BJMS
Borneo Journal of Medical Sciences

ABSTRACT

Cost-Effectiveness of Oral Cancer Screening Programmes: A Systematic Review of Design and Outcomes

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Keywords: cost-effectiveness, oral cancer, screening, modelling

NMRR Research ID:
NMRR-18-3073-44823

Introduction: Oral cancer screening programmes have been promoted to be an integral part of national-control strategies. However, such programmes are often not endorsed due to lack of evidence of its cost-effectiveness. This study aims to systematically review studies on the cost-effectiveness of oral cancer screening programmes. **Methods:** A systematic search for studies on economic evaluations of oral cancer screening was performed on four major databases – Medline, CINAHL, Cochrane and PubMed. Quality assessment of studies was conducted using CHEERS and Philips Checklist by two reviewers. Data extraction was carried out based on screening characteristics, outcomes and adopted study approaches and later summarized in evidence tables. **Results:** Out of 362 studies identified, 28 were evaluated for eligibility. Final six studies evaluated varied in terms of the design of their economic evaluations - modelling approaches (n = 4), randomised controlled trial (n = 1) and retrospective observational study (n = 1). Studies explored the effect of screening on people above 35 to 40 years. The population-based screening was the most commonly evaluated (n = 5) followed by opportunistic (n = 2). Generally, all studies reported screening initiatives were cost-effective compared to non-screening. However, the decision on cost-effectiveness remains ambiguous due to differences based on setting, payer-system, costing approach and parameters modelled. The observational and controlled trial showed

good quality of evidence in terms of process and costs of programme implementation. However, modelling approaches were more favourable in oral cancer as the malignant transformation rate varied widely (0.2 – 20.2%) and was robust for evaluation over a longer time horizon (25 to 60 years). **Conclusion:** There is still a big void in evidence for the cost-effectiveness of oral cancer screening, which prevents the recommendation and institutionalisation of programmes. With a huge population scope, high implementation cost and numerous variabilities in conduct and values, a modelling approach could be the solution to fill the knowledge gaps before trials.