S20 - Potential Cost-effectiveness of Herpes Zoster Vaccination for Older Adults in Hong Kong

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Introduction and Project Objectives: Herpes zoster (HZ) imposes an increasing burden in the aging population of Hong Kong. Adjuvanted HZ subunit vaccine (HZ/su) is recommended by the Centers for Disease Control and Prevention for adults aged 50 years and older. This project aimed to examine the potential cost-effectiveness of HZ vaccination for older adults in Hong Kong.

Methods: The present study was a health economic analysis conducted from the societal perspective of Hong Kong. A life-long Markov model was designed to simulate outcomes of four alternatives: Vaccination at model entry (age 50 years); deferring vaccination to 60 years; deferring vaccination to 70 years; and no vaccination. Outcome measures included direct cost, indirect cost, HZ and post-herpetic neuralgia incidences, quality-adjusted life years (QALYs) loss, and incremental cost per QALY saved (ICER). Model clinical inputs were derived from the medical literature. HZ treatment costs were collected from case records of local HZ patients. One-way and probabilistic sensitivity analyses, and scenario analysis were performed.

Results: In base-case analysis, no vaccination showed the highest QALY loss at lowest cost (0.00492 QALY loss; HKD601), followed by deferring to 70 years (0.00368 QALY loss; HKD1117), deferring to 60 years (0.00291 QALY loss; HKD1444) and vaccination at 50 years (0.00250 QALY loss; HKD1936). Deferring vaccination to age 60 years saved most QALYs at ICER lower than willingness-to-pay (WTP) threshold. Sensitivity and scenario analyses found the cost-effective acceptance of each vaccination strategy sensitive to WTP threshold, vaccine-related and HZ-related factors. In probabilistic sensitivity analysis, the probability to be accepted was highest for deferring vaccination to age 60 years (47.8%), followed by vaccination at 50 years (38.9%), deferring vaccination to age 70 years (13.3%) and no vaccination (0%), at WTP=3× gross domestic product per capita of Hong Kong.

Conclusions: For healthy adults aged 50 years old, all vaccination strategies examined in the present model seems to save QALYs at higher cost in Hong Kong. Deferring vaccination to age 60 years is the most likely option to be accepted as cost-effective. The findings provided important information that zoster vaccination saved QALYs at higher cost. Future research on affordability, budget impact and feasibility of implementing HZ/su in public vaccination programme for older adults are highly warranted.

Project Number: 15140432