A CROSS-SECTIONAL STUDY ON THE LEVEL OF KNOWLEDGE, ATTITUDE AND PRACTICE ON DIABETES MELLITUS AMONG SAMPLED POPULATION AGED 18 YEARS AND ABOVE OF RUMAH JANGGU AND RUMAH MOK, BINTANGOR

29TH JANUARY - 13TH APRIL 2007

4th Year Medical Students
Community Medicine and Public Health Posting MDP 40110
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A cross-sectional study on the level of knowledge, attitude and practice on diabetes mellitus among sampled population aged 18 years and above of Rumah Janggu and Rumah Mok, Bintangor from 29th January to 13th April 2007.

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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

Knowledge, attitude and practice on diabetes is important among the residents of the longhouses because it plays a major role in the prevention of this disease. Thus it is crucial to study these aspects in order to organize effective interventions.

To study the level of knowledge, attitude and practice concerning diabetes among the sampled population aged 18 years and above of Rumah Janggu & Rumah Mok from 29th January to 13th April 2007.

A cross-sectional study was done on a sample population of 104 respondents chosen by simple random sampling. Data collection was conducted by using an interview-guided questionnaire. Data entry and analyses were done using SPSS version 13.0, with parametric tests including ANOVA, chi-square test, independent ‘t’ test, Fisher exact test and Pearson’s correlation test, and non-parametric tests including Mann-Whitney test and Kruskal-Wallis test.

Regarding knowledge, 56.7% had good knowledge with a mean score of 36.44 and above. There was a significant relationship between level of knowledge with age (p=0.003) and level of education (p=0.032). Overall percentage of positive attitudes among the respondents was 59.6%. There was a significant relationship between level of attitude with age (p=0.008) and level of education (p=0.015). As for practice, 60.0% had good levels of practice, but only 39.4% had good practice in terms of risk reduction against diabetes. However, there was no significant relationship between level of practice with any socio-demographic factors. There was a significant positive corelation between level of knowledge with level of attitude (p<0.001). However, there was a significant negative correlation between level of knowledge with level of practice (p=0.018) and level of attitude with level of practice (p=0.035).

As a conclusion, influence on knowledge, attitude and practice is multifactorial, and the better the level of knowledge, the better the level of attitude, but such similar finding is not true between knowledge and attitude with the level of practice.
ABSTRAK

Pengetahuan, sikap dan amalan mengenai kencing manis memainkan peranan utama terhadap pencegahan penyakit tersebut khususnya bagi populasi penduduk rumah panjang. Oleh yang demikian, adalah amat penting untuk mengkaji aspek-aspek tersebut bagi menganjurkan satu program intervensi yang berkesan.

Untuk mengkaji tahap pengetahuan, sikap dan amalan mengenai kencing manis bagi sampel populasi penduduk Rumah Janggu dan Rumah Mok berumur 18 tahun dan ke atas dari 29 Januari hingga 13 April 2007.


Mengenai tahap pengetahuan, seramai 56.7% responden didapati mempunyai pengetahuan yang baik dengan purata skor sebanyak 36.44 dan ke atas. Terdapat hubung kait yang jelas di antara tahap pengetahuan dan umur responden (p=0.003) serta tahap pengetahuan dan tahap pendidikan responden (p=0.032). Secara keseluruhan, peratusan responden yang mengamalkan sikap yang positif ialah sebanyak 59.6%. Sementara itu, terdapat hubung kait yang jelas di antara tahap sikap dan umur responden (p=0.008) serta tahap sikap dan tahap pendidikan responden (p=0.015). Manakala, bagi tahap amalan, didapati seramai 60.0% responden mempraktik amalan yang baik. Walau bagaimanapun, hanya 39.4% responden didapati mempunyai amalan yang baik dalam konteks mengurangkan risiko terhadap kencing manis. Namun begitu, tiada hubung kait diperhatikan di antara tahap amalan dengan mana-mana faktor sosio-demografik. Terdapat hubung kait yang positif diperhatikan di antara tahap pengetahuan dan tahap sikap responden (p <0.001). Walau bagaimanapun tahap pengetahuan dan amalan (p=0.018) serta tahap sikap dan amalan (p=0.035) menunjukkan hubung kait yang negatif.

Sebagai kesimpulan, terdapat pelbagai faktor yang mempengaruhi pengetahuan, sikap dan amalan seseorang mengenai kencing manis. Didapati bahawa, semakin tinggi tahap pengetahuan mengenai kencing manis, semakin baik tahap sikap seseorang. Namun begitu, hubung kait di antara tahap pengetahuan dan sikap dengan tahap amalan seseorang menunjukkan keputusan yang sebaliknya.
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CHAPTER I

INTRODUCTION

&

BACKGROUND INFORMATION
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1.1 Introduction

Diabetes is one of the most important non-communicable diseases in the world and the Malaysia. World health organization (Department of non communicable disease surveillance, 1999) classifies diabetes into two forms known as type 1 and type 2 diabetes. According to Second National Health and Morbidity Survey, About 90% of all diabetic patients were found to have type 2 diabetes in developed and developing countries with high prevalence among adults more than 30 years of age (Public Health Institute, 1997). Symptoms of diabetes include frequent micturition, unusual thirst, extreme hunger, unusual weight loss, fatigue and irritability. It is a chronic metabolic disease with significant morbidity and mortality due to its major and severe complications (Abdullah et al., 2001), including poor wound healing presenting commonly as non-healing foot ulcers, limb gangrenes, lethal effects like cerebrovascular accidents and myocardial infarction, retinopathy causing blindness, diabetic neuropathy and also nephropathy (Kumar and Clark, 2005). The Malaysia second national health and morbidity survey estimated 14.6% of diabetic patient develop diabetic retinopathy, 10% developing kidney diseases and 50% having nerve damage (Public Health Institute, 1997). Treatment comprises of non pharmacological method such as diet and exercise and pharmacological method with oral hypoglycemic agents and insulin injection.

According to WHO, in the year 2006, at least 171 million people around the world suffer from diabetes, and with its rapidly increasing incidence, it is estimated that by the year 2030, this number will double (Department of Non-communicable Disease
Surveillance, 1999). However, the greatest increases are expected to occur in Asia and Africa. The estimated increase in incidence in these developing countries follows the trend of urbanization and lifestyle changes, most importantly a ‘western-style’ diet (Department of Non-communicable Disease Surveillance, 1999).

However, for every three diagnosed diabetics, there is one who is undiagnosed (Young and Mustard, 2001). This statistics was based on a study done in Canada, where health facilities are plentiful and health professionals well trained. Thus it can be said that there will be a larger number of people who would go undiagnosed for diabetes in developing countries, which may even exceed the number of diagnosed cases.

In Malaysia, the prevalence rate of diabetes in the adult population exceeds 8%. In 1993, the prevalence of diabetes among Malaysian adults was 8.2% in urban areas and 6.7% in rural areas which is on a rising trend (WHO on Western Pacific Declaration on Diabetes, 2000). It has been found that the most common causes of death in Malaysia were due to complications of diabetes. Of the total mortality, 14.31% of deaths were due to heart diseases and disease related to pulmonary circulation, while 8.19% were due to cerebrovascular disease (Planning and development division, 2005).

Data on prevalence of diabetes found in Bintangor Health Clinic stated that 43 registered cases in 2002, 47 in 2004 and it reduced to 32 cases in 2006 (Bintangor Health Clinic, 2006). These numbers only reflect the diagnosed cases and do not include the undiagnosed ones, which could greatly increase the prevalence.

The high prevalence and increasing trend of diabetes is partly due to the lack of knowledge and poor attitude towards diabetes as a whole among the Malaysian population. Reports from the study done by Naeema et al., (2002) showed that overall
knowledge regarding diabetes was not satisfying in Pakistan. Around 54% had poor knowledge about diabetes. 34% had fair knowledge about diabetes while only 13% had good knowledge (Naeema et al., 2002).

The practice or preventive measures concerning diabetes among the general population showed a relationship with the level of knowledge and attitude (Kamel et al., 1999). Practices such as exercise and proper dietary practices will help to prevent the development of diabetes and to control the diabetic level in patients who are already known to have diabetes. Kamel et al. (1999) concluded that diabetic patients lacked knowledge and consequently had low levels of self-care practices and this is expected, as health information of some kind may be necessary before a personal health action is carried out (Kamel et al., 1999).

The knowledge, attitude and practice regarding diabetes also reflect the underlying behavioural, environmental and social factors of the target community (Second National Health and Morbidity Survey, 1997). Our goal is that at the end of this study and intervention, we could increase the level of knowledge, attitude and practice concerning diabetes in the community. It can in turn lead towards reduced risk factors of diabetes and for those who are already diagnosed with diabetes, have a better understanding and control of their disease and thus increase their quality of life.

For this study, respondents aged 18 and above are chosen as they are considered adult in Malaysian context. Thus they are able to give consent and to give appropriate responses. As the age of onset for diabetes, particularly type 2 diabetes, was generally regarded as 'disease of the old age', has already decreased to a much younger age. Therefore prevention of diabetes should be started as early as possible. Thus by educating
younger population about diabetes, they will have a better level of attitude and thus have better prevention of diabetes.

1.2 Background Information

Rumah Janggu and Rumah Mok are both Iban community longhouses which are situated about 20 kilometres (km) from Bintangor Town, Meradong District. Both longhouses are connected by tar road to the main road. In terms of the geographic area, Meradong district (719 square kilometres) is the smallest district of Sarawak and has a population of 30,900 according to the Year 2000 population census (Wikipedia, 2006).

Rumah Janggu consists of 21 doors with an estimated population of 128 people. As for Rumah Mok, there are 23 doors with an estimated population of 128 people too. The population of both longhouses are Iban and mostly work as farmers. The majority of the occupants are Christians. Their water supply comes from a nearby mountain through gravity-feed system. The two longhouses gain their electrical supply from the generator powered by diesel, which only operated from 6.00 p.m. to 10.00 p.m.

The common diseases prevalent within the population were noted to be diabetes, asthma, hypertension, pulmonary tuberculosis and dengue. Some cases of hand foot and mouth diseases were reported in Rumah Mok in year 2006.
CHAPTER II

PROBLEM STATEMENT
&
LITERATURE REVIEW
CHAPTER II
PROBLEM STATEMENT, LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 Research Problem Statement

Diabetes Mellitus is a major and growing health problem affecting all ages in most of the countries. It is also an important cause of chronic illness and early mortality. It is estimated that 194 million people worldwide, or 5.1% of the adult population is suffering from diabetes and this will increase to 333 million, or 6.3%, by 2025 (International diabetic federation, 2003). It was estimated that at least 30 million people in Western pacific region have diabetes. It is expected to be double by 2025 (Western pacific declaration 2000). Data from Western pacific region declaration in 2000 also stated that the prevalence of diabetes in Malaysia reaches 8.9%. In 1993, the prevalence of diabetes among adults was 8.2% in urban areas and 6.7% in rural areas in Malaysia (second national health and morbidity survey, 1997). Now, this illness has extends to the younger age group where more children and adolescents are diagnosed with diabetes in this region (International diabetic federation, 2003).

The control of diabetes is still very low. This leads to complications even with very high prevalence of the diabetic patients. This was reflected by the data from Western pacific region including Malaysia which identified diabetes as the ten most common causes of death.

Diabetes also affects the socioeconomic aspect of the country. It causes loss in personal income and productivity due to early deaths, early retirements because of stroke, heart attacks, amputation, chronic renal failure and blindness (Mustaffa, 1998). The
psychological impact of diabetes on the individual and the affected family cannot be
graded but must also be taken into consideration (Mustaffa, 1998).

Education and intervention proved to be effective in the prevention of diabetes
and its complications (Latif and Sarosh, 1999). Malaysia had already started varies
strategies to reduce the incidence of diabetes through the joined action with other
Western pacific region countries (Plan of Action for the Western Pacific Declaration on

However, lack of published research portrayed the scarcity of research studies or
health promotional programmes been carried out in rural communities compared to the
urban community. Deepa et al., (2005) pointed out that massive diabetes education
programmes are urgently needed both in urban and rural areas of India. Ranjini et al.,
(2003) suggested in their study that rural areas of Malaysia should not be left out in
health educational and promotional activities concerning diabetes. In this matter, more
attention should be given to the rural area as rural health care delivery is often inferior to
that of urban areas (Schorr et al., 1989).

In Sarawak, a total of 1554 diabetic patients were reported in the year 2002
(Sarawak health department). According to the information from health officer in Sarikei
division, the prevalence of people with diagnosed diabetes was 41 patients in the year
1999 and it increased to 104 patients in 2002. According to the staff in Bintangor clinic,
their community also had considerable number of diabetic patients. It was agreed that the
study on level of knowledge, attitude and practice regarding diabetes in the long house is
important. This will help the community to improve their knowledge and practice on
diabetes and reduce the number of diabetes incidence in their community.
In relation to our government's programme regarding diabetes and the community's need, we would like to conduct our study on the level of knowledge, attitude and practice among our target population in Rumah Janggu and Rumah Mok.

2.2 Literature Review

2.2.1 Source of Information

Sources of information on diabetes varied with 45.5% of the population retrieved from medical staffs, followed by 21.6% from the radio. Other sources of information were referred by the respondents include newspaper (12.5%), television (6.8%) and 5.7% with friends, as the source (Ranjini et al., 2003). Study done by Tham et al., (2004) also showed 79.1% of the respondents from general population acquired the knowledge on diabetes from friends and families. The similar study showed that young generations preferred internet, books, conferences, talks or seminars as their source of information compared to older adults.

2.2.2 Level of Knowledge

Level of knowledge in terms of general knowledge, risk factors, signs and symptoms, treatment, complications and prevention

Researches carried out previously showed varied level of knowledge on diabetes among target population. Study done by Tham et al. (2004) in Singapore showed 65.9% of the non diabetic population had good knowledge on diabetes, whereas similar survey done by Kamel et al. (1999) showed that 90% of the sample population in Egypt had poor level of knowledge concerning diabetes. In Malaysia, a study done by Ranjini et al.,