

Longitudinal Study of Oral Health in Pre-school Children: Three Years Study of Caries Experience

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Introduction

Dental caries has been considered one of the most important global oral health problem in children. Epidemiological studies have demonstrated a significant role of sociobehavioural and environmental factors in oral disease and general health. According to World Health Organization (WHO) data dental caries in Czech Republic affects 65% of pre-school children.

Objectives

To collect basic knowledge on factors influencing primary prevention and caries experience in pre-school children.

Methods

Caries experience, dental status, oral hygiene and salivary levels of cariogenic streptococci were examined in the three years prospective study among older pre-school children in relation to the dynamic of caries increment and with regard to the educational level of their mothers. Criteria for including the child in the study: informed consent of parents, no systemic disease of the child. Children were examined using standard methodology recommended by WHO. Parameters calculated: % caries free, dt, dmft, ri, sci, presence of dental plaque on upper incisors.

Results

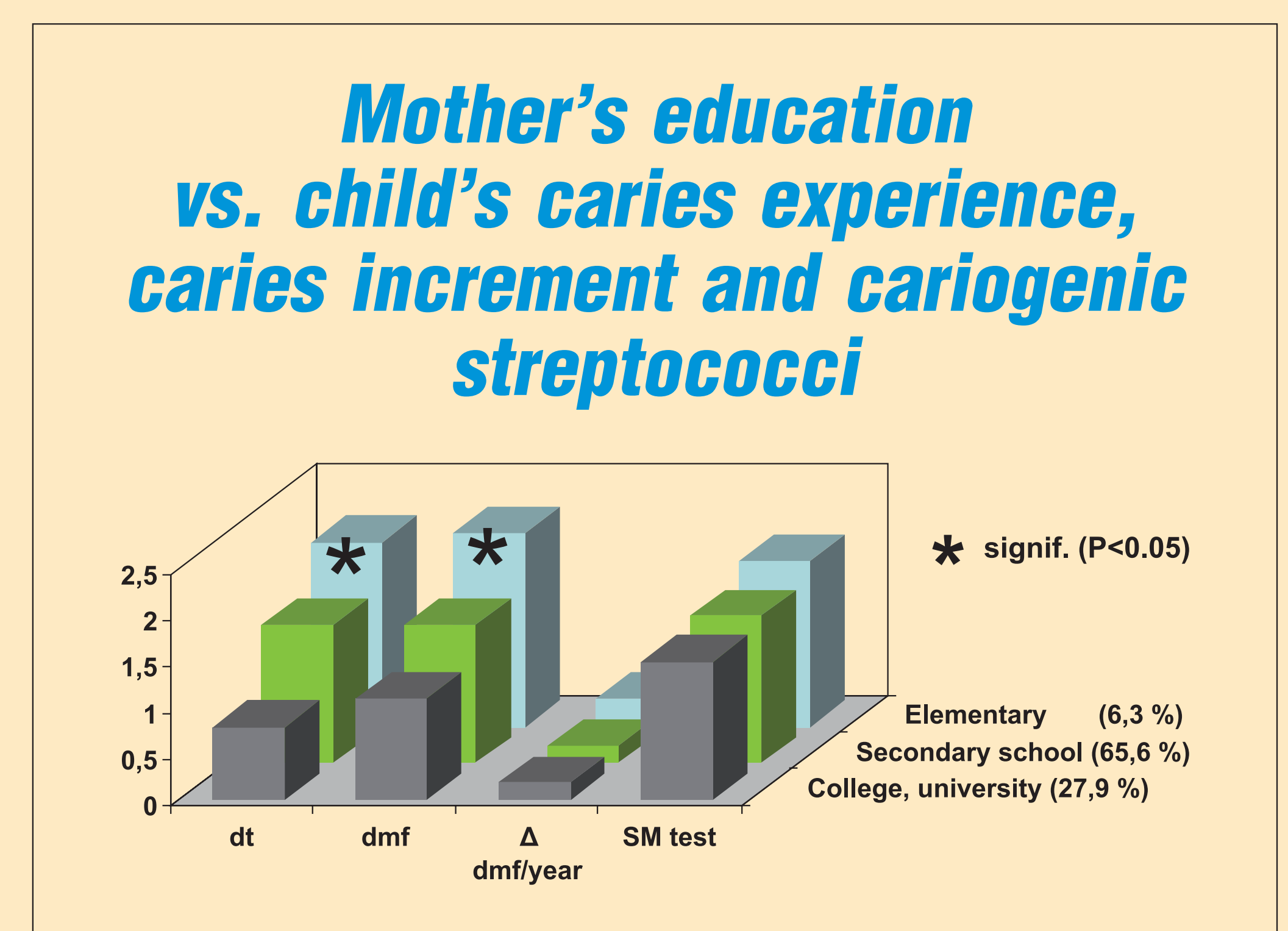
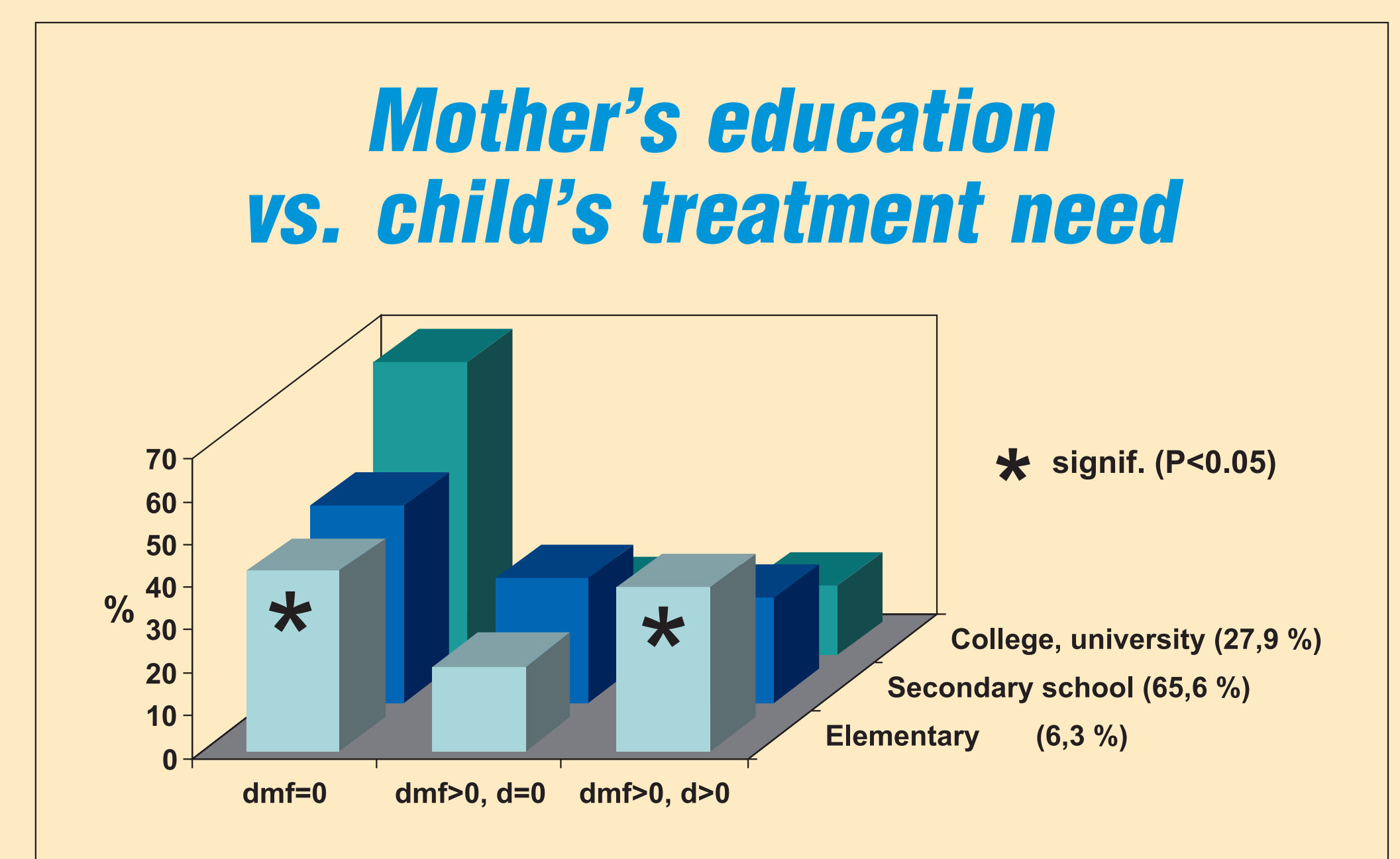
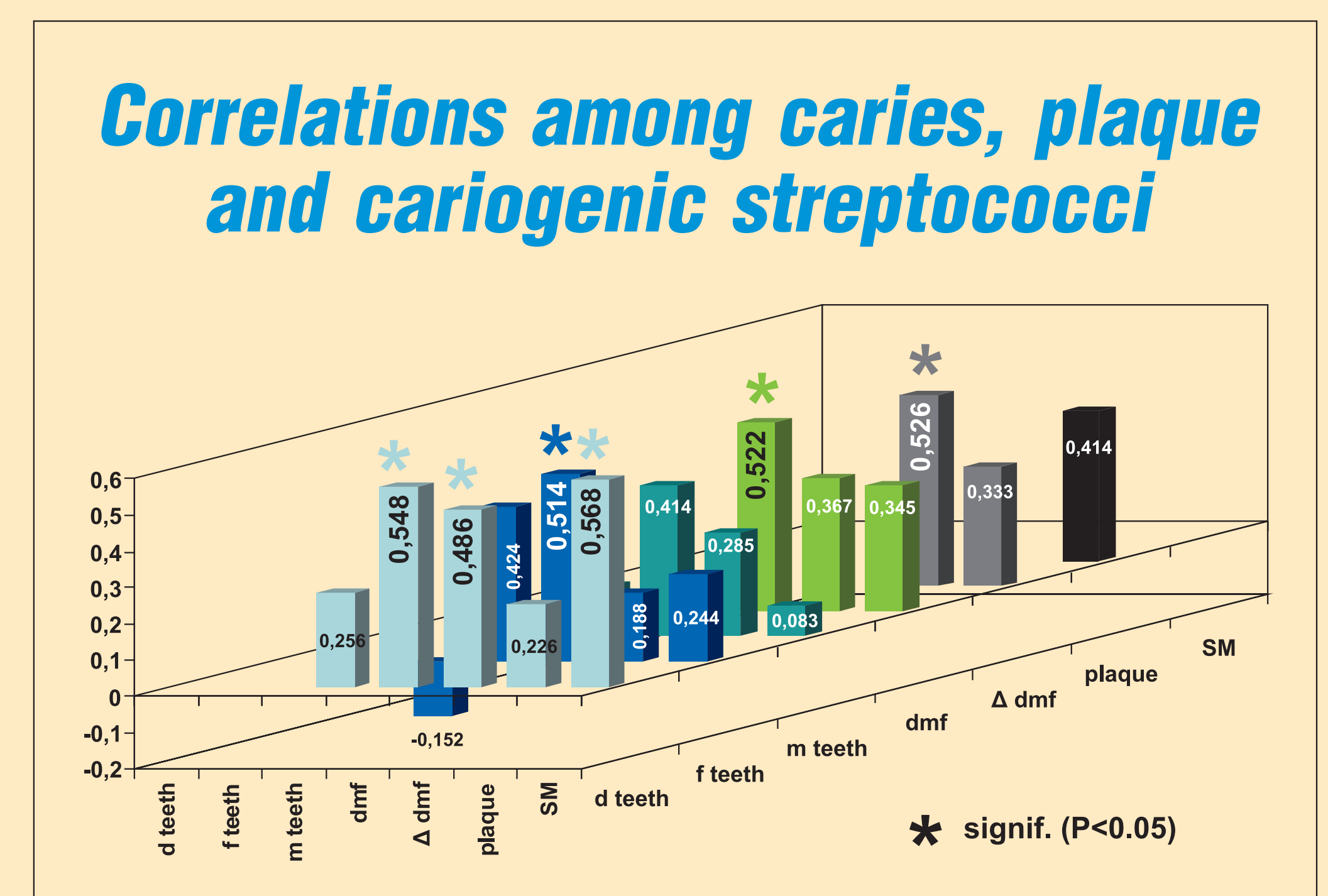
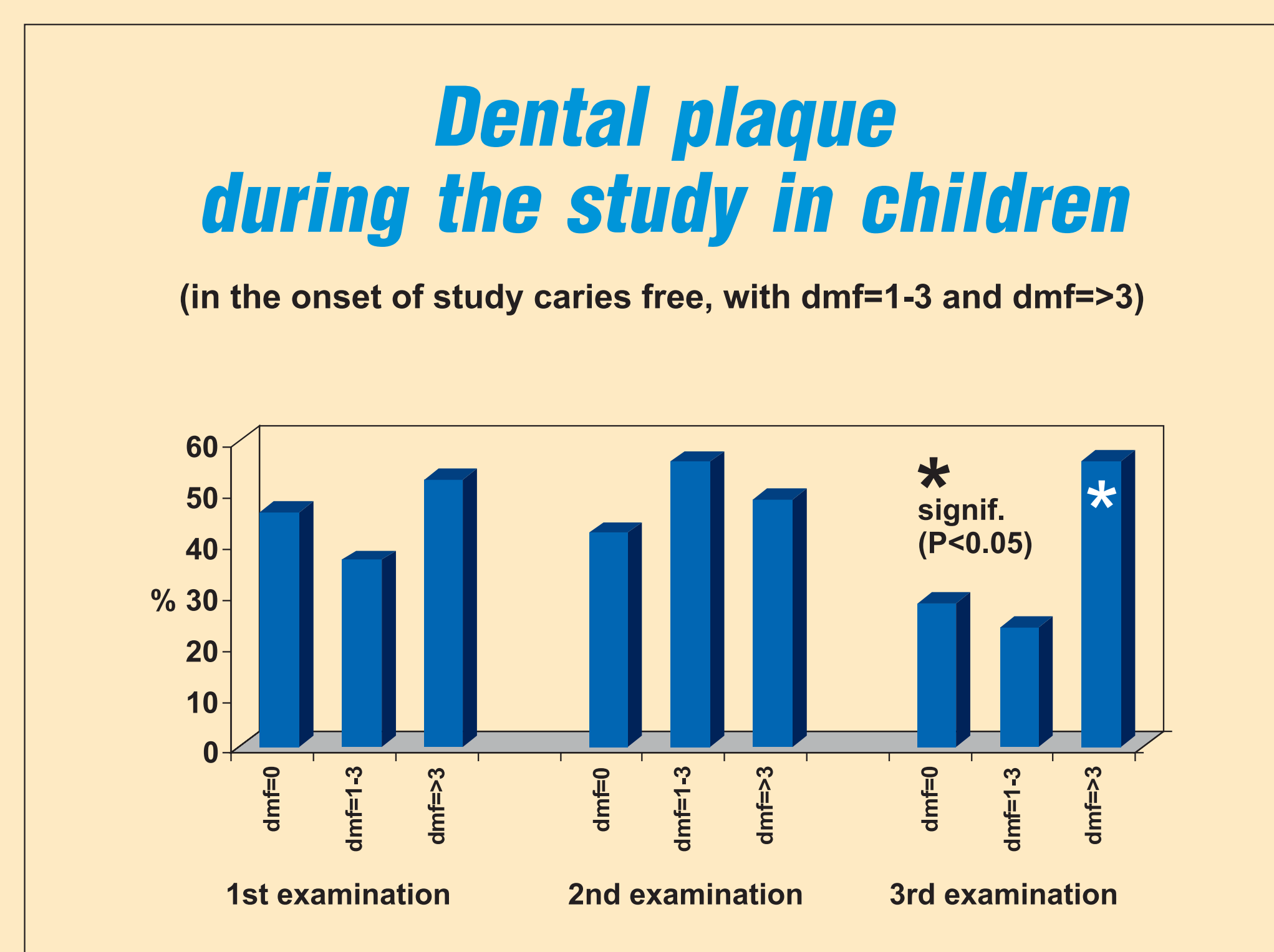
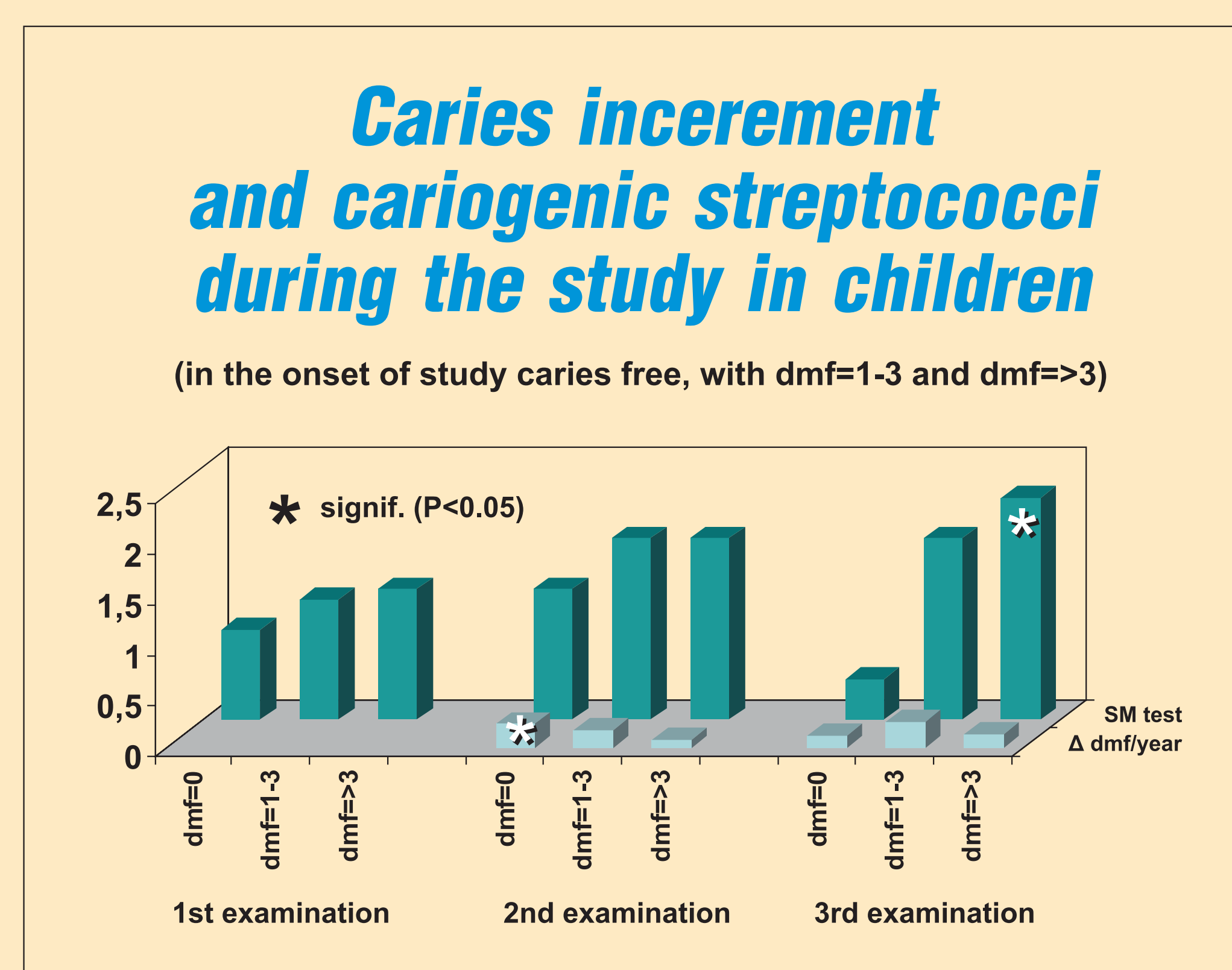
Mean caries increment between second and third year of study did not differ significantly amounting to 0.3 new decayed teeth per year however it was highest among children caries free in the onset of study. Higher caries experience significantly positively correlated with the presence of dental plaque and in the final of study also with the salivary levels of cariogenic streptococci. Mothers of caries free children assigned significantly higher educational level than those of children with tooth decay and on the contrary the proportion of children at need of restorative care was highest among mothers with elementary education level.

Conclusions

The results showed urgent need of effective primary preventive intervention in pre-school children. The educational level of mothers can be taken as one of important causes of the inequalities in oral health of children.

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Basic parameters values – caries experience, dental status, amount of dental plaque, SM levels

P<0,05 – significant difference
 NS – non significant difference

	2005			2006			2007			2005-2007		
	Boys	Girls	All	Boys	Girls	All	Boys	Girls	All	Boys	Girls	All
N	142	127	269	119	100	219	101	92	193			
Age	3,83	3,71	3,77	4,72	4,75	4,73	5,45	5,5	5,09			
SD	0,26	0,3	0,29	0,24	0,29	0,27	0,32	0,25	0,28			
Intact dentition	79	89	168	52	49	101	44	38	82			
% intact dentition	51,65	61,25	57,1	43,45	49,55	46,15	43,87	41,8	42,46	p<0,05	p<0,05	p<0,05
Treated children	4	2	6	21	19	40	27	25	52			
% treated children	3,65	3,15	3,65	17,56	19,52	18,4	26,95	27,38	26,91	p<0,05	p<0,05	p<0,05
Untreated children	59	36	95	46	32	78	30	29	59			
% untreated children	44,7	35,6	39,25	38,99	30,93	35,45	29,19	30,82	30,63	p<0,05	p<0,05	p<0,05
d teeth	1,58	1,39	1,44	1,69	1,59	1,64	1,18	1,43	1,31	NS	NS	NS
SD	0,48	0,45	0,33	0,48	0,42	0,45	0,29	0,4	0,34			
f teeth	0,34	0,18	0,27	0,47	0,31	0,39	1,07	0,75	0,91	p<0,05	p<0,05	p<0,05
SD	0,16	0,1	0,1	0,15	0,11	0,13	0,16	0,13	0,15			
m teeth	0,03	0,07	0,05	0,06	0,09	0,07	0,08	0,15	0,12	p<0,05	p<0,05	p<0,05
SD	0,02	0,05	0,03	0,06	0,11	0,08	0,06	0,11	0,08			
dmft	1,95	1,63	1,75	2,21	1,98	2,1	2,33	2,33	2,33	p<0,05	p<0,05	p<0,05
SD	0,55	0,5	0,36	0,47	0,57	0,52	0,47	0,57	0,52			
Δ dmft				0,27	0,35	0,35	0,12	0,35	0,23	NS	NS	NS
SD				0,34	0,59	0,46	0,35	0,27	0,31			
N of children for Sci	47	43	90	40	33	73	34	31	65			
Sci	4,33	3,81	3,97	4,33	4,13	4,23	4,33	4,13	4,23	NS	NS	NS
SD	0,99	1,12	0,76	0,85	0,96	0,91	0,85	0,96	0,91			
ri (%)	17,4	19,55	17,3	21,37	17,61	18,3	45,73	33,12	38,83	p<0,05	NS	NS
SD	6,75	10,8	6,2	6,75	10,8	6,2	6,75	10,8	6,2			
Children with plaque	43	40	83	39	57	96	34	34	68			
% children with plaque	61,15	62,4	61,95	32,51	60,85	45,05	34,04	37,64	35,2	p<0,05	p<0,05	p<0,05
N of examined children	46	57	103	40	42	82	40	42	82			
Dentocult SM	1,65	1,46	1,56	1,62	1,55	1,58	1,23	1,42	1,33	NS	NS	NS
SD	0,24	0,29	0,26	0,34	0,33	0,33	0,33	0,27	0,3			

Acknowledgements

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