SEROEPIDEMIOLOGICAL STUDY OF LEPTOSPIROSIS AMONG THE INDIGENOUS COMMUNITIES LIVING IN THE PERIPHERY OF CROCKER RANGE PARK SABAH, MALAYSIA

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INTRODUCTION

Leptospirosis has been known to affect both man and animal worldwide resulting in morbidity and mortality. Infection in domestic animals and wildlife can lead to economic loss and pose a potential spread to the communities. Man contacted the disease by direct contact with infected blood, tissues, organs or urine of infected hosts. Transmission can also occur by direct penetration of the leptospira organism through the conjunctiva or surface epithelium. Indirect contact with the environments includes soil, mud, fresh waters, vegetation, foodstuff, and working place infested with rodents (Turner 1973).

Che-Chung Tsai et al. (1975) reported the first case of leptospirosis contracted through natural infection in Asia in an individual who had exposed to wild animals while working in Vietnam. In India, Venkataraman et al. (1991) confirmed leptospirosis by urine culture and examine by dark field microscopy (DFM) in 6 of 40 urine samples obtained from patients with leptospirosis. El Jali et al. (1997) showed that ELISA was able to detect low titres of antibodies to leptospira in human and suggested a suitable technique for epidemiological studies.

In Malaysia, Fletcher (1928) reported the isolation of leptospira in black rats, *Rattus rattus* from kidneys and urine of the animal. Later Wisseman et al. (1955) successfully isolated leptospiral serovars from serogroups *Hebdomanis, Grippotyphosa, Conicola* from three species of Malaysia rodents and a serogroup of *Icterohaemorrhagiae* from *Rattus whiteheadi* from Sabah. Bahaman and Ibrahim (1986) reported that domestic animals in Malaysia that have been exposed to a large number of leptospiral serovars may act as an important maintainance hosts for leptospirosis.

This study was carried out to determine the extent of exposure to leptospirosis in the human communities living at the periphery of Crocker Range Park Sabah, an increasingly popular destination among the local and foreign tourists. In addition, small mammals were trapped in the forest habitats of Crocker Range to obtain blood serum samples for the screening of leptospiral antibodies and establish the possible zoonotic importance of wild mammals in maintainance of this disease within the communities here.

MATERIALS AND METHODS

Study sites

Several rural communities were identified in the villages situated in the periphery of Crocker