

ABSTRACT**Study on The Ethnomedicine for Prevention and Treatment of Malaria by Tetun Ethnic People in West Timor, East Nusa Tenggara Province, Indonesia***Maximus Markus Taek*

This research is a qualitative-ethnographic study with the general objective to analyzing and discovering the concept and practice of ethnomedicine for prevention and treatment of malaria in the life of Tetun people in Belu and Malaka Districts, West Timor, East Nusa Tenggara Province, Indonesia. Data were collected using a field study methods, and supported by laboratory research and literature study. The field study involved 94 informants who were interviewed about the concepts of health and illness, the concept of malaria, methods for prevention and treatment, and plants used for the prevention and treatment of malaria. Laboratory research and literature study were conducted to provide data of the phytochemical contents and antimalarial activity of the plant extracts. The results showed that Tetun ethnic people considered malaria mainly caused by sweet foods and drinks, excessive exposure to sunlight and rain, and fatigue due to heavy work. The most important way to prevent malaria is *luli* or *hale'u*, which is to avoid things that are considered the cause of malaria, and suggestion for eating and drinking processed bitter plants such papaya and bitter melon. Methods for treatment of malaria consists of: (1) Herbal methods that use medicinal plants for drink, massage, bath, inhale and cataplasm; and (2) Non-herbal method of *sunu kok*, that is burn the left waist above the swollen spleen using coconut shell coal or heated iron. Some of high mentioned antimalarial plants used by Tetun people are *Strychnos ligustrina*, *Calotropis gigantea*, *Cleome rutidosperma*, *Physalis angulata*, *Alstonia scholaris*, *Alstonia spectabilis*, *Melia azedarach*, *Jatropha curcas*, *Plumeria alba*, *Fatua pilosa* and *Neosomitra podagrica*. In laboratory testing, ethanolic extracts of *P. angulata*, *J. curcas* and *A. spectabilis* showed strong antimalarial activity against *Plasmodium falciparum* 3D7 strain *in vitro*, with IC₅₀ values of 0.22, 0.22 and 1.23 µg/mL, respectively. Extracts of *N. podagrica* (IC₅₀ 11.60 µg/mL), *A. scholaris* (15.46), *F. pilosa* (24.92) and *P. alba* (36.39) are moderate antimalarials; and extracts of *C. rutidosperma* (IC₅₀ 54.25 µg/mL), *M. azedarach* (63.52), *S. ligustrina* (63.91) and *C. gigantea* (66.49) are weak antimalarials. These plant extracts contain alkaloids, terpenoids, steroids and coumarin, which have been widely known to have antimalarial activity, both as true antimalarials and indirect antimalarials. Results of this study concluded that: (1) The practice of ethnomedicine for prevention and treatment of malaria among Tetun ethnic community was developed based on their local concept of malaria inherited from generation to generation; and (2) Plants used by Tetun ethnic people for the prevention and treatment of malaria are scientifically proven to have pharmacological activities as antimalarials.

Keywords: Ethnomedicine, malaria, medicinal plants, Tetun ethnic, West Timor.