The evaluation of Nyvad's caries diagnostic criteria in a group of Turkish pre-school children

Betul Kargul and Berkant Sezer
Marmara University, Istanbul

Abstract

Aim: The aims of this research were to determine the epidemiological profile of dental caries in 4 to 6-year-old preschool children with two different caries indices- the standard df-t and Nyvad's caries diagnostic criteria.

Materials & Methods: A total of 58 pre-school children with 1100 teeth in the age group of four to six years were selected for the study from among who applied to Marmara University, Dental School and Pediatric Dentistry clinic. Children teeth were cleaned and dried with cotton rolls and chip blower. The dental caries examinations were conducted under standardized conditions using plane mouth mirrors and explorers with the help of artificial illumination. The diagnostic criteria used were df-t and Nyvad´s caries diagnostic criteria. Each tooth of all deciduous teeth was classified according to one of the following criteria: 0=sound; 1=active, surface intact; 2=active, surface discontinuity; 3=active, cavity; 4=inactive, surface intact; 5=inactive, surface discontinuity; 6=inactive, cavity; 7=filled; 8=filled with inactive lesion; 9=filled with active lesion; X=extracted.

Results: The mean df-t was 10.8 (±4.69). Most of the teeth that caries experience consisted of tooth with active lesions (80.7%), of which 9.6% were non-cavitated. The mean number of teeth with non-cavitated inactive lesions was 4.27%. The mean df-t constituted 10.8; the majority of all second molars were affected (86.22%), followed by the first molars (83.11%).

Conclusions: Prevalence of caries was high indicating that the population studied had a high disease rate. The results obtained with the more detailed Nyvad's caries diagnostic criteria were higher than the ones obtained with the standard df-t index for teeth.

Image

	Number of Teeth That Were Examined	Missing Tooth	Code 0	Code 1	Code 2	Code 3	Code 4	Code 5	Code 6
55	58	0	10	0	3	39	4	1	1
54	57	1	13	1	0	35	4	0	4
53	57	1	32	3	2	14	1	0	5
52	56	2	25	3	2	14	3	1	8
51	51	7	13	3	0	22	1	2	10
65	58	0	14	3	0	33	5	4	4
64	55	3	13	2	1	29	2	1	7
63	57	1	28	5	2	14	4	0	4
62	55	3	25	5	4	10	1	2	8
61	50	8	12	3	1	22	1	1	10
75	55	3	4	1	0	46	3	0	1
74	58	0	6	1	0	44	3	2	2
73	58	0	42	4	2	7	2	0	1
72	55	3	47	2	2	3	1	0	0
71	48	10	33	5	3	4	3	0	0
85	54	4	3	1	1	47	2	0	0
84	55	3	6	0	0	44	3	1	1
83	58	0	40	3	3	8	1	0	3
82	56	2	46	2	2	5	1	0	0
81	49	9	35	4	3	5	2	0	0
Total	1100	60	447	51	31	445	47	15	69

Recent Publications

1. Shankar S, Naveen N, Kruthika M, Vinay S and Hidayathulla Shaikh (2012) Comparison of def index with Nyvad's new caries diagnostic criteria among three to six years old children in a school at Bangalore city. Indian Journal of Dental Research 23(2):135-9.

2. Gonzalez M C, Ruiz J A, Fajardo M C, Gómez A D, Moreno C S, Ochoa M J and Rojas L M (2003) Comparison of the def index with Nyvad's caries diagnostic criteria in 3-and 4-year-old Colombian children. Pediatr Dent. 25(2):132-6.

3. Parviainen H, Vahanikkila H, Laitala M L, Tjaderhane L and Anttonen V (2013) Evaluating performance of dental car ies detection methodsamong third-year dental students. BMC Oral Health 13:70.

Biography

Betul Kargul has completed her Graduation at Marmara University, Faculty of Dentistry in 1986 and started to study as a PhD student in 1987. She has been lecturing and directing undergraduate and postgraduate programmes. Her research expertise is epidemiology, caries research in children, preventive dentistry and dental materials. She has published more than 90 referred papers and has more than 120 presentations in the international congresses. She was a Councilor in European Academy of Pediatric Dentistry from 2002-2012. Currently, she is working as a Full Professor in the Department of Pediatric Dentistry, Dental School at Marmara University, Istanbul, Turkey.

bkargul@marmara.edu.tr