UNIVERSITI PUTRA MALAYSIA

A CROSS-SECTIONAL STUDY: KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING STRESS MANAGEMENT AMONG UNDERGRADUATE STUDENTS IN UNIVERSITI PUTRA MALAYSIA

ENELLIA CHERYL ANAK GEORGE

ENELLIA CHERYL ANAK GEORGE BACHELOR OF NURSING 2021/2022

A CROSS-SECTIONAL STUDY: KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING STRESS MANAGEMENT AMONG UNDERGRADUATE STUDENTS IN UNIVERSITI PUTRA MALAYSIA

ENELLIA CHERYL ANAK GEORGE

BACHELOR OF NURSING

UNIVERSITI PUTRA MALAYSIA

SEPTEMBER 2022

A CROSS-SECTIONAL STUDY: KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING STRESS MANAGEMENT AMONG UNDERGRADUATE STUDENTS IN UNIVERSITI PUTRA MALAYSIA

ENELLIA CHERYL ANAK GEORGE

THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF BACHELOR OF NURSING FROM FACULTY OF MEDICINE AND HEALTH SCIENCES, UNIVERSITI PUTRA MALAYSIA.

2021/2022

ABSTRACT

A CROSS-SECTIONAL STUDY: KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING STRESS MANAGEMENT AMONG UNDERGRADUATE STUDENTS IN UNIVERSITI PUTRA MALAYSIA

Enellia Cheryl Anak George, Rosna Abdul Raman, Dr. Eugene Koh Boon Yau
Faculty of Medicine and Health Sciences, Universiti Putra Malaysia

Background: Stress is recognized worldwide as a major challenge to an individual's health and the healthiness of one's workplace. Stress can occur in any person and affect anyone in a different way. Stress can happen when a person faces a situation they are unable to cope with. Academic stress in students has long been studied, and there are a variety of stressors found. Therefore, the need for stress management is proportional to the need for increased student achievement and overall school improvement. **Objective:** To assess the relationship between knowledge, attitude and practice of stress management among undergraduate students in Universiti Putra Malaysia. **Methods:** A cross sectional design with multi stage random sampling method used in this study. The data collection was done online within 1 months starting from July 2022 until August 2022. Self-administered questions from previous study by Rehman et al (2016) were used to assess knowledge and practice of stress and research tools such as 10-item Perceived Stress Scale (PSS-10) developed by Cohen et al. (1983) to assess perceived stress. SPSS 28 was used for data entry and analysis. The analysis used mean (standard deviation), frequency and percentage for the measurement of knowledge, attitude and practice of stress management. Pearson Correlation, Independent T Test and One Way Independent ANOVA used to determine the relationship between respondents' stress knowledge and their attitudes and behaviours related to stress and the association between socio-demographic factors and respondents' degree of knowledge, attitude, and practice on stress management. **Result:** A total of 100 undergraduate students involved in this study with equal amounts of male and female with mode value of age is 23 years old. The data shows 83% of them have poor knowledge on stress and 75% have moderate levels of stress but majority of them have good practice on stress management. **Conclusion:** Analysis has revealed that there is no significant association between sociodemographic characteristics such as gender (p= 0.903), year of study (p=0.140), marital status (p=0.270), and knowledge of depression. There is no significant association between knowledge and practice of stress management. Meanwhile, the findings found a significant relationship between knowledge and attitude of stress management (p=0.001) which concludes the results.

Keywords: Malaysia, undergraduate students, stress, stress management, knowledge, attitude, practice

KAJIAN KERATAN RENTAS: PENGETAHUAN, SIKAP DAN AMALAN MENGENAI PENGURUSAN STRES DALAM KALANGAN PELAJAR SARJANA MUDA DI UNIVERSITI PUTRA MALAYSIA

Enellia Cheryl Anak George, Rosna Abdul Raman, Dr. Eugene Koh Boon Yau
Fakulti Perubatan dan Sains Kesihatan, Universiti Putra Malaysia

Pengenalan: Tekanan diiktiraf di seluruh dunia sebagai cabaran utama kepada kesihatan individu dan kesihatan tempat kerja seseorang. Tekanan boleh berlaku pada mana-mana orang dan memberi kesan kepada sesiapa sahaja dengan cara yang berbeza. Tekanan boleh berlaku apabila seseorang menghadapi situasi yang tidak mampu mereka hadapi. Tekanan akademik dalam kalangan pelajar telah lama dikaji, dan terdapat pelbagai tekanan yang ditemui. Oleh itu, keperluan pengurusan stres adalah berkadar dengan keperluan untuk peningkatan pencapaian pelajar dan peningkatan sekolah secara keseluruhan. **Objektif:** Untuk menilai hubungan antara pengetahuan, sikap dan amalan pengurusan stres dalam kalangan pelajar sarjana muda di Universiti Putra Malaysia. **Metodologi:** Reka bentuk keratan rentas dengan kaedah persampelan rawak berbilang peringkat digunakan dalam kajian ini. Pengumpulan data dilakukan secara dalam talian dalam tempoh 1 bulan bermula dari Julai 2022 hingga Ogos 2022. Soalan-soalan yang ditadbir sendiri daripada kajian lepas oleh Rehman et al (2016) digunakan untuk menilai pengetahuan dan amalan tekanan dan alat kajian seperti 10-item Perceived Stres Skala (PSS-10) yang dibangunkan oleh Cohen et al. (1983) untuk menilai tekanan yang dirasakan. SPSS 28 digunakan untuk kemasukan dan analisis data. Analisis menggunakan min (sisihan piawai), kekerapan dan peratusan bagi pengukuran pengetahuan, sikap dan amalan pengurusan stres. Pearson Correlation, Independent T Test dan One Way Independent ANOVA digunakan untuk menentukan hubungan antara pengetahuan stres responden dengan sikap dan tingkah laku mereka yang berkaitan dengan stres dan perkaitan antara faktor sosio-demografi dan tahap pengetahuan, sikap dan amalan responden terhadap stres. pengurusan. **Hasil:** Seramai 100 orang pelajar sarjana muda yang terlibat dalam kajian ini dengan jumlah yang sama antara lelaki dan perempuan dengan nilai mod umur ialah 23 tahun. Data menunjukkan 83% daripada mereka mempunyai pengetahuan yang lemah tentang tekanan dan 75% mempunyai tahap tekanan yang sederhana tetapi majoriti daripada mereka mempunyai amalan yang baik dalam pengurusan tekanan. **Kesimpulan:** Analisis telah mendedahkan bahawa tidak terdapat perkaitan yang signifikan antara ciri sosiodemografi seperti jantina (p= 0.903), tahun pengajian (p=0.140), status perkahwinan (p=0.270), dan pengetahuan tentang kemurungan. Tiada perkaitan yang signifikan antara pengetahuan dan amalan pengurusan tekanan. Manakala, dapatan kajian mendapati terdapat hubungan yang signifikan antara pengetahuan dan sikap pengurusan stres (p=0.001) yang merumuskan keputusan.

Kata kunci: Malaysia, pelajar pra-siswazah, stres, pengurusan stres, pengetahuan, sikap, amalan

ACKNOWLEDGEMENTS

First and foremost, I would like to express my gratitude to my beloved supervisor, Madam Rosna binti Abdul Raman, and also my co-supervisor, Dr. Eugene Koh Boon Yau for their full support, guidance, understanding, patience, and encouragement throughout the journey of study and research. Without their persistent support and supervision, I am hereby unable to make it through all these difficulties and challenges.

I personally dedicated this thesis to my beloved parents, my father George Janting and my mother Juraidah Nain and my dearest sibling Enelda Christy, Eldrian Cliff and Elfronn Cyril for their prayers, endless love, support, words of encouragement and also financial support.

My sincere thanks goes to my close friends, Nur Shafiqah binti Rosli, Zanariah binti Zainudin and Nurul Huda binti Wahab who had lent me a hand throughout this difficult time and our 4 years of journey together in getting this degree. Not to forget Daniel Rashyid for supporting me throughout this journey.

Lastly, to those who were directly and indirectly contributing to the completion of the thesis, your kindness and involvement is highly appreciated.

DECLARATIONS BY STUDENT

I now declare that:

- This thesis is my original work; quotations, illustrations and citations have been duly referenced.
- This thesis has not been submitted previously or concurrently for any other degree at any other institutions
- Intellectual property from the thesis and copyrights of the thesis is fully owned by Universiti Putra Malaysia, as according to the Universiti Putra Malaysia (Research) Rules 2012
- Written permission must be obtained from the supervisor, and the office of Deputy Vice-Chancellor (Research and Innovation) before the thesis is published (in the form of written, printed or in electronic form) including books, journal, modules, proceedings, popular writing, seminar papers, manuscripts, posters, reports, lecture notes, learning modules or any other materials as stated in the Universiti Putra Malaysia (Research) Rules 2012
- There is no plagiarism or data falsification/fabrication in the thesis, and scholarly integrity is upheld according to the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) and the Universiti Putra Malaysia (Research) Rules 2012. The thesis has undergone plagiarism detection software.

_____

Name: Enellia Cheryl Anak George

Matric No.: 197350

Date: 11 October 2022

DECLARATION BY MEMBERS OF SUPERVISORY COMMITTEE

This is to confirm that:

• the research conducted and the writing of this thesis was under our supervision;

• supervision responsibilities as stated in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) are adhered to.

.....

PUAN ROSNA BINTI ABDUL RAMAN

Supervisor
Lecturer
Department of Nursing,
Faculty of Medicine and Health Science,
Universiti Putra Malaysia.
Date: 12/10/2022

.....

DR EUGENE KOH BOON YAU

Co-Supervisor
Psychiatrist & Senior Medical Lecturer
Department of Psychiatry
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
Date: 12/10/2022

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURE

LIST OF APPENDICES

LIST OF ABBREVIATION

JKEUPM : Jawatankuasa Etika Universiti Penyelidikan Melibatkan Manusia

PSS-10 : Perceived Stress Scale - 10

SD : Standard Deviation

UPM : Universiti Putra Malaysia

CHAPTER 1

INTRODUCTION

In this chapter, the researcher will introduce the background of the study, problem statement and research question. Objective, including general objective and specific objective, also will be included in this chapter. Besides, null hypothesis and alternative hypotheses also will be discussed.

1.1 Background of the study

This study is about the knowledge, attitude and practice of stress management among undergraduate students in Universiti Putra Malaysia. The term stress was invented by Hans Selye in 1936 and defined it as "nonspecific response of the body to any demand" (Tan, 2018). Today, stress is recognized worldwide as a major challenge to an individual's health and the healthiness of one's workplace (World Health Organization [WHO], & International Society of Hypertension Writing Group [ISHWG], 2003). In terms of stress management, Davis (n.d.) states that stress management refers to the tools, tactics, and procedures that help manage stress and the negative effects it has on mental and physical health.

Academic stress in students has long been studied, and there are a variety of stressors found. For instance, heavily loaded assignments, competition with other

students, failures, financial problems (Fairbrother and Warn, 2003), poor relationships with other students or lecturers, family or problems at home have been identified. According to the National Health and Morbidity Survey III (NHMS III), young Malaysians in the 16–24 year age group had the highest prevalence of acute and chronic suicidal ideation (10.0% and 26.0%, respectively) in comparison to other age groups (IPH, 2008).

According to Reddy, Menon and Thattil (2018), lack of knowledge and resources to stress management can affect students' academic performances. Some students show unsuitable behaviour and attitude while trying to manage stress as some researchers found that they most likely to eat unhealthy food such as junk foods and soft drinks and also consume less fruits and vegetables during stress (Hudd et al., 2000; Lust et al,, 2010; Wichianson, Bughi, Unger, Spruijt-Metz, & Nguyen-Rodriguez, 2009). According to Shaikh et al. (2004), many students have been practising the right coping mechanism to stress such as spending time with friends and playing sports. However, there are still some of the students that choose smoking as their coping mechanism to stress which is not great for them.

Although a healthy level of stress can improve learning ability (Kaplan & Sadock, 2000), unmanaged stress can result in frustration, depression, and anxiety, and can lead to attention deficit hyperactivity disorder, substance abuse, antisocial behaviour, and even violence. Students' quality of life is jeopardised by stress. (Danna and Griffin, 1999; Dyck, 2001). There are also some cases that cause students to lose

their lives due to stress. Every university will keep records of every student that went to seek help from them, but this case shows that this method failed to help identify the causes and their method of coping with stress.

According to Sorenson (2007), the need for stress management is proportional to the need for increased student achievement and overall school improvement. Stress management is the ability to maintain and control oneself when a situation, people, or events place unreasonable demands on one (Bukhsh, Shahzad, & Nisa (2011). When stress is not well managed in academic institutions, it can have both positive and negative consequences that can affect their studies.

1.2 Problem statement

In the academic world, stress has become a prime subject. Students accepted to study in university come from a diversity of socioeconomic background, which means a large number of stress risk factors can arise. Students have been found to be particularly vulnerable to stress (Ross, Niebling & Heckert, 2000). A study conducted in Malaysia by Gan, Mohd Nasir, Shariff and Hazizi, (2011) showed that the prevalence of moderate to extremely severe stress among undergraduate students was fluctuating from 12.9% to 21.6%. Stress in an academic setting can have both beneficial and harmful consequences if not managed well. Chang and Lu (2007) point out that academic institutions have different work settings compared to nonacademic ones and therefore one would expect the difference in symptoms, causes, and consequences of stress in the two set up. A few scholars conduct research on stress

among undergraduate students and conclude that it needs more attention and awareness (Teh, Ngo, Zulkifli, Vellasamy & Suresh, 2015).

Students in higher education is known to be in a pressured period of time in life due to dealing with many challenging demands such as countless academic responsibilities, living far from family, incompetence of mentor-mentee and deficient self-management (Radeef, Faisal, Ali & Ismail, 2014). According to Erkutlu and Chafra (2006), when these occurrences occur, an individual becomes disorganised, disoriented, and thus less capable of coping, resulting in stress-related health problems. Students' performance in academics might be impaired due to the variety of stressors that they are facing. It can also have a negative impact on students' mental health and physical wellbeing.

Method used when dealing with stress is very vital among undergraduate students since it can affect their studies. Every person deals with stress differently. Some people cope by using drugs, alcohol, overeating, and smoking, which are all counterproductive, whereas others cope by exercising, meditating, and listening to music, which has been shown to help reduce stress (Shaikh et al, 2004). Drinking alcohol, smoking, and using illegal drugs were less desirable coping strategies (Emily & Marybelle, 2007). Hence, it is important for them to acknowledge the practice of stress management during study before it develops into health problems.

Based on the discussion, it shows that there are still a lot of undergraduate students with lack of knowledge and attitude of stress and its consequences while in university. This includes poor practice in stress management hence why this study should be done among them.

1.3 Significance of the study

The finding of this study will be able to examine the level of knowledge, attitude and practice towards stress management among undergraduate students. In terms of knowledge, students might not be aware if they are having one of the risk factors of stress due to lack of information. Hence, this study will provide them knowledge regarding stress management.

Most studies show that some undergraduate students often experience stress due to academic and personal reasons that can cause them to develop health problems such as depression and anxiety. This might be happening as the result of poor attitude or behaviour in managing stress. This study can lay out the normal response of stress for the undergraduate students to reflect it to themselves in order to avoid it developing into health problems.

Another significance of this study is to provide suitable practice of stress management among undergraduate students. Academic stress does really give a major impact to students in terms of their mental health and performance. With a busy schedule, students might not be able to appropriate stress management practice that

can fit in their schedule. This study will benefit students on how to manage stress and at the same time it will help them with time management.

1.4 Research Question(s)

I. What is the relationship between socio-demographic characteristics and level of knowledge of stress management among undergraduate students in Universiti Putra Malaysia?

II. What is the relationship between the level of knowledge on stress management and attitude and practice regarding stress management among undergraduate students in Universiti Putra Malaysia?

1.5 Objectives

1.5.1 General objectives

The main objective of this study is to identify the relationship between knowledge, attitude and practice of stress management among undergraduate students in Universiti Putra Malaysia (UPM).

1.5.2 Specific objectives

I. To determine the socio-demographic characteristic of undergraduate students in Universiti Putra Malaysia.

II. To identify the level of knowledge towards stress management among undergraduate students in Universiti Putra Malaysia.

III. To identify the attitude towards stress management among undergraduate students in Universiti Putra Malaysia.

IV. To identify the practice towards stress management among undergraduate students in Universiti Putra Malaysia.

V. To determine the relationship between socio-demographic data and the level of knowledge towards stress management among undergraduate students in Universiti Putra Malaysia.

VI. To determine the relationship between the level of knowledge, attitude and practice towards stress management among undergraduate students in Universiti Putra Malaysia.

1.6 Research Hypotheses

Null hypotheses (H_o):

I. There is no significant relationship between socio-demographic data and level of knowledge towards stress management among undergraduate students in Universiti Putra Malaysia.

II. There is no significant relationship between the level of knowledge and attitude and practice towards stress management among undergraduate students in Universiti Putra Malaysia.

Alternative hypotheses (Ha):

III. There is a significant relationship between socio-demographic data and level of knowledge towards stress management among undergraduate students in Universiti Putra Malaysia.

IV. There is a significant relationship between the level of knowledge and attitude and practice towards stress management among undergraduate students in Universiti Putra Malaysia.

1.7 Definition of Terms

1. **Socio-demographic**

    a. **Conceptual definition**

    According to Dobronte (2013), socio-demographics are the characteristics of the population.

    b. **Operational definition**

    In this study, socio-demographic data consist of age, gender, faculty of study, year of study, household income and marital status.

2. **Knowledge**

    a. **Conceptual definition**

    The fact or condition of knowing something with familiarity gained through experience or association is defined as knowledge (Merriam-Webster, 2021).

    b. **Operational definition**

    In this study, the level of knowledge of stress among the respondents will be determined by using 3 questions which include definition, side effects of stress and examples of high-stress jobs.

3. **Attitude**

   a. **Conceptual definition**

      The way a person thinks and feels about it, especially when this shows in the way the person behaves. (Collins English Dictionary, 2020).

   b. **Operational definition**

      In this study, attitude will be assessed to the degree to which stressful situations in one's life are rated by using responses based on a 5-point Likert scale with five choices ranging from "never" to "very often" items. The minimum score is 10 and the maximum score is 40.

4. **Practice**

   a. **Conceptual definition**

      Doing something regularly to be able to do it better. A practice is one of these periods of doing something (Collins Cobuild Learner's Dictionary, 2020).

   b. **Operational definition**

      In this study, practice of stress management is defined by 6 sections of 32 questions which are Wellness Scale, Thought Control Scale, Active Coping Scale, Social Ease Scale, Tension Reduction Scale and Spiritual Practice Scale. Participants need to choose one answer from the four options provided.

1.8 Conceptual Framework

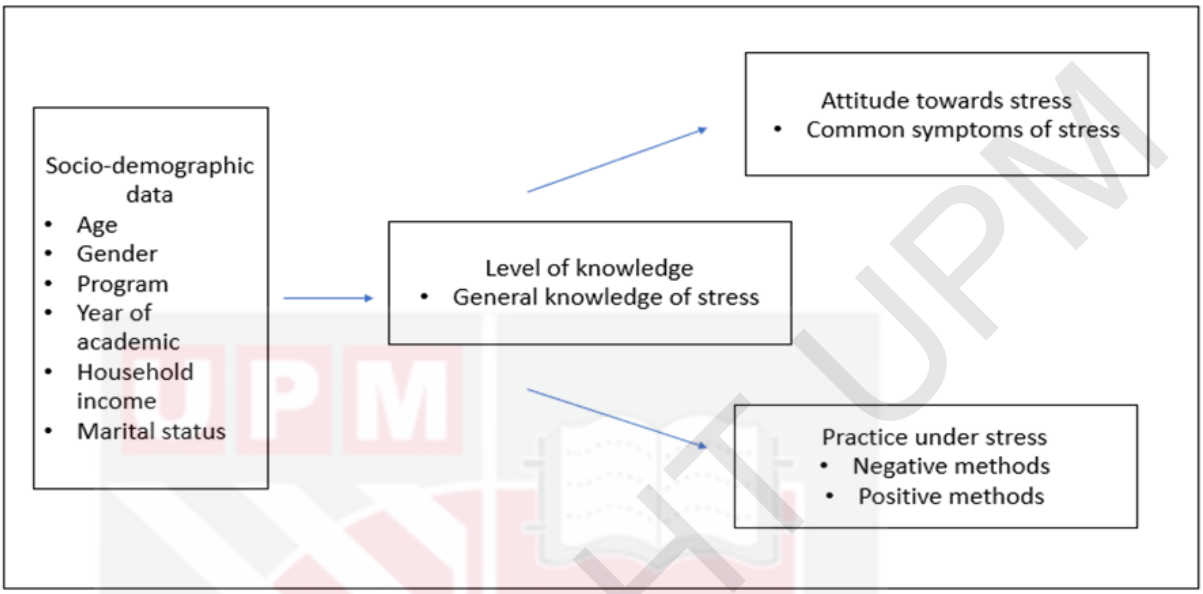


Figure 1: Conceptual framework for knowledge, attitude and practice towards stress management

Socio-demographic data and knowledge are the independent variables in this study as it will contribute to the dependent variables which are attitude and practice of stress management. The level of knowledge, attitude and practice towards stress is unrelated to socio-demographic data. Nevertheless, a study by Myers, Shannon et al., (2012), found that students from higher-income families have healthier habits towards stress. Hence, the researcher will find out the association between the independent and dependent variables.

Besides that, level of knowledge can affect the attitude and practice towards stress management. According to Reddy, Menon and Thattil (2018), students who do not

have the resources to deal with stress may suffer negative consequences. Next, the researcher will also find out the association between the stated variables.

CHAPTER 2

LITERATURE REVIEW

In this chapter, the researcher will discuss further regarding knowledge, attitude and practice of stress management based on the study that has been conducted worldwide. The topics that will be encountered are the introduction of socio-demographic, knowledge, attitude, and practice of stress management among undergraduate students. All the literature reviews regarding knowledge, attitude and practice of stress management are chosen to support the entire topic in this chapter.

2.1 Knowledge of undergraduate students towards Stress and Stress Management

A study carried out by Rehman and Baluja, in 2021 for undergraduate medical students at tertiary care teaching hospital, New Delhi shows that out of 254 total undergraduate students, only 28.4% students can give a relevant definition of stress and only 37.4% of students correctly identified the clinical features of stress.

In 2004, a study of students, stress and coping strategies in Pakistani Medical School found that 6.8% of students did not know the reason for their stress. (Shaikh et

al., 2004). Christina and Helen conducted a study in 2003 on Perceived Stress during undergraduate Medical Training and found that students' description of stress was subjective and not quantified through rating scale even though an outline definition of stress was used in the topic guide.

These matters happened due to lack of knowledge towards stress and on how to manage stress. Though certain levels of stress motivate students to perform at their best, when it is not managed effectively due to a lack of resources to deal with the stress, it can have negative consequences for both the student and the institution (Reddy, Menon, and Thattil, 2018).

2.2 Attitude of undergraduate students towards Stress and Stress Management

High stress can result in negative effects on students' learning, academic performance and well-being. Gisele (2002) stated that stress consists of various stressors that can lead to impaired judgement, decreased concentration, self-esteem loss, increased anxiety, and depression.

A study of Students, Stress and Coping Strategies in Pakistani Medical School found that the attitude of students towards stress was low moods, inability to concentrate, short temper, changed sleep patterns and loneliness. These attitudes were

more frequently cited than the others such as fatigue, headaches and stomachaches (Shaikh et al., 2004).

There are also some reports that show undergraduate students with higher stress levels were less likely to exercise regularly, ate fewer fruits and vegetables, and consumed more junk food and soft drinks. (Hudd et al., 2000; Lust et al,, 2010; Wichianson, Bughi, Unger, Spruijt-Metz, & Nguyen-Rodriguez, 2009). The effects of stress go beyond physical, emotional, and behavioural symptoms, as students may struggle to achieve academic goals.

2.3 Practice of undergraduate students under Stress and Stress Management

Stress management is becoming increasingly important at all levels, including personal, social, and institutional. In one study of 13,700 undergraduates from 17 midwestern secondary schools, 45% reported at least two major stressors in the previous 12 months, and 26% reported being unable to manage their stress (Lust et al., 2010).

Another study was done in Pakistani Medical School to determine students' coping strategies while under stress and found that sports, music, hanging out with friends, sleeping or going into isolation are various coping mechanisms they did. However, 71.6% of them prefer to talk with peers while in a stressed situation. They also prefer to have More recreational activities on campus, revised academic and exam

schedules, improved counselling services, and an improvement in the student-lecturer relationship (Shaikh et al., 2004). Shapiro et al., (2000) stated that meditation, support groups, games, and other stress management techniques aid in the better adoption of coping skills, increased knowledge of stress, and improved ability to resolve conflicts.

However, students revert to various coping strategies, both harmful and constructive. When smoking was used as a coping mechanism, there was a noticeable difference. Peer pressure and being away from family were blamed for the development of such an unhealthy habit.. (Shaikh et al., 2004). A dearth of stress management leads students in difficulty to overcome stressors. This matter has actually been noted among students with regards to adjusting to student life (Papanikolaou et al., 2003). According to Janice, Barbara and Peter (2004), most students complained it had to do with time management. They express that it is stressful to find time for family, work and student responsibilities. The students in this study also show that they do know about the non pharmacological methods to reduce stress such as physical exercise but they are not able to do these methods for themselves.

In addition, many students on campus do not seek help, owing to a lack of time and the stigma associated with counselling (Eisenberg, Golberstein, & Gollust, 2007). This issue causes them to deal with the stress with their own methods whether it is positive or negative for them.

2.4 Association between Socio-Demographic Characteristics and Stress Management

According to Cestari, et al. (2017), the sociodemographic and academic characteristics associated with the stress state were confirmed. Socio-demographic factors such as gender, age, marital status, socioeconomic status, and paid employment all have an impact on healthy and unhealthy behaviours (Krueger and Chang, 2008).

In terms of age, younger undergraduate students aged 20 to 24 years old are more stressed than students aged more than 29 years old. There was a predominance of students aged 20-24 years, with medium stress level (36.61%0 and high stress level (9.97%) (Bublitz, et al., 2016). Bayram and Bilgel (2008) stated that a similar result was found in a study conducted with university students in Turkey, where medium stress levels were found in students aged 20 to 26 years. Graduate students in their older age reported significantly lower levels of perceived stress (Myers, Shannon et al., 2012). Regarding gender, females had a higher proportion of stress cases (65.4%), than among males (40.7%) (Cestari, et al., 2017). Male students have a healthier overall profile, exercise more frequently, and manage stress better than female students (Ulla Diez, Perez-Fortis, 2010).

Based on the author, Raj, Simpson, Hopman & Singer (2000), medical students, in particular, believe they are more likely than others to become ill. International

studies have found that high levels of self-reported psychological stress are prevalent among higher education students, particularly females and students studying health sciences (Dutta et al., 2005; Hope & Henderson, 2014; Ishak et al., 2013; Storrie et al., 2010). A study done by Shaikh, et al.,(2004) shows perceived stress appears to be common among medical students, affecting not only their academic performance but also all aspects of their health. The author also found that seniors in their fourth and final year of medical students are more stressed (95% and 98% respectively). Ribeiro, et al., (2020), stated that stress levels were found to be higher in students in their sixth and subsequent semesters due to students in this stage of education being more exposed to these interactions because they attend components with a higher practical workload than students in the first semesters. Gurková, Elena; Zeleníková, Renáta, (2018) and Saipanish, Ratana (2003) also found that third-year students in most programs reported the highest level of stress.

According to Ulla Diez and Perez-Fortis, (2010) and Myers, Shannon et al., (2012), students with higher family monthly income exhibit healthier behaviours. The authors also found that married students reported significantly lower levels of perceived stress than unmarried graduate students.

CHAPTER 3

METHODOLOGY

In this chapter, the research will explain and justify the research design of this study, study location, study population, and subject criteria of participants that will be included in this study. Sample size estimation and its calculation will also be shown in this chapter. The sampling method and subject recruitment will also be justified. Besides, the research instrument and how the data will also be collected will be explained in this chapter. Study flowchart, data analysis, expected outcome, and consideration will also be explained in this chapter.

3.1 Research design

A cross-sectional design has been used to determine the knowledge, attitude and practice towards stress management among undergraduate students in Universiti Putra Malaysia. A cross-sectional study involves looking at the existence and magnitude of causal effects of one or more independent variables upon a dependent variable of interest at a given point of time that helps describe the current situation in research (Philip, 2014).

3.2 Study location

This study was conducted in Universiti Putra Malaysia via an online platform. It is a local university located in Serdang, Selangor and established on 21st May 1931 with a campus area of approximately 1,108.103 hectares. This university consists of 16 faculty with various types of program and year of study that provides a wide range of fields such as science, engineering, business, veterinary medicines and social sciences. The selected faculties for this research are Bachelor of Veterinary Medicine, Bachelor of Nursing, Bachelor of Science Dietetic, Bachelor of Architecture and Bachelor of Civil Engineering.

3.3 Sampling frame

3.3.1 Study population

This study involves undergraduate students in Universiti Putra Malaysia who are taking a bachelor's degree for four years regardless of gender and year of study from the selected faculties.

3.3.2 Study duration

The study was conducted from December 2021 until October 2022. Refer to Gantt Chart.

3.4 Subject criteria

The table below shows the participant inclusion and exclusion criteria. Any undergraduate student has the option to decline taking part in this study. However, declining to participate would not have any impact on the process of teaching and learning**.**

Inclusion criteria	Exclusion criteria
I. Undergraduate students from selected faculties in UPM II. Studying full-time III. Bachelor degree's students	I. Currently under medical leave for a serious condition. II. Undergraduate students who are deferring their study

3.5 Sample size estimation

The sample size estimation for this study is calculated using the Raosoft calculator (Raosoft, 2016). Raosoft's online calculator is specifically designed for population surveys to calculate sample size and determine how many responses are required to achieve the desired confidence level with the margin of error (usually 5%). As a result, with the population size in mind, it is highly recommended that it be used for such research (Meysamie, Taee, Mohammadi-Vajari, et al., 2014; McCrum-Gardner, 2010). The sample size is calculated using the formula below:

$$n = N x / ((N-1)E2 + x)$$

Where:

n = required sample size

x = Z value (95% confidence level)

N = population size (1,596 undergraduate students according to the chosen programme which are Bachelor of Nursing, Bachelor of Science in Architecture, Bachelor of Civil Engineering, Bachelor of Science Dietetic, Bachelor of Economics and Bachelor Veterinary Medicine) E = Degree of accuracy (5%), expressed as in proportion (0.05)

n = (1596)(0.95)/(1596-1)0.05² + 0.95)

= 310 number of respondents

So, the estimated sample size, n = 310 respondents based on total students in each programme selected.

3.6 Sampling method

The sample of study was obtained by using multistage random sampling. Depending on the population's organisational structure of natural clusters, multistage sampling, according to Sedgwick (2015), necessitates two or more steps of random sampling. The selection of sample techniques was also based on flexibility in selecting the method of selection at various phases and a low cost factor. As a result, multi-stage

random sampling is used since it is a more trustworthy sampling technique. Other than that, according to (Elfil & Negida, 2017), the random sampling method is a way of choosing a sample from a statistical population so that each potential selection has a set probability of happening. Therefore, choosing a sample at random from the population of interest is the most effective, practical, and straightforward way.

In this study, a multistage random sampling with two stages will be used. The first stage involves 16 faculties in Universiti Putra Malaysia. This information was obtained from https://ppa.upm.edu.my/. To select a participant from the list of faculties for this study, a coin toss will be used. Tossing a coin has two possible outcomes, "head" or "tail." The coin was tossed into the air and if the coin landed on heads, the faculty was chosen, if the coin landed on tails, the faculty was excluded from this study. Each faculty has a 50% chance of being chosen. As a result, the faculties chosen are Faculty of Medicine and Health Sciences, Faculty of Veterinary Medicine, Faculty of Design and Architecture, Faculty of Economics and Management and Faculty of Engineering. The next stage is to recruit participants through the same coin tossing method. All courses from selected faculties were listed and each had a 50% chance of being chosen. The courses that have been selected are Bachelor of Veterinary Medicine, Bachelor of Nursing, Bachelor of Science Dietetic, Bachelor of Architecture, Bachelor of Civil Engineering and Bachelor of Economics.

Faculty	Coin Tossing	Result
Faculty of Biotechnology And Biomolecular Sciences	Tail	Rejected
Faculty of Agriculture	Tail	Rejected
Faculty of Computer Science and Information Technology	Tail	Rejected
Faculty of Medicine and Health Sciences	Head	Accepted
Faculty of Human Ecology	Tail	Rejected
Faculty of Food Science and Technology	Tail	Rejected
Faculty of Design and Architecture	Head	Accepted
Faculty of Science	Tail	Rejected
Faculty of Educational Studies	Tail	Rejected
Faculty of Engineering	Head	Accepted
Faculty of Veterinary Medicine	Head	Accepted
Faculty of Forestry and Environment	Tail	Rejected
Faculty of Economic and Management	Head	Accepted
Faculty of Modern Language and Communication	Tail	Rejected
Faculty of Humanities, Management and Science (UPMKB)	Tail	Rejected
Faculty of Agricultural and Forestry Sciences (UPMKB)	Tail	Rejected

Table 3.6.1: List of faculties in UPM

Faculty and courses	Coin Tossing	Result
Faculty of Medicine and Health Science		
Bachelor of Science Environmental and Occupational Health with Honours	Tail	Rejected
Bachelor of Science Dietetics with Honours	Head	Accepted
Doctor of Medicine	Tail	Rejected
Bachelor of Nursing	Head	Accepted
Bachelor of Science Nutrition and Community Health with Honours	Tail	Rejected
Faculty of Design and Architecture		
Bachelor of Landscape Architecture with Honours	Tail	Rejected
Bachelor of Science in Architecture with Honours	Head	Accepted
Bachelor of Industrial Design with Honours	Tail	Rejected
Faculty of Engineering		
Bachelor of Aerospace Engineering with Honours	Tail	Rejected
Bachelor of Civil Engineering with Honours	Head	Accepted
Bachelor of Agriculture and Biosystems Engineering with Honours	Tail	Rejected
Bachelor of Electrical and Electronic Engineering with Honours	Tail	Rejected
Bachelor of Chemical Engineering with Honours	Tail	Rejected
Bachelor of Mechanical Engineering with Honours	Tail	Rejected
Bachelor of Process and Food Engineering with Honours	Tail	Rejected

Bachelor of Computer and Communication Systems Engineering with Honours	Tail	Rejected
Faculty of Veterinary Medicine		
Doctor of Veterinary Medicine	Head	Accepted
Faculty of Economic and Management		
Bachelor of Economics with Honours	Head	Accepted
Bachelor of Accounting	Tail	Rejected
Bachelor of Business Administration with Honours	Tail	Rejected

Table 3.6.2: List of selected faculties and courses

3.7 Research tools/instrument

3.7.1 Questionnaire

This study use a self-administered questionnaires from previous study by Rehman et al., (2021) for stress management of undergraduate medical students in India to assess knowledge and practice of stress and research tools such as 10-item Perceived Stress Scale (PSS-10) developed by Sheldon Chen (Cohen, Kamarck & Mermelstein, 1983) to assess perceived stress that is suitable for all ages and widely used for research among undergraduate students. This questionnaire consists of four sections which are Section A, Section B, Section C and Section D with a total of 22 questions.

Section A consists of 6 questions regarding participant's socio-demographic profiles which includes age, gender, faculty of study, year of study, household income and marital status. Meanwhile, section B consists of 3 questions to assess the level of knowledge towards stress which adopted from a study by Rehman et al., (2021) on evaluation of knowledge, attitude and practice regarding stress management among undergraduate medical students at tertiary care teaching hospital, New Delhi and section C includes 10 items from PSS-10 for assessment of student's' stress level. The last section which is section D consists of 3 self-administered questionnaires to assess the practice of participants towards stress which from the same author in Section B.

3.7.2 Scoring system

Section B: Knowledge of Students towards Stress

Questionnaire consists of 3 questions on knowledge towards stress. The answer will be determined by its relevance by the supervisor and co-supervisor which is a psychiatrist. The scoring method is calculated by giving a score of one for a relevant answer and zero for an irrelevant answer. The total score is 3. Scores ranging from 0-1 indicate poor knowledge, 2 would be considered as fair knowledge and 3 would be considered as good knowledge.

Section C: Attitude of Students towards Stress

Sheldon Cohen and his colleagues developed the Perceived Stress Scale-10 (PSS-10) in 1983, and it is a widely used psychological measuring tool to assess stress perception (Cohen, Kamarck & Mermelstein, 1983). It consists of 10 items, and the questions on this scale inquire about the participants' feelings and thoughts over the previous month. Participants will be asked how frequently their feelings or thoughts occurred in the previous month. Score 0 indicates never, score 1 indicates almost never, score 2 indicates sometimes, score 3 indicates fairly often, and score 4 indicates very often. A total of 0-40 score will be obtained and the higher scores indicate higher perceived stress.

- Scores ranging from 0-13 are considered low stress.
- Scores ranging from 14-26 are considered moderate stress.
- Scores ranging from 27-40 are considered as high perceived stress.

Section D: Practice of Students towards Stress Management

Questionnaire consists of 4 questions on practice towards stress. This section will determine the total of participants in performing activities on how to relieve stress and if the stress is related to substance abuse. This section will also determine when most of the participants feel stressed the most. Good or bad practice will be determine by participants' responds whether its relevant or irrelevant.

3.7.3 Reliability and validity

The content of the questionnaire was validated by a lecturer and a psychiatrist. Then, the questionnaire has been reviewed and checked before using it for collecting data. It is crucial in ensuring the questionnaire covers entirely the aspects related to variables for the study.

Pre-test was done to determine its reliability by using the Statistical Packages for Social Sciences (SPSS) version 28.0 to get Cronbach's alpha (α) value. The Cronbach's alpha value for the pre-test was 0.656 which is within the range of reliable questionnaires for collecting data.

3.8 Data collection

The questionnaires were distributed to the selected participants via Google forms online surveys and must be completed via electronic media such as WhatsApp, Telegram, and Facebook. The informed consent was provided in the second part of the online Google Form survey, and the participant demographic data in the next section. Informed consent is essential as confirmation that all data collected remains confidential and is not disclosed to the other party.

3.9 Data analysis

Statistical Packages for Social Sciences (SPSS) version 28.0 has been used to analyse the data. This study conclusion was analysed by using the descriptive and inferential analyses. The independent variables in this study are socio-demographic data and level of knowledge of stress management while the dependent variables are attitude and practice towards stress management. The level of knowledge on depression will be measured by a modified questionnaire based on a study by Rehman et al., (2021). Normality test which is the Shapiro-Wilk test will be conducted in order to determine the distribution of data of the dependent variable and will be visualised by histogram that will determine the value of skewness and kurtosis. The type of statistical analysis methods used is determined by the distribution of data. The Shapiro-Wilk or Kolmogorov- Smirnov test also will be conducted. Hence, normally distributed data should have a bell-shaped histogram, -3 to +3 for the value of skewness, and a p-value less than 0.05 ($p<0.05$).

The numerical data, such as age, household income and level of stress management knowledge, attitude and practise of stress, will be described in mean for

normally distributed data and median for non-normal distribution data for the descriptive analysis. The categorical data which are gender, faculty and year of study and marital status will be described using percentage and frequency in a pie chart format.

The primary analysis for inferential statistics is to use the multiple regression or ANOVA test to examine the association between socio-demographic factors and respondents' degree of knowledge, attitude, and practice on stress management. The second analysis will look for a link between respondents' stress knowledge and their attitudes and behaviours related to stress. In this case, the Pearson Correlation Test or the Spearman Correlation Test will be used (depending on the data distribution) with a significant value of p-value > 0.05.

DESCRIPTIVE DATA			
Objectives	**Variables**	**Type of variable**	**Statistical measurement**
To identify socio-demographic data of respondent	Age	Continuous	Mean and standard deviation
	Gender	Categorical	Percentage and frequency
	Faculty of study		
	Year of study		

	Household income	Continuous	Mean and standard deviation
	Marital status	Categorical	Percentage and frequency
To evaluate the level of knowledge of stress among respondents	Knowledge of stress	Continuous	Mean and standard deviation
	Level of knowledge	Categorical	Percentage and frequency
To evaluate the attitude towards stress among respondents	Attitude towards stress	Continuous	Mean and standard deviation
	Level of attitude towards stress	Categorical	Percentage and frequency
To evaluate the practice of stress among respondents	Practice towards stress	Continuous	Mean

INFERENTIAL DATA			
Null hypothesis	**Dependent variable**	**Independent variable**	**Statistical measurement**
To identify the relationship between socio-demographic data and the level of knowledge of stress among the respondents	Knowledge of stress (continuous)	• Age (Continuous)	Parametric: Pearson Correlation
		• Gender (Categorical)	Parametric: Independent t-test
		• Faculty of study (Categorical)	Parametric: One way Independent ANOVA
		• Year of study (Categorical)	Parametric: One way Independent ANOVA
		• Household income (Continuous)	Parametric: Pearson Correlation

		• Marital status (Categorical)	Parametric: One way Independent ANOVA
To identify the relationship between the level of knowledge, attitude and practice of stress among the respondents	• Attitude of stress (continuous) • Practice of stress (continuous)	• Knowledge of stress (continuous)	Parametric: Pearson correlation

3.10 Ethical consideration

A written approval and permission were obtained from the *Jawatankuasa Etika Universiti Penyelidikan Melibatkan Manusia (JKEUPM)*. Participants were provided with appropriate information in order to conduct the study, and they have the right to voluntarily participate in this study. Participants have the option to withdraw from the study at any time, with no repercussions. In order to show their desire to take part in the study, participants must sign the accompanying participant information sheet. Because this study will be conducted utilising an online Google form, there will be a part that will provide the consent form for the participants, and the participant must tick the box provided if they accept to participate in the study. The participant has the option to withdraw from the study. Data from a questionnaire that was not fully completed would not be used in the study. Once participants have a complete

understanding of the study, they are simply required to complete the informed consent form. All data collected will be kept and cannot be traced by other individuals, and will be kept secure in a Google Account that only the researcher can access. The downloaded data will be stored in a password-protected computer, thumb drive, and cloud account for 5 years before being permanently destroyed.

3.12 Study flowchart

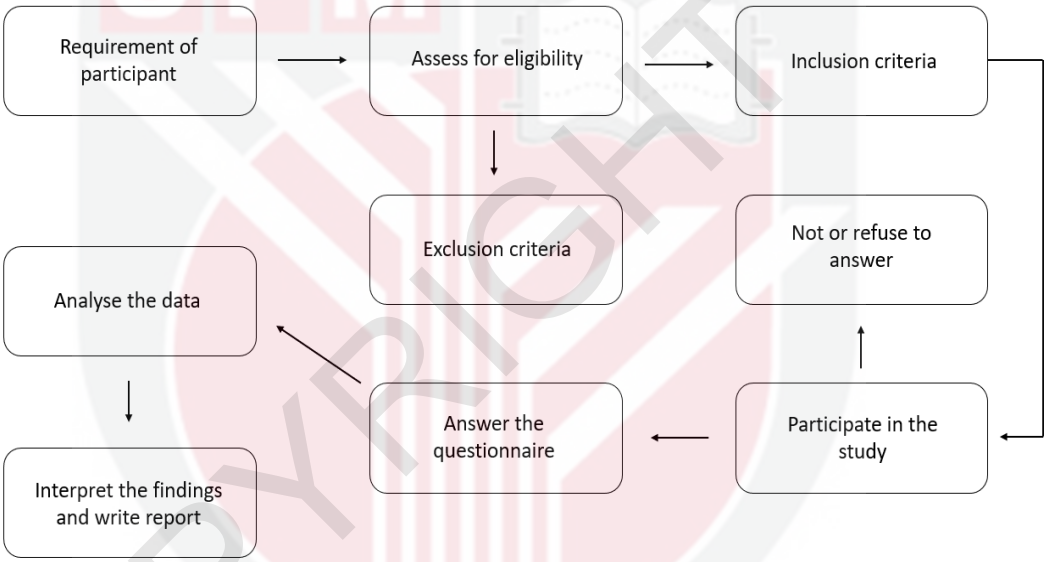


Figure 2: Study flowchart

3.13 Gantt chart and milestone

Project	**2021**			**2022**									
Month	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct
Discussion with supervisor													
Identify the research problem													
Reviewing the literature review													
Proposal progression													
Formulating questionnaire and conduct pre-test questionnaire													
Ethic approval													
Data collection													
Typing research report													
Submit research report													

CHAPTER 4

RESULT

This chapter provides a socio-demographic profile of the respondents, level of knowledge on stress management, attitude towards stress management and practice on stress management. The data about the sociodemographic profile is presented in Table 4.3.1. This information is essential to determine the associations between socio-demographic characteristics and level of knowledge of stress management, attitude towards stress management and the practice of stress management and to determine the relationship between knowledge, attitude and practice of stress management presented in this chapter.

4.1 Response Rate

The actual sample size needed for this study was 310 respondents with a 95% of confidence level and 5% of margin error but only 100 respondents were sampled and completed the questionnaire that was disseminated during the period of data collection. Hence, the response rate was equivalent to 32.2%.

4.2 Normality Test

Normality tests had been done which resulted in skewness and kurtosis value for knowledge is 0.472 and -0.47, while for attitude the value of skewness and kurtosis is 1.12 and 1.02. Lastly, the value of skewness and kurtosis for practice is 0.331 and -1.148. The value for skewness and kurtosis for knowledge, attitude and practice are within normal range for skewness (-3 to +3) and kurtosis (-10 to +10) (Brown, 2006; Griffin & Steinbrecher, 2013). Hence, the data is normally distributed.

4.3 Socio-demographic background of students in UPM

Table 4.3.1 shows the socio-demographic characteristics which include age, gender, faculty and year of study, household income and marital status. The total number of respondents in this study is 100 participants. The data implies that the total of female and male respondents are the same (n=50, 50%) and (n=50, 50%) respectively. Most of the respondent were in the age of 23 (n=39, 39%), followed by age 25, (n=14, 14%), age 24 (n=13,13%), age 26 (n=12, 12%), age 22 (n=11, 11%), age 21 (n=7, 7%) and lastly age 20 (n=4, 4%) with mean 23.44 and standard deviation 1.557. The majority of the respondents were from the Faculty of Engineering with a course of Civil Engineering (n=25, 25%) and fourth year students (n=31, 31%) followed by students from the Faculty of Medicine and Health Science in Bachelor of Nursing (n=23,23%) and Bachelor in Science Dietetics (n=20, 20%), then respondents from the Faculty of Design and Architecture in Bachelor of Science in Architecture

(n=16, 16%), Faculty of Economics and Management in Bachelor of Economics (n=11, 11%) and lastly, respondent from the Faculty of Veterinary Medicine (n=5, 5%). The second most respondents were from third year (n=30, 30%), followed by second year (n=28, 28%), first year (n=10, 10%) and fifth year (n=1, 1%). Most of the respondents' marital status were single and only 1% were married. For household income, most of the respondents household income were in the range of RM4000 to RM10000 (n=68, 68%), followed by household income less than RM4000 a month (n=29, 29%) and the least were from household income more than RM10000 (n=3, 3%) with mean value for household income is 5977.53. The details of the respondents' sociodemographic information are presented in the table below.

Table 4.3.1: Sociodemographic data of the respondents

Characteristics	**n**	**%**	**Mean**	**SD**
Age	100	100	23.40	1.557
Gender ● Male ● Female	 50 50	 50 50		
Faculty of study ● Faculty of Medicine and Health Science 'Bachelor of Nursing' ● Faculty of Medicine and Health Science 'Bachelor of Science Dietetics' ● Faculty of Engineering 'Bachelor of Civil Engineering' ● Faculty of Design and Architecture 'Bachelor of Science in Architecture' ● Faculty of Economics and Management 'Bachelor of Economics' ● Faculty of Veterinary Medicine	 23 20 25 16 11 5	 23 20 25 16 11 5		
Year of study ● First year ● Second year ● Third year ● Fourth year ● Fifth year	 10 28 30 31 1	 10 28 30 31 1		
Household income ● Less than RM4000 ● RM4000-RM10000 ● More than RM10000	 29 68 3	 29 68 3	 5977.53	
Marital status ● Single ● Married ● Divorced	 99 1 0	 99 1 0		

4.4 Knowledge of stress management among UPM students

Most of the respondents (78%, n=78) gave irrelevant definitions of stress. However, the majority of them (94%, n=94) choose the correct answer for the second question. The correct answer for the third question is teacher. Based on a study by Voltmer, Spahn, Schaarschmidt, et al. (2011), the risk pattern of overexertion and stress is higher in teachers (28.9%) than in physicians (20.6%). Other than that, unambitious or burnout patterns were seen in only 21.5% of physicians and 27.3% of teachers. So far, there is no research that shows web developers are more stressful than teachers and physicians. Almost half of the respondents (47%, n=47) chose teaching as the example of a high-stress job.

Table 4.4.1: Distribution of answer on knowledge of stress management

Questions	n (%)
1. How do you define stress?	
● Irrelevant definition	78 (78%)
● Relevant definition	22 (22%)
2. Which of the following is associated with stress?	
● Schizophrenia	5 (5%)
● Anxiety (Correct answer)	94 (94%)
● Hallucinations	1 (1%)
3. Which of the following is an example of a high-stress job?	17 (17%)
● Physician	47 (47%)
● Teacher (Correct answer)	36 (36%)
● Web developer	

Based on the results obtained, more than half of the respondents (83%) had poor knowledge of stress while only 1% of the respondents had a good level of knowledge about it.

Table 4.4.2: Level of knowledge of stress management among undergraduate students in UPM

Variable	**Frequency, n=100 (%)**			**Mean ± Standard deviation**	**Median**
Level of knowledge	Good knowledge 1 (1%)	Fair knowledge 16 (16%)	Poor knowledge 83 (83%)	0.27 ± 0.24	0.33

4.5 Attitude towards stress management among UPM students

Attitude towards stress management among undergraduate students was measured by using the Perceived Stress Scale instrument (Cohen, Kamarck & Mermelstein, 1983). The total score has been calculated and categorised to determine the attitude towards stress management among undergraduate students in UPM. Based on the result, 75% (n=75) of respondents felt moderate stress. Details of the data as described in Table 4.5.1.

Table 4.5.1: Perceived stress level among undergraduate students in UPM

PSS-10	n (%)
Perceived stress level	
Low stress	**0 (0%)**
Moderate stress	**75 (75%)**
High stress	**25 (25%)**

The mean score for PSS-10 among undergraduate students in this study is 23.89 ± SD 4.23. Based on the result, more than half (53.0%, n= 53) respondents sometimes felt that things were going on their way. Besides that, almost half of the respondents (46%, n=46) were sometimes angered because of things that happened that were outside of their control. Also, 46% (n=46) of respondents sometimes felt difficulty was piling so high until they could not overcome it. 44.0% (n=44) of respondents sometimes felt confident about their ability to handle their personal problems and able to control irritations in their life. Almost half of the respondents 43.0% (n=43) were fairly often found that they could not cope with all the things that they had to do and 42% of the respondents were fairly often felt nervous and stressed. The distribution of answers to questions in attitude towards stress management among undergraduate students in UPM is shown in Table 4.5.2.

Table 4.5.2: Distribution of answer on attitude of stress management

Questions	n (%)				
	0 (never)	**1 (almost never)**	**2 (sometime)**	**3 (fairly often)**	**4 (very often)**
1. In the last month, how often have you been upset because of something that happened unexpectedly?	2 (2%)	19 (19%)	**41 (41%)**	29 (29%)	9 (9%)
2. In the last month, how often have you felt that you were unable to control the important things in your life?	5 (5%)	28 (28%)	**37 (37%)**	23 (23%)	7 (7%)
3. In the last month, how often have you felt nervous and stressed?	2 (2%)	9 (9%)	38 (38%)	**42 (42%)**	9 (9%)
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	0 (0%)	14 (14%)	**44 (44%)**	37 (37%)	5 (5%)
5. In the last month, how often have you felt that things were going your way?	1 (1%)	21 (21%)	**53 (53%)**	21 (21%)	4 (4%)
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	0 (0%)	17 (17%)	37 (37%)	**43 (43%)**	3 (3%)
7. In the last month, how often have you been able to control irritations in your life?	0 (0%)	11 (11%)	**44 (44%)**	37 (37%)	8 (8%)
8. In the last month, how often have you felt that you were on top of things?	2 (2%)	27 (27%)	**41 (41%)**	27 (27%)	3 (3%)

9. In the last month, how often have you been angered because of things that happened that were outside of your control?	2 (2%)	14 (14%)	**46 (46%)**	29 (29%)	9 (9%)
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	3 (3%)	14 (14%)	**46 (46%)**	31 (31%)	6 (6%)

4.6 Practice of stress management among UPM students

Listening to music (27%, n=27), social media (27%, n=27) and indulging in favourite hobbies (27%, n=27) are the most activities chosen by respondents to relieve their stress. Meditation or yoga are the least chosen activities (1%, n=1) by the respondents to relieve stress. 20% (n=20) of the respondents are addicted to abusive substances such as tobacco or alcohol, however only 14% (n=14) of them are due to stress. Majority of the respondents (98%, n=98) feel more stress during late semester than early semester. The mean and standard deviation value for practice of stress management among undergraduate students are 1.31 and 0.63 respectively.

Table 4.6.1: Distribution of answer on practice of stress management

Questions	**n (%)**
1. Which among the following activities help you relieve your stress?	
● Listening to music	27 (27%)
● Going out with friends	9 (9%)
● Social media (Facebook, Instagram, etc)	27 (27%)
● Over eating	4 (4%)
● Exercise / sport	5 (5%)

● Meditation / Yoga ● Indulging in favourite hobbies	1 (1%) 27 (27%)
2. a. Are you addicted to any abusive substance (like tobacco, alcohol etc)? ● Yes ● No	 20 (20%) 80 (80%)
2. b. If Yes, is it due to stress? ● Yes ● No	 14 (14%) 6 (6%)
3. When do you feel more stress? ● During early semester ● During late semester	 2(2%) 98 (98%)

4.7 Association between socio-demographic data and the level of knowledge of stress management among UPM students

Pearson correlation was used to calculate the correlation between knowledge and age, and knowledge and household income since it is a continuous data. Based on Table 4.7.1, Pearson Correlation Analysis shows a correlation between knowledge and age as evidenced by p-value 0.007. Also the same for the correlation between knowledge and household income as evidenced by p-value less than 0.001.

Table 4.7.1: Pearson correlation between age and knowledge on stress management

Variable	**Knowledge**	
	***r*-value**	***p*-value**
Age	-0.269	0.007
Household income	-0.325	<0.001

*P-value < 0.05 considered as statistically significant

Independent T-test was used to identify the relationship between gender and knowledge of stress. The results in Table 4.7.2 show that there was no significant relationship between gender and knowledge of stress as the p-value was 0.903.

One-way independent ANOVA was used to identify the relationship between faculty of study, year of study, marital status, and knowledge of stress. There was no significant relationship between year of study (p= 0.140), marital status (p=0.270), and knowledge of stress. However, there is a significant relationship between faculty of study and knowledge of stress as evidenced by p-value less than 0.001. The details are provided in Table 4.7.2.

Table 4.7.2: Relationship between socio-demographic and knowledge on stress management

Characteristics	n	Mean ± SD	df	F/t	p-value
Gender ● Male ● Female	 50 50	 0.2067 (±0.222) 0.3333 (±0.252)	98	0.015	0.903
Faculty of study			5	5.548	<0.001
Year of study			4	3.293	0.14
Marital status			1	1.232	0.270

4.8 Relationship between the level of knowledge of stress management between the attitude and practice of stress management among UPM students

Based on Table 4.8.1 Pearson Correlation Analysis showed that there was a correlation between the level of knowledge and attitude towards stress as evidenced by r-value 0.321 and p-value = 0.001. However, no correlation shown by Pearson Correlation Analysis in Table 4.8.2 between knowledge and practice towards stress management as evidenced by r-value -0.139 and p-value = 0.168.

Table 4.8.1: Pearson correlation between knowledge and attitude on stress management

Variable	**Knowledge**	
	***r*-value**	***p*-value**
Attitude	0.321	0.001

Table 4.8.2: Pearson correlation between knowledge and practice on stress management

Variable	**Knowledge**	
	***r*-value**	***p*-value**
Practice	-0.139	0.168

*P-value < 0.05 considered as statistically significant

CHAPTER 5

DISCUSSION AND CONCLUSION

The main objective of this study is to determine the relationship between socio-demographic characteristics with the level of knowledge, attitude and practice regarding stress management among undergraduate students in UPM. In this chapter, results from the analysed data will be discussed according to the specific objectives of this study.

5.1 Association between socio-demographic data and the level of knowledge of stress management among UPM students

The findings of this study only shows that there is a significant relationship between knowledge of stress, age ($p=0.007$), household income ($p<0.001$) and faculty of study ($p<0.001$). This is the same with a study by Callahan & Marita (n.d) where it shows younger students have better knowledge about stress. However, David Sneed, director of the Growth and Purpose for Students program at Belmont University in Nashville, Tenn., stated that many students think they know what stress is, and this is especially true for freshmen who are younger (Borden, Lee, Serido, & Collins, 2008).

However, traditionally they do not know or fully understand the symptoms and signs of stress. A research from Alshahrani (2019), also shows that the most high stress was among the first year students. The findings of the study from Bhargava, Deepti & Trivedi, Hemant. (2018) shows the same result where there is a significant relationship between income and knowledge of stress.

However, there is no significant relationship between knowledge of stress, gender (p=0.903), year of study (p=0.140) and marital status (p=0.270). A research conducted by Zaid et al. (2007) in Malaysian medical colleges also showed that there was no significant relationship between knowledge of stress and gender.

5.2 Relationship between the level of knowledge of stress management between the attitude and practice of stress management among UPM students

Pearson Correlation Analysis showed that there was a correlation between the level of knowledge and attitude towards stress. This link to a research done by Selye and Lazarus which shows that the more knowledge about one's individual stress symptoms, the greater control one perceives over one's stressor. Hence, better ability to cope with it. A study by Callahan & Marita (n.d) also found that greater knowledge of stress would lead to fewer stress symptoms and better coping of stress.

The 2015 National College Health Assessment (NCHA) stated that about 85% of the academic performance of those students who had reported stress had been negatively impacted, they lacked stress awareness or knowledge, and they felt overburdened by their workload. The fact that many students said they felt anxiety was

a result of their lack of information about stress-reduction techniques was cited as one of the reasons for their experience (Borden et al., 2008).

According to the same author, students have also voiced concerns about the lack of initiatives within the educational system itself that might be used to assist them and educate them on how to deal with stress and the many coping strategies that would be advantageous to their health and learning. Gibbons and Gibbons (2007) and McCarty et al. (2007) have carried out extensive research on stress and discovered that stress is connected to how a person views things and the coping mechanisms used. A study from Samphina Academy (n.d) stated that lack of overt abilities in handling stressful situations is what causes the effects of stress that we witness in students. Poor performance and avoidance of solving the issue are some signs of it.

The fact that there is no direct correlation between students' enrollment in educational institutions and the calibre of education they receive may further explain why little has been done to address students' stress. (Bhargava, Deepti & Trivedi, Hemant, 2018)

However, no correlation shown by Pearson Correlation Analysis between knowledge and practice towards stress management. The same correlation between knowledge and practice of stress management was found by Samphina Academy (n.d).

5.3 Conclusion

Stress is limited to small levels to increase performance, but too much of it can be harmful to one's health and, as a result, one's quality of life. Based on this study, most of the respondents have poor knowledge on stress management. Despite the fact that most of them are under moderate level of stress, most of them still trying to continue their study. Thus, improving students' knowledge on stress management can result in better performance.

CHAPTER 6

LIMITATIONS AND RECOMMENDATION

This chapter compromised further regarding aspects to be improved based on the results and limitations. Hence, there are several limitations found during the research period that will be further discussed in this chapter.

6.1 Limitations

Finding respondents is one of the limitations found in this study. The questionnaires are distributed to all of the students in selected faculties and programs, however, the challenge is to gain the cooperation from students to participate. Researchers need to blast the questionnaire multiple times to reach the targeted amount of participants. This issue also causes the population percentage of students participating from each course to be not balanced. This may cause bias due to not representing some of the students in the courses.

Next, some of the students misunderstand the instruction in the questionnaire

in the part of filling up their household income. Most of the respondents fill up the part of household income as their own income. This may be difficult for the researcher to characterise them in data analysis in future.

Lastly, due to Covid-19, much progress had been delayed. As an example, the approval from JKEUPM. Which also causes limited time for researchers to collect data.

6.2 Implications and Recommendations

This study concluded that having poor knowledge about stress does not affect the practice of stress management. However, knowledge can affect the attitude towards stress which is important. But, having proper knowledge, attitude and practice towards stress management is still crucial to enhance the awareness regarding stress management among students. Awareness programs can be directly or indirectly to all students who might be experiencing problems with stress management.

Furthermore, more studies should be done regarding factors affecting the knowledge, attitude and practice regarding stress management. Stress can be prevented if undergraduate students have enough knowledge regarding this matter.

REFERENCES

Alshahrani W. (2019). Investigating Knowledge, Stress Prevalence, And Stressors In Relation To Stress And Stress Management Practices Among Medical Students In Saudi Arabia. Retrieved from https://etd.ohiolink.edu/apexprod/rws_etd/send_file/send?accession=kent1563408729106448&disposition=inline

Bayram N, Bilgel N. The prevalence and sociodemographic correlations of depression, anxiety and stress among a group of university students. Soc Psychiatry Psychiatry Epidemiol. 200

Bhargava, Deepti & Trivedi, Hemant. (2018). A Study of Causes of Stress and Stress Management among Youth. IRA-International Journal of Management & Social Sciences (ISSN 2455-2267). 11. 108. 10.21013/jmss.v11.n3.p1. 8; 43:667-72.

Brennan, J, Patel, K, Tang, W. Diversity in the student learning experience and time devoted to study: a comparative analysis of the UK and European evidence: report to HEFCE. Centre for Higher Education Research and Information, 2009. Available at: http://webarchive.nationalarchives.gov.uk/20150106142207/https://www.hefce.ac.uk/pubs/rereports/year/2009/diversitystudentlearningexperience/. Google Scholar

Bukhsh, Q., Shahzad, A., & Nisa, M. (2011). A study of learning stress and stress management strategies of the students of postgraduate level: A case study of islamia university of bahawalpur, Pakistan. Procedia - Social and Behavioral Sciences, 30, 182–186. https://doi.org/10.1016/j.sbspro.2011.10.036

Callahan, Marita, "The relationship between knowledge of stress theory and management of stress as reflected in sources and symptoms of stress and in academic performance in associate degree nursing students." (n.d). Doctoral Dissertations 1896 - February 2014. 3793.

Cestari, Virna Ribeiro Feitosa; Barbosa, Islene Victor; Florêncio, Raquel Sampaio; Pessoa, Vera Lúcia Mendes de Paula; Moreira, Thereza Maria Magalhães (2017). Estresse em estudantes de enfermagem: estudo sobre vulnerabilidades sociodemográficase acadêmicas. Acta Paulista de Enfermagem, 30(2), 190–196. doi:10.1590/19820194201700029

Chang K, Lu L (2007). Characteristics of organisational culture, stressors and wellbeing: The case of Taiwanese organisations, J Manage. Psychol. 22 (6): 549-568

Christina Radcliffe; Helen Lester (2003). Perceived stress during undergraduate medical training: a qualitative study. , 37(1), 32–38. doi:10.1046/j.1365-2923.2003.01405.x

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A Global Measure of Perceived Stress. Journal Of Health And Social Behavior, 24(4), 385. doi: 10.2307/2136404

Collins English Dictionary (2020). Risk Factor. HarperCollins Publishers. Retrieved from https://www.collinsdictionary.com/dictionary/english/risk-factor

Collins COBUILD Advanced English Dictionary (2020). Knowledge. HarperCollins Publishers. https://www.collinsdictionary.com/dictionary/english/knowledge

Danna K, Griffin RW (1999). Health and well being in the workplace: a review andsynthesis of the literature, J. Manage., (25) 357.

Davis, T. (n.d.). Stress Management: Definition, Techniques, and Strategies. Berkeley Wellbeing. Retrieved February 13, 2022, from https://www.berkeleywellbeing.com/stress-management.html

Dobronte, A. (2013). The importance of socio-demographics in online surveys. https://www.checkmarket.com/blog/socio-demographics-online-surveys/

Dutta, A., Pyles, M., & Miederhoff, P. (2005). Stress in health professions students: Mythor reality? A review of the existing literature. Journal of National Black Nurses' Association: JNBNA, 16(1), 63–68.

Dyck D (2001). "The toxic workplace", Benefits Canada, 25 (3) 52

Eisenberg, D., Golberstein, E., & Gollust, S. E. (2007). Help-seeking and access to mental health care in a university student population. Medical Care, 45, 594-601. doi:10.1097/MLR.0b013e31803bb4cl

Elfil, M., & Negida, A. (2017). Sampling methods in Clinical Research ; an Educational Review. 5(1), 3–5.

Elias, H., Ping, W. S. & Abdullah, M. C. (2011). Stress and academic achievement among undergraduate students in Universiti Putra Malaysia. Procedia - Social and Behavioral Sciences, 29, 646-655

Emily A. Pierceall & Marybelle C. Keim (2007) Stress and Coping Strategies Among Community College Students, Community College Journal of Research and Practice, 31:9, 703-712, DOI: 10.1080/10668920600866579

Erkutlu HV, Chafra J (2006). Relationship between leadership power bases and job stress of subordinates: example from boutique hotels, Manage. Res. News 29(5): 285-297.

Fairbrother K, Warn J (2003). Workplace Dimensions, Stress and Job Satisfaction, J. Managerial Psychol. 18(1): 8-21.

Gan, W.Y., Mohd Nasir, M.T., Shariff, Z.M. and Hazizi, A.S. (2011) Disordered Eating Behaviours, Depression, Anxiety and Stress among Malaysian University Students. College Student Journal, 45, 296.

GISELE, M. (2002). Stress in graduate medical degree. Medical Journal of Australia, 17,10 – 11.

Griffin, M. M., Steinbrecher, T. D. (2013). Large-Scale Datasets in Special Education Research International Review of Research in Developmental Disabilities. 45 (155-183). Retrieved from https://doi.org/10.1016/B978-0-12-407760-7.00004-9

Heublein, U. (2014). Student Drop-out from German Higher Education Institutions.

European Journal Of Education, 49(4), 497-513. doi:10.1111/ejed.12097

Hope, V., & Henderson, M. (2014). Medical student depression, anxiety and distress outside North America: A systematic review. Medical Education, 48(10), 963–979

Hudd. S,, Dumlao, J., Erdmann-Sager, D., Murray, D., Phan, E., Soukas, N,, & Yokozuka, N. (2000). Stress at college: Effects on health habits, health status and self-esteem. College Student Journal, 34, 217-227.

Ishak, W., Nikravesh, R., Lederer, S., Perry, R., Ogunyemi, D., & Bernstein, C. (2013). Burnout in medical students: A systematic review. The Clinical Teacher, 10(4), 242–245.

Janice A. Maville; Barbara A. Tucker; Peter L. Kranz (2004). Perceived Stress Reported by Nurse Practitioner Students. , 16(6), 257–262. doi:10.1111/j.1745 - 7599.2004.tb00448.x

Jawale, K. V. (2012). Methods of Sampling Design in Legal Research: Advantages and Disadvantages.

KAPLAN, H.I. & SADOCK, B.J. (2000) Learning theory, in: Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry, 8th edn, pp. 148–154 (Philadelphia, Lippincott: Williams & Wilkins).

Krueger, P. M. and Chang, V. W. (2008) Being poor and coping with stress: health behaviors and the risk of death. American Journal of Public Health, 98, 889–896.

Lee, Eun-Hyun (2012). Review of the Psychometric Evidence of the Perceived Stress Scale. Asian Nursing Research, 6(4), 121–127. doi:10.1016/j.anr.2012.08.004

Lust, K.. Ehlinger, E., & Golden. D. (2010). College student health survey report: Health and health-related behaviors Minnesota postsecondary students. Retrieved from http://www.bhs.umn.edu/surveys/index.htm

Merriam-Webster. (2021). Knowledge | Definition of Knowledge by Merriam-Webster. Merriam-Webster. https://www.merriam-webster.com/dictionary/knowledge

Raosoft sample size calculator. Raosoft, Inc. http://www.raosoft.com/samplesize.html. accessed November 2021

Meysamie A, Taee F, Mohammadi-Vajari M, et al. Sample size calculation on web, can we rely on the results? J Stats Med Inf. 2014 doi: 10.7243/2053-7662-2-3.

McCrum-Gardner E. Sample size and power calculations made simple. Int J Ther Rehabil. 2010;1:10–14.

Mofatteh M. (2020). Risk factors associated with stress, anxiety, and depression among university undergraduate students. AIMS public health, 8(1), 36–65. https://doi.org/10.3934/publichealth.2021004

MUNDT, M.H. (1996). Peer interviewing: A student health survey on an urban campus. Journal of American College Health, 44, 187 – 192.

Myers, Shannon B.; Sweeney, Alison C.; Popick, Victoria; Wesley, Kimberly; Bordfeld, Amanda; Fingerhut, Randy (2012). Self-care practices and perceived stress levels among psychology graduate students.. Training and Education in Professional Psychology, 6(1), 55–66. doi:10.1037/a0026534

Papanikolaou, Z., Nikolaidis, A., Patsiaouras, A., & Alexopoulos, P. (2003). The freshman experience: High stresslow grades. Athletic Insight: The Online. Journal of Sport Psychology

Philip, S. (2014). Cross Sectional Studies: advantages and disadvantages. 2276(March), 1-2. https://doi.org/10.1136/bmj.g2276

RAJ, R.S., SIMPSON, C.S., HOPMAN, W.M. & SINGER, M.A. (2000). Health related quality of life among final year medical students. Canadian Medical Association Journal, 162, 509 – 510.

Reddy K. J, Menon K. R, Thattil A. Academic Stress and its Sources Among University Students. Biomed Pharmacol J 2018;11(1).

Rehman S, Baluja Z. Evaluation of knowledge, attitude and practice regarding stress management among undergraduate medical students at tertiary care teaching hospital, New Delhi. IP Int J Comprehensive Adv Pharmacol 2021;6(2):83-88

Ribeiro FMSS, Mussi FC, Pires CGS, Silva RM, Macedo TTS, Santos CAST. Stress level among undergraduate nursing students related to the training phase and sociodemographic factors. Rev. Latino-Am. Enfermagem. 2020;28:e3209. DOI: http://dx.doi.org/10.1590/1518-8345.3036.3209

Ross, S. E., Niebling, B. C., & Heckert, T. M. (2000). Sources of stress among college students. Social Psychology, 61(5), 841-846.

Saipanish, Ratana (2003). Stress among medical students in a Thai medical school. Medical Teacher, 25(5), 502–506. doi:10.1080/0142159031000136716

Samphina Academy, (n.d). Knowledge and Practice of Stress Management among Students in College of Agriculture Jalingo. Retrieved from https://samphina.com.ng/knowledge-practice-stress-management-students/

Sedgwick, P. (2015). Multistage sampling. July, 29–31. https://doi.org/10.1136/bmj.h4155

SHAPIRO, S.L, et al. (2000). Stress management in medical education. Academic Medicine, 75, 748 – 759.

Shaikh, Babar; Kahloon, Arsalan; Kazmi, Muhammad; Khalid, Hamza; Nawaz, Kiran; Khan, Nadia; Khan, Saadiya (2004). Students, Stress and Coping Strategies: A Case of Pakistani Medical School. Education for Health: Change in Learning & Practice, 17(3), 346–353. doi:10.1080/13576280400002585

Storrie, K., Ahern, K., & Tuckett, A. (2010). A systematic review: Students with mental health problems—A growing problem. International Journal of Nursing Practice, 16(1), 1–6.

Sorenson, R. D. (2007). Stress management in education: warning signs and coping mechanisms. Management in Education, 21(3), 10–13. doi:10.1177/089202060707998

Tan, SY; Yip, A (2018). Hans Selye (1907–1982): Founder of the stress theory. Singapore Medical Journal, 59(4), 170–171. doi:10.11622/smedj.2018043

Teh, C. , Ngo, C. , Zulkifli, R. , Vellasamy, R. and Suresh, K. (2015) Depression, Anxiety and Stress among Undergraduate Students: A Cross Sectional Study. Open Journal of Epidemiology, 5, 260-268. doi: 10.4236/ojepi.2015.54030.

Ulla Diez, S. M.; Perez-Fortis, A. (2010). Socio-demographic predictors of health behaviors in Mexican college students. Health Promotion International, 25(1), 85–93. doi:10.1093/heapro/dap047

Voltmer, E., Spahn, C., Schaarschmidt, U. *et al.* Work-related behavior and experience patterns of entrepreneurs compared to teachers and physicians. *Int Arch Occup*

Environ Health 84, 479–490 (2011). https://doi.org/10.1007/s00420-011-0632-9

Wells M. Dreams deferred but not deterred: a qualitative study on undergraduate nursing student attrition. J Coll Stud Ret. 2007;8(4): 439–455

Wichianson, J.,Bughi, S., Unger, J., Spruijt-Metz, D., & NguyenRodriquez, S. (2009). Perceived stress, coping and night-eating in college students. Stress and Health, 25, 235240. doi:10.1002/smi,1242

World Health Organization, & International Society of Hypertension Writing Group. (2003). 2003 world health organization (WHO)/International society of hypertension (ISH) statement on management of hypertension. Journal of Hypertension, 21(11), 19831992.

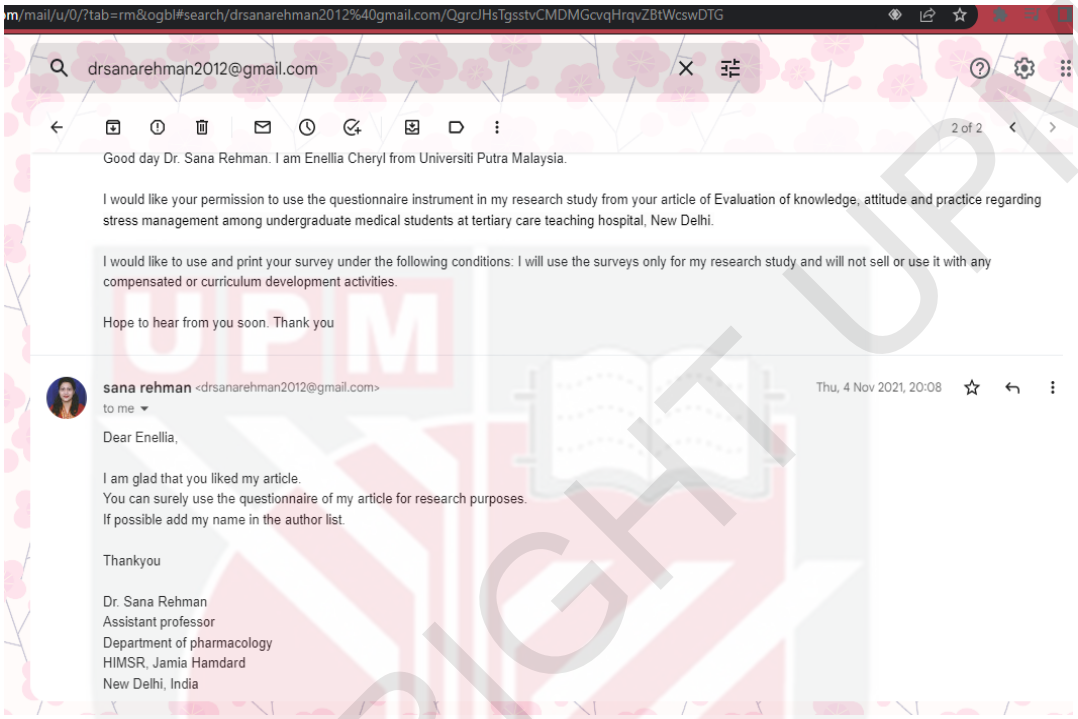
WORLD HEALTH ORGANIZATION (1994). The health of young people: A challenge And a promise. Geneva: WHO.

Worthen M, Cash E. Stress Management. In: StatPearls. StatPearls Publishing, Treasure Island (FL); 2021. PMID: 30020672.

Zaid, Z., Chan, S., & Ho, J. (2007). Emotional disorders among medical students in a malaysian private medical school. Singapore Medical Journal, 48(10), 895

APPENDICES

Appendices A: Written Permission for Study Instrument



drsanarehman2012@gmail.com

2 of 2

Good day Dr. Sana Rehman. I am Enellia Cheryl from Universiti Putra Malaysia.

I would like your permission to use the questionnaire instrument in my research study from your article of Evaluation of knowledge, attitude and practice regarding stress management among undergraduate medical students at tertiary care teaching hospital, New Delhi.

I would like to use and print your survey under the following conditions: I will use the surveys only for my research study and will not sell or use it with any compensated or curriculum development activities.

Hope to hear from you soon. Thank you

sana rehman <drsanarehman2012@gmail.com> Thu, 4 Nov 2021, 20:08

to me

Dear Enellia,

I am glad that you liked my article.
You can surely use the questionnaire of my article for research purposes.
If possible add my name in the author list.

Thankyou

Dr. Sana Rehman
Assistant professor
Department of pharmacology
HIMSR, Jamia Hamdard
New Delhi, India

Appendices B: Respondent's Information Sheet and Consent

JAWATANKUASA ETIKA UNIVERSITI UNTUK PENYELIDIKAN MELIBATKAN MANUSIA (JKEUPM)
UNIVERSITI PUTRA MALAYSIA, 43400 UPM SERDANG, SELANGOR, MALAYSIA

FORM 2.4: RESPONDENT'S INFORMATION SHEET AND INFORMED CONSENT FORM

Please read the following information carefully and do not hesitate to discuss any questions you may have with the researcher.

1. STUDY TITLE :

KNOWLEDGE, ATTITUDE AND PRACTICE OF STRESS MANAGEMENT AMONG UNDERGRADUATE STUDENTS IN UNIVERSITI PUTRA MALAYSIA

2. INTRODUCTION:

This study intends to determine the knowledge, attitude and practice of stress management among undergraduate students in Universiti Putra Malaysia. Specifically, the factors include socio-demographic background (age, gender, educational level, and type of residence), knowledge, attitude and practice of stress management.

3. WHAT WILL YOU HAVE TO DO?

This study is completely voluntary where respondents can withdraw at any point of time. Respondents are required to fill in their socio-demographic background in Section A of the questionnaire. This is followed by the question of knowledge, attitude and practice of stress management in Section B, Section C and Section D respectively. The questionnaire is estimated to take about 5 to 10 minutes.

4. WHO SHOULD NOT PARTICIPATE IN THE STUDY?

You should NOT participate in this study if any of the following exclusion criteria applies to you:
a) Not a student currently enrolled in a Universiti Putra Malaysia.
b) Undergraduate student who has deferred study for the past 1 semester or current semester.
c) Undergraduate students who have been clinically diagnosed with psychiatric illnesses.

5. WHAT WILL BE THE BENEFITS OF THE STUDY:

(a) TO YOU AS THE SUBJECT?

The respondent could benefit from gaining indirect information or understanding on their individual knowledge, attitude and practice towards stress management once the questionnaire has been completed. If there are any health concerns, the respondents can reach out to the researchers or medical practitioners for more information or resources. Unfortunately, this study may not provide significant benefit to an individual specifically as there are no clinical trials or interventional elements involved in this study.

(b) TO THE INVESTIGATOR?

The investigator will be able to analyze data which can be used to determine the association between socio-demographic background, knowledge, attitude and practice of stress management among undergraduate students in Universiti Putra Malaysia. The result from this study can fill in the knowledge gap on stress management especially among undergraduate students in Universiti Putra Malaysia. The data from this study can be used to establish reference for future researchers who are interested in conducting this study.

6. WHAT ARE THE POSSIBLE RISKS?

There is a minimal risk as this research does not involve biological specimens. Throughout the process of answering the questionnaire, you may experience a minimal psychosocial risk such as confusion when encountering difficulty in understanding the questions in the questionnaire using any electronic devices of your preference (i.e.: desktop, laptop, phone, tablet, etc.). If you experienced any depression, anxiety, and stress symptoms, stop immediately from answering the questionnaire. You are encouraged to seek help from a counsellor or any organization that can provide mental support.

7. WILL THE INFORMATION THAT YOU PROVIDE AND YOUR IDENTITY REMAIN CONFIDENTIAL?

All information and identity that obtained through this research will remain confidential and used only for this research. The data processing software will not contain your personal identifier or information as they will be analyzed as a group data.

8. WHO SHOULD YOU CONTACT IF YOU HAVE ADDITIONAL QUESTIONS DURING THE COURSE OF THE RESEARCH?

Enellia Cheryl Anak George (Researcher)
Final Year Student,
Department of Nursing,
Faculty of Medicine and Health Sciences,
Universiti Putra Malaysia.

Mobile No: +60143570522
Email address: 197350@student.upm.edu.my

Eugene Koh Boon Yau (Co-supervisor)
Lecturer,
Department of Psychiatry,
Faculty of Medicine and Health Sciences,
Universiti Putra Malaysia.

Mobile No: +60122018407
Email address: eugene@upm.edu.my

Mdm Rosna binti Abdul Raman (Supervisor)
Lecturer,
Department of Nursing,
Faculty of Medicine and Health Sciences,
Universiti Putra Malaysia.

Mobile No: +60193883844
Email address: rosnaar@upm.edu.my

Please initial here if you have read and understood the contents of this page_____

9. CONSENT

I ..... Identity Card No. ..... address.....

.....hereby voluntarily agree to take part in the research stated above *(clinical /drug trial/video recording/ focus group/interview-based/ questionnaire-based).

I have been informed about the nature of the research in terms of methodology, possible adverse effects and complications (as written in the Respondent's Information Sheet). I understand that I have the right to withdraw from this research at any time without giving any reason whatsoever. I also understand that this study is confidential and all information provided with regard to my identity will remain private and confidential.

I* wish / do not wish to know the results related to my participation in the research

I agree/do not agree that the images/photos/video recordings/voice recordings related to me be used in any form of publication or presentation (if applicable)

* delete where necessary

Signature ..... (Respondent)

Date :.....

Signature ..... (Witness)

Name :.....

I/C No. :.....

I confirm that I have explained to the respondent the nature and purpose of the above-mentioned research.

Date .....

Signature ..... (Researcher)

SECTION A: SOCIO-DEMOGRAPHIC BACKGROUND
BAHAGIAN A: LATAR BELAKANG SOSIO-DEMOGRAFI

Please tick (/) one answer on each of the following questions.
Sila tandakan (/) di ruangan kosong yang berkenaan dengan diri anda.

1. Age: State: _____
   Umur: Nyatakan: _____

1. Gender
   Jantina
   - Female *Perempuan*
   - Male *Lelaki*

2. Faculty of study *Fakulti*
   - Faculty of Medicine and Health Science
     Fakulti Perubatan dan Sains Kesihatan
   - Faculty of Veterinary Medicine *Fakulti Perubatan Veterinar*
   - Faculty of Engineering *Fakulti Kejuruteraan*
   - Faculty of Design and Architecture *Fakulti Rekabentuk dan Senibina*
   - Faculty of Economics and Management *Fakulti Ekonomi dan Pengurusan*

3. Year of study *Tahun pengajian*
   - First year *Tahun pertama*
   - Second year *Tahun kedua*
   - Third year *Tahun ketiga*
   - Fourth year *Tahun keempat*
   - Fifth year *Tahun kelima*

4. Household income *Pendapatan isi rumah*
   State *Nyatakan*:_____

5. Marital status *Status perkahwinan*
   - Single *Bujang*
   - Married *Berkhawin*
   - Divorced *Bercerai*

SECTION B: KNOWLEDGE OF STUDENTS TOWARDS STRESS
BAHAGIAN B: PENGETAHUAN TERHADAP STRES

1. How do you define stress? *Apakah definisi stres bagi anda?*

   _____

2. Which of the following is associated with stress?
   Antara berikut, yang manakah boleh dikaitkan dengan stres?
   - Schizophrenia *Skizofrenia*
   - Anxiety *Keresahan*
   - Hallucinations *Halusinasi*

3. Which of the following is an example of a high-stress job?
   Antara berikut, yang manakah contoh kerja yang mempunyai tekanan dan stres yang tinggi?
   - Physician *Doktor*
   - Teacher *Guru*
   - Web developer *Pemaju web*

SECTION C: ATTITUDE OF STUDENTS TOWARDS STRESS
BAHAGIAN C: SIKAP TERHADAP STRES

For each question choose from the following alternatives:
Bagi setiap soalan pilih daripada alternatif berikut:
0 – never 1 - almost never 2 – sometimes 3 - fairly often 4 - very often
0 – Tidak pernah 1 - Hampir tidak pernah 2 – Kadang-kadang
3 - Kerap 4 - Sangat kerap

1. In the last month, how often have you been upset because of something that happened unexpectedly? _____
Pada bulan lepas, berapa kerap anda merasa kecewa disebabkan oleh kejadian yang tidak diduga? _____

2. In the last month, how often have you felt that you were unable to control the important things in your life? _____
Pada bulan lepas, berapa kerap anda merasakan bahawa anda tidak dapat mengawal perkara penting dalam hidup anda? _____

3. In the last month, how often have you felt nervous and stressed? _____
Pada bulan lepas, berapa kerap anda merasa gementar dan tertekan? _____

4. In the last month, how often have you felt confident about your ability to handle your personal problems? _____
Pada bulan lepas, berapa kerap anda merasa yakin terhadap kemampuan anda untuk mengawal masalah peribadi diri anda? _____

5. In the last month, how often have you felt that things were going your way? _____
Pada bulan lepas, berapa kerap anda merasakan bahawa segala-galanya mengikut kehendak anda? _____

6. In the last month, how often have you found that you could not cope with all the things that you had to do? _____
Pada bulan lepas, berapa kerap anda merasakan anda tidak dapat mengatasi semua perkara yang anda perlu lakukan? _____

7. In the last month, how often have you been able to control irritations in your life? _____
Pada bulan lepas, berapa kerap anda dapat mengawal kerungsingan dalam kehidupan anda? _____

8. In the last month, how often have you felt that you were on top of things? _____
Pada bulan lepas, berapa kerap anda merasakan bahawa anda berada di atas segala-galanya? _____

9. In the last month, how often have you been angered because of things that happened that were outside of your control? _____
Pada bulan lepas, berapa kerap anda merasa marah disebabkan oleh perkara yang terjadi di luar kawalan anda? _____

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? _____
Pada bulan lepas, berapa kerap anda merasakan bahawa terlalu banyak kesukaran sehingga anda tidak dapat mengatasinya? _____

SECTION D: PRACTICE OF STUDENTS TOWARDS STRESS MANAGEMENT
BAHAGIAN D: AMALAN TERHADAP PENGURUSAN STRES

1. Which among the following activities help you relieve your stress?
Antara aktiviti berikut, yang manakah cara untuk anda mengurangkan stres?

- Listening to music *Mendengar lagu*
- Going out with friends *Meluangkan masa dengan kawan*
- Social medias *Sosial media* (Facebook, Instagram, etc)
- Over eating *Makan berlebihan*
- Exercise / sport *Bersenam/Bersukan*
- Meditation / Yoga *Meditasi / Yoga*
- Indulging in favourite hobbies *Melakukan hobi*

2. a. Are you addicted to any abusive substance (like tobacco, alcohol etc)?
Adakah anda ketagih dengan sebarang bahan berbahaya? (rokok, arak, dll)?

- Yes *Ya*
- No *Tidak*

2. b. If Yes, Is it due to stress?
Jika ya, adakah disebabkan oleh stres?

- Yes *Ya*
- No *Tidak*

3. When do you feel more stress? *Bilakah anda merasa stres yang lebih tinggi?*

- During early semester *Semasa awal semester*
- During late semester *Semasa akhir semester*

THE END OF QUESTION
SOALAN TAMAT

Thank you for your time.
Terima kasih atas masa anda.

Appendices D: Approval from Jawatankuasa Etika Untuk Penyelidikan Melibatkan Manusia (JKEUPM)

Ref. no: UPM/TNCPI/RMC/JKEUPM/1.4.18.2 (JKEUPM)
Date: 29 July 2022

Dear Prof./Dr./Mr./Ms.,

APPLICATION FOR JKEUPM ETHICAL CLEARANCE: APPROVED

With reference to the above, I am pleased to inform you that your application for ethical clearance for the research project entitled **'A CROSS-SECTIONAL STUDY: KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING STRESS MANAGEMENT AMONG UNDERGRADUATE STUDENTS IN UNIVERSITI PUTRA MALAYSIA, SELANGOR'** has been approved.

The approval is **valid from 29 JULY 2022 until 29 JULY 2023.**

Please note that the official letter of approval will be issued as soon as possible. However, the ethical clearance is considered effective from the date of this email, and you may now proceed with your research.

Kindly remind the ethical approval is required in the case of amendments/ changes to the study documents/ study sites/ study team.

Researchers should also complete a Study Final Report upon study completion. The form can be obtained from the Ethics Committee for Research Involving Human Subjects (JKEUPM) website (http://www.tncpi.upm.edu.my/faildokumen).

If you have any enquiries, please contact at number 03-97691244/1602.

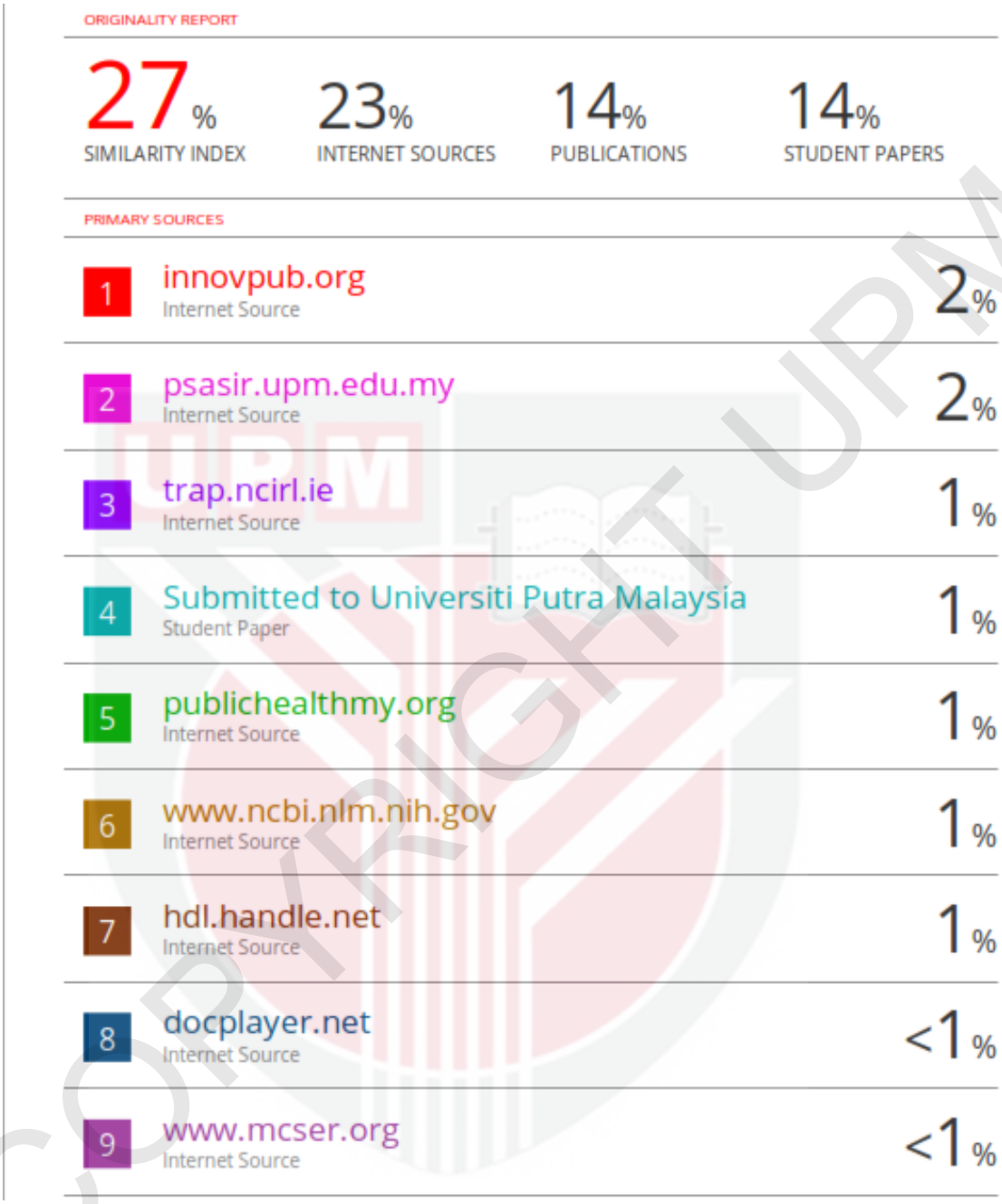
Note: Please use this reference number for any transaction:- **JKEUPM-2022-356**

Thank you.

Yours faithfully,

Prof. Dr. Zamberi Sekawi
Chair
Ethics Committee for Research Involving Human Subjects
Universiti Putra Malaysia

Appendices E: Turnitin Report



ORIGINALITY REPORT

27%	23%	14%	14%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	innovpub.org Internet Source	2%
2	psasir.upm.edu.my Internet Source	2%
3	trap.ncirl.ie Internet Source	1%
4	Submitted to Universiti Putra Malaysia Student Paper	1%
5	publichealthmy.org Internet Source	1%
6	www.ncbi.nlm.nih.gov Internet Source	1%
7	hdl.handle.net Internet Source	1%
8	docplayer.net Internet Source	<1%
9	www.mcser.org Internet Source	<1%