FACULTY OF MEDICINE AND HEALTH SCIENCE

A CROSS SECTIONAL STUDY ON THE LEVELS OF KNOWLEDGE, ATTITUDE AND PREVENTIVE PRACTICES OF HYPERTENSION AMONG RESIDENTS AGED 18 YEARS AND ABOVE IN KAMPUNG BARU IXORA, SARIKEI

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DECLARATION

We, the research team members whose names appear herein below hereby declare that this research is our own original work with the exception of quotations of the works in which the sources had been stated in bibliography.

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ABSTRACT

Hypertension is a highly prevalent non-communicable disease which is controllable through risk factor modification and anti-hypertensive medication. It remained a public health problem due to lack of awareness of individuals to modify risk factors and live a healthy lifestyle.

The objective of this study was to study the level of knowledge, attitude and preventive practices of hypertension among residents aged 18 years and above in Kampung Baru Ixora, Sarikei from 26th June 2006 to 1st September 2006. The level of knowledge, attitude and preventive practices were assessed in relation to their age, gender, education level, household income, status of being diagnosed with hypertension and family history of hypertension.

A cross-sectional study was carried out with a sample population of 101 respondents chosen by simple random sampling method. Interview-guided questionnaire was conducted and data entry and analysis were done using SPSS version 13 software.

The results showed that 52.5% of the respondents had adequate knowledge, 57.4% had positive attitude and 61.4% of them had good preventive practices of hypertension. Analysis revealed that there was a significant association between the level of knowledge with education level and family history of hypertension (Mann-Whitney test, $p< 0.05$). For the attitude, there was a significant difference between the level of attitude and education level (Mann-Whitney test, $p< 0.05$). As for the preventive practices, there was a significant difference in proportion of its level in the different age group ($\chi^2_{df=2}=9.567$, $p< 0.05$). Significant difference was also found between the level of preventive practices and status of being diagnosed with hypertension (Mann-Whitney test, $p< 0.05$). Moreover, significant relationships were found between the level of knowledge and attitude (Spearman's rho= 0.309, $p< 0.05$) and between the level of attitude and the level of preventive practices (Spearmen's rho= 0.258, $p< 0.05$). Furthermore, the level of knowledge and preventive practices had a significant difference in proportions ($\chi^2_{df=1} = 5.760$, $p< 0.05$).

The results were comparable to study by Muntner et al. (2004) which stated that there was a significant relationship between the education level and the level of knowledge, and 50.2% respondents who were aware of their hypertension modified their lifestyle.

The education level had an influence on the level of knowledge and attitude while the level of preventive practices was influenced by age group. It is recommended that the respondents need further health education to increase their level of knowledge, attitude towards risk factor modification and sports activities to increase their level of preventive practices. Further studies on knowledge, attitude and practices of hypertension should be done.

ABSTRAK

Tekanan darah tinggi merupakan penyakit tidak berjangkit berprevalen tinggi yang dapat dikawal melalui modifikasi risiko-risiko dan ubat pencegah darah tinggi. Penyakit ini kekal sebagai masalah kesihatan awam kerana kurangnya kesedaran individu-individu untuk modifikasi risiko-risiko dan amalan hidup sihat.

Tujuan utama kajian adalah untuk mengkaji tahap pengetahuan, sikap dan amalan pencegahan tekanan darah tinggi di kalangan penghuni berumur 18 tahun ke atas di Kampung Baru Ixora, Sarikei dari 26 Jun 2006 hingga 1 September 2006. Tahap pengetahuan, sikap and amalan pencegahan dikaji dari segi hubungan dengan umur, jantina dan pengetahuan.

Satu kajian keratan rentas telah dijalankan dengan sampel populasi seramai 101 responden yang dipilih dengan kaedah pensampelan secara rawak. Soal selidik secara temu ramah telah dijalankan dan penyimpanan dan analisis data dijalankan dengan menggunakan SPSS versi 13.

Keputusan menunjukkan bahawa 52.5% daripada responden kami mempunyai pengetahuan yang mencukupi, 57.4% mempunyai sikap yang positif dan 61.4% mempunyai amalan pencegahan tekanan darah tinggi yang baik. Analisa menjelaskan bahawa terdapat kaitan yang signifikan antara tahap pengetahuan dengan tahap pendidikan dan sejarah darah tinggi keluarga (Mann-Whitney test, $p< 0.05$). bagi sikap, terdapat kaitan yang signifikan antara tahap sikap dengan tahap pendidikan (Mann-Whitney test, $p< 0.05$). Untuk amalan pencegahan pula, terdapat perbezaan dari segi nisbah pada tahapnya dalam kumpulan umur yang berbeza ($\chi^2_{df=2}=9.567$, $p< 0.05$). Perbezaan signifikan juga didapati antara tahap amalan pencegahan dengan status didiagnosis sebagai penghidap darah tinggi (Mann-Whitney test, $p< 0.05$). Selain itu, kaitan signifikan juga ditemui antara tahap pengetahuan dan tahap sikap (Spearman's rho= 0.309, $p< 0.05$), dan antara tahap sikap dengan tahap amalan pencegahan (Spearmen's rho= 0.258, $p< 0.05$). Di samping itu, tahap pengetahuan dan tahap amalan pencegahan mempunyai perbezaan nisbah yang signifikan ($\chi^2_{df=1} = 5.760$, $p< 0.05$).

Keputusan adalah selaras dengan kajian yang dilakukan oleh Muntner et al. (2004) di mana terdapat kaitan yang signifikan antara tahap pendidikan dengan tahap pengetahuan, dan 50.2% responden yang sedar akan penyakit darah tinggi mereka mengamalkan modifikasi cara hidup mereka.

Tahap pendidikan mempengaruhi tahap pengetahuan dan sikap terhadap penyakit darah tinggi manakala tahap amalan pencegahan dipengaruhi oleh kumpulan umur. Dicadangkan bahawa responden memerlukan lebih pendidikan kesihatan untuk meningkatkan tahap pengetahuan, sikap terhadap modifikasi risiko-risiko dan menjalani aktiviti sukan untuk meningkatkan tahap amalan pencegahan mereka. Kajian selanjutnya terhadap pengetahuan, sikap dan amalan untuk penyakit darah tinggi harus dijalankan.

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CHAPTER I

INTRODUCTION AND BACKGROUND INFORMATION

1.1 Introduction

In definition, hypertension is systolic blood pressure of 140 mmHg or greater and/or diastolic blood pressure of 90 mmHg or greater (Malaysian Hypertension Consensus Guidelines 2002). Hypertension is a major public health problem due to its high prevalence, the lack of awareness among the general population, its poor preventive measures and its impact on cardiovascular morbidity and mortality (Malaysian Hypertension Consensus Guidelines 2002). Hypertension is a 'silent' killer as most of the time it is asymptomatic until complications develop in target organs, for example atherosclerotic heart disease, cerebrovascular insufficiency with or without stroke, and renal failure. The emergence of hypertension and other cardiovascular disease are strongly related to the aging of the populations, socioeconomic changes that are favouring sedentary lifestyle, obesity, smoking, high salt intake and others.

According to Sarawak Health Department (Health Facts 2004), heart diseases ranked second in the ten principle causes of death in government hospitals of Sarawak. There was an increased in the number of reported hypertension cases admitted to government hospitals of Sarawak in the year 2001 and year 2002, from 2664 cases to 2741 cases. However, from 2002 to 2005, there was a decline in prevalence of hypertension cases to 2426 cases.

A survey regarding the distribution of blood pressure (BP) by age, sex and ethnicity on 21391 individuals aged 30 or older from all 13 states of Malaysia during the National Health and Morbidity Survey (NHMS) was carried out in 1996. The study showed that only 33% of hypertensives were aware of their hypertension, 23% of hypertensives were currently on treatment and a mere 6% of hypertensives had controlled hypertension (Lim et al. 2000).

As a result of that, hypertension accounts for a major area of intervention because it is a frequent condition and is amenable to control through both pharmacological treatment and non pharmacological lifestyle changes. According to National Heart Association of Malaysia, lifestyle intervention can help in lowering blood pressure, which includes dietary modification (such as reducing salt intake), reducing weight, performing regular physical exercise, and cessation of smoking.

Several models have been proposed to account for health behaviours and sustained behavioural changes. Although they may differ in content and perspective, models for behaviour change stress the importance of evaluating the perceptions, attitudes, beliefs, and outcome expectations of individuals as a crucial means to understand observed behaviours and to guide behavioural change. A proper assessment and understanding of knowledge, attitude and practice (KAP) factors is particularly helpful in the area of chronic conditions such as hypertension, for which prevention and control necessitate a lifelong adoption of healthy lifestyles.

The subject of hypertension has been exposed to the community to ensure better awareness of hypertension for a better control of hypertension. However, studies had shown that, despite the worldwide disclosure on hypertension, including in Malaysia itself, there is still a significant lack of awareness among the population and worldwide. Supramaniam (1982) did a study on Malaysian military hypertensives and found out that 67% of the military officers have inadequate knowledge regarding hypertension. This showed that knowledge of hypertension is still low in Malaysia. The importance of knowledge about hypertension and the risk factors are often stressed to the patients to ensure better control of hypertension.

Controlling hypertension can be divided into two parts; compliance to the medication and the initiative of the patients themselves to control their lifestyle, or to modify the possible

risk factors to control hypertension. Among these two, risk factor modification is the more difficult task to be performed by the patients.

The knowledge and awareness of hypertension ensure better control of the disease through behavioural change. Muntner et al. (2004) found out that 50.2% of hypertensives that were aware of their condition had made lifestyle modifications to control their blood pressure. This result shows that awareness of hypertension is important to create positive practice in controlling hypertension.

Hypertension was chosen to be study as the villagers of Kampung Baru Ixora were interested to know more about this topic.

In this study, the level of knowledge, attitude and practice of hypertension among residents, aged 18 years and above in Kampung Baru Ixora, in Sarikei division, Sarawak were assessed.

1.2 Background Information

Kampung Baru Ixora is a village in Sarikei division, which is located near the Sarikei River. There are 73 houses in the village with the total population of 379 residents, in which 185 are males and 194 are females. The village is located about five kilometres from the town of Sarikei and take about five minutes drive. The majority of the villagers are from Malay and Melanau ethnicity, and all are Muslims. Most of the villagers work as farmers, labourers, government staffs and pensioners with household income ranging from RM500 to RM1500.

The village is provided with basic amenities such as electrical supply, water supply, telecommunication and public transport. Besides that, there is garbage disposal service provided by local municipal council. Educational facilities that are available are a primary school and a kindergarten (Tadika Ixora). The educational level among the residents varies

from no formal education to tertiary education. The villagers receive medical services and treatment at Sarikei polyclinic and Sarikei Divisional Hospital in town.

CHAPTER II

STATEMENT OF PROBLEM
&
LITERATURE REVIEW

CHAPTER II

STATEMENT OF PROBLEM AND LITERATURE REVIEW

2.1 Statement of Problem

Based on data obtained from Sarawak Health Department, there were 8526 cases of hypertension reported in 2001, 9368 cases in 2002, 15816 cases in 2003, 18157 cases in 2004 and 19,764 cases in 2005 in Sarawak. This shows that the number of individuals suffering from hypertension had always been on the rise. In 2005, there are 6553 cases of hypertension on regular follow-up at outpatient clinics in Sarikei division, where Kampung Baru Ixora is located. The high prevalence of hypertension in Sarikei indicated a need to conduct a study in Kampung Baru Ixora in order to formulate better methods of the detection and management of hypertension.

The importance of knowledge about hypertension and the risk factors is often stressed to the patients to ensure better control of hypertension. However, studies have shown that there is still a significant lack of awareness among the population. A survey was conducted to study the knowledge of hypertension on two indigenous groups (Kadazans and Bajaus) who resided in rural Sabah. About 50% of those surveyed were unable to associate high blood pressure with a single risk factor. Approximately 38% were unaware of the consequences of high blood pressure (Gan & Chan 1993).

In Malaysia, it was reported that among 1675 patients screened for hypertension, 59% was found to be hypertensive, but only 627 patients came back for a second visit in which 87% of them have hypertension (Management of Hypertension in Daily Clinical Practice 2001). This result showed the poor attitude among Malaysian to learn about hypertension and in seeking treatment.

In this study, the level of knowledge, attitude and preventive practices of the target population regarding hypertension and its prevention in terms of risk factors modification would be assess. This was a community-based study and would be conducted in Kampung Baru Ixora, Sarikei.

Studies had shown that by creating greater awareness on hypertension among the community, this would ensure better control of the disease. This project aimed to help the residents to gain more knowledge regarding hypertension, to instil positive attitudes towards hypertension and to encourage practices of preventive measures among the community.

2.2 Literature Review

Hypertension has been the most common cardiovascular disease occurring in the world population (Rozita 1997). Organizations such as the World Hypertension League and World Health Organization had tried to overcome this problem by introducing various interventions to enhance the knowledge concerning hypertension, in order to promote positive attitude and practice towards the disease. The World Hypertension League has declared May 14th as the world's hypertension day with the aim to create greater awareness towards hypertension in the world population. Despite these efforts, the population is still showing inadequate knowledge, poor attitude and poor preventive practice towards hypertension. The lack of awareness and knowledge about hypertension had caused many individuals fail to practice risk factors modification as a way to control hypertension. Therefore, it is essential for every individual, especially people with the presence of risk factors of hypertension, to be well-informed with the adequate basic knowledge of hypertension.

The fundamental part in controlling hypertension is to educate the patients about hypertension (the risk factors, symptoms, complications) and modification of risk factors through lifestyle changes. The level of knowledge can determine the attitude and practice towards hypertension, as shown by the various studies on the knowledge, attitude and practice (KAP) of hypertension done all over the world.

Level of knowledge on hypertension has statistical association with some socio-demographic characteristics. Alexander et al. (2003) discover that elderly hypertensives (aged 65 years old and above) were more aware of the complications of hypertension in comparison with those younger hypertensives (aged less than 65 years old).

Aubert et al. (1998) had done a study on the KAP of hypertension in adults aged 25-64 years old from Seychelles Island. The study showed that knowledge on hypertension were 47.7% in women aged 25-44 years, and 72.7% in women aged 45-64 years, while in men, it was only 27.3% in 25-44 years old men and 43% in 45-64 years old men. From this study, they concluded that there was association between the age and gender of the patients and their level of knowledge, in which older people and women had higher knowledge of the subject.

Van Rosum et al. (2000), in his study among the Dutch, revealed that the prevalence of hypertension was lower among men (31%) in comparison with women (39%). The authors further stated that about 80% of the hypertensives were aware of being hypertensives, with 25% of hypertensive men and 18% of hypertensive women being unaware of their hypertensive status. In comparison between genders, female hypertensives had greater awareness and knowledge than male hypertensives. The authors further stated that "among male hypertensives, less-educated men, those living in a home for the elderly, and those without a partner tended to be less aware of having hypertension." Among female

hypertensives, no clear differences in awareness were observed. It was noted that the awareness and knowledge on hypertension is better in female and in those with higher educational background.

In China, Muntner et al. (2004) did a study on adults aged 35-75 years old and found out that only 26.4% of the respondents had basic knowledge of hypertension. Similarly, they found out that the knowledge was better in older participants and women. They also stated that awareness increased with education where a higher percentage of college students (50.2%) as compared to the lower percentage of respondents with no education (39.2%), were aware of their conditions.

Although many studies had shown that female had better knowledge concerning hypertension, a study done by Cielecka-Piontek et al. (2004) showed a different result. In their study, they discovered that there was no difference in the knowledge of risk factors among the two genders (1.3±1.2 for males, and 1.3±1.3 for females) in Poland.

Different places around the world show different results in regards to the level of knowledge on hypertension. In America, a study was done by Okonofua et al. (2005) on 1503 respondents aged 50 years and above shows an total of 60% respondents have a good knowledge on hypertension. About 64.2% of African Americans could define hypertension and understand that renal failure could result from hypertension. The majority of them also believed that hypertension as usually asymptomatic. Hispanics were more likely to perceive that hypertension could be due to aging and stress compared to other ethnic groups who thought hypertension as genetic. In addition, almost 80% of respondents knew that hypertension could cause heart disease and stroke. Among the respondents, almost 70% of them believed some lifestyle changes could reduce blood pressure. Even though, from the study, African Americans had a good knowledge on definition, aetiology and consequences

of hypertension, they still lack awareness of the value of lifestyle modifications in blood pressure control. Majority of African Americans and Hispanics stated that taking medication as the only way to control blood pressure, whereas the white was the only group who claimed that lifestyles changes were as important as treatment.

In Seychelles Island, Aubert et al. (1998) also found out that the respondents had good basic knowledge, in which 96% of them knew that high salt intake, obesity and cigarette smoking could cause hypertension, and 80% of them agreed that exercise could prevent high blood pressure.

However, a different picture was being portrayed by another study. Alexander et al. (2003) stated that in order to successfully control blood pressure, it was important for a patient to have knowledge about hypertension and being aware of their hypertensive status. In his study on 2500 hypertensive patients, all together 76.1% of respondents could correctly define hypertension as high blood pressure. The knowledge of hypertension associated with an increased risk of getting stroke and heart attack was greatly aware by the patients with a total of 92.6% and 86.8% each. However, he discovered that about 40% of hypertensive patient were not aware of their latest clinical-based Systolic Blood Pressure (SBP) and Diastolic Blood Pressure (DBP) values. Most of them thought that DBP as more significant than SBP in determining their hypertensive status. Only suboptimal numbers of patients were actually aware of the importance of SBP in determining their blood pressure. Alexander et al. (2003) realized that in order to achieve better management of the hypertensives patients, it was important to first improve the patient's knowledge about hypertension. Alexander et al. (2003) further stated that poor blood pressure control was also influenced by deficiency of knowledge of target SBP. The control of SBP is essentially vital in aging community as SBP is continually increased with increasing age, which is the opposite in comparison to DBP that

decreases in the sixth decade of lives. In the same study, they found out that 70% of patients aged 65 years old and above had poorly controlled BP based on elevated SBP in comparison with only 50.7% of hypertensives aged 35-64 years old. When being asked about the targeted SBP, the majority of 71.7% patients were unaware of it. Nearly 60% of respondents were aware of their SBP and DBP from the recently hypertension-related visits. This revealed that the knowledge on hypertension was still inadequate.

Another study that revealed inadequate knowledge among the population were carried out by Al-Sowielem and Elzubier (1998) among the hypertensives in Al-Khobar, Saudi Arabia which revealed some misconceptions on hypertension among the patients. About 40% of the patients thought that women and elderly were more prone to get hypertension while 66.3% of them thought that the main aetiological factor for hypertension was emotional stress, and only 1.6% accepted heredity as a cause of hypertension. About 41.6% of the patients believed that hypertension could be cured. Unaware that hypertension is a chronic disease, 43.7% of the respondents thought that they could discontinue taking medication when their blood pressure was controlled. They also reported that 31.6% of the patients did not know the complications of hypertension.

The knowledge of risk factors was also very low, as reported by Cielecka-Piontek et al. (2004). Their study revealed that out of 154 respondents, 26% of them did not know any risk factor for hypertension. Only 13.6% of the respondents stated that lifestyle as another risk factor for hypertension. Cielecka-Piontek et al. (2004) also stated that one third of individuals suffering from hypertension were not aware that being overweight as harmful, meanwhile 40% of them were not aware of the benefits of salt intake restriction.

In Malaysia, Gan and Chan (1993) did a survey among Kadazans and Bajaus in Sabah. They found out that 50% of the respondents could not associate hypertension with any risk factors; whereas about 38% were unaware of the consequences of high blood pressure. The study revealed the poor knowledge among indigenous groups in Malaysia.

Socio-demographic characteristic differences can also affect the attitude towards hypertension. In terms of attitudes in seeking knowledge, the majority of the respondents in America especially those in older age group were interested to know more on preventive practices towards hypertension (Okonofua et al. 2005). In Augsburg, positive attitude was shown by the respondents in the study done by Weiland et al. (1991) in the population between 25 and 74 years of age. The study showed that there were all together 60% of the respondents who claimed that they will change their attitude and practices to achieve well controlled blood pressure.

On the contrary, in a study done by Ontiveros et al. (1999) on 507 Hispanic American, African American and non Hispanic white adults age 75 and older showed that individuals with low level of education had poor knowledge on hypertension and they were less likely to go for regular check up, which revealed a poor attitude in seeking knowledge.

Malaysian also showed poor attitude and practice towards hypertension in terms of seeking knowledge. In the report from Management of Hypertension in Daily Clinical Practice (2001) among 1675 patients screened for hypertension, 59% were found to be hypertensives, but only 37.4% came back for a second visit, in which 87% of them were hypertensives.

Aubert et al. (1998) found out that unaware hypertensives did not have a positive attitude and practice towards lifestyle modification, as only 17% of the respondents agreed