

## **RESULTS OF TOPICAL FLUORIDE WITH ELMEX SOLUTIONS IN KINDERGARDEN CHILDREN**

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Increasing frequency of dental caries at early ages requires the augmentation of prophylaxis methods . Fluoride therapy , through any of the administration methods is still of high efficiency ( 1, 2, 5 ).

Several data from literature ( 3,7,8 ) are reporting overall caries reduction of 40-50% through fluoride applications.

Many of the last year researches are based on the self – administered techniques in children communities the most economic method being toothbrushing and toothpastes and a rinsing solutions ( 4,6 ).

The use of toothpastes , gels and rinsing solutions several times a year could decrease the frequency of overall caries with a percent of 20.

Meantime with the advantages of topical fluoride applications, the children also learned a correct toothbrushing technique.

The aim of this study was to determine the effects of toothbrushing with elmex solutions in kindergarden children during the period of activity in that community.

### **Material and method**

This study was carried out in 200 children with an average age of three years. The children were divided into two equal study groups, each one of a hundred individuals.

The first group served as a control group consisting of children who didn't undergo our prophylaxis programme.

The second group was the study group with a number of a hundred children who followed our prophylaxis schedule.

The experiment lasted three years and all records were registered in files especially designed for this study.

The files allowed us to register every affected tooth surface and also the amount of the carious lesions and other parameters, too.

The study group underwent professionally fluorides applications ( topical fluoride) twice a year ( in May and November ) .

The aim of this method was to allow each child to undergo 8 professionally fluoride applications.

The oscillating frequency of kindergarden attendance was the main reason for wich the aim of this study was attained only a small group of children, the average number of topical fluoride applications varying between 4 and 6.

Every child brushed thoroughly his teeth, then the toothbrush was dried with the child's own towel.

5 to 6 drops of elmex solution were poured on the dried toothbrushed and the child was encouraged to do another brushing during two three minutes and to spit out the foam without rinsing.

At the beginning of the study and at a six months recall, before fluoride application we recorded in the individual file all affected toothsurfaces.

According to the recorded data we determined the carious intensity index "m d f l s" and we made a comparison follow-up in the two groups.

### **Results and discussion**

At the beginning of the study, the 2 groups were having similary values of the " m d f l s " carious index, as they have been registered in table I.

m d f l s = 0,9% in the control group

m d f l s = 1,14% in the study group

during the study, because of the oscillating frequency of children's attendance in kindergarden, the number of children who had a full-time activity declined to 59% in the control group and 62% in the study group.

The comparison of " m d f l s " index ( percent of decayed or filled toothsurfaces) at several recalls ( in November 1992, 1993, 1994) reveals the high efficiency of the procedure.

In the control group, the value of " m d f l s " index rose strongly from 0,9% in 1992 to 3,89% in 1993 and finally reached the 5,07% value in November 1994.

The study group showed only a small increase in the value of m d f l s index, from 1,14% in 1992 to 1,67% in 1993 and then to 1,98% in 1994.

The average value of annually decayed toothsurfaces was five times higher in the control group than in the study one. ( 2,17% in the control group and only 0,42% in the experimental group with professional topical fluoride application).

Table I - revolution of " m d f l s " index in the :

	1992		1993		1994	
Study sample	Nr.of Children	m d f l s index	Nr. of Children	m d f l s index	Nr. of Children	m d f l s index
I control group	100	0,9%	78	3,86%	59	5,07%
II study group	100	1,14%	85	1,67%	62	1,98%

Table II - Average value of affected toothsurfaces

I	Control group	2,17%
II	Study group	0,42%

Data submitted before pointed out that professionally fluoride application like the elmex solutions led to a definite decrease of the percent of new affected toothsurfaces.

In addition we noticed a high percent of carious – free children, maintained throughout the period in the study group, also we noticed arrested carious lesions and a decrease in the number of penetrating carious lesions.

### **Conclusions**

Topical fluoride applications, as toothbrushing with elmex solution is a valuable factor in carious index decrease.

### **Summary**

The aim of this study was to determine the effects toothbrushing with rolmex solution in kindergarden children.

The study sample consisted of 200 children and was divided into two equal groups : a control group and a study one.

The carious index “ m d f l s “ were determined at several recalls in every group.

The results pointed out a small increase in the number of affected toothsurfaces in the study group while in the control group there was a very high increase.

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**REZULTATE ALE FLUORIZARII LOCALE CU ELMEX  
LA PRESCOLARI**

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Frecventa ridicata a cariei dentare la varste tot mai mici impune necesitatea extinderii mijloacelor de profilaxie. Printre acestea , fluorizarea , sub oricare din formele de administrare cunoscute , continua sa dovedeasca una dintre metodele cele mai eficiente ( 1,2,5 ).

Datele din literatura ( 3 , 7 , 8 ) atesta faptul ca aplicariile topice de fluor , sunt in masura sa reduca procentul cariei dentare cu 40 – 50 % .

Multe din cercetarile ultimilor ani , s-au axat in sa pe tehnici de autoadministrare a fluorului in colectivitati de copii. Dintre cele mai economice procedee s-au dovedit periajele si clatirile cu solutii fluorurate ( 4 , 6 ).

Utilizarea periajelor cu paste , geluri , solutii de fluor , de cateva ori pe an , ar reduce caria cu 20% ( 4 ). Concomitent cu avantajul fluorizarii , copiii deprind si o tehnica corecta de periaj. Ne-am oprit asupra acestei metode , verificand actiunea periajului cu solutie Elmex la copii prescolari , incepand cu grupa mica si continuand pe toata durata cuprinderii in colectivitate.

#### Metodologie

Au fost luati in studiu un numar de 200 copii in varsta de trei ani ( grupele mici ) , constituindu-se doua loturi :

Lotul I - martor

Lotul II - experimental

Toti copiii au fost urmariti timp de trei ani , pe baza unei foi de observatie special concepute , care a permis notarea fiecarei suprafete afectate si gradul acestei afectari , precum si alti parametrii. Pentru lotul experimental s-au preconizat doua serii de fluorizari pe an , ( in lunile noiembrie si mai ) , a cate 4 sedinte fiecare , la interval de o saptamana. Deci fiecare copil trebuia sa beneficieze de 8 periaje pe an . Datorita faptului ca prezenta copiilor a inregistrat mari fluctuatii , dezideratul a fost atins la un numar mic de copii , majoritatea beneficiind in medie de 4 fluorizari pe an , cu variatii intre 3 si 6. Avand in vedere varsta abordata , cu dificultatile inerente de colaborare , fiecarui copil i-am efectuat un periaj atent cu periuta si pasta de dinti prezentate in gradinite , dupa care , pe periuta uscata cu prosopul individual s-au aplicat 5-6 picaturi de solutie Elmex , facandu-se un nou periaj timp de 2-3 minute , fara a fi urmat de clatire , ci doar de indepartarea spumei rezultate de pe buze.

Atat la inceputul actiunii , cat si la intervale de 6 luni inaintea reluarii seriei de fluorizari , am inregistrat in fisa individuala , asa cum am amintit , toate suprafetele dentare afectate. Pe baza datelor consemnate am calculat indicii de intensitate ai cariei pe suprafata (mdf/s) si am urmarit evolutia lor comparativ la cele doua loturi.

### **Rezultate si discutii**

Dupa cum reiese din tabel si grafic , la inceputul studiului , cele doua loturi egale numeric au prezentat indici mdf/s apropiati ca valori ( 0,9% lotul I martor si 1,14% lotul II experimental.) Pe parcurs , numarul copiilor cuprinsi in studiu s-a redus inegal , ramanand relativ mic pentru loturile finale. Totusi compararea indicilor mdf/s ( procentul suprafetelor dentare cariate sau obturate )la anumite intervale , ( lunile noiembrie ale anilor 1992 , 1993 , 1994 )evidentiaza pregnant eficienta metodei. Daca la lotul martor indicele de intensitate a cariei , mdf/s , a avut o evolutie puternic ascendenta de la 0,9% in 1992 la 3,86 % in 1993 si 5,07 % in nov. 1994 , lotul fluorizat desi a prezentat si el o crestere a intensitatii cariei in acelasi interval aceasta este semnificativ mai mica fata de lotul martor ( de la 1,14% la 1,67% si respectiv 1,98% )  
Calculand procentul mediu anual de suprafete noi cariate , aceasta este de cinci ori mai mare la lotul martor fata de lotul fluorizat ( 2,17% la lotul martor si numai 0,42% la lotul fluorizat).

**Tabel** – Evolutia indicilor mdf/s la cele doua loturi :

LOT	1992		1993		1994	
	nr. copii	mdf/s	nr. copii	mdf/s	nr. copii	mdf/s
I martor	100	0,9%	78	3,86%	59	5,07%
II fluorizat	100	1,14%	85	1,67%	62	1,98%

### **Rata cresterii anuale**

I martor            2,17%  
II fluorizat        0,42%

Datele prezentate releva faptul ca aplicarea solutiei Elmex prin periaj a dus la o diminuare neta a procentului de suprafete noi cariate . In plus am putut observa mentinerea unui procent ridicat de copii indemni de carie , dupa aceste intervale, la lotul fluorizat , stagnarea in evolutie a cariilor incipiente si reducerea numarului de carii complicate .

In concluzie putem afirma ca fluorizarea locala , sub forma de periaj , s-a dovedit un factor valoros in scaderea intensitatii procesului carios.

### **REZUMAT**

S-a urmarit actiunea solutiei Elmex , aplicata prin periaj dentar, la un lot de copii prescolari , comparativ cu un lot martor. Valoarea indicilor mdf/s calculati la

anumite intervale , la cele doua loturi , dovedeste o crestere nesemnificativa a procentului de suprafete noi cariate la lotul fluorizat , in timp ce la lotul martor cresterea este vertiginosa.

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