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Evidence of Cost-Analysis on Diagnostic Imaging Methods in Oral Health Care is Insufficient. A Systematic Review.

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Introduction

In evaluations in health economy two or more interventions are compared considering costs and effects. An intervention, such as a diagnostic examination, is compared with another intervention or with no intervention at all. In oral health care, economic implications of diagnostic imaging methods have received minor attention.

Objectives

To analyse evidence on the outcome of economic evaluations of diagnostic methods used in oral health care by means of a systematic review.

Methods

The systematic review was performed according to the method described by Goodman (1): (i) problem specification, (ii) formulation of a plan for the literature search, (iii) literature search and retrieval of publications, and (iv) data extraction, interpretation of data, and evaluation of evidence from the literature retrieved. The problem was specified as follows:

What are the change in costs and change in effects resulting from the use of a diagnostic method for a defined patient group?

Three electronic databases were searched, Pub Med, Cochrane Library and Science Citation Index using MeSH-terms. An extensive search on economic evaluation in oral health care was performed. Abstracts presenting costs and any interventional method (preventive, diagnostic, or treatment) were included. The abstracts were read by two authors. When at least one of them considered an abstract relevant, the publication was retrieved in full-text.

Publications were interpreted using two protocols. The first protocol was implemented to exclude publications not relevant according to the problem specification. The second protocol was designed to extract and interpret data. In order to interpret data a model including cost analysis and effect analysis was designed. The effect analysis is based on the hierarchical levels and measures of analysis presented by Fryback and Thornbury (2).

Results

The searches, which supplemented each other, resulted in 850 titles and abstracts. To this date we have found very few publications that are relevant according to the problem specification.

No clear evidence was found regarding cost-effectiveness of diagnostic methods utilized in oral health care. There is a vast heterogeneity in study design. Methodology regarding the effect analysis was acceptable but the methodology of the economical evaluations was insufficient.

Conclusions

As the results of searches in the databases were somewhat different it is important to search in several sources. The results of this review elucidate the need for studies in health technology assessment on diagnostic methods utilized in oral health care.

References:

1. Goodman, C. Literature Searching and evidence interpretation for assessing health care practices. Stockholm: The Swedish Council on technology assessment in health care, 1996.
2. Fryback DG, Thornbury JR. The efficacy of diagnostic imaging. *Med Decis Making* 1991;11:88-94.

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