



Faculty of Medicine and Health Sciences

**A CROSS-SECTIONAL STUDY ON LEVEL OF KNOWLEDGE
AND LEVEL OF ATTITUDE TOWARDS ASTHMA AMONG THE
SAMPLED POPULATION AGED 13 YEARS AND ABOVE OF
RUMAH UMING AND RUMAH CHERIDA, MERADONG, FROM
20TH NOVEMBER 2006 TO 26TH JANUARY 2007**

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UNIVERSITI MALAYSIA SARAWAK

FACULTY OF MEDICINE AND HEALTH SCIENCES

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Research done by:

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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

Introduction: Asthma is a chronic inflammatory disorder of the airways characterized by wheezing, breathlessness, chest tightness and cough. Asthma affects people of all ages. In Malaysia, asthma was among the commonest conditions that accounted for outpatient department attendance. Asthma is not curable, yet an asthmatic patient can live a normal life if it is well-controlled.

Objectives: The objective of this study is to study the level of knowledge and level of attitude towards asthma among the sampled population aged 13 years and above in Rumah Uming and Rumah Cherida from 20th November 2006 to 26th January 2007.

Methodology: A cross-sectional study on level of knowledge and level of attitude towards asthma was carried out. The sample size of 90 respondents was chosen using a simple random sampling method. Data collection was done by means of interview-guided questionnaire, and all collected data was entered and analysed using SPSS software version 13. The statistical tests that were used include Pearson correlation test, chi-square test, independent sample t-test, ANOVA test, Spearman rho test, Mann-Whitney U test and Kruskal-Wallis test.

Results: The main source of information regarding asthma was obtained from mass media. The study showed more than half of the respondents had poor level of knowledge in terms of general knowledge and signs and symptoms (62.2%), risk factor and triggering factor (55.6%), and treatment and prevention of asthma (60.0%). However, 56.7% of respondents had good knowledge about complications of asthma. There was a significant relationship between total level of knowledge with gender ($p = 0.034$), household income ($p = 0.018$), and personal and family history of asthma ($p = 0.008$). Females, higher income group and respondents with personal and family history of asthma showed better score of knowledge. Most of the respondents had good attitude in terms of seeking knowledge (65.6%) and prevention of asthma (53.3%), however 55.6% showed poor attitude in terms of the treatment of asthma. Significant association was found between total level of attitude and level of education ($p = 0.042$). There was also a positive relationship between the total level of knowledge and the total level of attitude towards asthma among the respondents ($p = 0.023$).

Conclusion: The study revealed a significantly higher level of knowledge among the respondents who were female, with higher household income and with personal and family history of asthma.

ABSTRAK

Pengenalan: Asma ialah penyakit radang paru-paru yang kronik, dengan simptom-simptom seperti nafas berbunyi, nafas seput, dada berasa ketat and batuk. Asma melibatkan semua orang tidak kira umur. Di Malaysia, asma adalah keadaan yang paling kerap ditemui di jabatan pesakit luar. Asma tidak boleh dipulihkan, namun pesakit asma boleh menjalani hidup yang normal sekiranya asma dikawal dengan baik. Oleh itu, pendidikan and kesedaran umum memainkan peranan penting dalam pengenalpastian and rawatan asma dengan efektif.

Objektif: Kajian ini bertujuan untuk mengkaji tahap pengetahuan dan sikap terhadap asma di kalangan penduduk berumur 13 tahun dan ke atas di Rumah Uming dan Rumah Cherida dari 20 November 2006 hingga 26 Januari 2007.

Kaedah kajian: Satu kajian 'cross-sectional' mengenai tahap pengetahuan dan sikap terhadap asma telah dijalankan. Saiz sampel yang merangkumi 90 responden telah dipilih menggunakan kaedah secara rawak ringkas. Pengumpulan data pula diperolehi melalui temuduga menggunakan borang soal selidik manakala kemasukan dan analisis data diperolehi melalui program komputer SPSS versi 13. Kaedah analisa yang digunakan dalam kajian ini termasuk Pearson correlation test, chi-square test, independent sample t-test, ANOVA test, Spearman rho test, Mann-Whitney U test dan Kruskal-Wallis test.

Keputusan: Sumber informasi mengenai asma yang utama didapati melalui media massa. Kajian menunjukkan bahawa lebih daripada setengah responden mempunyai tahap pengetahuan yang lemah mengenai pengetahuan umum dan tanda-tanda asma (62.2%), risiko dan factor pencetus (55.6%), dan rawatan dan kawalan asma (60.0%). Walaubagaimanapun, 56.7% daripada responden mempunyai tahap pengetahuan yang baik mengenai komplikasi asma. Tahap pengetahuan secara keseluruhan bersaling kait dengan jantina ($p = 0.034$), pendapatan seisi rumah ($p = 0.018$) dan sejarah asma ($p = 0.008$). Kaum perempuan, kumpulan pendapatan seisi yang tinggi, dan responden dengan sejarah asma mempunyai markah yang lebih tinggi dalam pengetahuan. Kebanyakan responden mempunyai sikap yang baik dalam aspek pencarian pengetahuan (65.6%) dan kawalan asma (53.3%). Walaubagaimanapun, 55.6% menunjukkan sikap yang lemah dalam aspek rawatan asma. Sikap terhadap asma secara keseluruhan berkait rapat dengan tahap pendidikan ($p = 0.042$). Tahap pengetahuan secara keseluruhan juga mempunyai hubungan positif dengan sikap terhadap asma secara keseluruhan ($p = 0.023$).

Kesimpulan: Kesimpulannya, kajian menunjukkan tahap peningkatan yang signifikan di kalangan responden perempuan, mereka dengan pendapatan keluarga yang tinggi dan mereka dengan sejarah peribadi dan ahli keluarga dengan penyakit asma.

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CHAPTER I

INTRODUCTION & BACKGROUND INFORMATION

CHAPTER I

INTRODUCTION AND BACKGROUND INFORMATION

1.1 INTRODUCTION

Asthma is a chronic inflammatory disorder of the airways that causes recurrent episodes of wheezing, breathlessness, chest tightness and cough particularly at night or early in the morning. Asthma is one of the major public health problems in many countries throughout the world. It affects all ages particularly among children and elderly population. It affects 300 million people worldwide (Masoli. *et al.*, 2006) with 255, 000 people died of asthma (WHO, 2005).

Prevalence of asthma is estimated to be approximately 5.5% of the general population (Siafakas *et al.* 1993). In many countries, the prevalence is increasing particularly in the second decade of life where this disease affects 10 - 15 % of the population. There is also a geographical variation with asthma being more common in four seasonal countries but rarer in tropical countries.

In Malaysia, patients with respiratory symptoms accounted for more than 73 % of outpatient attendances in the health clinics and asthma was among the commonest conditions (Ishak, 1999). Report from the Second National Health and Morbidity Survey Conference in 1997, showed that 87.3% of asthmatic attack was mild, 9.9% was moderate and 2.7% was severe. In addition to that, it was also found that the duration of days ill due to asthma was 4.2 days per episode. Schooling or working days lost due to asthma was found to be 2.4 days per episode.

The fundamental causes of asthma are not completely understood; the strongest risk factor for developing asthma is due to inhaled allergens. These include: indoor allergens (for example house mites in bedding, carpets and stuffed furniture, pollution and pet dander), outdoor allergens (such as pollens and moulds), tobacco smoke and chemical irritants in the workplace.

Asthma is a disease that has no cure, yet if properly managed it can be controlled and the patient can lead a normal life. Despite the many resources in the management of asthma, lack of knowledge and poor attitude result in complications such as respiratory acidosis, atelectasis, pneumothorax and even death (Hitti, 2005).

A study done by Bedi (1993) revealed that 48% of the respondents did not know about the cause of asthma. According to Mavale-Manuel *et al.* (2004), 85% of adults know that asthma is a condition affecting the respiratory system, but there were varied differences in their knowledge regarding triggering factors, clinical features and management of asthma.

In another study, it is found that half of the respondents (50.1%) believe that asthma is contagious and therefore need to avoid contact with asthmatic patients. From a study conducted by Rajinder in 1993, also noted that 37.5% of the asthmatic patients misunderstood that asthma was infectious and it was due to eating habits. Some of the respondents also claim that asthmatic patients cannot perform normal daily activities.

From the study done by Lynch *et al.* (2001) and Irvine *et al.* (2001), it was concluded that attitude is important in terms of treatment and prevention of asthma. Hence, positive attitude towards prevention and treatment is essential as part of the control (Global Initiative for Asthma, Guideline-Defined Asthma, 2006).

Asthma education is the key to recognizing and managing asthma and allergic conditions effectively. Asthma education can help the general public to recognize asthma symptoms and encourage persons with asthma to manage their asthma through medical care follow-up and use of appropriate medications. Community awareness may also reduce feelings of stigma among persons with asthma and help to dispel misconceptions. In 2000, the US Department of Health and Human Services identified top priorities for investment in asthma, recognizing the importance of education to patients, families and the community (American Lung Association of Washington, 1998).

Community-based programme was also introduced in some countries in order to help asthmatic patient to control their asthma. Ideally, the most effective community-based programme shared number of common elements. They employ multiple strategies that utilized behavioral changes, interactive educational approach and contain skill-building components (Taggart *et al.*, 1991).

In sum, education is the cornerstone in the management of asthma. Through increased awareness of the complications, symptoms, triggers and risk factors of asthma, one can begin to understand the impact. Misconceptions regarding asthma have to be corrected for the benefit of the asthmatic patients and their family members. Therefore, our aim is to instill awareness through the intervention programme.

We hoped that, by the end of this study and intervention on asthma, the community would understand that currently there are many resources on asthma management, which could improve their knowledge and attitude towards asthma. It is also hoped that improvement in the level of knowledge and attitude would lead to a healthier life among the asthmatics.

1.2 BACKGROUND INFORMATION

Rumah Uming and Rumah Cherida are longhouses of the Iban community. They are situated about 28 kilometres from the Bintangor town. Bintangor town is the capital of Meradong District. The Meradong District (719.0 square kilometres), which is located in the Sarikei Division, is the smallest district in Sarawak with a population of 32,300 people in the year 2005 (Sarawak Health Department, Health Facts 2005).

Rumah Uming consists of 26 doors with 131 people while Rumah Cherida consists of 16 doors with 74 people. The majority of them are farmers. Both longhouses are fully equipped with basic amenities such as piped water and electric supply from Sarawak Electricity Supply Corporation (SESCO). The means of telecommunication of both the long houses is mobile phones which are owned by some of the residents. Rumah Uming and Rumah Cherida are reachable by mud road. The common diseases in this population include asthma, hypertension, diabetes mellitus, pulmonary tuberculosis, dengue and malaria.

CHAPTER II

PROBLEM STATEMENT & LITERATURE REVIEW

CHAPTER II

PROBLEM STATEMENT, LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 PROBLEM STATEMENT

Asthma is a chronic respiratory disease which is common among people of all ages. The prevalence is estimated to be 4.5% in children aged up to 14 years and 4.1% in adults aged 15 years and above (Liam, 1998).

In Sarawak, the total number of cases of asthma seen in the outpatient department in the year 2002 was 13,114 and increased to 19,806 cases in 2004 (Sarawak Health Department, 2002-2005). This indicated high prevalence of asthma in Sarawak. Statistics from the Sarawak Health Department (2002-2004) showed the highest percentage of admission to the hospital due to asthma were Ibans where the number of admissions was about 801 in 2002 and increased up to 868 in 2004.

Rumah Panjang Uming and Rumah Panjang Cherida were chosen for our study. Our research on asthma as was suggested by the 'Tuai Rumah' of both the long houses. According to them, asthma is very common in the long houses, yet the knowledge and awareness regarding this condition is very scarce. They also expressed their hope that such programme will help them to understand more about asthma and how to deal with it.

Hence, in response to the community's expressed needs, this community-based research is aimed at assessing the level of knowledge and the level of attitude among residents of both the long houses towards asthma. Through our intervention programme, we hope to spread awareness and promote positive attitude towards asthma.

2.2 LITERATURE REVIEW

2.2.1 Definition of asthma

The word asthma originated from an ancient Greek word meaning panting. In another word, asthma is an inability to breathe properly.

Generally, asthma is a chronic condition in which the airways undergo changes when stimulated by allergens or other environmental triggers. Such changes appear to be of two specific responses namely as the hyperreactive response (also called hyperresponsiveness) and the inflammatory response. An allergic reaction in the airways caused by natural exposure to allergens has been shown to lead to an increase in inflammatory reaction, increased airway hyperresponsiveness (Piacentini *et al.*, 1993) and increased eosinophils in bronchoalveolar lavage (Rak *et al.*, 1991).

The hyperreactivity phase involves response of the smooth muscles in the airways where it constricts and narrows excessively in response to inhaled allergens or other irritants. Some of the scientists suggested that there is deficiency in a critical chemical that prevent the muscles from relaxing (Harvey *et al.*, 2002).

The hyperreactive stage is followed by the inflammatory response. The immune system responds to allergens or other environmental triggers by delivering white blood cells and other immune factors to the airways. The body then reacts to these inflammatory mediators by causing the airways to swell and to produce thick sticky mucus. This combination of events results in wheezing, breathlessness, inability to exhale properly and a phlegm-producing cough (classical symptoms of asthma) (Harvey *et al.*, 2002).

2.2.2 Problem in asthma

Asthma is a chronic respiratory disease that is common among people of all ages. It is the most common chronic childhood disease, affecting more than one in 20 children. Among children aged 5 to 17, asthma was the leading cause of school absences due to chronic illness. Besides that, asthma was the third-ranking cause of hospitalization of children (Watkin & deCastro, 2005). Nearly 5 million asthma sufferers were under 18 years old. Mishra (2003) stated that asthma is a serious geriatric problem in India where one every 10 people aged 60 years old suffer from asthma. In Malaysia, the prevalence is estimated to be 4.5% in children aged up to 14 years and 4.1% in adults aged 15 years and above (Liam, 1998). Adults aged 65 and older are also likely to have asthma with prevalence of 4.5 to 4.8% (Parameswaran *et al.*, 1998). In fact, they are more likely to be hospitalized and die due to asthma complications than younger people.

Asthma was also certified as the underlying cause of death for over 1,600 deaths per year, accounting for about 0.3% of all deaths in England (Department of Health England, 1994). Deaths occur mainly in elderly people whereby 60% of all asthma related deaths occurred in people aged 65 and over. The age standardized mortality rate for asthma, adjusted for changes over time in the age structure of the population, has fallen by more than 10% since the mid-1980s. The number of deaths from asthma among people aged under 65 fell by 20% between 1984- 1986 and 1990-1992. There was no clear geographical pattern of mortality in England although health authorities with a high mortality in people under 65 were more likely to be in the north rather than the south of the country. Standardised mortality ratios for asthma, comparing people of different social classes, are significantly lower in Social Classes I and II than in other classes for

both men and women (Asthma Outcome Indicator, National Centre for Health Outcomes Development, 2000).

Statistics from the Ministry of Health Malaysia (2002) stated that 3 to 5% of adults and 7 to 10% of children suffered from asthma, with the prevalence increasing at 5% per annum world wide.

Several studies noted that there is variation in gender predominant according to the onset of asthma. Studies done in Malaysia noted that, there was a slight predominance at the early age groups (0 - 14 years) where more males were admitted in government hospitals due to asthma compare to females. However this trend changed as the age increased and showed that more females were admitted from the age 20 years onwards while the older age group had similar prevalence of asthma (Ishak, 1999).

It is known that occupational factor to a certain extent contributes to the prevalence of asthma. Occupational asthma is suggested by a correlation between asthma symptoms and work, with improvement when away from work for several days. The patient may fail to recognize the occupational relationship because symptoms often begin several hours after exposure. Serial peak flow records at work and away from work can confirm the work association (Moscato *et al.*, 1995). Exposure to allergens in the work place is commonly seen in cement factories, wood factories, quarries and farms. This has been documented in a study as "Occupational exposure to workplace materials (animal products; biological enzymes; plastic resin; wood dusts, particularly cedar; and metals) can cause airway inflammation, bronchial hyper responsiveness, and clinical signs of asthma" (National Institute of Health, Nationalheart, Lung and blood Institute 1997).

The question whether genetic plays an important role in asthma is still not answered