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A Qualitative Ecohealth Model of Dengue Fever (DF) in Bandung, Indonesia

Titik Respati[1*], Yudi Feriandi[1], Ermi Ndoen[2], Ardini Raksanegara[3], Heni Djuhaeni[3], Asep Sofyan[4] and Pat Dale[5]

[1]Faculty of Medicine, Universitas Islam Bandung, Indonesia

[2]UNICEF Indonesia, Indonesia

[3]Faculty of Medicine, Universitas Padjadjaran, Indonesia

[4]Department of Environmental Engineering, Institut Teknologi Bandung, Indonesia

[5]Environmental Futures Research Institute (EFRI), School of Environment & Science, Griffith University, Australia

*Corresponding author: *Titik Respati, Faculty of Medicine, Universitas Islam Bandung, Jl. Tamansari 22, Bandung, Indonesia, 40115, Tel: +62224203368/4231213 (ext 6904)*

Abstract

Background: Dengue Fever (DF) is a serious disease in Indonesia. The sustainability of a DF prevention program remains constrained despite continuing education programs and community participation efforts. Identifying the issues related to the cause of the disease is a major factor in its control. In this study we try to understand the complexity of the management of the disease.

Method: We apply an eco-health approach to explore DF management in Bandung city, West Java, an area of high DF incidence. A qualitative study was conducted using unstructured interviews and focus group discussions with cadres and community leaders directly involved in DF management. The verbatim data were transcribed and analyzed using NVivo software.

Result: Four major themes emerged: Prevention and control, community participation, housing and surroundings and weather. They were illustrated as a model. In more detail, sub-themes emerged and were interrelated with the basic model. We synthesized the results into six key principles based on process or purpose. Process principles were systems thinking, interdisciplinary or trans disciplinary research and participation. Purpose principles were sustainability, gender equality and social status and knowledge translation. The principles were expanded in a table to indicate how the overall findings related to the principles.

Conclusion: We concluded that system thinking, and interdisciplinary research facilitates optimal management related to the connections the DF program has with systems external to health. Translating research results into an understandable form for stakeholders, encourages community participation and understanding of DF. Finally, program sustainability requires the involvement of the complete community regardless of gender and social status.

Keywords

Dengue fever, Eco-health, Management

Introduction

The World Health Organization (WHO) estimates urban populations will increase by 1.84% per year between 2015 and 2020, 1.63% per year between 2020 and 2025, and as much as 1.44% per year between 2025 and 2030 [1]. The resulting increased density of dwellings in urban areas facilitates the exchange of bacteria, viruses and other health problems. One disease closely related to the density of human settlements and interactions between the mosquito vectors and environment, including climate, is dengue fever (DF) [2,3]. Dengue hemorrhagic fever virus is transmitted by peri-domestic mosquitoes, associated with water containers, and the vectors include *Aedes aegypti* and *Aedes albopictus* which latter can produce the diseases in humans [2]. Development related activities, particularly with regard to water storage, can increase the mosquito habitats and hence the risk of disease [4-6].

To manage disease effectively requires a holistic approach. This is embodied in the concept of ecological