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PREVALENCE OF DENGUE VIRUS BY USING RAPID IMMUNOCHROMATOGRAPHIC TEST METHOD IN PPUKM FROM JAN 2015 TO MARCH 2015

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ABSTRACT

Prevalence of Dengue Virus by Using Immunochromatographic Test Method in Pusat Perubatan Universiti Kebangsaan Malaysia, Cheras, Kuala Lumpur.

Dengue virus (DENV) infection is one of the major global public health problems. It is caused by the four DENV serotypes that are transmitted by *Aedes* mosquitoes. The infection usually occurs with clinical manifestations ranging from an asymptomatic or mild febrile illness as dengue fever to the potentially life-threatening illness, dengue hemorrhagic fever and dengue shock syndrome. The aims of this study were to compare the frequency of patients infected by DENV based on gender, races and age groups. This study is conducted from January 2015 until March 2015 among patients who were diagnosed at *Pusat Perubatan Universiti Kebangsaan Malaysia*. Serum samples were collected and DENV specific IgM and IgG antibodies were determined by using immunochromatographic test. Out of 223 samples shown in Table 4.1.1, 52.5% samples were positive to male patients while 47.5% were positive to female. The highest number of positive result based on the races was Malay communities that is 58.0% and the lowest result was Indian ethnics that is 6.1% only got DENV infection. 62 cases is positive to primary, IgM, response among the antibodies. The prevalence of age group showed that out of 400 samples, young adult gave highest result compare the other age group. Dengue is highly serious disease in the population in Malaysia and might be endemic for a long time in Malaysia. Public awareness, proper vector control and strengthening surveilllance must to get a serious attention to government and public people to keep the infection rates decrease.

KEYWORDS : Dengue, serotypes, dengue fever, dengue hemorrhagic fever, dengue shock syndrome, IgM antibody, IgG antibody.

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CHAPTER 1

INTRODUCTION

1.1 Background of the study

Dengue virus is a serious health problem that is growing all over the world. Worldwide, an estimated, 2.5 billion people are at risk of infection and approximately 975 million of whom live in an urban areas in tropical and sub-tropical countries in Southest Asia, the Pacific and the Americas. (World Health Organization). It is estimated that more than 50 million infections occur each year, including 500,000 people hospitalized over dengue hemorrhagic fever and mainly it infected among children with the case fatality rate exceeding 5% in some areas. (Guzman, M. G. and Kouri, G, 2002)

The average number of dengue fever or dengue hemorrhagic fever cases reported to the World Health Organization (WHO) has increased dramatically especially in the period 2000 until 2004, the annual average was over 900,000 cases, almost double the amount of over 400,000 cases for the period 1990 until 1999. According to Ministry of Health Malaysia (MOH), in the case of Malaysia, a rapidly developing country located in Southest Asia, the dengue incidence rate cases reported in 2000 until 2014 is 1,978,500 and the highest cases reported is in 2014, over 300,00 cases. The case fatality rate reported from 2000 until 2014 is 3.94% in Malaysia population.

In this study, we were going to identify the prevalence of patients infected with Dengue virus in Pusat Perubatan Universiti Kebangsaan Malaysia (PPUKM), Kuala Lumpur, Malaysia. PPUKM is one of the main hospital in Kuala Lumpur which received specimens from other district clinics in different state. All of the patients' data in PPUKM were collected and thus the incidence of the virus based on genders, ethnics and age can be explored.