, how they coped, and suggestions on how they could be better supported. **Conclusion:** Findings from this study reveal opportunities to identify students who are at risk of developing poor mental well-being. The findings also help with better understanding of the dynamics of the students' mental well-being. Thus, the findings can be used for planning of mental well-being promotion programs.

ملخص البحث

"يعتبر طب الأسنان مهنة مرهقة للغاية ويقال إن هذا الإجهاد يبدأ خلال أيام دراسة البكالوريوس لطلبة طب الأسنان. أن الإجهاد المزمن قد وجد تاثيره السلبي على الصحة العامة للفرد. وقد وجدت الدراسات أيضًا انتشارًا كبيرًا للاضطرابات العقلية الشائعة بما في ذلك الاكتئاب والتوتر والقلق بين طلاب طب الأسنان في جميع أنحاء العالم. أن طلاب طب الأسنان في خطر الاصابة بسوء الصحة العقلية مما يعرضهم لخطر الإصابة بالمزيد من الاضطرابات العقلية. لذلك، ومن المهم أن يتم تحديد الطلاب المعرضين لهذا الخطر ولكنهم سريريًا وجدوا"جيدين" عقليًا.لذلك يمكن تعزيز الصحة العقلية والتدخل المبكر لمنع هؤلاء الطلاب من السقوط من خلال الثغرات.

استخدمت هذه الدراسة الطرق المختلطة التي تتكون من دراسة كمية ودراسة نوعية. قدمت الدراسة الكمية معلومات عن انتشار الاكتئاب والقلق ، الإجهاد والعافية العقلية والعوامل التي ترتبط بالصحة العقلية. بينما الدراسة النوعية استخدمت المقابلات الفردية لتقديم نظرة أعمق على تجارب الصحة العقلية لطلاب طب الأسنان. وجدت هذه الدراسة أن أكثر من نصف الطلاب يعانون من القلق على الرغم من أن عامل انتشار التوتر والاكتئاب كان منخفضًا. بشكل عام ، ان مستوى الصحة العقلية للطلاب كان متوسط. ان الجنس، ومرحلة الدراسة ، وتاريخ العلاج النفسي ، والسمات الشخصية والحالة العقلية قد ارتبطت بالصحة العقلية. ان المقابلات كشفت عن النضالات الفردية لطلاب طب الأسنان ، وكيف تعاملوا معها ، والاقتراحات حول كيفية دعمهم بشكل أفضل. ان نتائج هذه الدراسة تكشف عن فرص لتحديد الطلاب المعرضين لخطر تدهور الحالة العقلية السيئة. ان نتائج هذه الدراسة تساعد أيضًا في فهم أفضل لديناميكيات الصحة العقلية للطلاب. وبالتالي ، يمكن استخدام النتائج لتخطيط برامج تعزيز الصحة العقلية ".

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Health Science.

…….
Assoc. Prof. Dr Noraini Abu Bakar
Supervisor

…….
Asst. Prof. Dr Nadzirah Ahmad Basri
Co-Supervisor

…….
Assoc. Prof. Dr Salizar Mohamed Ludin
Co-Supervisor

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Health Science.

…….
Assoc. Prof. Dr Ts. Mohd Hafiz Arzmi
Examiner

…….
Dr Harris Shah Abd Hamid
External Examiner

This thesis was submitted to the Department of …… and is accepted as a fulfilment of the requirement for the degree of Master of Health Science.

…….

Head, Department of ……

This thesis was submitted to the Kulliyyah of Nursing and is accepted as a fulfillment of the requirement for the degree of Master of Health Science.

…….

Dean, Kulliyyah of ……

DECLARATION

I hereby declare that this thesis is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Lim Shea Lee

Signature…… Date……

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

DECLARATION OF COPYRIGHT AND AFFIRMATION OF FAIR USE OF UNPUBLISHED RESEARCH

A MIXED METHODS STUDY TO EXPLORE THE ASSOCIATION BETWEEN PSYCHOSOCIAL FACTORS WITH MENTAL WELL-BEING AMONGST IIUM DENTAL STUDENTS

I declare that the copyright holder of this thesis are jointly owned by the student and IIUM.

Copyright © 2014 Lim Shea Lee and International Islamic University Malaysia. All rights reserved.

No part of this unpublished research may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission of the copyright holder except as provided below

1. Any material contained in or derived from this unpublished research may only be used by others in their writing with due acknowledgement.

2. IIUM or its library will have the right to make and transmit copies (print or electronic) for institutional and academic purpose.

3. The IIUM library will have the right to make, store in a retrieval system and supply copies of this unpublished research if requested by other universities and research libraries.

By signing this form, I acknowledged that I have read and understand the IIUM Intellectual Property Right and Commercialization policy.

Affirmed by Lim Shea Lee.

…… ……..

Signature Date

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

DECLARATION OF COPYRIGHT AND AFFIRMATION OF FAIR USE OF UNPUBLISHED RESEARCH

A MIXED METHODS STUDY TO EXPLORE THE ASSOCIATION BETWEEN PSYCHOSOCIAL FACTORS WITH MENTAL WELL-BEING AMONGST IIUM DENTAL STUDENTS

I declare that the copyright holder of this thesis is International Islamic University Malaysia.

Copyright © 2014 International Islamic University Malaysia. All rights reserved.

No part of this unpublished research may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission of the copyright holder except as provided below

4. Any material contained in or derived from this unpublished research may only be used by others in their writing with due acknowledgement.

5. IIUM or its library will have the right to make and transmit copies (print or electronic) for institutional and academic purpose.

6. The IIUM library will have the right to make, store in a retrieval system and supply copies of this unpublished research if requested by other universities and research libraries.

By signing this form, I acknowledged that I have read and understand the IIUM Intellectual Property Right and Commercialization policy.

Affirmed by Lim Shea Lee.

…… ……..

Signature Date

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

DECLARATION OF COPYRIGHT AND AFFIRMATION OF FAIR USE OF UNPUBLISHED RESEARCH

A MIXED METHODS STUDY TO EXPLORE THE ASSOCIATION BETWEEN PSYCHOSOCIAL FACTORS WITH MENTAL WELL-BEING AMONGST IIUM DENTAL STUDENTS

I declare that the copyright holder of this thesis is Lim Shea Lee.

Copyright © 2014 Lim Shea Lee. All rights reserved.

No part of this unpublished research may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission of the copyright holder except as provided below

1. Any material contained in or derived from this unpublished research may only be used by others in their writing with due acknowledgement.

2. IIUM or its library will have the right to make and transmit copies (print or electronic) for institutional and academic purpose.

3. The IIUM library will have the right to make, store in a retrieval system and supply copies of this unpublished research if requested by other universities and research libraries.

By signing this form, I acknowledged that I have read and understand the IIUM Intellectual Property Right and Commercialization policy.

Affirmed by Lim Shea Lee.

…… ……..

Signature Date

For everyone who had supported me every step of the way, without whom this would not have been possible.

ACKNOWLEDGEMENTS

The completion of this thesis has been an all-consuming yet rewarding project which was only made possible thanks to the support and efforts of many key people.

I am most indebted to my supervisor, Assoc. Prof. Dr Noraini Abu Bakar and co-supervisors, Asst. Prof. Dr Nadzirah Ahmad Basri and Assoc. Prof. Dr Salizar Mohamed Ludin. Their constant support and guidance have been invaluable to the completion of my work. Despite their commitments, they always took the time to listen and attend to my many queries. They patiently accommodated my slow progress during certain phases of the study, and offered constructive criticisms and opportunities for discussion which propelled me further. It is not often that one gets to work with such inspiring people, and I am grateful to have had such an opportunity to work with them.

I would also like to extend my gratitude to Dr Mohamad Shafiq Bin Mohd Ibrahim who took the time to guide me with the statistical analysis for this study. He provided invaluable assistance in the analysis of the quantitative study findings and was always happy to help. Special thanks to Ahmad Azmie Bin Musa and Abu Hurairah Bin Mohamad, the undergraduate students who assisted with conducting the surveys and recruitment of the interview participants; without their help this study would not have progressed as smoothly.

Special acknowledgement with gratitude to the participants of my survey and the twenty interview participants who took the time to share their experiences. Thank you for letting me learn from you.

TABLE OF CONTENTS

Abstract……..…….ii
Abstract in Arabic……....…iii
Approval Page……...……....iv
Declaration……..……..……vi
Dedication……...…….....xi
Acknowledgements…….…….xii
List of Tables…….……...xvi
List of Figures……..……...xviii

CHAPTER ONE: INTRODUCTION……1
1.1 Study Background.....1
1.2 Problem Statement.....5
1.3 Research Questions.....6
1.4 Research Objectives.....7
1.4.1 General Objective.....7
1.4.2 Specific Objectives.....7
1.5 Definition.....7
1.5.1 Operational Definition.....8
1.6 Structure of Thesis.....9

CHAPTER TWO: LITERATURE REVIEW… ……...11
2.1 Review Of Literature……..11
2.1.1 Objective of the Literature Review……11
2.1.2 Method.....12
2.1.3 Related Literature.....22
2.1.3.1 Comparison of Mental Well-being Among Healthcare Students.....22
2.1.3.2 Mental Disorders and Mental Well-being amongst Dental Students.....23
2.1.3.3 Sources of Stress in Dental School.....25
2.1.3.4 Effect of Poor Mental Health on Dental Students' Well-being.....28
2.1.3.5 Coping Methods and Intervention Programs.....29
2.1.4 Discussion of the Findings.....32
2.2 Theoretical Framework.....33
2.3 Conceptual Framework.....35
2.4 Summary.....36

CHAPTER THREE: METHODOLOGY..……37
3.1 Methodology Foundation.....37

3.2 Philosophical Underpinning....38
3.3 Study Design....38
3.4 Study Flow Chart....40
3.5 Cross-sectional Survey (Quantitative Phase)....41
3.5.1 Study Setting....41
3.5.2 Study Population....41
3.5.3 Variables....42
3.5.4 Sampling Size and Method....43
3.5.5 Inclusion and Exclusion Criteria....43
3.5.5.1 The Inclusion Criteria....44
3.5.5.2 The Exclusion Criteria....44
3.5.6 Data Collection Method....44
3.5.7 Instruments used....45
3.5.7.1 Demographic Background....45
3.5.7.2 Health-related factors....45
3.5.7.3 Lifestyle Factors....46
3.5.7.4 Warwick-Edinburgh Mental Well-being Scale (WEMWBS)....46
3.5.7.5 Depression Anxiety Stress Scale (DASS)....47
3.5.7.6 Big Five Inventory....49
3.5.8 Data Analysis....50
3.6 Individual Interview (Qualitative Phase)....51
3.6.1 Study Setting....51
3.6.2 Sampling....52
3.6.3 Sample Size....52
3.6.4 Instrument - Interview Questions....52
3.6.5 Data Collection Procedure....53
3.6.6 Data Analysis....53
3.7 Ethical Considerations....56

CHAPTER FOUR: RESULTS AND FINDINGS…….57
4.1 Quantitative Results and Findings....57
4.1.1 Demographic information....61
4.1.2 WEMWBS Score....61
4.1.2.1 Demographic Factor and WEMWBS Scores....63
4.1.2.2 Health Related Factors and WEMWBS Scores....67
4.1.2.3 Lifestyle Related Factors and WEMWBS Scores....69
4.1.3 DASS-21....73
4.1.3.1 DASS-21 and WEMWBS....75
4.1.4 BFI-10....80
4.1.5 Summary of Quantitative Findings....87
4.2 Qualitative Results and Findings....89
4.2.1 The Participants....89
4.2.2 Themes....90
4.2.2.1 Dental Students' Experience....95

4.2.2.1.1 Perception of Dentistry.....95
4.2.2.1.2 Stressors.....96
4.2.2.1.3 Mental Health Experience.....105
4.2.2.2 Mental Well-being Correlates.....105
4.2.2.2.1 Coping Strategies.....106
4.2.2.2.2 Factors affecting mental well-being..... 107
4.2.2.3 Strategies for better mental well-being.....108
4.2.2.3.1 Implemented strategies.....109
4.2.2.3.2 Suggestions to support students' mental well-being.....110
4.2.3 Summary of Qualitative Findings.....111

CHAPTER FIVE: DISCUSSION.....114
5.1 Introduction.....114
5.2 Triangulation of Quantitative and Qualitative Findings.....114
5.3 Discussion of Findings.....116
5.3.1 Mental Health and Levels of Mental Well-being of Dental Students 117
5.3.2 Factors Associated with Dental Students' Mental Well-Being....118
5.3.3 What Needs to be Done?.....123
5.4 Chapter Summary.....125

CHAPTER SIX: CONCLUSION.....127
6.1 Introduction.....127
6.2 Summary of the Findings.....127
6.3 Implications of the Study.....129
6.4 Recommendations.....130
6.5 Significance of the Study.....132
6.6 Limitations.....133
6.7 Conclusion.....134

REFERENCES.....135

APPENDIX I: SURVEY.....150
APPENDIX II: INTERVIEW QUESTIONS.....154
APPENDIX III: INITIAL MIND MAPPING FOR THEMATIC ANALYSIS....155

GLOSSARY.....156

LIST OF TABLES

Table 2. 1 Articles reviewed 14

Table 3. 1 Study Population 41
Table 3. 2 Independent and Dependent Variables 42
Table 3. 3 Dass-21 Scores Interpretation 49
Table 3. 4 Initial themes generated 54
Table 3. 5 Final themes 55

Table 4. 1 Descriptive analysis of the quantitative results. 57
Table 4. 2 Gender and WEMWBS 63
Table 4. 3 Preclinical/Clinical Phase and WEMWBS 64
Table 4. 4 Correlation between Household Monthly Income and WEMWBS Scores 65
Table 4. 5 WEMWBS Scores per Physical Health Rating 67
Table 4. 6 History of treatment of psychiatry clinic 68
Table 4. 7 Family History of Psychological Disorders 69
Table 4. 8 Addiction and WEMWBS Score 69
Table 4. 9 Exercise and WEMWBS score 70
Table 4. 10 Sleep problems and WEMWBS score 72
Table 4. 11 Correlation of Depression Score and WEMWBS 76
Table 4. 12 Correlation of Anxiety Score and WEMWBS 77
Table 4. 13 Correlation of Stress Score and WEMWBS 78
Table 4. 14 Mean score for BFI-10 80
Table 4. 15 Correlation between BFI-10 and WEMWBS Scores 83
Table 4. 16 Regression analysis for Extraversion score predicting WEMWBS score 84
Table 4. 17 Regression analysis for Agreeableness score predicting WEMWBS score 85

Table 4. 18 Regression analysis for Conscientiousness score predicting WEMWBS score 85
Table 4. 19 Regression analysis for Neuroticism score predicting WEMWBS score 86
Table 4. 20 Regression analysis for Openness score predicting WEMWBS score 86
Table 4. 21 Personality traits and Gender 87
Table 4. 22 Demographic information of interview participants 90
Table 4. 23 Themes, Categories and Codes 92

LIST OF FIGURES

Figure 2. 1 PRISMA 2020 Flow Diagram 21
Figure 2. 2 Seligman's PERMA theory of well-being 34
Figure 2. 3 Conceptual Framework 35

Figure 3. 1 Triangulation Design : Convergence Model 39
Figure 3. 2 Study Flow Chart 40
Figure 3. 3 Thematic Analysis 54

Figure 4. 1 Histogram of WEMWBS Scores 62
Figure 4. 2 WEMWBS Score based year of study 63
Figure 4. 3 Scatter plot for Monthly Household Income 65
Figure 4. 4 Sponsor during study 66
Figure 4. 5 Physical Health Rating 67
Figure 4. 6 Frequency of Exercise and WEMWBS Score 71
Figure 4. 7 Severity of depression and Year of Study 73
Figure 4. 8 Severity of Anxiety and Year of Study 74
Figure 4. 9 Severity of Stress and Year of Study 75
Figure 4. 10 Depression Score and WEMWBS 76
Figure 4. 11 Anxiety Score and WEMWBS 77
Figure 4. 12 Stress Score and WEMWBS 78
Figure 4. 13 DASS scores and WEMWBS Scores 79
Figure 4. 14 Agreeableness and WEMWBS Score 81
Figure 4. 15 Extraversion and WEMWBS Score 81
Figure 4. 16 Conscientiousness and WEMWBS Score 82
Figure 4. 17 Neuroticism and WEMWBS Score 82
Figure 4. 18 Openness and WEMWBS Score 83

Figure 4. 19 Schematic diagram of the theme 91

CHAPTER ONE

INTRODUCTION

This chapter provides an introduction to this study. It covers the background of this study, the problem statement, the research questions, the objectives of this study, the definition of the terms used and the structure of this thesis.

1.1 STUDY BACKGROUND

Mental health is described by World Health Organisation as 'a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community'(World Health Organisation, 2005). Mental health thus enables social, economic and personal development which are important factors to overall well-being. The absence of mental illness does not necessarily mean presence of mental health. Mental health and mental illness are not opposite ends of a single sequence, rather they are distinct but correlated entities and this suggests mental health should be viewed holistically (Keyes, 2005). Flourishing individuals, i.e. individuals who are completely mentally healthy have been found to function noticeably better than others in terms of work productivity, health levels, and psychosocial functioning (Keyes, 2007).

The National Health and Morbidity Survey 2015 study found that about 4.2 million Malaysians aged 16 and above suffered from various mental health issues and the prevalence of mental health problems among adults showed an increasing trend; from 10.7% in 1996 to 29.2% in 2015 (Institute for Public Health (IPH), 2015). Mental disorders

have a vast impact on the individual and society , which could lead to a loss of human capital and as such, it should be given more attention not only for the betterment of individuals but also our society (Üstün, 1999).

The term positive mental health is often used interchangeably with mental well-being in literature and policies. Mental well-being generally refers to optimum psychological functioning and experience (Ryan & Deci, 2001). Here forth, the term mental well-being will be used. Mental well-being is multi-faceted and its definition hinges on two diverse concepts which are hedonism which equates happiness with pleasure and eudaimonism which equates happiness with the human ability to pursue goals that are meaningful (Ryan & Deci, 2001). There are many factors that can affect mental well-being including biological, behavioral, psychosocial and sociodemographic factors. Sociodemographic factors including age, education level, socioeconomic status have been found to play a role in mental well-being (Bøe et al., 2012; Dreger et al., 2014) . Gender differences have also been found in mental disorders and generally females were found to be at a higher risk for mental disorders (Afifi, 2007) . Healthy lifestyle choices like regular exercise, refraining from use of cigarettes and alcohol, and a regular social rhythm - having a routine bed time or meal time - were found to be associated with better mental well-being (Velten et al., 2018). There is an inverse correlation between mental illness and mental well-being, where a decline in mental illness shows improvement in mental well-being and vice versa. Individuals who were languishing were many times more likely to have mental illness compared to individuals who were flourishing (Keyes et al., 2010). It has also been shown that there is a consistent connection between personality and mental well-being. Studies have explored the relationship between mental well-being and the Big Five Personality traits in which personality is described in five core traits – openness, conscientiousness, extraversion, neuroticism, and agreeableness (Joshanloo & Nosratabadi, 2009; Lamers et al., 2012; Librán, 2006).

Psychological stress, especially chronic stress, can impact one's health and mental well-being. Studies over the years have provided evidence that stress contributes to physical diseases (like coronary heart disease, increased susceptibility to upper respiratory diseases, faster progression of AIDS, exacerbation of autoimmune diseases) and mental diseases (Schneiderman et al., 2005). Stress plays an important role in the health-behaviour relationships as it is unavoidable in life, and it influences many physiological functions and behaviours. The body's response to stress in the form of physiological, behavioural, cognitive and emotive changes are the mechanisms through which stress affects health and mental well-being (Baum & Posluszny, 1999). Stress is a risk factor for mental disorders. A systematic review has found that exposure to stress increases the microglial activity leading to brain changes that underlie the development of a mental disorder (Calcia et al., 2016).

Mental well-being is the foundation for emotions, cognition, communication, resilience and self-esteem. Mental well-being is also key to relationships, personal and emotional well-being and contributing to community and society. In particular, mental well-being is important for dental practitioners as dentistry is a challenging profession. Dentistry is often considered a highly stressful profession mostly due to the nature and working conditions in dental surgery. Heavy workloads, financial concerns, poor working conditions, time pressure and patients' demands are some of the reasons that cause stress. An online survey conducted in UK found high levels of stress, burnout and low well-being among practicing dentists and dentists often experience more severe mental states (Collin et al., 2019) and are potentially at risk of developing mental disorders (Myers & Myers, 2004; Puriene et al., 2008). One study found that while dental practice can be stressful, stress can be a positive thing if properly managed as over half the respondents to this study considered themselves healthy and happy (Kay & Lowe, 2008). A study conducted in Malaysia also concurred with this finding; 60% of the Malaysian dentists that participated in the study considered themselves to have positive mental well-being. Inversely, it is of concern that there is a subset of the participants who considered themselves to have poor mental well-being (Ab-Murat et al., 2018). Poor mental health may lead to increased

absenteeism, poorer work performance, poor interpersonal relationship, burnout and unemployment (Harnois & Gabriel, 2000). This stress often starts early during the undergraduate years. Doctors and health professionals are often found to have a common trait which is perfectionism. This trait predisposes them to a higher risk for mental illness even during their studies (Peters & King, 2012).

It has also been found that even undergraduate dental students experience high levels of stress with increasing levels of stress reported in tandem with the students' progress through dental school as workload and demands of dental school increase (Al-Samadani & Al-Dharrab, 2013). Stress, especially chronic stress increases the risk of development of mental illness (Marin et al., 2011) . The most commonly reported mental illnesses are depression and anxiety. Mental illnesses are associated with distress and problems functioning in social, work or family activities (Chisholm et al., 2013). This impairs the ability of an individual to function at full capacity which may affect one's ability to provide proper care as a healthcare professional. It is therefore imperative that mental well-being be promoted to better equip individuals with skills to cope with stressors which may be unavoidable during their time as a dental student and also further in their careers.

Studies on intervention have not discussed effective ways to address the psychological concerns among dental students, especially in a local setting. Often times, studies focused on individuals who are already in a state of psychological distress. Not enough is being done to promote mental well-being to those students are at risk at developing mental disorders or those with low mental well-being. Mental well-being promotion needs to be given more attention. The betterment of mental well-being has been shown to reduce risk of mental disorders. Therefore, mental well-being promotion can reduce the prevalence of mental disorders (Keyes et al., 2010). Students entering health professional schools are at high risk for developing depression, anxiety and unhealthy behaviours, and these can be avoided by screening for students who are at risk and early

intervention (Mazurek Melnyk et al., 2016). Mental well-being and mental illness are two separate entities that are highly correlated. Hence, the focus should not be on prevention and treatment of mental illness as this may not result in better mental well-being. Rather, the focus should be on promotion of mental well-being (Keyes, 2002). With this, it is hoped that the findings from this study could contribute to implementations of programs or supportive measures to promote better mental well-being amongst dental students.

1.2 PROBLEM STATEMENT

Dental students are often found to have higher prevalence of mental distress compared to students in other health sciences programs (Alfaris et al., 2016; Knipe et al., 2018).There are many previous studies (Abu-Ghazaleh et al., 2011; Jowkar et al., 2020; Peker et al., 2009; Stormon, Ford, & Eley, 2019) aimed at determining the levels of depression, anxiety and stress amongst dental students.

Studies have also been done to determine the well-being of dental students and a range of factors were found to affect the students' mental well-being. Sociodemographic factors – like socioeconomic status (Aboalshamat et al., 2015) , marital status (Andre et al., 2017) , age and gender (Uraz et al., 2013), psychosocial factors like social support (Harrison et al., 2016) and work-life synergy (Jenkins et al., 2019), and lifestyle (Sugiura et al., 2005) are some of the factors found. Dental students are vulnerable and at high risk for developing mental disorders for many reasons including lack of access to key support (which include family and friends), tough competition, the challenging environment in dental schools and difficulty of transitioning. The focus was on students who already displayed clinical manifestation or are in a diseased state i.e. those who have developed some form of mental disorders (Deeb et al., 2018; Galán et al., 2014; Jiménez-Ortiz et al., 2019). Little attention is given to early identification and early intervention to those who

are considered ‘well’ in a clinical scale and so these students may slip through the gap if they are not identified. There are a few intervention programs that were aimed at improving students’ mental state and to help students to cope better with stress. These programs targeted students who were depressed, stressed, had burnout or other symptoms of mental distress (Alzahem et al., 2015; Brondani et al., 2014; Lopez et al., 2010).

There are not many if any, mental well-being promotion programs for students who are considered well but at risk of developing mental illness. It is imperative that early identification and early intervention be introduced to help students cope better with stressors associated with the demands of dental curriculum (Abu-Ghazaleh et al., 2011; Basudan et al., 2017; Silverstein & Kritz-Silverstein, 2010).

Therefore, this study aims to identify the factors that are associated with mental well-being amongst the dental students at IIUM and also to identify suggestions or steps that can be introduced for mental well-being promotion amongst the dental students.

1.3 RESEARCH QUESTIONS

The guiding questions for this research are:

i. What is the prevalence of depression, stress and anxiety amongst the dental students and what are the levels of mental well-being?
ii. What are the factors that affect the dental students’ mental well-being?
iii. What interventions or steps can be implemented to help students cope with their stressors?