

**UNIVERSITI TEKNOLOGI MARA**

**DENGUE OUTBREAK IN RELATION TO AEDES  
BREEDING GROUND (SAND TRAP) AND THE  
KNOWLEDGE AND PRACTICE OF THE  
RESIDENTS IN PUTRAJAYA**

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## Abstract

### DENGUE OUTBREAK IN RELATION TO AEDES BREEDING GROUND (SAND TRAP) AND THE KNOWLEDGE AND PRACTICE OF THE RESIDENTS IN PUTRAJAYA

Siti Nor Aziah Bt. Azizan

A cross sectional study has been carried out to study the breeding of *Aedes* mosquitoes in sand traps and the knowledge and practice of residents in Putrajaya. The sampling population was sand traps with stagnant water. Sampling technique was systematic sampling whereby every 3<sup>rd</sup> house was inspected to detect the presence and absence of *Aedes* larvae breeding in the sand trap. The sample size was 70 houses and 85 respondents. Knowledge and practice of the residents regarding dengue were measured by means of a structured questionnaire. Descriptive analysis and Chi-square testing were used to analyze the data. The result showed that the area was in Priority 1 as the *Aedes* Index was 8.57% and Breteau Index was 10. There was no significant correlation between high amount of rainfall and dengue incidence in Putrajaya ( $p>0.05$ ). It was found that majority of the respondents have moderate level of knowledge regarding dengue fever (knowledge score of 40% to 60%). There was no significant association observed between gender and level of knowledge on dengue fever ( $p>0.05$ ). There was a significant association between female and cleaning of water receptacles everyday ( $p<0.01$ ) and checking for *Aedes* mosquito breeding places everyday ( $p<0.01$ ). Significant association was also observed between male and checking for *Aedes* mosquito breeding places occasionally ( $p<0.01$ ). There was a significant association between moderate and low knowledge (knowledge score of  $<70\%$ ) and the practice of covering of water receptacles at homes ( $p<0.05$ ). Significant associations were also found between respondents who have no history of dengue fever and frequency of cleaning of water receptacles as well as frequency of checking for *Aedes* mosquitoes breeding places at home done 1-3 times per week ( $p<0.05$ ) and 1-3 times per month ( $p<0.05$ ). It can be concluded that the overall level of knowledge was good however, little evidence was found that the knowledge was put into practice. However, with the presence of dengue vector and the previous episodes of dengue infection among the local residents it is possible that another outbreak can occur in the future.



## CHAPTER ONE

### INTRODUCTION

#### 1.1 Introduction

Mosquitoes present a significant threat to public health. They serve as vectors for numerous infectious agents that are pathogenic for humans and animals. *Aedes aegypti* and *Aedes albopictus* acts as reservoir for dengue virus. The dengue virus is transmitted to human by the bites of infective female *Aedes aegypti* and *Aedes albopictus* (Heymann, 2004). Both the behavior of people and the biting behavior of female mosquitoes may be very important in the epidemiology of disease transmission (Service, 2004). According to the World Health Organization (2006) at least 100 countries are endemic for Dengue Hemorrhagic Fever. About 40% of the world populations are at risk. As per estimates, over 50 million infections with about 400000 DHF cases are being reported annually. In several Asian countries, DHF is a leading cause of childhood mortality.

As the effective vaccine for dengue is not yet available, dengue control is limited to reduction of the vector population (Koenraadt, 2006). According to World Health Organization (2006) the prevention and control of dengue epidemics cannot be achieve without community cooperation and involvement. Although education campaigns have increase people's awareness and knowledge on dengue, it remains unclear to what extent this knowledge is put into practice (Koenraadt, 2006).