

The Use of the Health Belief Model in Dengue Health Education

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Dengue fever/dengue haemorrhagic fever is a growing pandemic health problem^[1]. Source reduction of *Aedes* mosquito breeding sites is critical for its control. These larval mosquito-breeding sites include many human-made items (trash) such as cans and tyres^[2]. The source reduction of these mosquito breeding sites are related to human behaviour^[3].

Dengue fever prevention and control can be explained through health behaviour theory. Health behaviour theory may be used as a framework to design a health education-health behavioural change intervention, a means of testing or evaluating whether a programme works, and also used to create educational materials and health messages^[4]. Thus, dengue prevention and control may utilize a health behaviour theory for its programme. The health belief model (HBM)^[5], a well-established theoretical approach, may be employed to address the problem of dengue control.

The principal constructs of the HBM are: perceived susceptibility, perceived severity, perceived benefits, cues-to-action, and self-efficacy. Perceived susceptibility refers to a person's belief in the likelihood of contracting a disease, while perceived severity refers to a person's belief that contracting the disease may result in harsh health consequences. Taken

together, these two constructs form the perceived threat to health. The perceived benefits involve the beliefs of individuals in the value of adhering to health-related measures to prevent or reduce the illness or disease, whereas perceived barriers refer to the belief in the costs (psychological or material) that limit a person to carry out the necessary health-related measures. There needs to be greater perceived benefits than perceived costs in order for a person to carry out the proposed health-related measures to lessen the disease impact^[5].

The construct of self-efficacy refers to one's confidence to perform the necessary health-related action. This is usually applied by performing step-by-step or incremental goals. This social learning/social cognitive theory construct was proposed by Bandura^[6]. It was later included in the HBM^[5]. Applied to dengue control, it could refer to a step-by-step approach to gain confidence to perform a weekly dengue control-related clean-up.

The cues-to-action construct refers to anything that may heighten awareness or trigger interest in performing the necessary health-related activity to prevent, control, treat or elevate the health problem. The cue could take the form of a message on a poster, calendar,

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Table: Dengue messages based on HBM constructs

Constructs	Dengue issue related to constructs	Message examples to address construct issues
Perceived susceptibility	Belief that one most likely will not contract dengue	"So, you don't think that dengue is a real problem. It is here in our community now. Young and old get sick with dengue."
Perceived severity	Belief that dengue is not a serious health problem	"It's (dengue) a killer!"
Perceived barriers	Not enough time to get organized to do environmental clean-up	"Little time to do a clean-up to reduce mosquito breeding sties. No problem. Use the action plan checklist. Use it once a week."
Perceived benefits	One's belief whether regular environmental clean-up will benefit to reduce the number of dengue-carrying mosquitoes in their place of residence, which in turn will reduce the risk of dengue	"If everyone spends just a few minutes each week to clean-up stagnant water, throw away unneeded containers, or cover them, then it will go a long way to reduce dengue fever".

placards, vehicles or a message reminder on the radio. Health education strategies through the media may be powerful means to present cues^[5].

Health messages based on HBM constructs may be formatted in the style of a one line or short public service announcement (PSA) or as a dialogue public service announcement especially for radio use. The Foundation University Radio Station, together with the Foundation University College of Education, conducted a dengue communication campaign during September–October 2003 in Dumaguete, Philippines, a dengue endemic city. The programme's daily PSAs were based on the HBM. There were 24 rotating messages in the campaign's programme. These included short message PSAs and also dialogue PSAs. Examples of dengue health issues related to their corresponding HBM constructs, as well as health communication messages to address

these health issues based on the HBM constructs used in the university's radio campaign are presented in the Table.

This report suggests that health communication messages designed through HBM constructs may be used to communicate awareness about dengue and its control. Furthermore, these HBM constructs may be applied as cues-to-action in one's cultural context to address dengue fever control issues.

Acknowledgments

Thanks to the Foundation University Radio Station and the College of Education for making the radio broadcasts possible. Thanks also to the Foundation University for permission to reproduce the messages. The support of the International Technical Assistance Group is also gratefully acknowledged.



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