ASSESSMENT OF ORO-DENTAL HEALTH STATUS USING THE CAO AND EGOHID INDEXES AT THE YOUNG PEOPLE

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Abstract: CAO and CAOS epidemiological indices provide significant information for an overview assessment of dental health but can not make a nuanced type of carious lesions and involvement of the need for treatment. EGOHID system of clinical assessment and restoration of carious lesions provide evidence on lesion topography guided us on the degree of dental damage in motivating action supporting our dental health. The purpose of this study was to evaluate the comparative in terms of dental health indices CAO, CAOS and EGOHID system. *Materials and methods:* The study was conducted on a sample of 122 subjects with a mean age 23.53 years in which data were collected on the type of carious lesion and the type of restoration. Data were collected by clinical examination and observation files recorded according to codes. All patients in the study were informed verbally about the purpose of the study noting their consent. Statistical data processing was performed with SPSS 14.00 for Windows fixing the threshold of statistical significance of $p \leq 0.05$. *Results and discussion:* Comparative analysis of two systems of assessment revealed that significant differences $p \leq 0.05$ for the system of assessment of dental status in the system component EGOHID carious lesions, lesion assessment is accomplished underestimated component CS of CAOS index showing an average of 4.42 (± 4.132) compared with EGOHID-C is the index of the cavity showing an average of 10.38 (± 7.484). *Conclusion:* Data obtained through evaluation of dental caries is higher, providing a concrete image of the orientation dentistry, early diagnosis of dental caries, treatment and hence the technicallity and restorative treatments.
Key words*:* CAO, EGOHID, dental status.

INTRODUCTION

World Health Organization has formulated a definition that dental caries, prevention and prevention methods shall constitute an integral part of restorative treatment, clinical caries as an evolutionary stage that grows from a microscopic lesion that can not be diagnosed with certainty in current clinical means [1,2]. Switching from an early lesion, non-cavitary, cavitary lesion to reverse, irreversible, develops slowly, by disrupting the balance between demineralization and remineralization processes in favor of demineralization [3]. Therefore diagnosis dental decay, apparently simple, it seems practically a difficult decision, therefore, recommended the combination of clinical examination with additional tests. However the assessment of epidemiological indicators is mostly based on clinical examinations which induce more bias in the assessment of early carious lesions that may be an overestimation or underestimation of the presence of injury for the purposes of giving or another function code the examiner. Therefore, refinement of codes carious lesion should be a mandatory step since and conduct therapeutic purposes is different in primary, secundary and tertiary prevention measures. CAO and CAOS epidemiological indices provide significant information for an overview assessment of dental health but can not achieve a nuanced type of carious lesions and involvement of the need for treatment. Nor shall a targeted, individualized treatment strategy on prevention schemes of primary or secondary prevention of treatment patterns.

As the evaluation indices CAO index of caries in all those early carious lesions showing noncavitation remineralization potential and non-invasive treatment we intend to achieve a differentiated based monitoring injury from minor changes in tooth surfaces following with obvious changes of enamel structure, with loss of

substance or not located in dental enamel or dentin.

EGOHID system of clinical assessment and restoration of carious lesions was designed to support the collection of global oral health indicators (EGOHID - European Global Oral Health Index Development). This system provides evidence on lesion topography guided us on the degree of dental damage and costs arising from default on it. Data provided by EGOHID system contribute to a strategy of primary prevention and secondary motivating with local, national and European decision makers [4].

EGOHID is a comprehensive evaluation of oral health status, which consists of several sections, namely: identification data and background information of subjects; Questionnaire on dental health, dental fluorosis questionnaires, survey on periodontal health, determination of the presence of oral cancer, orthodontic treatment, prosthetic treatment.

In this study we considered part of the questionnaire on dental health codes for attributed type of restoration present, the type of carious lesions developed. Codes are assigned according to Table 1.

Table 1.

Codes for restoration and sealing	**Codes for tooth decay**
0= without sealing and restoration	**0**= surface without lesion
1= partial sealing	**1**= slight modification of the surface, the inspection
2= sealing	**2**= obvious change of surface
3 = discoloration restoration	**3**= cavity in the enamel, dentin without evidence
4 = amalgam restoration	**4**= damage to the enamel-dentin junction
5 = steel crown	**5**= dentin cavity
6= crown , facet ceramics, gold or composite	**6**= extended cavity dentin
7= restoration fractured or missing	
8= temporary restoration	
Missing teeth	
97 = the extracted teeth cause tooth decay	
98 = teeth absent from other causes	
99= teeth that have erupted	
P = implant	

MATERIAL AND METHOD

In designing and running clinical trials have formulated the following hypotheses: the null hypothesis was that there is no difference between the results of dental health evaluation by epidemiologists indices CAO, CAOS and EGOHID system, testable hypothesis tested was that the systems differ them, this translated by statistically significant differences obtained from analysis codes on the questionnaire on dental health.

Patient selection was done among students of III, Faculty of Dentistry, UMF "Gr.T.Popa" Iasi. Following clinical examination were selected a number of 122 subjects with a mean age of 23.53 years, 45 male and 77 female.

Inclusion criteria of patients in the study followed the patients: to provide carious lesions and restorative treatment to highlight the value index and filling cavities. The exclusion criteria were followed: patients who had no carious lesions or dental restorations.

Following clinical examination data were collected on the type of carious lesion and the type of restoration, data were collected through clinical examination and preparation of charts. The study was clinical type.

All patients in the study were informed verbally about the purpose of the study noting the consent form. The examination was performed in the office of dispensary patients nr.1, outpatient dentistry. Patients were placed in the database according to certain codes. Statistical data processing was done with software for Windows SPSS14.00 settling a threshold of statistical significance of $p \leq 0.05$.

RESULTS AND DISCUSSIONS

Assessment component of the system decay index EGOHID namely EGOHID-C was performed on a tooth surface because can exist at different codes of carious lesions.

The results of comparative analysis of two systems of assessment revealed that the differences statistically significant $p \leq 0.05$ (Table 4) for dental status assessment system through the component EGOHID carious lesions, lesion assessment can be done in CS underestimated component of the index showing an average of 4.42 CAOS (± 4.132) (Fig. 1, Table 2) compared with EGOHID-C (the decay index) an average 10,38 (±7,484) (Table 3).

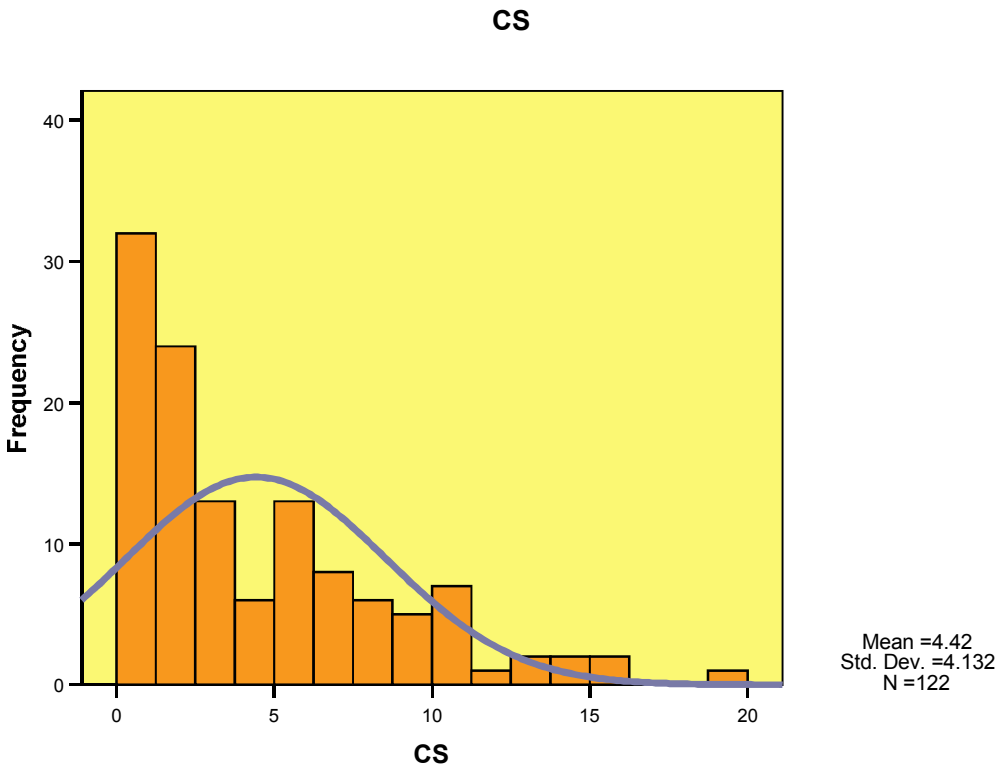

Fig. 1. CS component analysis (mean scores obtained).

Table 2. Analysis of CaO and descriptive indices CAOS

	N	Minimum	Maximum	Mean	Std. Deviation
CAO	122	1	29	10,11	5,507
CD	122	0	20	3,76	3,507
AD	122	0	9	,97	1,443
OD	121	0	19	5,49	3,608
CAOs	122	2	62	17,46	11,825
CS	122	0	20	4,42	4,132
AS	122	0	45	4,85	7,110
OS	122	0	40	8,37	7,039
Valid N (listwise)	121				

Differences fall mainly in providing code 01 which represents a slight modification of the surface with an average of 3.72 (± 4.005) and the award code 02 which represents a clear change of the surface with an average of 2.89 (± 2.785).

Component analysis OD 5.49 (± 3.608) (Table 2) compared with EGOHID-R 5.48 (± 3.793) (Table 3) reveals no significant differences statistically however there is a difference in assessment of present sealing part code 10 with an average of 0.07 (± 0.421) and sealing all present, that code 20 with an average of 0.24 (± 0.882) (Table 3).

Table 3. Descriptive statistical analysis of system components EGOHID

	N	Minimum	Maximum	Mean	Std. Deviation
EGOHID-C	122	0	37	10,38	7,484
EGOHID-R	122	0	17	5,48	3,793
cod 01	122	0	23	3,72	4,005
cod 02	122	0	18	2,89	2,785
cod 03	122	0	13	2,39	2,671
cod 04	122	0	11	,70	1,520
cod 05	122	0	10	,45	1,234
cod 06	122	0	6	,23	,758
cod 10	122	0	4	,07	,421
cod 20	122	0	6	,24	,882
cod 30	122	0	12	4,24	3,330
cod 40	122	0	10	,57	1,548
cod 50	122	0	5	,07	,477
cod 60	122	0	6	,18	,693
cod 70	122	0	3	,20	,492
cod 80	122	0	3	,13	,444
cod 99	122	0	4	,48	,938
cod98	122	,00	3,00	,2705	,76100
Valid N (listwise)	122				

EGOHID-C -carious lesions,
EGOHID- R-dental restorations 01 - now partly sealed, code 02 - sealed, code 03 - filling, code 04 - amalgam fillings, code 05 - crown, ceramic side, code 07 - fractured fillings or missing, code 08 - filling temporary, code 10 - slight modification of the surface, the inspection, code 20 - obvious change of surface, code 30 -cavity in the enamel, without dentin evidence, code 40 - lesion-enamel-dentin junction, code 50 - dentin cavity, code 60 - extended cavity dentin

Table 4.

Application of Nonparametric Chi-square test

	CS	EGOHID-C
Chi-Square(a,b)	93,148	60,803
df	16	26
Asymp. Sig.	,000	,000

a. 0 cells (,0%) have expected frequencies less than 5. The minimum expected cell frequency is 7,2.
b. 27 cells (100,0%) have expected frequencies less than 5. The minimum expected cell frequency is 4,5.

Also in the analysis proposed by Axelsson index CCITN [5] (Caries Index Treatment Needs Community – Community index of treatment needs carious lesions) achieved an average of 4.00 (Table 5) compared with an index value CDs average of 3.76 (± 3.507). The difference is that the clinical examination in the index CAO were not always recorded color changes or other changes in the surface structure present in the form of noncavitation injuries, while the differential analysis of primary enamel lesion component were inserted all early lesions.

Table 5.

Average evaluation indices of caries index CCITN

	N	Minimum	Maximum	Mean	Std. Deviation
CCITN 1	122	0	16	2,57	2,712
CCITN 2:1	122	0	8	,36	1,076
CCITN 2:2	122	0	14	,53	1,657
CCITN 3:1	122	0	12	,43	1,408
CCITN 3:2	122	0	2	,11	,390
Valid N (listwise)	122				

CONCLUSIONS

Comparative analysis of oro-dental health and CAO EGOHID system provides clinicians and especially the organizers of health evidence on preventive or curative approach tends dental network.

Data obtained through evaluation of dental caries EGOHID are higher, providing a concrete picture of the direction of early diagnosis of dental caries, treatment and hence the technicality and restorative treatments.

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