Abstract

Research project: Development of health promotion model for economic evaluation in Thailand: a case study of alcohol control interventions

Objective

To develop the Thai Health Promotion Intervention model and to evaluate the cost-utility analysis of "No alcohol during Buddhist Lent", a mass media campaign aiming to encourage drinkers to stop drinking during the Buddhist Lent (a 3-month period from July to September).

Methods

A Markov cohort model was adapted from the Scottish Alcohol Intervention Model using available epidemiological data in Thailand. The model simulated multiple conditions including hospitalization and death caused by alcohol use disorder. This was assessed using the Alcohol Use Disorder Identification Test (AUDIT) and all analyses were classified by gender. Direct medical and non-medical care costs were evaluated from a societal perspective and adjusted to the year 2016. Health care costs were derived from the health administrative database of the National Health Security Scheme. Utility values of the Thai population were derived from a national health survey. Mass media campaign (MMC) only was compared with MMC plus community-based campaigns, for which the intervention cost was collected from organizations responsible for running the campaigns. Intervention effectiveness was obtained from a study in four provinces of Thailand. The quality-adjusted life year (QALY) was used as a health outcome. Costs and outcomes were discounted at 3% per year. Incremental cost-effectiveness ratio (ICER) was calculated. Probabilistic sensitivity analysis was conducted and presented using the cost-effectiveness plane and cost-effectiveness acceptability curve.

Results

The model illustrated estimated life year, QALY, and lifetime hospitalization costs classified by binge/non-binge drinking and AUDIT scores i.e. low risk drinking (score 0-7), hazardous drinking (score 8-15), harmful drinking (score 16-19), and probable alcohol dependence (score over 20). It also showed socioeconomic status (household income), and age (20, 30, 40 and 50 years). For the cost-utility analysis of MMC, at a societal willingness-to-pay threshold in Thailand (THB 160,000 per QALY gained) and compared with MMC alone, MMC plus community-based campaigns was cost-effective for both males and females. The ICER was THB 21,745 per QALY gained for males and THB 36,037 per QALY gained for females. In all subgroup analyses on alcohol use disorder measured by AUDIT (i.e. hazardous, harmful, and probable alcohol dependence), the probability that MMC plus community-

based campaigns would be cost-effective was greater than 99% for males and 80% for females at a threshold of THB 160,000 per QALY gained.

Discussion and Conclusions

This study suggested that, compared to MMC alone, implementing MMC plus community-based campaigns is cost-effective. The analytical model developed was successfully applied to economic evaluation of an alcohol intervention.

For more information: http://www.hitap.net/documents/174176