

Economic evaluation of fluoride varnish application in Iranian schools.

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BACKGROUND AND AIM: Dental caries is still one of the most common chronic diseases among children, although it can be prevented through early and regular professional services. This study aimed to analyze cost-effectiveness of fluoride varnish therapy intervention to develop and implement appropriate strategies in order to reduce incidence of tooth decay.

METHODS: This study modelled the cost-effectiveness of fluoride varnish therapy plan to prevent dental caries in elementary students with age range between 7-12 years, in Urmia, northwestern Iran. All costs and benefits were measured from a provider perspective in order to obtain the cost-effectiveness analysis (CEA). We estimated the direct medical costs of fluoride varnish in a school-based setting and compared this to the benefits of reducing the incidence of dental caries, as measured by the disability-adjusted life year (DALY) index. The Consolidated Health Economic Evaluation Reporting Standards (CHEERS) checklist was used to report this economic evaluation. To calculate Incremental Cost Effectiveness Ratio and sensitivity analysis, TreeAge software was used.

RESULTS: Based on the DALY index, the incremental cost-effectiveness ratio (ICER) was obtained \$200.02 per DALY averted. According to the threshold defined by World Health Organization (WHO), fluoride varnish therapy intervention in this study is cost-effective. The results of this research were not sensitive to the desired parameters based on the results of one-way sensitivity analysis.

CONCLUSION: This study recommends fluoride varnish therapy intervention because of reducing caries, improving quality of life (QOL), and financial saving for families in the long term. The results of this study can also help health policy makers and managers to make decisions about allocating resources to prevent dental diseases.