

UNIVERSITI TEKNOLOGI MARA

**IMPACT OF WEATHER VARIABLE ON THE
INCIDENCE OF HAND, FOOT, AND MOUTH
DISEASE (HFMD) IN KUALA LUMPUR**

SITI NURHUSNA BINTI JOHARI

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ABSTRACT

Hand, foot, and mouth disease (HFMD) is a pediatric infectious disease-causing outbreak worldwide. Enterovirus 71 (EV-A71) and Coxsackievirus 16 (CV-A16) are the main pathogens that can cause HFMD. This study aims to determine the association between weather variables with incident of Hand-Foot-Mouth Disease (HFMD). This study is to determine the relationship between the weather variables which are rainfall, humidity and temperature with the incident case of HFMD in Kuala Lumpur, Malaysia. The weather variables and incidences of HFMD during the period 2015-2019 had been collected on a monthly basis. The correlation analysis was conducted between weather variables and the incidence of HFMD cases. The results for the correlation test that had been done between weather variables and HFMD shows that temperature and rainfall had a strong correlation with incidence of HFMD which were $r = 0.83$ and $r = 0.87$ respectively. Temperature and rainfall were found to be significantly correlated with the number of HFMD cases in Kuala Lumpur. This shows that weather variations may affect the transmission of HFMD in Kuala Lumpur. It is suggested that temperature could be used as a predictor of the number of HFMD cases in tropical countries. Thus, public health interventions should be conducted during this stage in order to adapt and overcome the possible effects of climate change in the future.

Keywords— Relationship, association climate, weather, Hand-Foot-Mouth Disease, HFMD

CHAPTER 1

INTRODUCTION

1.1 Introduction

Hand, Foot, and Mouth Diseases is also known as HFMD flare-ups prompting clinical and deadly entanglements that have expanded since the late 1990s; particularly in the Asia Pacific Region. HFMD may be an infectious disease caused by diverse infections. It is common in infants, toddlers, and kids aged less than 5 years old since their body immunity cannot manage protection from the infections that cause HFMD. Either than that children more than 5 years old and adults also can be infected with HFMD pathogen.

HFMD has a pathogen which it's consists of any type of viruses that will cause serious disease and usually it takes times such as seven to ten days to be recover. Infrequently, a tainted individual can create viral meningitis and should be hospitalized for a couple of days. Other significantly increasingly unconscious states can incorporate polio-like loss of motion or encephalitis (cerebrum aggravation) which can be lethal.

When an individual gets HFMD, these are the symptoms that including fever, excruciating ulcers (mouth), and rashes with a blister on the body especially hands, feet, and buttocks. Individuals with HFMD are generally infectious during the principal seven-day stretch of their ailment. Notwithstanding, they may now and then stay infectious for a considerable length of time after side effects leave. In some cases, it still can be transmitted to others and a few people, particularly grownups, may not build up any side effects. The infections that cause HFMD can be found in a contaminated person such as the nose and throat secretions, blister fluid, and feces. This is why people must keep their hygiene, like hand washing with seven steps