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THE EFFECT OF TWO TYPES OF FLUORIDE VARNISHES ON EARLY ENAMEL CARIOUS LESIONS IN PRIMARY DENTITION AMONG KINDERGARTEN CHILDREN IN MANSOURA CIT

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ABSTRACT

The study aimed to evaluate the effect of two fluoride varnishes (duraphat and fluorprotector) on early enamel carious lesions in pre-school children. It was divided into two parts; clinical and radiographic parts.

150 children from the EI-Shinnawy Mabara kindergarten in Mansoura city were chosen. Every child should have at least one tooth with initial carious lesion. Bitewing radiographs were taken to confirm that, the caries was confined to the enamel and not progressed to the dentine. The selected children were divided into three equal groups (50 children) according to the applied varnish (duraphat, fluorprotector, and placebo).

For the children in the three groups, the $d_{E}mft$, $d_{E}mfs$, $d_{E}t$, and $d_{E}s$ were recorded at baseline and after twelve months. The three varnishes were applied according to the manufacture's instructions, at baseline and after four months.

The clinical part of the study showed that, there was a significant reduction in ($d_{E}mft$, $d_{E}mfs$, $d_{E}t$ and $d_{E}s$) in both duraphat and fluorprotector groups after twelve months in comparison with the baseline. The comparison between duraphat and fluorprotector varnishes showed that, there was a significant difference between the two varnishes while duraphat varnish was more effective in reducing the caries incidence than the fluorprotector varnish. Also the best effect of the two varnishes were on the occlusal surface. Radiographical study was done to measure mean carious lesion density (MCLD), and mean carious lesion surface area (MCLSA) by taking standardized periapical radiographs for the lower first and/or second primary molars with active enamel carious lesion at baseline before the first application of the varnish, then after 1,4,6,9 and 12 months. The second application of fluoride varnish was done after four months before taking the radiographs. The results showed that, there were significant increase in the mineral density and significant decrease in the caries surface area in the duraphat and fluorprotector groups. While in the control group there were significant decrease in mineral density and significant increase in the caries surface area. Also at every follow up period, there were statistical significant differences between the three groups.

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