

# Trends in Dental Caries in 12-Year Old Children in Croatia

**Rajić, Z. et al., 2000, Coll. Antropol. 24 Suppl. 1: 21-24**

**Aim:** To investigate whether the prevalence of dental caries in 12 year old children in Croatia has followed the decreasing trend seen elsewhere in Western Europe.

## Trial

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### **Under investigation**

The effect of preventive measures, including topical fluoridation, health education programme and regular brushing with amine fluoride gel on caries prevalence in different years between 1968 and 1999.

### **Participants**

12 year old children living in Croatia.

### **Trial methodology and assessment**

In this epidemiological study caries prevalence was measured and compared using Klein-Palmer DMF scores (1968 only) and DMFT scores (1973-1999) at the cavitation level. White, chalky and discoloured spots and fissures were not counted. The percentage of caries free children in each year was calculated. Measurements were taken in 12 year olds in the years 1968, 1973, 1980, 1985, 1990, 1991 and 1999. Assessments were done with artificial light, a plane mirror and a sharp explorer.

## Results

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The prevalence of dental caries in 12 year olds decreased from 1968 to 1991 as preventive oral care measures were established. These levels increased from 1991 to 1999 as a result of war and disruptions to the dental health care service. This trend is seen in both DMFT scores and in the percentage of children without caries.

### **DMFT scores**

DMFT scores fell markedly between 1968 and 1991 and the rose again between 1991 and 1999. Figure 1 shows these results. In 1968 the average DMFT score for 12 year olds was 7.0. This decreased to 6.3 in 1973 and to 6.2 in 1980. It is likely that these reductions are due to the introduction of topical fluoridation with 2% sodium fluoride in 1968.

In 1980 a preventive oral care and health education programme, including regular brushing with amine fluoride gel, was established in schools. As a result DMFT scores were reduced to 5.9 in 1985 and still further to 3.4 in 1990 and 2.6 in 1991.

DMFT scores increased to 3.5 in 1999. This is likely to be as a result of population changes caused by the war in Croatia started in 1991 and due to privatisation of dental health care.

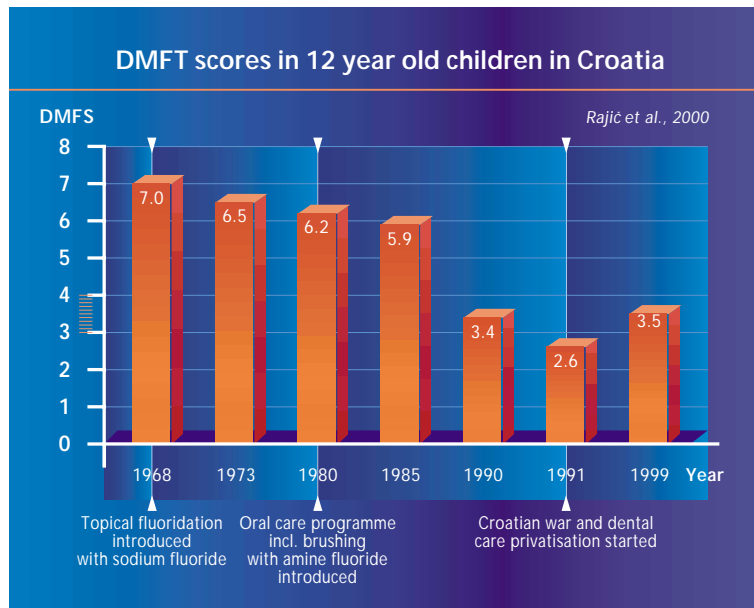


Figure 1: **DMFT scores in 12 year old children in Croatia**

### Percentage of children without caries

The number of children without caries followed the same trend as DMFT scores. In 1968 no children were caries free. By 1991 23% children aged 12 were caries free. This figure decreased to 14.9% in 1999. Table 1 shows these results:

Table 1: **Percent 12 year olds caries free in Croatia**

Year	Caries free
1968	0
1973	0
1980	5%
1985	5.9%
1990	19%
1991	23%
1999	14.9%

## Conclusions

The results show that the introduction of preventive oral care measures, particularly brushing with amine fluoride gel such as elmex® gel effectively reduces the prevalence of caries and helps protect teeth into adulthood.