UNIVERSITI PUTRA MALAYSIA

KNOWLEDGE, ATTITUDE, PRACTICE AND AWARENESS ON HYPERTENSION AMONG STUDENTS AND STAFFS IN FACULTY OF MEDICINE AND HEALTH SCIENCES (FMHS), UNIVERSITI PUTRA MALAYSIA

GROUP 29

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ABSTRACT

Hypertension is one of the causes of non-communicable diseases in Malaysia. If not identified earlier, it can result in other complications such as stroke and myocardial infarction. It is also important to prevent people from developing hypertension.

There are controllable and uncontrollable risk factors of hypertension. Uncontrollable risk factors encompasses gender, age, genetic factors and ethnicity, where people cannot escape from it. However, for modifiable risk factors such as obesity, dietary intake and others that can be altered in daily life. Unfortunately, not everybody is aware of the risk factor or purposely ignores their own health with an unhealthy lifestyle. The World Health Organization (WHO) has stated that Malaysia has the highest rate of obesity and overweight cases among the nations in Asia with either 64 percent and 65 percent of the male and female population respectively being obese or overweight cases.

It is undeniable that there are many forms of awareness that have been done in our country in order to reduce the prevalence and incidence of hypertension. Nevertheless, there are still people who are clueless about hypertension. Many studies demonstrated that the level of awareness of hypertension in society is still lacking. Awareness and Knowledge are very important elements in order to determine attitude and practice of individuals towards hypertension. Thus, it is very important to perform a study to gauge the level of knowledge, awareness, attitude and practice of hypertension in each individual.

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This study will be carried out in the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia. Cross sectional study will be used in our study. Simple random sampling will be a sampling method to choose students and staff of the faculty to participate in the research by answering questionnaires. The study will utilize an online platform only for collecting data from respondents.

The questionnaire consists of questions about knowledge, attitude, practice and awareness respectively and the results will be essential to determine the level of knowledge, awareness, attitude and practice of hypertension.

Hence, this research is to assess knowledge, attitude, practice and awareness of hypertension among students and staff in the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia.

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CHAPTER 1

INTRODUCTION

1.1 Background

The World Health Organization (2019) states that hypertension can be defined as a systolic blood pressure reading ≥140 mmHg and a diastolic blood pressure reading ≥90 mmHg on each occasion when blood pressure measurement is taken on two or more separate occasions. There are two types of hypertension, which are essential hypertension and secondary hypertension. High blood pressure where secondary causes such as renal failure, renovascular disease, aldosteronism, pheochromocytoma or other causes of secondary hypertension or mendelian forms (monogenic) are absent is known as essential or primary hypertension. Secondary hypertension is high blood pressure due to another condition or disease such as chronic kidney disease, obstructive sleep apnea, primary aldosteronism, pheochromocytoma, Cushing syndrome, acromegaly, and drug related causes such as birth control pills consumption. The National Health and Morbidity Survey of 2015 by the Ministry of Health Malaysia testified that the participants aged 18 years and above in this survey had an overall prevalence of hypertension (known and undiagnosed) of 30.3% (95% CI: 29.3, 31.2). An overall rising trend in prevalence with age was observed, from 6.7% (95% CI: 4.7, 9.4) in the age group of 18-19 years, to achieving a peak of 75.4% (95% CI: 70.5, 79.7) for participants in the 70-74 years age group. According to the World Health Organization (2019), unhealthy diets like a diet rich in saturated fat and trans fats, excessive intake of salt, tobacco and alcohol consumption, lack of physical activity, and an overweight or obese condition are some of the modifiable risk factors for hypertension.

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Non-modifiable risk factors may comprise a family history of hypertension, presence of existing diseases such as diabetes, ethnicity and an age of 65 years or above.

An article by (Kaliyaperumal & Expert, n.d.) states that knowledge can be defined as the comprehension of a community on any topic that is being studied among them, which in the case of this research, is hypertension. Attitude can be defined as the community's outlook on the topic being studied together with any predetermined notions about it. Practice, on the other hand, is the method by which the community shows their knowledge and attitude by their activities. Awareness can be defined as the community's understanding of a topic or subject in the contemporary period founded on facts or experience.

1.2 Problem Statement

In this day and age, the number of patients diagnosed with hypertension among the populace is rising rapidly. The low knowledge level on the clinical practice guidelines among the people will further aggravate the phenomena, particularly since hypertension can be asymptomatic. Despite the advancements of modern technology for the diagnosis and treatment of hypertension, the rate of detection of hypertension remains poor. For every one patient who is diagnosed with hypertension, two are not diagnosed with it. Similarly, for every three hypertension patients undergoing treatment, only one patient will be successfully treated for hypertension. (Clinical Practice Guidelines Management of Hypertension 5th Edition, 2018)

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In addition, there is a lack of research conducted into the degree of knowledge, awareness, attitude and practice on hypertension among medical students and staff, who make up the current and future health personnel. As the prevalence of the disease increases, it is crucial to assess the degree of knowledge of future and current health personnel who will be disseminating information to the patients and providing care for them as well. The objective of the research is to determine the degree of comprehension about the knowledge, attitude, practices and awareness on hypertension among students and staff in the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia.

It is crucial and important to assess the level of knowledge, attitude, practice and awareness on hypertension among students and staff of FMHS, Universiti Putra Malaysia to determine their degree of readiness to handle the rising number of hypertension cases in the country as well as to provide quality care to the hypertension patients.

1.3 Significance of study

This research is focusing on hypertension as it becomes a concern in the population nowadays. It will assess the knowledge, attitude, practice as well as awareness of hypertension among students and staff. The result can be beneficial to reinforce knowledge and awareness on hypertension besides assessing attitude and practice among the involved students and staff as well as others. This will identify training needs in order to ensure this current and future health can advise individuals to better prevent and manage hypertension by practicing a healthy lifestyle and adhering to their treatment plan.

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1.4 Research questions

What is the level of knowledge, attitude, practice and awareness on hypertension among students and staff in Faculty of Medicine and Health Sciences (FMHS), Universiti Putra Malaysia.

1.5 Objective

1.5.1 General Objective

I. To assess the level of knowledge, attitude, practice and awareness on hypertension among students and staffs in Faculty of Medicine and Health Sciences (FMHS), Universiti Putra Malaysia.

1.5.2 Specific Objective

I. To determine the level of knowledge on hypertension among students and staff in FMHS.

II. To determine the level of attitude on hypertension among students and staff in FMHS.

III. To determine the level of practice on hypertension among students and staff in FMHS.

IV. To determine the level of awareness on hypertension among students and staff in FMHS.

V. To determine the factors associated with the level of knowledge, attitude, practice and awareness on hypertension among students and staff of FMHS.

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1.6 Hypothesis

There are significant associations between sociodemographic factors (age, gender, ethnicity, level of education, year of study and field of staff) and the level of knowledge, attitude, practice and awareness on hypertension among students and staff of FMHS.

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CHAPTER 2

LITERATURE REVIEW

2.1 Definition

2.1.1 Definition of hypertension

Hypertension can be defined as consistently elevated systolic blood pressure readings of 140 mm Hg or higher or diastolic blood pressure readings of 90 mm Hg or higher based on two or more readings at separate medical appointments (*High Blood Pressure | National Heart, Lung, and Blood Institute (NHLBI)*, n.d.). Hypertension can be classified into two types, which are primary hypertension and secondary hypertension. Primary hypertension, or essential hypertension, is a condition of high blood pressure without a single known cause but instead several mechanisms associated with changed pathways in blood pressure control. Examples of such conditions include insulin resistance, genetics, diet such as increased salt intake, obesity, stress, excessive alcohol intake, ageing and physically inactive lifestyle. Secondary hypertension, or non-essential hypertension, is a condition of high blood pressure due to a known underlying cause or pathology. Examples of such causes include renal disorders such as chronic pyelonephritis, disorders of the blood vessels like coarctation of the aorta and miscellaneous causes such as scleroderma.

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2.2 Knowledge of Hypertension

A study was carried out on knowledge of hypertension among 230 undergraduate students from different medical colleges at the International University of Africa, Sudan, from January till May 2017. The primary objective of this study was to gauge the knowledge about hypertension and its risk factors among first year students of the Medical Colleges in the International University of Africa. A questionnaire was distributed among the students to collect data regarding the level of knowledge of students about hypertension and its risk factors.

The parameters of knowledge regarding hypertension that were assessed in the questionnaire include knowledge regarding the time hypertensive medications should be taken, definition of hypertension, symptoms present in hypertensive patients, nutritional based treatment of hypertension, complications linked with uncontrolled hypertension, appropriate diagnosis of hypertension and the normal range of blood pressure. The students who participated in this study were first year students from the faculty of Medicine, Medical laboratories, Nursing, Pharmacy and Dentistry.

The study demonstrated that the overall prevalence of the knowledge of hypertension among the students was 97%. It was discovered in this study that the level of knowledge on hypertension and its risk factors was different between the first year students of different faculties. Students from the faculties of Nursing and Medicine possessed greater information regarding the risk factors of hypertension with a prevalence of 93.87% and 59.12% respectively, while students from the Medical laboratories and Pharmacy faculties, with a prevalence of 55.76% and 48.16% respectively, had a lower knowledge of hypertension risk factors.

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The studies also revealed that the nursing students were the most knowledgeable on hypertension. This could be due to the entry year course of the nursing students which encompasses different aspects of hypertension. One of the weaknesses of the study was that since the sample size and population was limited to only the first year students from the medical colleges, the data obtained of the study could not be extrapolated to the entire student population of the university (Osman et al., 2018).

The conclusion of the study was that the medical students had a moderate level of knowledge on hypertension, with nursing students having the highest level of knowledge regarding hypertension. There is an urgent need to improve the knowledge on hypertension among the first year students, particularly the students from the faculties of Medical laboratories and Pharmacy. Modifications need to be done in the elementary courses to fill the gaps in the level of knowledge on hypertension among first year students from different medical faculties (Osman et al., 2018).

2.3 Awareness, Practice, and Attitude of Hypertension

A study was done in Selangor, Malaysia. However, the research did not focus on awareness of hypertension. Author Fatin Buang, Mazlin Rahman and Mainul Haque (2019) stated that knowledge has positive relations between attitude and practice. However, in terms of attitude and practice there was no significant interaction. The awareness, preventive and control services of hypertension in their neighborhood should be improved, so that the citizens may appreciate and sustain the healthier lifestyle.

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Thus, the attitude and practice of people is influenced by their knowledge and awareness on hypertension. Other similar studies concluded that significant relation for awareness with attitude and practice, and between awareness and knowledge. Knowledge and attitude or knowledge and practice have no significant relation. Furthermore, there is an important relation between the patient's attitude and practice (Sabouhi, Babaee, Naji, and Zadeh, 2011). It is concluded that awareness is very important in an individual in order to have a good attitude and practice towards hypertension. Knowledge without awareness is also crucial based on the study that was done.

Another study on awareness, attitude and prevalence of hypertension but the target group was health professionals which is similar to this research because samples are among staff in Faculty. Based on Mitwalli et al., (2013) study, self-reported hypertension with a total of 114/188 (60.6%) subjects while researchers considered 74/188 (39.3%) subjects to be hypertensive while assessing blood pressure. 22.3 percent of patients followed up irregularly. 12.2 percent of patients did not comply with their medication. A major problem was that relatively young health subjects who did not alert that they were having hypertension and realize that they have hypertension due to uncontrolled blood pressure because they did not monitor it occasionally. The result showed that lack of awareness among health professionals towards their own health might be due to busy schedules and large commitment in their daily life. The study proved that awareness is the most important thing above knowledge in order to avoid hypertension by having good attitude and practice.

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A study was done in Nigeria that assess awareness on hypertension among elderly by author Raheem, Taiwo, & Oye, (2017) showed that among the respondents, 78% were unaware of their hypertension symptom while remaining that aware of their hypertension had uncontrolled blood pressure in 77.1% of them although they were prescribed with medication. Based on the research, there were few factors associated with low awareness such as individuals with no history of diabetes mellitus, age <65 years old and having obesity range BMI.

This study proved that awareness is very important that can influence the prevalence of hypertension in the population and there are various ways of people having the awareness. Some of them might have awareness from family history of hypertension, or based on their reading in magazines and knowledge from a formal education.

The study by Shafi et al, (2017) reported that those with family history of hypertension, diagnosis of diabetes mellitus, cardiovascular disease and chronic kidney disease have association with their awareness of hypertension. It is a significant finding where the diagnosis of chronic disease has association with awareness because awareness becomes a kick start for them to control their hypertension to avoid morbidities in patients.

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2.4 Socio-demographic factors

2.4.1 Age and Level of KAPA on Hypertension

A study on correlation of sociodemographic factors and also the attitude and hypertension were done. The observation of the study proves that there was an association between age and hypertension. Based on the study, people with increasing age are susceptible and prone to be diagnosed with hypertension which contributes to high prevalence of hypertension in Malaysia. These results were not only reported in Malaysia but were also reported in other countries. These cases occur mostly due to ageing process where the arteries start to stiffen and lead to higher total resistance in cardiac output which will then cause an increase in blood pressure (Naing et al., 2016).

Overall, the prevalence of adults over 30 years that has been diagnosed with hypertension has increased: 32.9 percent (30 percent-35.8 percent) in 1996, 42.6 percent (37.5 percent-43.5 percent) in 2006, and 43.5 percent (40.4 percent-46.6 percent) in 2011. Between 1996 and 2011 there was a big rise around 32 percent ($P < 0.001$) and 29 percent between 1996 and 2006 ($P < 0.05$), but just a tiny low 1 percent change between 2006 and 2011 ($P = 0.6$). From the 2006 NHMS (32.2 percent) to the 2011 NHMS (32.7 percent) ($P = 0.25$) only a 1 percent rise in hypertension prevalence occurred for the population aged 18. The older cohort reported around 74.1 percent of prevalence adults aged 65 to 69. Between 1996 and 2006 Malaysia improved both awareness ratio and control of hypertension (Naing et al., 2016).

Another study in Malaysia also concludes that rising age will lead to higher cases of hypertension. In central Malaysia, it was found that the rate of hypertension for adults aged 55

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years old and above were 25.6% and 51.1% for those who live in a society and who live in an old folk home respectively. Similarly, a health survey also recorded a transparent association between age and pressure level in England 2003 and within the u. s. (Syer et al., 2010).

A previous study was done on the level of knowledge, attitude and practice on hypertension among hypertensive patients on follow-up as St. Paul's Hospital. (Bacha et.al, 2019) states that age is a factor that affects the knowledge of the participant. It is noted that people aged 36 to 45 years old are 3.6 times have better knowledge as compared to people aged 76 to 85 years old. This study shows that younger age group are far better to have good knowledge, attitude, practice and awareness on hypertension compared to the older age groups.

Another study by (Buang et.al, 2019) states that there is a strong correlation between age and the level of knowledge, attitude, practice and awareness on hypertension. Based on the study, it was found that an increase in age will increase the level of knowledge, attitude, practice and awareness. The same study also states that younger adults have lower levels of knowledge compared to the older age respondents. However, it was found that the result was not similar as other research where the results are in contrast.

2.4.2 Gender and Level of KAPA on Hypertension

A study by (Omar et al., n.d.) states that males showed greater prevalence than females. This finding was in line with other adult studies conducted in the central region of Nepal and China. Likewise, a study conducted among adults in Malaysia showed that males have more risk of hypertension compared to females. This is due to men who have a smoking and drinking habit, rather than women.

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Another study by (Naing et al., 2016) shows a slightly higher increase in the awareness of hypertension was found in men when stratified by sex (0.9 percent, ratio 1.09/1.08), while a 13 percent increase (ratio 1.45/1.28) in women compared to men regarding the control of hypertension (P = 0.04). This happens due to lack of job opportunities for women that make them aware of their hypertension status.

Other studies also indicate that hypertension is the major cause of mortality in males older than 44 years old and female aged 65 years old and above (Hennekens, 1998; Latifah et al., 2008). This research found a substantially higher prevalence of hypertension in males as opposed to females. This finding is comparable to (Wood et.al, 1998) Task Force report (Akter et al., 2010).

A study was made in Negeri Sembilan where it measures the level on knowledge, attitude practice and awareness on hypertension. It is stated that female respondents had a significantly good attitude and practice as compared to the male respondents. This is because females are more aware on non-communicable diseases as compared to males. Females were noted to be more aware towards their healthy lifestyle where they being extra cautious on healthy eating and regular exercise. By the same study, it is shown that females consume high vegetables and do not smoke to practice a healthy lifestyle (Muslimah et.al, 2018).

Other study was made by (Ali Haider et.al, 2019) states that their findings on their research reveals that the level of knowledge were associated with gender. Another study by (Mardhiah et.al, 2015) founds that in terms of level of knowledge, there is no significance difference between males and females as the p-value is > 0.05. However, it was noted that there is a significant difference

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between males and females on the comparison for level of attitude. Females also shows better level of practice towards hypertension as it is stated in the study.

2.4.3 Ethnicity and Level of KAPA on Hypertension

A recent study by (Naing et al., 2016) The high prevalence of hypertension in Malaysia may have been caused by an association between genetic and environmental factors such as food consumption, salt intake, lifestyle, behavioral patterns and stress level. In addition, the variability of genetic predisposition to hypertension across different ethnic groups, such as genes encoding the components of the renin-angiotensin - aldosterone system, has emerged as possible candidates. Overall, the higher prevalence of hypertension was found among the Malays (33.9%) and the lowest level was seen among the Indians in NHMS 2006 (29.4%) (P<0.001) and in the NHMS 2011 (34%, 30.6%) (P=0.015). Within ethnic group, however, showed comparable prevalence in both NHMS (P: 0.86, Malay; P: 0.91, Chinese; P: 0.43, Indian).

Other study by (Nursyafiza et.al, 2018) states that being Malays were noted to have high level of knowledge regarding non-communicable diseases such as hypertension as compared to other ethnicities. Another study was made among four selected villages in Kuala Pilah and Jempol regarding the determinants of knowledge, attitude and practice on lifestyle preventive measures against hypertension. The study found that being in Others ethnicity which means not from Malay, Chinese or Indians was a standard of good knowledge. However, a study made in Sarawak founds otherwise. It is observed that Malays have the highest scores for health preventive lifestyle as

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compared to other ethnicities. In terms of practice, it is proven that being Chinese and Other ethnic groups have much better level of practice as compared to the Malays (Suriani et.al, 2020).

2.4.4 Year of study and Level of KAPA on Hypertension

There is a lack of literature comparing the year of study of the sample and hypertension. However, there was a study conducted among entry year students of medical college in Arab stated that a total of 66(60.0%) participants out of 110 with good knowledge regarding adjustable risk factor of hypertension (Shaikh et al., 2011). The study was limited among entry year students only or first year students which is different from our study as we are comparing students from first year to final year of study. There was a study about KAP on risk factors of cardiovascular disease among Malaysian university students where the study involved students from different year of study. However, the result found out that there was no significant association between different year of study with total knowledge, attitude and practice score (Ibrahim, Rahman, & Haque, 2016). This research emphasizes on year of study because a sample is taken from university students and in order to compare the level of knowledge.

2.4.5 Educational level and Level of KAPA on Hypertension

There were few studies stated that people with higher education levels have better knowledge on hypertension. Fatin Buang, Mazlin Rahman, and Mainul Haque (2019) reported that people with higher education levels were supposed to have improved KAP on hypertension. However, the study found that there was no significant association between educational level and KAP regarding hypertension. In general, people with higher educational background receive more information and have better knowledge in hypertension.

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Similarly, authors Leelacharas and Rujiwatthanakorn (2012) stated that people with higher educational backgrounds had better understanding of hypertension compared to those with lower educational backgrounds. This might be due to the different levels of education that influenced the information that they had regarding hypertension and their thoughts.

Another study concluded that there is a significant relation between educational level and knowledge score (Rashidi et al., 2018). Therefore, in order to reduce the prevalence of hypertension in a population, it is important to implement a better education system towards prevention and management of hypertension. It will give many benefits especially to the individual with a lower educational background.

2.4.6 Field of staff and Level of KAPA on Hypertension

A study was done by Gyang et al.,2018 about undiagnosed hypertension among healthcare workers in Nigeria stated that a higher rate of undiagnosed hypertension was found among health support staff (38.0%) while for health service providers (30.8 %) showed a lower rate of having undiagnosed hypertension. This result is probably due to different awareness levels between health support staff and health service providers where generally health service providers are known to have better awareness of their health.

Another study by author Pakzad et al., 2018 regarding prevalence of hypertension among students, university staff and teachers in Isfahan state institute found out that university staff have the highest prevalence of hypertension (22.1%) while teachers and students with prevalence of 8.4% and 15.4% respectively. Among the respondents, students showed the highest level that aware of their hypertension status (63.4%)

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A study was done in Ethiopia by author Esaiyas, Teshome, & Kassa, 2018 on the knowledge level of hypertension among health professionals, administrative staff and academic staff. There is significant association between occupation and level of knowledge of respondents about hypertension. The result shows that administrative staff have the highest in terms of low knowledge category regarding hypertension (52.0%), while academic staff (34.3%) and health professionals with the lowest low knowledge category (3.4%). The highest trend among administrative staff as compared to health professionals and academic staff might be due to different educational levels and exposure to hypertension.

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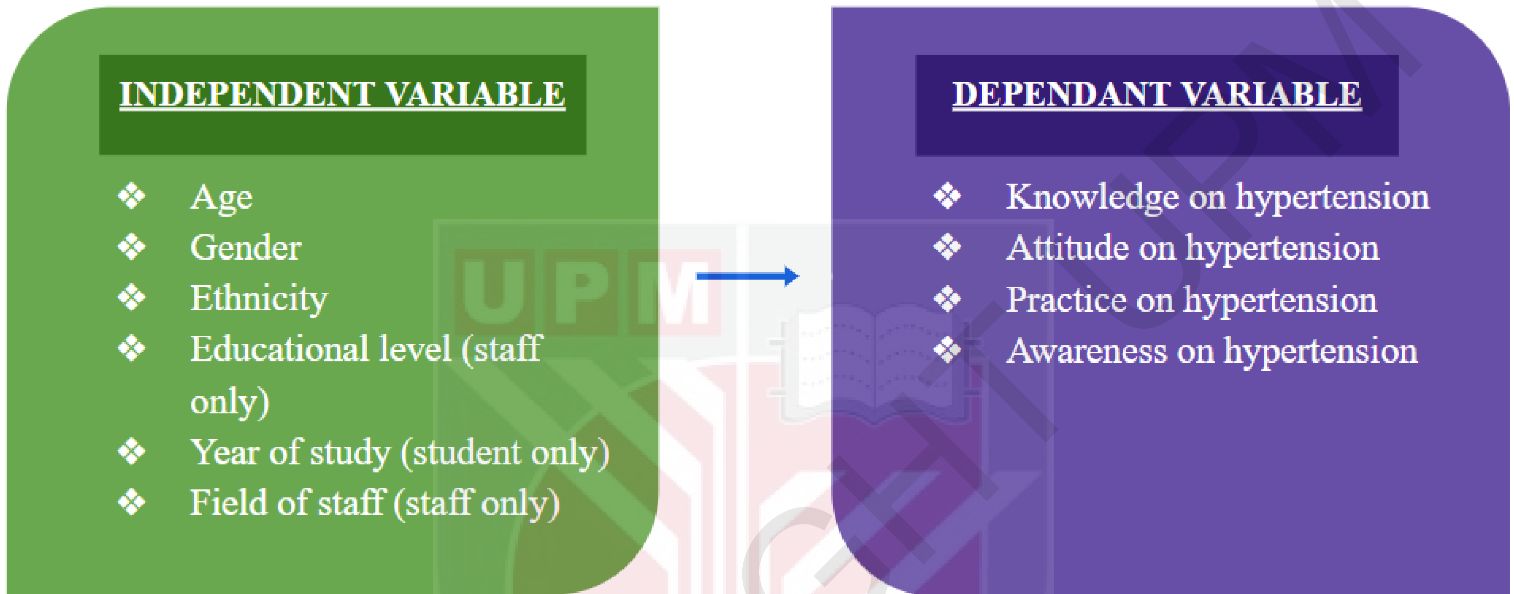
2.5 Conceptual Framework

The following is the conceptual framework of this study:



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CHAPTER 3

METHODOLOGY

3.1 Study Location

The location of the study is at the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400 Serdang, Selangor Darul Ehsan.

3.2 Study Design

The type of study design adapted is the cross-sectional study using an online google form questionnaire. The benefits of using the cross-sectional study design is that it is easy to conduct, can be done rapidly, is not costly to carry out which makes it a suitable study design to be carried out in the short duration of time for the data collection period. This study design can be used to collect data from the study population at a certain point in time, which makes it suitable for our research. It can be used for generating and testing hypotheses based on the data collected.

3.3 Study Duration

The duration of the study is 17 weeks and is divided into two phases:

I. Phase 1: Preparation, submission and presentation of proposal paper

II. Phase 2: Data collection, analysis and presentation: Final presentation

3.4 Sampling

3.4.1 Study Population

I. Medical students in the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia from first year to fifth year and the total number of students is N1.

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II. Students studying in other courses in Faculty of Medicine and Health Sciences, Universiti Putra Malaysia from first year to fourth year and the total number of students is N2.

III. Staff working in Faculty of Medicine and Health Sciences, Universiti Putra Malaysia.

3.4.1.1 Inclusion Criteria

Full time medical students, students studying other courses and staff working at the Faculty of Medicine of Health Sciences, Universiti Putra Malaysia.

3.4.1.2 Exclusion Criteria

Medical students, students studying other courses and staff working at the Faculty of Medicine of Health Sciences, Universiti Putra Malaysia who choose not to answer the online questionnaire.

3.4.2 Sampling Frame

Name list of medical students, students studying other courses and staff working at the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia in the year 2019.

3.4.3 Sampling Unit

Medical students, students studying other courses and staff working at the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia.

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3.4.4 Sampling Method

Stratified Random Sampling was used in this study. A name list of medical students from the first to fifth year, students from other courses from the first to fourth Year and staff working at the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia was prepared. The questionnaire was distributed in Google Documents form via WhatsApp and emails to the respondents to answer. Total number for staff and students of Faculty of Medicine and Health Science is 2585 consist of 537 staffs and 2321 students respectively. Based on this value, it is concluded that total number of staff is almost a quarter from students; therefore, from the sample size, total respondent will be ¼ from staff and ¾ from students.

3.4.5 Sample Size Estimation

Using the formula for sample size estimation in cross sectional study to compare proportion between two groups:

$$n = \frac{\{[Z(1-\alpha/2) * \sqrt{2P(1-P)}] + [Z(1-ß) * \sqrt{P1(1-P1)+P2(1-P2)}]\}2}{(P1-P2)2}$$

$$n = \frac{\{[1.96) * \sqrt{2(0.45)(1-0.45)}] + [0.84 * \sqrt{0.5(1-0.5)+0.4(1-0.4)}]\}2}{(0.5-0.4)2}$$

n = 387

Where,

P = (P1+P2)/2

P1 = estimated proportion (from previous study). Based on Abdul Razak et al., 2016 shown proportion of sociodemographic factor for ethnic which is Malay with hypertension is 0.5

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P2 = estimated proportion (from previous study). Based on Abdul Razak et al., 2016 shown proportion of sociodemographic factor for ethnic which is Non-malay with hypertension is 0.4

$Z(1-\alpha/2)$ = Is standard normal variant (at 5% type error (P 0.05) it is 1.96 and at 1% type 1 error (P 0.01) it is 2.58). As in majority studies P values are considered significant below 0.05 hence 1.96 is used in formula.

$Z(1-\beta)$ = power = 80% = 0.84.

Adding a 10% non-respondent rate, the required sample size will be 426 respondents to cover for both students and staffs. The required number of participants will be divided among both the staffs and students depending on the numbers of them that fulfill the inclusion criteria.

3.5 Variables

3.5.1 Independent variables

3.5.1.1 Socio-demographic factors

- Age
- Gender
- Ethnic
- Educational level (staff only)
- Year of study (students only)
- Field of staff (staff only)

3.5.2 Dependent variables

Knowledge, attitude, practice and awareness on hypertension among students and staff in Faculty of Medicine and Health Sciences (FMHS), Universiti Putra Malaysia.

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3.6 Instruments and Data Collection

3.6.1 Instruments

Data collection for this research was conducted using an online platform only. Despite the advantages of online based, the reason why this research is using online only is due to pandemic COVID-19 where everyone is trying to minimal contact with people and practice social distancing. Furthermore, online platforms are more convenient and flexible to respondents. The questionnaire is in google form format.

The questionnaire consists of a consent form, followed by Section 1 where it provides information on socio-demographic characteristics of the respondent. Section B is divided into four parts consisting of knowledge, attitude, practice and awareness respectively. Each part consists of 8 questions and the total marks of each part will be calculated for every respondent. The maximum score for knowledge, attitude and awareness is 8 while for practice, the maximum score is 16. The median score for each part will be calculated to compare those with good and poor knowledge, attitude, practice and awareness on hypertension.

There is a different maximum score for knowledge, attitude, and awareness part from practice part. This is because for knowledge and awareness questions the answer options consist of true, false and not sure while for attitude questions, the answer options are agree, disagree and unsure. One mark will be given for true or agree answers, and zero mark for false, disagree and not sure answers. While for practice questions, there are three answer options which are always, sometimes and never. Different marks were allocated for each answer where two marks were given for always, one mark for sometimes and zero mark for never which make the maximum score for practice is 16.

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The questionnaire is obtained from a previously similar study that was done by a group of researchers consisting of lecturers from the Faculty of Medicine and Defense Health, National Defense University of Malaysia and Kuliyyah of Allied Health Sciences, International Islamic University Malaysia. Approval to use the questionnaire was obtained through email by nazara@iium.edu.my

3.6.2 Data Collection

The questionnaire has been distributed in google form format through WhatsApp to the target group. Research team responsible for data collection by sharing the form link. When respondents answer the questionnaire, google form records and organize the data automatically. Thus, it can minimize the error when analyzing the data.

3.7 Data Analysis

Data has been analyzed using Statistical Package for the Social Sciences (SPSS) software. First, check for normality by using Kolmogorov-Smirnov method. Next, descriptive analysis is used to obtain the frequency and percentage of the obtained data. Multiple logistic regression test is used to determine any association between the independent and dependent variables which are knowledge, attitude, practice and awareness on hypertension among students and staffs in Faculty of Medicine and Health Sciences (FMHS), Universiti Putra Malaysia. The level of significance will be set at $p < 0.05$.

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3.8 Validity and Reliability

Face and content validation have been done for the questionnaire. Face validation has been done with 10% of the intended study population. Content validation has been done with an expert panel of 5 experts including 2 family physicians, 1 internal medicine specialist, 1 public health specialist and 1 statistician. Improvement has been made to the questionnaire post face and content validation.

3.9 Study Ethics

Approval from JKEUPM (Ethic Committee for Research Involving Human Subject) Universiti Putra Malaysia has been obtained prior to proceeding with the research. Data and information from respondents will be kept confidential. All the respondents will be filled in the consent form so that they are aware of their participation in research.

3.10 Outcome

The knowledge, attitude, practice and awareness on hypertension of students and staff of FMHS has been assessed. The association between the socio-demographic factors (age, gender, ethnicity, year of study, educational level and field of staff) with the level of knowledge, attitude, practice and awareness on hypertension among students and staff of FMHS hypertension has been determined. Data analysis has been done by using SPSS version-25 and the outcomes has been assessed. The data analysis is further discussed under Chapter 4. We hope that the result of this study will be helpful to us as an addition to the knowledge on hypertension among students and staff in FMHS, particularly.

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3.11 Operational definition of terms

3.11.1 Socio-demographic factors

3.11.1.1 Age

It was determined by the respondents' birthdate on their IC number.

3.11.1.2 Gender

Gender of participants will be grouped as male or female.

3.11.1.3 Ethnic

The participants will be divided into Malay, Chinese, Indian and others.

3.11.1.4 Year of study (for students only)

The participants will be classified into their current year of study such as Year 1, Year 2, Year 3, Year 4, Year 5.

3.11.1.5 Educational level (for staff only)

The participants will be sorted into secondary and below and tertiary.

3.11.1.6 Field of staff (for staff only)

The participants will be sorted into academic staff and non-academic staff.

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3.12 Limitations of study

As this study is only limited to the students and staff of Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, the findings cannot be generalized to represent other students and staff from other faculties or other universities. Besides, our study may be subjected to respondent bias. Moreover, due to time and health constraints, we will not be able to do a larger scaled study which may limit the findings of this study. We will only be able to conduct the research via online questionnaire and it may cause other limitations for the respondents as they may have unstable internet connection at home or workplace.

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CHAPTER 4

RESULTS

4.1 Response Rate

Out of the anticipated targeted 426 respondents, a total of 427 respondents participated in this study. The response rate of our study is calculated using the formula below:

Response rate= Total response / Targeted response × 100

Response rate= 427 / 426 × 100

= 100.2 %

The response rate for this study was 100.2%.

4.2 Normality Test

The continuous data which were collected in our study are age. The variables were checked for normality using histogram, Kolmogorov- Smirnov test and Shapiro-Wilk test.

The minimum age of our student respondents is 19 years, while the maximum age of our respondents in 34 years. The histogram showed a positively- skewed age distribution. Kolmogorov- Smirnov test and Shapiro-Wilk test show a p- value < 0.05. All tests done indicate that the age among the students in the Faculty of Medicine and Health Science is not normally distributed. The median age is 21.00 years with an interquartile range of 1.

The minimum age of our staff respondents is 26 years, while the maximum age of our respondents is 62 years. The histogram showed a positively- skewed age distribution. Kolmogorov- Smirnov test and Shapiro-Wilk test show a p- value > 0.05. All tests done indicate that the age among the staff in the Faculty of Medicine and Health Science is normally distributed. The median age is 40.00 with an interquartile range of 10.

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4.3 Descriptive Statistics

4.3.1 To determine the sociodemographic factors (age, gender, ethnicity, year of study) of students in FMHS.

Table 4.1: Distribution of sociodemographic factors of students in FMHS (N=340)

Variables	Frequency	Percentage (%)
Age		
19	1	0.3
20	131	38.5
21	126	37.1
22	38	11.1
23	22	6.5
24	18	5.3
25	2	0.6
30	1	0.3
34	1	0.3
Gender		
Male	96	28.3
Female	244	71.7
Ethnicity		
Malay	227	66.8
Chinese	45	13.2
Indian	58	17.1
Others	10	2.9
Year of Study		
Year 1	129	37.9
Year 2	139	40.9
Year 3	34	10.0
Year 4	24	7.1
Year 5	14	4.1

The respondents of the questionnaire can be divided into students (79.6 %) and staff (20.4 %) at the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia. Table 4.1 shows the distribution of the student respondents by their sociodemographic characteristics and year of study.

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The majority of the respondents were between the ages of 20-21 (75.6 %), were female (78.1 %), were of Malay ethnicity (66.8 %), and were 1st year or 2nd year students (78.8 %).

4.3.2 To determine the sociodemographic factors (age, gender, ethnicity, educational level, field of staff) of staffs in FMHS.

Table 4.2: Distribution of sociodemographic factors of staffs in FMHS (N=87)

Variables	Frequency	Percentage (%)	Median (IQR)
Age	-	-	40.0 (10.0)
Gender			-
Male	26	29.9	
Female	61	70.1	
Ethnicity			-
Malay	73	83.9	
Chinese	7	8	
Indian	6	6.9	
Others	1	1.1	
Level of Education			-
Secondary and below	1	1.1	
Tertiary	86	98.9	
Field of Staff			-
Academic staff	62	71.3	
Non-academic staff	25	28.7	

Table 4.2 shows the distribution of the staff respondents by their sociodemographic characteristics, level of education and field of staff. The majority of the respondents were of the ages 36 and 43 (18.4 %), were female (70.1 %) were of Malay ethnicity (83.9 %), had tertiary education (98.9 %) and were academic staffs (71.3%).

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4.3.3 To determine the knowledge, attitude, practice and awareness on hypertension among students and staff of FMHS.

Table 4.3: Frequency and percentage distribution of respondents by knowledge, attitude, practice and awareness on hypertension. (N=427)

	Median scores (IQR)	Knowledge		Median scores (IQR)	Attitude	
		Good	Poor		Good	Poor
Student (N=340) (%)	7(1)	274 (80.6)	66 (19.4)	7(1)	183 (53.8)	157 (46.2)
Staff (N=87) (%)	7(1)	72 (82.8)	15 (17.2)	7(1)	55 (63.2)	32 (36.8)

	Median scores (IQR)	Practice		Median scores (IQR)	Awareness	
		Good	Poor		Good	Poor
Student (N=340) (%)	11(2)	206 (60.6)	134 (39.4)	6(2)	202 (59.4)	138(40.6)
Staff (N=87) (%)	11(2)	67 (77.0)	20 (23.0)	6(2)	68 (78.2)	19(21.8)

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4.4 Analytic Statistics

Table 4.4 and Table 4.5 show the association between socio-demographic factors and the level of knowledge among students and staff of FMHS. Table 4.4 shows the factors associated with the knowledge level of students in FMHS. There was no difference in the median age of students who were having poor and good knowledge. For gender, it was noted that more female students (n=52, 21.3%) had poor knowledge levels than male students (n=14, 14.6%). Ethnic group with the highest level of poor knowledge was Malay students (n=50, 22.0%), followed by others (n=2, 20.0%), Chinese(n=7,15.6%) and Indian (n=7,12.1%). In terms of year of study, students in the third year of study had the highest poor knowledge level (n=9, 26.5%) as compared to other years. In univariate logistic regression analysis, it was found that there is no significant association between sociodemographic factors (age, gender, ethnicity, and year of study) and level of knowledge among students in FMHS. Factors that had a p-value of <0.25 in the univariate logistic regression analysis were entered in the final multivariate logistic regression model. In the multivariate logistic regression, it shows that being females have 1.621 higher odds of having poorer knowledge compared to males. However, this association was not statistically significant as the p value is > 0.05. In terms of ethnicity, Chinese, Indian and others students have 0.643, 0.477, and 0.888 lower odds of having poorer knowledge as compared to Malay students. However, it was also not statistically significant as the p value is >0.05.

Table 4.5 shows the factors associated with the knowledge level of staff in FHMS. The analysis shows that staff having poor knowledge had a higher median age (i.e. 43 years) as compared to staff with good knowledge (i.e. 40 years). It was noted that male staff have poorer knowledge level (n=5,19.2%) than female staff. Among the different ethnic group, Indian staff have the highest proportion of poor level of knowledge (n=2, 33.3%). For educational level, those

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with secondary and below educational level have a higher poor level of knowledge (n=1, 100%) than those with tertiary education. For field of staff, it was noted that non-academic staff had poorer knowledge (n = 6, 24%) as compared to academic staffs. In univariate logistic regression analysis, it was found that there is no significant association between sociodemographic factors (age, gender, ethnicity, educational level and field of staff) and level of knowledge among staff in FMHS. Factors that had a p-value of <0.25 in the univariate logistic regression analysis were entered in the final multivariate logistic regression model. However, there were only one factor that had a p-value <0.25 and therefore, we cannot proceed with multivariate regression analysis.

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Table 4.4 Factors Associated with Level of Knowledge for Students in FMHS on Hypertension (Good Knowledge Level=0, Poor Knowledge Level=1)

Factors Associated with Poor Level of Knowledge for students in FMHS on Hypertension

(Good Knowledge Level=0, Poor Knowledge Level=1)

Variables	Knowledge level		Univariate Analysis			Multivariate Analysis		
	Poor (n=66) (%)	Good (n=274) (%)	Odds Ratio	Confidence Interval	P Value	Odds Ratio	Confidence Interval	P value
Age median(IQR)	21(2)	21(1)	1.049	0.880-1.250	0.595			
Gender								
Male	14(14.6)	82(85.4)	1.00 (reference)			1.00 (reference)		
Female	52(21.3)	192(78.7)	1.586	0.833-3.021	0.160	1.621	0.848-3.097	0.144
Ethnicity n (%)								
Malay	50(22.0)	177(78.0)	1.00 (reference)			1.00 (reference)		
Chinese	7(15.6)	38(84.4)	0.652	0.275-1.549	0.333	0.643	0.270-1.532	0.319
Indian	7(12.1)	51(87.9)	0.486	0.208-1.137	0.096	0.477	0.203-1.119	0.089
Others	2(20.0)	8(80.0)	0.885	0.182-4.301	0.880	0.888	0.182-4.339	0.883
Year of Study								
First Year	25(19.4)	104(80.6)	1.442	0.303-6.859	0.645			
Second Year	26(18.7)	113(81.3)	1.381	0.291-6.547	0.685			
Third Year	9(26.5)	25(73.5)	2.160	0.403-11.586	0.369			
Fourth Year	4(16.7)	20(83.3)	1.200	0.190-7.572	0.846			
Fifth Year	2(14.3)	12(85.7)	1.00 (reference)					

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Table 4.5 Factors Associated with Level of Knowledge for Staffs in FMHS on Hypertension (Good Knowledge Level=0, Poor Knowledge Level=1)

Factors Associated with Poor Level of Knowledge for staffs in FMHS on Hypertension

(Good Knowledge Level=0, Poor Knowledge Level=1)

Variables	Knowledge level		Univariate Analysis			Multivariate Analysis		
	Poor (n=15) (%)	Good (n= 72) (%)	Odds Ratio Value	Confidence Interval	P	Odds Ratio	Confidence Interval	P value
Age median(IQR)	43(14)	40(10)	1.056	0.976-1.141	0.175			
Gender								
Male	5(19.2)	21(80.8)	1.00 (reference)					
Female	10(16.4)	51(83.6)	0.824	0.251-2.701	0.749			
Ethnicity n (%)								
Malay	12(16.4)	61(83.6)	1.00 (reference)					
Chinese	1 (14.3)	6(85.7)	0.847	0.093-7.689	0.883			
Indian	2 (33.3)	4(66.7)	2.542	0.417-15.480	0.312			
Others	0 (0.0)	1(100.0)	0.000	0.000	1.000			
Educational level								
Secondary and below	1(100.0)	0(0.0)	8308156335	0.000	1.000			
Tertiary	14(16.3)	72(83.7)	1.00 (reference)					
Field of staff								
Academic staff	9(14.5)	53(85.5)	1.00 (reference)					
Non-academic staff	6(24.0)	19(76.0)	1.860	0.584 – 5.922	0.294			

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Table 4.6 and Table 4.7 show the association between socio-demographic factors and the level of attitude among students and staff of FMHS. Table 4.6 shows the factors associated with the attitude level of students in FMHS. There was no difference in the median age of students who were having poor and good attitudes. For gender, it was noted that more male students (n=49, 51.0%) had poor attitude levels than female students (n=108, 44.3%) Ethnic group with the highest level of poor attitude was Malay (n=106, 46.7%), followed by Indian (n=27, 46.6%), Chinese(n=20, 44.4%), and others (n=4, 40.0%). In terms of year of study, students in the second year of study had the highest poor attitude level (n=71, 51.1%) as compared to other years. In univariate logistic regression analysis, it was found that there is no significant association between sociodemographic factors (age, gender, ethnicity, and year of study) and level of attitude among students in FMHS. Factors that had a p-value of <0.25 in the univariate logistic regression analysis were entered in the final multivariate logistic regression model. However, there were no factors that had a p-value <0.25 and therefore, we cannot proceed with multivariate regression analysis.

Table 4.7 shows the factors associated with the attitude level of staff in FHMS. The analysis shows that older staff were having poor attitudes (median age of 42 years) as compared to younger staff (median age of 39 years). It was noted that more female staff have poorer attitude levels (n=26, 42.6%) than male staff (n=6, 23.1%). Among the different ethnicities, Indian staff have the highest proportion of participants with poor level of attitude (n=4, 66.7%). For educational level, those with secondary and below educational level have a poorer level of attitude (n=1, 100%). For field of staff, it was noted that academic staff have poorer attitude (n = 23, 37.1%) as compared to non – academic staffs. In univariate logistic regression analysis, it was found that there is no significant association between sociodemographic factors (age, gender, ethnicity, educational level and field of staff) and level of attitude among staff in FMHS. Factors that had a p-value of <0.25

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in the univariate logistic regression analysis were entered in the final multivariate logistic regression model. It was found that female have 2.934 higher odds of having poorer attitude as compared to males. However, it is not statistically significant as the p – value is > 0.05. In terms of ethnicity, it was found that being Chinese and Indians had 1.755 and 5.437 higher odds of having poorer attitude as compared to the Malays. In contrast, being in Other ethnicity shows lower odds of having poor attitude as compared to Malays. However, it is not statistically significant as the p-value is > 0.05.

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Table 4.6 Factors Associated with Level of Attitude for Students in FMHS on Hypertension (Good Attitude Level=0, Poor Attitude Level=1)

Factors Associated with Poor Level of Attitude for students in FMHS on Hypertension

(Good Attitude Level=0. Poor Attitude Level=1)

Variables	**Attitude level**		**Univariate Analysis**			**Multivariate Analysis**		
	Poor (n=157) (%)	**Good (n=183) (%)**	**Odds Ratio**	**Confidence Interval**	**P Value**	**Odds Ratio**	**Confidence Interval**	**P value**
Age median(IQR)	21(1)	21(2)	0.918	0.785-1.074	0.287			
Gender								
Male	49(51.0)	47(49)	1.00 (reference)					
Female	108(44.3)	136(55.7)	0.762	0.475-1.223	0.260			
Ethnicity n (%)								
Malay	106(46.7)	121(53.3)	1.00 (reference)					
Chinese	20(44.4)	25(55.6)	0.913	0.480-1.737	0.782			
Indian	27(46.6)	31(53.4)	0.994	0.558-1.772	0.984			
Others	4 (40.0)	6(60.0)	0.761	0.209-2.769	0.679			
Year of Study								
First Year	58(45.0)	71(55.0)	1.470	0.467-4.630	0.510			
Second Year	71(51.1)	68(48.9)	1.879	0.599-5.892	0.279			
Third Year	12(35.3)	22(64.7)	0.982	0.268-3.602	0.978			
Fourth Year	11(45.8)	13(54.2)	1.523	0.392-5.913	0.543			
Fifth Year	5(35.7)	9(64.3)	1.00 (reference)					

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Table 4.7 Factors Associated with Level of Attitude for Staffs in FMHS on Hypertension (Good Knowledge Level=0, Poor Knowledge Level=1)

Factors Associated with Poor Level of Attitude for staffs in FMHS on Hypertension

(Good Attitude Level=0. Poor Attitude Level=1)

Variables	Attitude level		Univariate Analysis			Multivariate Analysis		
	Poor (n=32) (%)	Good (n=55) (%)	Odds Ratio	Confidence Interval	P Value	Odds Ratio	Confidence Interval	P value
Age median(IQR)	42(12)	39(10)	1.029	0.967-1.094	0.367			
Gender								
Male	6(23.1)	20(76.9)	1.00 (reference)			1.00 (reference)		
Female	26(42.6)	35(57.4)	2.476	0.872-7.033	0.089	2.934	0,949 – 9.065	0.062
Ethnicity n (%)								
Malay	25(34.2)	48(87.3)	1.00 (reference)			1.00 (reference)		
Chinese	3(42.9)	4(57.1)	1.440	0.229-6.943	0.650	1.755	0.341 – 0.045	0.501
Indian	4(66.7)	2(33.3)	3.840	0.657-22.429	0.135	5.437	0.832 – 35.546	0.077
Others	0(0.0)	1(100.0)	0.000	0.000	1.000	0.000	0.000 – 0.000	1.000
Educational level								
Secondary and below	1(100.0)	0(0.0)	2866165044	0.000	1.000			
Tertiary	31(36.0)	55(64.0)	1.00 (reference)					
Field of staff								
Academic staff	23(37.1)	39(62.9)	1.00 (reference)					
Non-academic staff	9(36.0)	16(64.0)	0.954	0.363 – 2.505	0.924			

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Table 4.8 and Table 4.9 show the association between socio-demographic factors and the level of practice among students and staff of FMHS. Table 4.8 shows the factors associated with the practice level of students in FMHS. It was found that there was no difference in the median age of students who were having poor and good practice. For gender, it was noted that more female students (n = 98, 40.2%) had poor practice levels than male students (n = 36, 37.5%). In terms of ethnic groups, the highest level of poor practice was from the Malay ethnic group (n = 98, 43.2%) as compared to other ethnicities. In terms of year of study, students in the third year of study had the highest poor practice level (n = 19, 55.9%) as compared to other years. In univariate logistic regression analysis, it was found that there was no association between socio-demographic factors (age, gender, ethnic and year of study) and practice level regarding hypertension. Factors that had a p-value of <0.25 in the univariate logistic regression analysis were entered in the final multivariate logistic regression model. It was found that Chinese, Indian and those belonging to the other ethnic groups have 0.673, 0.586 and 0.957 lower odds of having poorer practice as compared to the Malay students. However, all the association is not statistically significant as the p-value is > 0.05. In terms of year of study, it was also found that the Year 2 and Year 3 students have 1.555 and 2.302 higher odds of having poorer practice as compared to Year 5. In contrast, Year 1 and Year 4 students have 0.982 and 0.511 lower odds of having poorer practice as compared to Year 5. However, all the association is not statistically significant as the p-value is > 0.05.

Table 4.9 shows the factors associated with the practice level of staff in FMHS. The analysis shows the staff with poor practice had an older median age of 43 years as compared to staff with good practice (median age of 36 years). It was noted that more male staff (n = 7, 26.9%) have poorer practice levels than female staff (n = 13, 21.3%). Among the ethnicities, staffs belonging to others ethic group have the highest poor level of practice (n =1, 100%) as compared

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to other ethnicities. For educational level, those with tertiary education had 20 respondents (23.3%) with poor practice as compared to none in those with a lower educational level. In terms of field of staff, it was noted that academic staff have poor level of practice (n =17, 27.4%) as compared to non – academic staffs. In univariate logistic regression analysis, it was found that there was an association between age and level of practice on hypertension for staff (p-value = 0.002). However, it was observed that there is no association between other social-demographic factors (gender, ethnic, educational level and field of staff) with the level of practice on hypertension. Factors that had a p-value of <0.25 in the univariate logistic regression analysis were entered in the final multivariate logistic regression model. It was found that staffs aged 41 and above have 10.426 higher odds of having poor level of practice as compared to staffs aged 40 and below. It is statistically significant as the p – value is < 0.05 (p-value = 0.001). In terms of field of staff, it was observed that non-academic staffs have 0.237 lower odds of having poorer practice as compared to academic staffs. It is statistically significant as the p-value is < 0.05 (p-value = 0.046).

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Table 4.8 Factors Associated with Level of Practice for Students in FMHS on Hypertension (Good Practice Level=0, Poor Practice Level=1)

Factors Associated with Poor Level of Practice for students in FMHS on Hypertension

(Good Practice Level=0. Poor Practice Level=1)

Variables	Practice level		Univariate Analysis			Multivariate Analysis		
	Poor (n= 134) (%)	Good (n=206) (%)	Odds Ratio	Confidence Interval	P Value	Odds Ratio	Confidence Interval	P value
Age median (IQR)	21(1)	21(2)	1.006	0.865 - 1.170	0.939			
Gender								
Male	36(37.5)	60(62.5)	1.00 (reference)					
Female	98(40.2)	146(59.8)	1.119	0.688 - 1.819	0.651			
Ethnicity n (%)								
Malay	98(43.2)	129(56.8)	1.00 (reference)			1.00 (reference)		
Chinese	15(33.3)	30(66.7)	0.658	0.336 - 1.290	0.223	0.673	0.339 - 1.336	0.258
Indian	17(29.3)	41(70.7)	0.546	0.293 - 1.018	0.057	0.586	0.311 - 1.105	0.099
Others	4(40.0)	6(60.0)	0.878	0.241 - 3.195	0.843	0.957	0.256 - 3.576	0.948
Year of Study								
First Year	43(33.3)	86(66.7)	0.900	0.284 - 2.851	0.858	0.982	0.307 - 3.144	0.975
Second Year	62(44.6)	77(55.4)	1.449	0.462 - 4.546	0.525	1.555	0.491 - 4.921	0.452
Third Year	19(55.9)	15(44.1)	2.280	0.630 - 8.448	0.209	2.302	0.631 - 8.396	0.207
Fourth Year	5(20.8)	19(79.2)	0.474	0.109 - 2.063	0.320	0.511	0.116 - 2.249	0.375
Fifth Year	5(35.7)	9(64.3)	1.00 (reference)			1.00 (reference)		

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Table 4.9 Factors Associated with Level of Practice for Staffs in FMHS on Hypertension (Good Practice Level=0, Poor Practice Level=1)

Factors Associated with Poor Level of Practice for staffs in FMHS on Hypertension

(Good Practice Level=0. Poor Practice Level=1)

Variables	Practice level		Univariate Analysis			Multivariate Analysis		
	Poor (n= 20) (%)	Good (n= 67) (%)	Odds Ratio Value	Confidence Interval	P	Odds Ratio	Confidence Interval	P value
Age median (IQR)	36(6)	43(11)	0.8395	2.241 - 31.454	0.002	10.426	2.677 – 40.601	0.001
Gender								
Male	7(26.9)	19(73.1)	1.00 (reference)					
Female	13(21.3)	48(78.7)	0.735	0.254 - 2.125	0.570			
Ethnicity n (%)								
Malay	17(28.3)	56(76.7)	1.00 (reference)					
Chinese	2(22.2)	5(77.8)	1.318	0.234 - 7.412	0.754			
Indian	0(0.0)	6(100.0)	0.000	0.000 - 0.000	0.999			
Others	1(100.0)	0(0.0)	>0.05	0.000 - 0.000	1.000			
Educational level								
Secondary and below	0(0.0)	1(100.0)	0.000	0.000 - 0.000	1.000			
Tertiary	20(23.3)	66(76.7)	1.00 (reference)					
Field of staff								
Academic staff	17(27.4)	45(72.6)	1.00 (reference)			1.00 (reference)		
Non-academic Staff	3(12.0)	22(88.0)	0.361	0.096 – 1.364	0.133	0.237	0.058 – 0.976	0.046

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Table 4.10 and Table 4.11 show the association between socio-demographic factors and the level of awareness among students and staff of FMHS. Table 4.10 shows the factors associated with the awareness level of students in FMHS. It was found that there was no difference in the median age of students who were having poor and good awareness. For gender, it was noted that more female students (n = 100, 41.0%) had poor awareness levels than male students (n = 38, 39.6%). In terms of ethnicity, the highest level of poor awareness was those students belonging to the Malay ethnic group (n =103, 45.4%) as compared to other ethnicities. In terms of year of study, students in the second year of study had the highest level of poor awareness (n = 64, 46.0%) as compared to other years. In univariate logistic regression analysis, it was found that there was no association between socio-demographic factors (age, gender, ethnic and year of study) and the level of awareness among students. Factors that had a p-value of <0.25 in the univariate logistic regression analysis were entered in the final multivariate logistic regression model. In the multivariate logistic regression, factors that were associated with the awareness scores were belonging to the Chinese ethnic group. It was found that Chinese, Indian and Others students have 0.454, 0.572 and 0.506 lower odds of having poorer awareness as compared to the Malay students. However, the association is not statistically significant as the p-value is > 0.05 except for the Chinese ethnic group (p=0.028). In terms of year of study, it was also found that the Year 2, Year 3 and Year 4 students have 3.153, 3.593 and 2.744 higher odds of having poorer awareness as compared to Year 5. In contrast, Year 4 have 0.601 lower odds of having poorer practice as compared to Year 5. However, all the association is not statistically significant as the p-value is > 0.05.

Table 4.11 shows the factors associated with the awareness level of staff in FMHS. The analysis shows that staff with poor awareness had an older median age of 42 years as compared to

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staff with good awareness (median age of 39 years). It was noted that more male staffs have poorer awareness levels (n = 6, 23.1%) than female staffs (n = 13, 21.3%). Among the ethnicities, Malay staffs have the highest level of poor awareness (n = 18, 24.7%) as compared to other ethnicities. For educational level, those with a lower educational level had a lower awareness level. For field of staff, it was observed that more non-academic staff have poorer awareness level (n = 10, 40%) than academic staffs. In univariate logistic regression analysis, it was found that there is an association between field of staff and level of awareness (p-value = 0.012). It was also found that there is no association between socio-demographic factors (age, gender, ethnic and educational level) with the level of awareness of hypertension. Factors that had a p-value of <0.25 in the univariate logistic regression analysis were entered in the final multivariate logistic regression model. It was found that staffs aged 41 years and above have 2.347 higher odds of having poor level of awareness as compared to staffs aged 40 years and below. However, it is not statistically significant as the p-value is > 0.05. In terms of field of staff, it was found that non-academic staffs have 3.666 higher odds of having poorer level of awareness as compared to academic staffs. It is statistically significant as the p-value is < 0.05 (p-value = 0.019).

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Table 4.10 Factors Associated with Level of Awareness for Students in FMHS on Hypertension (Good Awareness Level=0, Poor Awareness Level=1)

Factors Associated with Poor Level of Awareness for students in FMHS on Hypertension

(Good Awareness Level=0. Poor Awareness Level=1)

Variables	Awareness level		Univariate Analysis			Multivariate Analysis		
	Poor (n=138) (%)	Good (n=202) (%)	Odds Ratio	Confidence Interval	P Value	Odds Ratio	Confidence Interval	P value
Age median (IQR)	21(1)	21(2)	0.819	0.682 - 0.983	0.32			
Gender								
Male	38(39.6)	58(60.4)	1.00 (reference)					
Female	100(41.0)	144(59.0)	1.060	0.655 - 1.717	0.813			
Ethnicity n (%)								
Malay	103(45.4)	24(54.6)	1.00 (reference)			1.00 (reference)		
Chinese	13(28.9)	32(71.1)	0.489	0.244 - 0.981	0.044	0.454	0.224 - 0.920	0.028
Indian	19(32.8)	39(67.2)	0.587	0.320 - 1.077	0.085	0.572	0.307 - 1.065	0.078
Others	3(30.0)	7(70.0)	0.516	0.130 - 2.046	0.346	0.506	0.125 - 2.050	0.340
Year of Study								
First Year	54(41.9)	75(58.1)	2.640	0.703 - 9.919	0.151	3.153	0.830 - 11.974	0.092
Second Year	64(46.0)	75(54.0)	3.129	0.836 - 11.706	0.090	3.593	0.953 - 13.553	0.059
Third Year	14(41.2)	20(58.8)	2.567	0.603 - 10.918	0.202	2.744	0.640 - 11.765	0.174
Fourth Year	3(12.5)	21(87.5)	0.524	0.090 - 3.041	0.471	0.601	0.103 - 3.517	0.572
Fifth Year	3(21.4)	11(78.6)	1.00 (reference)			1.00 (reference)		

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Table 4.11 Factors Associated with Level of Awareness for Staffs in FMHS on Hypertension (Good Awareness Level=0, Poor Awareness Level=1)

Factors Associated with Poor Level of Awareness for staffs in FMHS on Hypertension

(Good Awareness Level=0. Poor Awareness Level=1)

Variables	Awareness level		Univariate Analysis			Multivariate Analysis		
	Poor (n=19) (%)	Good (n=68) (%)	Odds Ratio	Confidence Interval	P Value	Odds Ratio	Confidence Interval	P value
Age median (IQR)	39(15)	42(10)	2.586	0.879 - 7.605	0.084	2.347	0.770 – 7.158	0.134
Gender								
Male	6(23.1)	20(76.9)	1.00 (reference)					
Female	13(21.3)	48(78.7)	0.903	0.301 - 2.709	0.855			
Ethnicity n (%)								
Malay	18(24.7)	55(75.3)	1.00 (reference)					
Chinese	0(0.0)	7(100.0)	0.000	0.000 - 0.000	0.999			
Indian	1(16.7)	5(83.3)	0.611	0.067 - 5.582	0.663			
Others	0(0.0)	1(100.0)	0.000	0.000 - 0.000	1.000			
Educational level								
Secondary and below	1(100.0)	0(0.0)	>0.05	0.000 - 0.000	1.000			
Tertiary	18(20.9)	68(79.1)	1.00 (reference)					
Field of staff								
Academic staff	9(14.5)	53(85.5)	1.00 (reference)			1.00 (reference)		
Non-academic Staff	10(40.0)	15(60.0)	3.926	1.350 – 11.417	0.012	3.666	1.239 – 10.854	0.019

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CHAPTER 5
DISCUSSION

5.1 Response Rate

427 students and staff from the Faculty of Medicine and Health Science participated in our study out of the 426 students and staff in our sample size, giving us a response rate of 100.2 %. Out of the 427 respondents, 340 were students and 87 were staff. Table 4.1 shows the distribution and frequency percentage of our student respondent's age, gender, ethnicity and year of study. The majority of the students who participated in our study were of the ages 20 - 21 (75.6 %). 78.8 % of our student respondents were from the preclinical year (Year 1 and Year 2). The number of clinical year students who participated in our study were much less as they were having their exams during the data collection period. 66.8 % of our student respondents were of the Malay ethnicity and 71.7 % of our student respondents were female. Table 4.2 shows the distribution, frequency percentage and median of our staff respondent's age, gender, ethnicity, level of education and field of staff. The median of our staff respondent's age was 40. 70.1 % of our staff respondents were female and 83.9 % of our staff respondents were of Malay ethnicity. The overwhelming majority of the staff respondents had received tertiary education (98.9 %), while 71.3 % of our staff respondents were academic staff such as lecturers and lab technicians.

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5.2 Associations between sociodemographic factors (age, gender, ethnicity, level of education, year of study and field of staff) and the level of knowledge, attitude, practice and awareness of hypertension among students and staff of FMHS.

In our study, we did research on the associations between sociodemographic factors (age, gender, ethnicity, level of education, year of study and field of staff) and the level of knowledge, attitude, practice and awareness of hypertension among students and staff of FMHS. We divided each category into students and staff to determine the level of knowledge, attitude, practice and awareness between these 2 target groups.

The results of our study show that for students, there is no significant association between the age and the level of knowledge, attitude, practice and awareness. In terms of staff, it is shown that there is a significant association between age and the level of practice of hypertension. However, it is observed that there is no association between age and the level of knowledge, attitude and awareness on hypertension. A study by (Bacha & Abera, 2019), stated that age is associated with the level of knowledge about hypertension. It shows that participants between 36 to 45 years old have 3.6 times better knowledge as compared to those from 76 to 85 years old. These findings support our results as older participants has poorer level of knowledge, attitude, practice and awareness. In the same study by (Bacha & Abera, 2019), it shows that age is not associated with the level of attitude of participants which supports our findings in our research. Another study by (Buang, Rahman, & Haque, 2019) observes that there is a strong association between age and the level of knowledge, attitude and practice regarding hypertension. It states an increase in age will also increase the level of knowledge, attitude, practice and awareness about hypertension, thereby agreeing with our study as many and frequent exposures to continuous medical education on hypertension over the years wound have led to better practice among the

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staffs regarding hypertension. The results of study by (Buang, Rahman, & Haque, 2019) contraindicates with our findings. From these studies, we can say that there is an association between age and the level of knowledge, attitude, practice and awareness of hypertension. However, our findings were contradictory with the past studies. This may due to the limitation that our study also included non-clinical staff that may have limited practice in the management of hypertension.

The findings of our study show that there is no association between gender and the level of knowledge, attitude, practice and awareness of hypertension for both students and staffs. However, a study by (Muslimah et al., n.d.) states that there is an association between gender and the level of knowledge, attitude, practice and awareness of hypertension. It shows that females have better attitudes and practice as compared to males. Other study by (Ali Haider et al., 2019) also proves that the level of knowledge, attitude practice and awareness was statistically significant with the gender. Another study done in public universities also found that there is an association between the level of knowledge, attitude, practice and awareness with gender. It is stated that females show better attitude and practice of hypertension as compared to the males (Mardhiah et al., 2016). Based on these studies, we found that there is an association between gender and the level of knowledge, attitude, practice and awareness. However, our findings were contradictory with the previous studies. This result was different may be due to lack of male respondents who answer the questionnaire.

The results of our study also show that for students, there is no association between ethnicity and the level of knowledge, attitude, and practice of hypertension. However, it was noted that there is a significant association between ethnicity and the level of awareness. In terms of staffs, it was observed that there was no association between the ethnicity and the level of

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knowledge, attitude, practice and awareness of hypertension. Another study by (Suriani et al., 2020) states that there is an association between ethnicity and the level of knowledge, attitude, practice and awareness. Based on the study, it was found that being Chinese and Other ethnicity have better practices than those who are Malays. In other study by (Nursyafiza et al., 2018), it is shown that Malays have a better knowledge on cardiovascular diseases as compared to other ethnicities. However, our findings did not meet the similarities with the past study. We assume that there is an association between the ethnicities and the level of knowledge, attitude, practice and awareness as stated from past study. Our study shows contradictory results may be due to different population is used in our study as compared to past study. This factor will affect the result as different places have different composition of ethnicities.

Our study has also found that there is no significant association between year of study with the level of knowledge, attitude, practice and awareness among students. There was a lack of study that compared between year of study of students and the level of knowledge, attitude, practice and awareness of hypertension. However, there was a study conducted among entry year students of medical college in Arab stated that a total of 66 (60.0%) participants out of 110 with good knowledge regarding adjustable risk factor of hypertension (Shaikh et al., 2011). The study was done among entry year students only which is different from our study as we were comparing students from all year of study. There was a study about KAP on risk factors of cardiovascular disease among Malaysian university students where the study involved students from different year of study. However, the result found out that there was no significant association between different year of study with total knowledge, attitude and practice score (Ibrahim, Rahman, & Haque, 2016). The result was comparable to our study as there was no association regarding year of study.

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In our study, it was found that there is no significant association between educational level and the level of knowledge, attitude, practice and awareness among staff. There was also a previous study conducted in Selangor concluded with no significant association result between educational level and KAP of hypertension (Buang, Rahman, & Haque, 2019). Meanwhile, a study in Iran reported that there was a significant association between educational level with knowledge scores but for attitude and practice score, it was not significantly associated (Rashidi et al., 2018). There was no significant association result in our study could be due to the wide difference of participants who were with secondary and below educational level and tertiary educational level. Among our respondents, only one staff with secondary and below educational level and remaining were tertiary education.

Based on the result in our study, there was a significant association between fields of staff which were academic and non-academic staff with practice and awareness, however there was no significant association with knowledge and attitude. A study was done in Isfahan State Institution stated that there was a significant association between institutional positions which are teacher, student and staff with the level of awareness. The result found out that prevalence of hypertension was higher among staff as compared to teachers and students (Pakzad et al., 2018). However, a study in Ethiopia reported that there was a significant association between occupation and level of knowledge on hypertension. The study assessed knowledge levels among different occupations which were health professionals, administrative staff and academic staff where administrative staff have the highest poor level of knowledge among them (Esaiyas, Teshome, & Kassa, 2018). Thus, we can say that our results were same as previous studies as there is an association between the field of staff and the level of knowledge, attitude, practice and awareness.

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CHAPTER 6

CONCLUSION

6.1 Conclusion

In conclusion, in our study done on 427 students and staff in the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, there is no significant association between age, gender, ethnicity and year of study with the level of knowledge, attitude, practice and awareness of hypertension among the students. As for the staff, there was no significant association between the sociodemographic factors of age, gender, ethnicity and level of education with the level of knowledge, attitude and awareness of hypertension among the staff. However, it was found that there was a significant association between age and the level of practice of hypertension among the staff, showing a p-value of less than 0.05. There was no significant association between the sociodemographic factors of gender, ethnicity and the level of education with the level of practice of hypertension among the staff. There was also a significant association between fields of staff with the level of practice and awareness of hypertension among the staff, however there was no significant association between fields of staff with the level of knowledge and attitude of hypertension among the staff.

6.2 Limitation

Our study only focused on the students and staff at the Faculty of Medicine and Health Sciences, so the validity of our study is only limited to the students and staff at the Faculty of Medicine and Health Sciences. Secondly, our study was a cross- sectional study, which has several disadvantages such as being unable to determine a causal relationship and being unable to study a temporal relationship. Furthermore, there was also a non- respondent bias as some students and

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staff did not participate in our study due to being busy with work or exams as well as viewing the online questionnaire as a hassle.

6.3 Recommendation

Based on the research we had conduct, we would like to suggest to other researchers to extend their research to students and staff in other faculties of Universiti Putra Malaysia to determine the level of awareness of people to the threat of hypertension. This could also help determine how often students and staff in other faculties take steps to overcome hypertension, as it would be crucial in determining the prevalence of hypertension among the public in the years to come. The research could also be extended to the medicine and health sciences faculties in other universities as well if provided with sufficient resources.

In addition, information regarding hypertension, its negative effects and how to overcome it should be widely disseminated among the students and staff. Campaigns should be held in the faculty to spread awareness about hypertension and its dangers, as well as to promote a healthy lifestyle. Informative exhibitions and displays of posters can be a great way to draw the attention of students and staff in the faculty to the issue of hypertension. It can serve as a crucial tool in educating them of the causes, effects and methods to prevent hypertension.

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ETHICS COMMITTEE FOR RESEARCH INVOLVING HUMAN SUBJECTS (JKEUPM)
UNIVERSITI PUTRA MALAYSIA

Research title	:	**Knowledge, Attitude, Practise and Awareness on Hypertension Among Students and Staffs in Faculty of Medicine and Health Sciences (FMHS), Universiti Putra Malaysia.**
Study Site	:	**Faculty of Medicine and Health Sciences, Universiti Putra Malaysia**
JKEUPM Ref No.	:	**JKEUPM-2020-217**
Researcher	:	**Muhammad Syakirin Jamari, Reshma K. Paramesvaran, Nur Fatihah Sharif.**
Supervisor	:	**Dr. Navin Kumar Devaraj**

Documents received and reviewed with reference to the above study:

1. Ethics Application Form, Version 1 dated 24/6/2020
2. Respondent Information Sheet & Consent (English), Version 1 dated 24/6/2020
3. Respondent Information Sheet & Consent (Malay), Version 1 dated 24/6/2020
4. Proposal (English), Version 2 dated 8/8/2020
5. Questionnaires/ Interviews (English), Version 1 dated 24/6/2020
6. Questionnaires/ Interviews (Malay), Version 1 dated 24/6/2020
7. Curriculum Vitae of:
   a. Dr. Navin Kumar Devaraj
   b. Dr Aneesa Abdul Rashid

The University Research Ethics Committee, Universiti Putra Malaysia (JKEUPM) operates in accordance to the ICH-GCP Guidelines.

Decision by JKEUPM:

[X] Approved

[X] **Permission MUST BE OBTAINED from the respective hospitals/ institutions before conducting the research**

[ ] Disapproved

Please note that the approval is **VALID UNTIL 17 AUGUST 2021**

Researchers should comply with the following:

I. Complete a Study Final Report upon study completion (Form 3.2).

II. Ethical approval is required in the case of amendments/ changes to the study documents/ study sites/ study team.

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RESEARCH SCHEDULE

Gantt Chart

Month / Activity	June	August	September	October
Proposal preparation				
Submission of proposal				
Proposal presentation				
Preparation of ethical approval to organization				
Data collection and analysis				
Presentation of analyzed data				
Report writing				
Poster competition				
Final presentation				
Submission of log book				

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RESEARCH BUDGET

No.	Items	Estimated count
1	Hard cover and binding of thesis	RM 200.00
2	Printing	RM 20.00
Total		RM 220.00

SAMPLE SIZE ESTIMATION

Objectives	Formula	Sample size	Reference
	$n = \frac{Z_{1-a/2}{}^2\, p(1-p)}{d^2}$		
i) To determine the level of knowledge on hypertension among students and staff in FMHS.	p = 0.4816	n = 384	(Osman et al,2018)
ii) To determine the level of attitude on hypertension among students and staff in FMHS.	p =0.582	n =374	(Sabouhi, Babaee, Naji, and Zadeh, 2011)
iii) To determine the level of practice on hypertension among students and staff in FMHS.	p =0.492	n =384	(Sabouhi, Babaee, Naji, and Zadeh, 2011)
iv) To determine the level of awareness on hypertension among students and staff in FMHS.	p = 0.645	n = 352	(Sabouhi, Babaee, Naji, and Zadeh, 2011)

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Objectives	Formula	Sample size	Reference
	n = $\frac{\{[Z(1-\alpha/2) * \sqrt{2P(1-P)}] + [Z(1-ß) * \sqrt{P1(1-P1) + P2(1-P2)}]\}2}{(P1-P2)2}$		
v) To determine the association between age and hypertension.	P1 : Above 60 years old with hypertension = 0.18 P2 : Below 60 years old with hypertension = 0.37	n = 85	(Tadesse, Amare, Hailemariam, Gebremariam, 2018)
vi) To determine the association between gender and hypertension.	P1 : Male with hypertension = 0.379 P2 : Female with hypertension = 0.171	n = 70	(Tadesse, Amare, Hailemariam, Gebremariam, 2018)
vii) To determine the association between ethnic and hypertension.	P1 : Malay with hypertension = 0.5 P2 : Non-malay with hypertension = 0.4	n = 387	(Abdul-Razak et al., 2016)
viii) To determine the association between educational level and hypertension.	P1 : None and primary educational level with hypertension = 0.66 P2 : Secondary educational level and tertiary educational level with hypertension = 0.15	n = 13	(Kishore, Gupta, Kohli, & Kumar, 2016)

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CONSENT FORM

I …………………………………… Identity Card No.……………………………
address……………………………………………………………………………………………...
…………………………………………………..hereby voluntarily agree to take part in the research stated above *(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)

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Saya…………………………………………… No Kad Pengenalan. ……………………………
beralamat………
………………………..dengan ini bersetuju untuk mengambil bahagian secara sukarela dalam penyelidikan yang tersebut di atas *(soal selidik).

Saya telah diberi penjelasan secara menyeluruh mengenai penyelidikan ini dari segi metodologi, risiko dan komplikasi (seperti tertulis pada Helaian Penerangan Responden). Saya memahami bahawa saya berhak menarik diri dari penyelidikan ini pada bila-bila masa tanpa memberi sebarang alasan.Saya juga memahami bahawa sebarang maklumat yang berkaitan identiti saya akan dirahsiakan.

Saya* berminat / tidak berminat untuk mengetahui keputusan kajian yang melibatkan saya.

I setuju/tidak bersetuju untuk imei/gambar/rakaman video/ rakaman suara digunakan dalam apa jua bentuk penerbitan atau pembentangan. (sekiranya berkaitan).

*potong yang tidak berkenaan

Tandatangan ……..………………………… Tandatangan ……..……………………………

(*Responden*) (*Saksi*)

Tarikh :…………………………………..….. Nama :……………………………………..…..

No. K/P: ……………………………………..…..

Saya mengesahkan bahawa saya telah menerangkan kepada responden ini sifat dan tujuan penyelidikan yang tersebut di atas.

Tarikh ……..………………………… Tandatangan ……..………………………….

(*Penyelidik*)

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QUESTIONNAIRE REGARDING KNOWLEDGE, ATTITUDE , PRACTICE AND AWARENESS ON HYPERTENSION

Section 1 : Sociodemographic and Background Information

Please answer ALL the questions below and place a tick [/] in the box which describes you.

AGE / UMUR :

GENDER / JANTINA :

[ ] **Male / Lelaki**

[ ] **Female / Perempuan**

ETHNICITY / KAUM :

[ ] **Malay / Melayu**

[ ] **Chinese / Cina**

[ ] **Indian / India**

[ ] **Others / Lain-lain**

CURRENT YEAR OF STUDY (students only) /

TAHUN PENGAJIAN (pelajar sahaja) :

[ ] **Year 1 / Tahun 1**

[ ] **Year 2 / Tahun 2**

[ ] **Year 3 / Tahun 3**

[ ] **Year 4 / Tahun 4**

[ ] **Year 5 / Tahun 5**

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EDUCATIONAL LEVEL (staff only) /

TAHAP PELAJARAN (kakitangan sahaja) : [ ] None / Tiada

[ ] Primary / Pendidikan rendah

[ ] Secondary / Pendidikan menengah

[ ] Tertiary / Pendidikan tinggi

Section 2 : Questions

Answer ALL questions. Read each statement below carefully. Place a tick [/] *in the first box if you think the statement is TRUE. Place a tick* [/] *in the second box if you think the statement is FALSE. Place a tick* [/] *in the third box if you are NOT SURE of the answer.*

PART A : <u>Knowledge on Hypertension</u>

No.	Questions	True	False	Not sure
1	Normal values of blood pressure is 120/80 mmHg / Nilai normal tekanan darah ialah 120/80 mmHg.			
2	Increase in BP > 140/90 mmHg is called hypertension / Peningkatan tekanan darah lebih daripada 140/90 mmHg dipanggil tekanan darah tinggi.			

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3	Hypertension is a leading risk factor for many critical illnesses such as cardiovascular disease, stroke and renal failure. / Tekanan darah tinggi adalah faktor risiko utama bagi banyak penyakit kritikal seperti stroke dan penyakit kardiovaskular.			
4	Prevalence of hypertension in females is higher compared to male. / Kadar tekanan darah tinggi pada wanita lebih tinggi berbanding lelaki.			
5	Being overweight or obese greatly elevates the risk of hypertension. / Berat badan berlebihan akan meningkatkan risiko tekanan darah tinggi.			
6	Prevalence of hypertension increases with increasing age. / Kadar tekanan darah tinggi meningkat dengan bertambahnya usia.			
7	Regular physical exercises reduce hypertension. / Latihan fizikal yang kerap dapat mengurangkan tekanan darah tinggi.			

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8	Hypertension is a treatable condition. / Tekanan darah tinggi adalah keadaan yang boleh dirawat.			

PART B : <u>Attitude on Hypertension</u>

Answer ALL questions. Read each statement below carefully. Place a tick [/] *in the first box if you AGREE with the statement. Place a tick* [/] *in the second box if you UNSURE with the statement. Place a tick* [/] *in the third box if you are DISAGREE with the statement.*

No.	Questions	Agree	Unsure	Disagree
9	If there is no symptom, I don't have to check my blood pressure. / Sekiranya tidak ada simptom, saya tidak perlu memeriksa tekanan darah saya.			
10	I'm not worried about my health even if my blood pressure is high. / Saya tidak bimbangkan kesihatan saya walaupun tekanan darah saya tinggi.			
11	I won't go for a routine medical check-up to check for my blood pressure. / Saya tidak akan menjalani pemeriksaan perubatan rutin untuk memeriksa tekanan darah saya.			

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12	Blood pressure check is very important for health. / Pemeriksaan tekanan darah sangat penting untuk kesihatan.			
13	Prevention of hypertension is very important. / Pencegahan tekanan darah tinggi adalah sangat penting.			
14	I will less likely develop hypertension in the future if I have enough sleep per day. / Saya berkemungkinan kecil akan mengalami tekanan darah tinggi pada masa akan datang sekiranya saya cukup tidur setiap hari.			
15	I will less likely develop hypertension in the future if I smoke. / Saya berkemungkinan kecil akan mengalami tekanan darah tinggi pada masa akan datang sekiranya saya merokok.			
16	It is important to regularly check on your blood pressure if you are an overweight or obese. / Ianya penting untuk memeriksa tekanan darah anda secara berkala jika anda berlebihan berat badan .			

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PART C : Practise on Hypertension

Answer ALL questions. Read each statement below carefully. Place a tick [/] in the first box if you ALWAYS do as the statement states. Place a tick [/] in the second box if you SOMETIMES do as the statement states. Place a tick [/] in the third box if you NEVER do as the statement states.

No.	Questions	Always	Sometimes	Never
17	I have my yearly blood pressure checks. / Saya menjalani pemeriksaan tekanan darah tahunan saya.			
18	I read about hypertension. / Saya membaca mengenai tekanan darah tinggi.			
19	I am on a healthy diet. / Saya menjalani diet yang sihat.			
20	I consume salty food. / Saya mengambil makanan masin.			
21	I have enough sleep per day. / Saya cukup tidur setiap hari.			
22	I exercise at least 3 times per week. / Saya bersenam sekurang-kurangnya 3 kali seminggu.			

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23	I do smoke. / Saya merokok.			
24	I drink alcohol. / Saya mengambil alkohol.			

PART D : Awareness on Hypertension

Answer ALL questions. Read each statement below carefully. Place a tick [/] *in the first box if you think the statement is TRUE. Place a tick* [/] *in the second box if you think the statement is FALSE. Place a tick* [/] *in the third box if you are NOT SURE of the answer.*

No.	Questions	True	False	Not sure
25	I know if I have hypertension. / Saya mengetahui sekiranya saya menghidap darah tinggi.			
26	I know the value of blood pressure in diagnosing hypertension. / Saya mengetahui nilai tekanan darah dalam mendiagnosis tekanan darah tinggi.			
27	I know controlling blood pressure will reduces the complications of hypertension. / Saya tahu bahawa mengawal tekanan darah dapat mengurangkan komplikasi tekanan darah tinggi.mengurangkan komplikasi anda.			

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28	I know that uncontrolled hypertension can lead to organs damage. / Saya tahu tekanan darah tinggi yang tidak terkawal boleh menyebabkan kerosakan organ.			
29	I know my blood pressure value at recent visit to the clinic. / saya mengetahui nilai tekanan darah saya pada lawatan yang dilakukan dalam masa terdekat di klinik.			
30	I think that hypertension is a curable condition. / Saya berfikir bahawa tekanan darah tinggi adalah keadaan yang dapat disembuhkan.			
31	Changing my lifestyle helps to lower my blood pressure. / Mengubah gaya hidup saya dapat membantu menurunkan tekanan darah saya.			
32	Improvement of your blood pressure over the last 12 months. / Peningkatan tekanan darah anda selama 12 bulan terakhir.			

- END OF QUESTIONNAIRE -

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DUMMY TABLE

Sociodemographic information

Table 1: Sociodemographic factors of students and staff of FMHS.

Demography	Students		Staff	
	Frequency	Percent (%)	Frequency	Percent (%)
Age				
20 - 24				
25 - 29				
30 - 34				
35 - 39				
40 - 44				
Gender				
Male				

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Female				
Ethnicity				
Malay				
Chinese				
Indian				
Others				
Current year of study				
Year 1				
Year 2				
Year 3				
Year 4				
Year 5				

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Educational level				
None				
Primary				
Secondary				
Tertiary				

Knowledge on Hypertension score

Table 2: Knowledge on hypertension score of students and staff of FMHS.

	Students		Staff	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Good Knowledge Level More or equal to median				
Poor Knowledge Level Less than median				

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Attitude on Hypertension score

Table 3: Attitude on hypertension score of students and staff of FMHS.

	Students		Staff	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Good Attitude Level More or equal to median				
Poor Attitude Level Less than median				

Practice on Hypertension score

Table 4: Practice on hypertension score of students and staff of FMHS.

	Students		Staff	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Good Practice Level More or equal to median				

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Poor Practice Level Less than median				

Awareness on Hypertension score

Table 5: Awareness on hypertension score of students and staff of FMHS.

	Students		Staff	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Good Awareness Level More or equal to median				
Poor Awareness Level Less than median				

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