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Dental status of schoolchildren from a Danube town of Romania

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Introduction

The Danube is the longest river in the European Union and Europe's second river after the Volga. In Romania, the drainage basin of the Danube river representa almost 30% (1075 km). It is passing through 17 important Romanian towns. Many of these towns are classified as very small or small. Among these, Fetesti (33.294 inhabitants), located on a Danube branch (Borcea branch), is an important railway knot to Dobrogea. The first bridge across Danube was built in 1895. Epidemiological studies on the dental status of schoolchildren from Danube Romanian cities are few.

Fig. 1

Fig. 2

Objectives

To gather data regarding the dental status of schoolchildren from the first and sixth grade from Fetesti, a town with low pollution on the Danube River. The evaluation was done for children at the beginning of their school education and for children at 12 years of age (WHO's reference age).

Material and Methods

276 children (160 boys) from two schools from Fetesti: 121 children (61 boys) aged 6-7 years from the first grade (Sample A, mean age 7y3mo) and 155 children (79 boys) aged 11-12 years from the sixth grade (Sample B, mean age 11y7mo).

- Cross-sectional study on children examined in classrooms according to WHO criteria (1997).
- Only the children available in examination day were included in the study.
- Parents' and teachers' consent was obtained
- Presence and distribution of caries (at the level of cavitations), fillings and teeth missing due to caries were recorded.
- The status of first permanent molars (FPM) for the two age samples was also recorded.
- Mean values and confidence intervals were calculated for: prevalence index (Ip), dmft, dmfs, DMFT, DMFS, SIC Index.
- Data was analyzed using a dedicated software.

	Sample A	**Sample B**
Mean age	7 y 3 mo	11 y 7 mo
Median	7 y 4 mo	11 y 6 mo
Interval	6 y 2 mo - 7 y 11 mo	11 y - 12 y 10 mo

Tab. 1

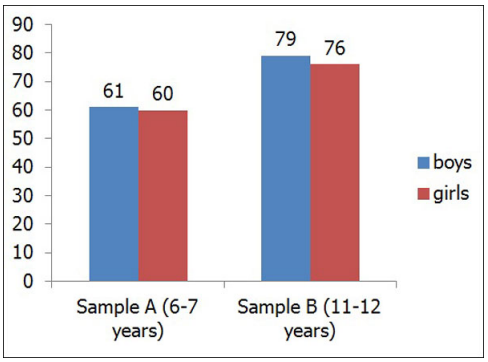


Fig. 3

Fig. 4

Results

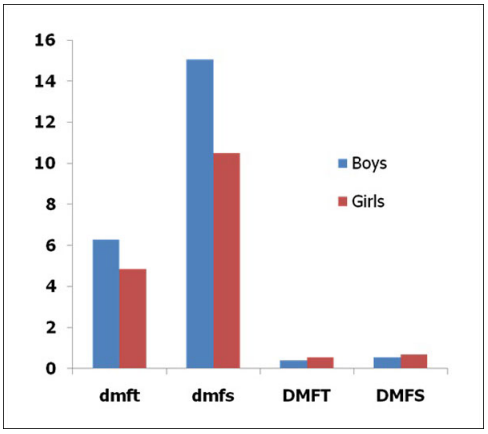


Fig. 5: Results sample A

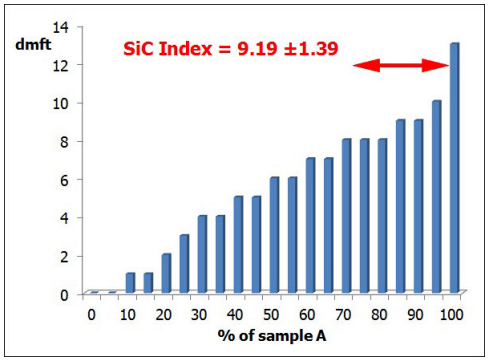


Fig. 6: Results sample A

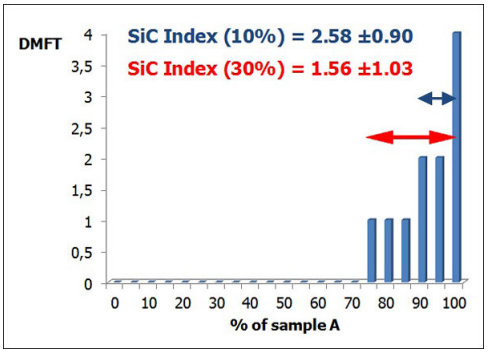


Fig. 7: Results sample A

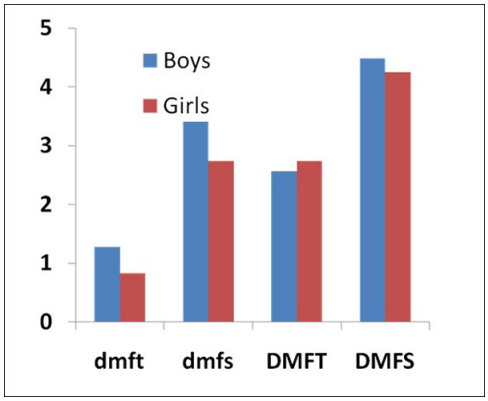


Fig. 8: Results sample B

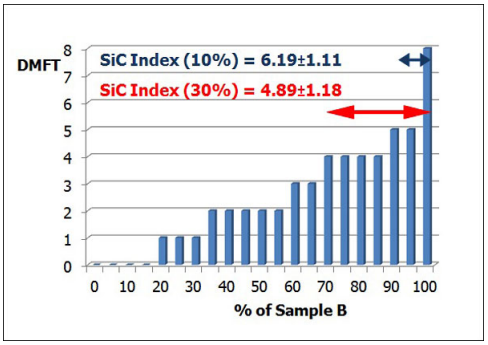


Fig. 9: Results sample B

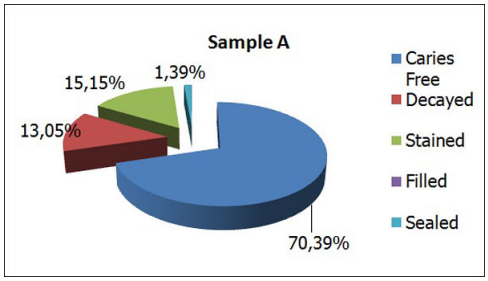
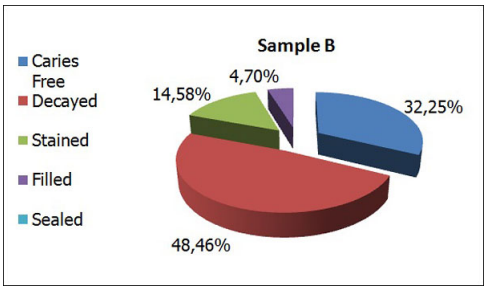


Fig. 10: FPM status and caries distribution



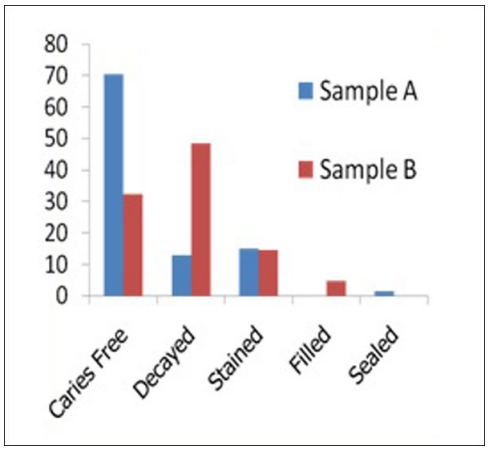
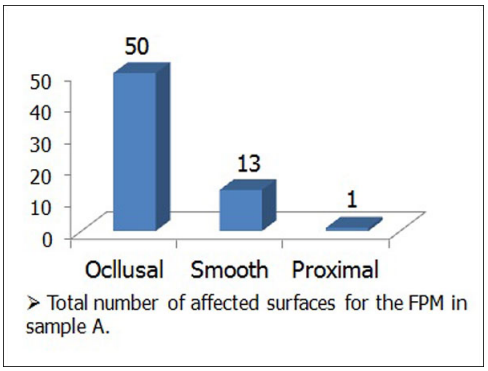


Fig. 11: FPM status and caries distribution

Fig. 12: FPM status and caries distribution



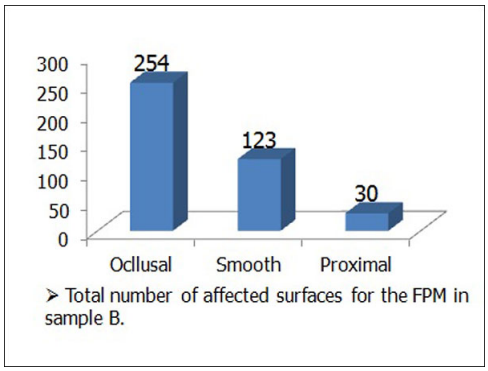


Fig. 13: FPM status and caries distribution

Fig. 14: FPM status and caries distribution

Ip (%)	91.74			
dmft	5.56±3.25	male female	6.28±3.24 4.83±3.12	ss
SiC	9.19±1.39			
dmfs	12.79±9.84	male female	15.05±9.66 10.50±9.56	ss
DMFT	0.46±0.90	male female	0.38±0.71 0.55±1.06	ns
SiC	1.56±1.03			
DMFS	0.60±1.23	male female	0.54±1.19 0.67±1.28	ns

Tab. 2: Results sample A

Ip (%)	87.09			
dmft	1.06±1.58	male female	1.28±1.74 0.83±1.38	ns
SiC	3.02±1.54			
dmfs	2.92±4.69	male female	3.41±5.10 2.42±4.20	ns
DMFT	2.65±1.92	male female	2.56±1.89 2.74±1.96	ns
SiC	4.89±1.18			
DMFS	4.37±3.75	male female	4.48±4.02 4.25±4.48	ns

Tab. 3: Results sample B

Conclusions

The percentage of caries-free children in both samples is very low. All children have a high caries experience.
30% of the first grades have 9 primary teeth and 1.5 permanent teeth affected.
For the sixth grade, 30% of the children have approximately 5 affected permanent teeth (SiC 30%) and 10% have 6 affected permanent teeth (SiC 10%).
For the Balkan countries, DMFT for 12 years old ranges between 1.8 and 4.8 and our results frame between those limits (2.6). The current study's SiC values (30%) are amongst the lowest reported (table).
Regarding the status of the FPM, about 28% of the first grades and 63% of the sixth grades have caries on the FPM (questionable situations included).
Caries topography on the FPM follows the usual pattern, occlusal caries being the most frequent in both groups. Sealants and fillings are very few, showing little concern for both prevention and treatment seeking in the absence of pain.
Prevention programs are needed in order to achieve the WHO Global Goals for Oral Health for 2015 (SiC<3 for 12 years olds). Early local preventive strategies, addressing schoolchildren from the first grade, can have better efficiency in helping decrease caries prevalence on FPM.

Country & Year of study	**DMFT**	**SiC 30%**
Slovenia 1998	1.8	
Greece 2000	2.2	
Romania 2001	2.67	5.8
Romania 2009 (present study)	2.65	4.9
Turkey 1988	2.7	
Serbia & Montenegro 1994	2.9-7.8	
Macedonia 1999	3.0	
Albania 2005	3.1	
Bosnia & Herzegovina 2004	4.2	7.4
Bosnia & Herzegovina (Sarajevo) 2004	4.8	8.4
Bulgaria 200	4.4	
Croatia 2005	6.7	10.9

Tab. 4

This Poster was submitted by Prof. Dr. Rodica Luca.

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Poster Faksimile:

Dental status of schoolchildren from a Danube town of Romania

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Introduction.

The Danube is the longest river in the European Union and Europe's second river after the Volga. Almost 30% of the drainage basin of the Danube is in Romania(1075 km). It is passing through 17 Romanian towns. Many of these towns are very small or small. Among these, Fetesti (33.294 inhabitants), located on a branch of the Danube (Borcea), is an important railway knot and link with the region of Dobrogea.

Epidemiological data on the dental status of schoolchildren from Danube Romanian cities is very scarce.

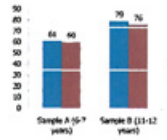
Aim.

To gather data regarding the dental status of schoolchildren from the first and sixth grade from Fetesti.

The evaluation was done for children at the beginning of their school education (age 6-8) and for children at 11-12 years of age (age recommended as reference by WHO = 12 years).

Material.

276 children (160 boys) from two schools from Fetesti: 121 children (61 boys) from the first grade (Sample A) and 155 children (79 boys) from the sixth grade (Sample B).



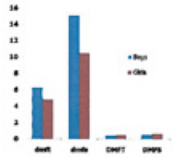
	Sample A	Sample B
Mean age	7 y 3 mo	11 y 7 mo
Median	7 y 4 mo	138 mo
Interval	6 y 2 mo- 7 y 11 mo	11 y-12 y 10 mo

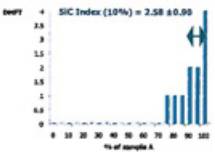
Method.

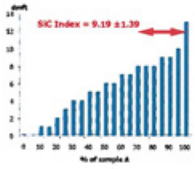
- Cross-sectional study on children examined in classrooms according to WHO criteria (1997).
- Only the children available on the examination day were in the study.
- Parents' and teachers' consent was obtained
- Presence and distribution of caries (at the level of cavitation), fillings and teeth missing due to caries were recorded.
- The status of the first permanent molars (FPM) for the two age samples was also recorded.
- Mean values and confidence intervals were calculated for: prevalence index (Ip), dmft, dmfs, DMFT, DMFS, SiC Index.
- Data was analyzed using a dedicated software.

Results (I). Sample A:

Ip(%)	91.74			
dmft	5.56±3.25	♂	6.28±3.24	ns
		♀	4.83±3.12	
SiC	9.19 ±1.39			
dmfs	12.79±9.84	♂	15.05±9.66	ns
		♀	10.50±9.56	
DMFT	0.46±0.90	♂	0.38±0.71	ns
		♀	0.55±1.06	
SiC	1.56±1.03			
DMFS	0.60±1.23	♂	0.54±1.19	ns
		♀	0.67±1.28	

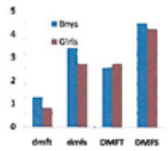


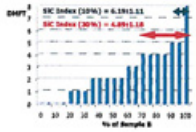




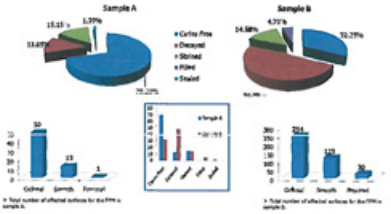
Results (II). Sample B:

Ip(%)	87.09			
dmft	1.06±1.58	♂	1.28±1.74	ns
		♀	0.83±1.38	
SiC	3.02±1.54			
dmfs	2.92±4.69	♂	3.43±5.10	ns
		♀	2.42±4.20	
DMFT	2.65±1.92	♂	2.56±1.89	ns
		♀	2.74±1.96	
SiC	4.89±1.18			
DMFS	4.37±3.75	♂	4.48±4.02	ns
		♀	4.25±4.48	





Results (III). FPM status and caries distribution



Discussion

- The percentage of caries-free children in both samples is very low. All children have a high caries experience.

30% of the first grades have 9 primary teeth and 1.5 permanent teeth affected. For the sixth grade, 30% of the children have approximately 5 affected permanent teeth (SiC 30%) and 10% have 6 affected permanent teeth (SiC 10%).

- For the Balkan countries, DMFT ranges between 1.8 and 4.8 and our results frame between those limits (2.6). The current study's SiC values (30%) are amongst the lowest reported (table).

Country, Year of Study	DMFT	SiC 30%	Country, Year of Study	DMFT	SiC 30%
SLOVENIA 1998	1.8		MACEDONIA 1999	3.6	
GREECE 2000	3.3		ALBANIA 2005	3.1	
ROMANIA 2001	2.67	5.8	BOSNIA & HERZEGOVINA 2004	4.2	7.4
ROMANIA 2009 (present study)	2.65	4.9	• SARAJEVO	4.8	8.4
TURKEY 1988	2.7		BULGARIA 2005	4.4	
SERBIA & MONTENEGRO 1994	2.9-7.8		CROATIA 2005	6.7	10.9

WHO data regarding DMF-T in 12 years old children in the Balkan region

- Regarding the status of the FPM, about 28% of the first grades and 63% of the sixth grades have caries on the FPM (questionable situations included).

Caries topography on the FPM follows the usual pattern, occlusal caries being the most frequent in both groups. Sealants and fillings are very few, showing little concern for both prevention and treatment seeking in the absence of pain.

Conclusion

- Prevention programs are needed in order to achieve the WHO Global Goals for Oral Health for 2015 (SiC<3 for 12 years olds). Early local preventive strategies, addressing schoolchildren from the first grade, can have better efficiency in helping decrease caries prevalence on FPM.