

University of Mosul
College of Dentistry



***CARIOGENICITY OF THE MOST
COMMONLY PRESCRIBED ORAL
MEDICINES FOR CHILDREN***

A Thesis submitted by
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ABSTRACT

Back ground: Many medications have negative effect on our health. Oral liquid pharmaceutical dosage forms such as syrups, solutions and suspensions are the therapeutic choice for the treatment of pediatric patients. The use of these liquid preparations, despite being generally for short periods, can be considered as prolonged schedule in patients who suffer from chronic conditions. There are evidences that children taking oral medication for long period have high prevalence of dental caries.

Aims of the study: To determine the direct cariogenic effect of the oral medicines which were used for long time by children on the teeth, and to compare the cariogenic potential between males and females.

Materials and methods: One hundred freshly extracted, caries-free lower deciduous molars of children aged 10-12 years old were collected, 50 from males and 50 from females. Teeth were randomly assigned into 20 groups (10 for males and 10 for females in each group):

Group A teeth suspended in methotrexate solution.

Group B teeth suspended in prednisolone solution.

Group C teeth suspended in warfarin solution.

Group D teeth suspended in verapamil solution.

Group E teeth suspended in digoxin solution.

Group F teeth suspended in azathioprine solution.

Group G teeth suspended in carbamazepine.

Group H teeth suspended in dexamethasone solution.

Group I teeth suspended in fluoxetine solution.

Group J teeth suspended in chlorpromazine solution.

All solutions were contaminated with natural saliva and incubated for (32) days, then the samples cut to thickness of 250 μ m and examined under polarized microscope.

Results: The results showed that the verapamil has the worse effect on enamel of deciduous teeth while dexamethasone has less cariogenicity, also the comparison made between males and females demonstrated that the solutions produced more cariogenic effect on samples from females than samples from males.

Conclusions: All test medications have cariogenic potential by different degree and the potential effect was more on females' teeth than those of males.