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Public Health II

Value of Salivary Biomarkers in Diagnosis of Periodontal Disease: a Systematic Review and Meta-analysis

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Key words: Review, saliva, biological markers, diagnosis, periodontal diseases

Objectives: The aim of this systematic review with meta-analysis is to evaluate the diagnostic value of salivary biomarkers in the diagnosis of periodontal disease, compared with the gold standard of periodontal clinical examination.

Methods: Human diagnostic studies that assessed host-derived salivary biomarkers for diagnosis of periodontal disease, compared with the gold standard (clinical periodontal examination), without age, data or language restrictions, were eligible for inclusion. A detailed individual search strategy for each of the following bibliographic databases was developed: LILACS, PubMed, Science Direct, Scopus and Web of Science. A partial grey literature search was undertaken using Google Scholar, and the references cited in eligible articles were also crosschecked. The studies were selected in 2 steps. The methodology of selected studies was evaluated using the revised Quality Assessment of Diagnostic Accuracy Studies (QUADAS-2).

Results: Eleven articles were identified and subjected to qualitative analysis, and 10 studies remained for quantitative analysis. Only 4 studies, 3 using single biomarkers and 1 tested combined biomarkers, reported excellent diagnostic accuracy values.

Conclusions: MIP-1a, NO, cysteine and the panel of IL-6, IL-1b e MMP-8 provided sufficiently satisfactory diagnostic accuracy that enables application as a diagnostic method for identifying or excluding the presence of chronic periodontitis.

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NEED FOR PERIODONTAL TREATMENT AMONG ADULTS IN SANTIAGO, CHILE

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Key words: Periodontal disease, Treatment, Epidemiology, Diagnosis

Objectives: Periodontal diseases are heterogeneous group of infections frequently detected in worldwide adult population. It has been reported that the Basic Periodontal Examination (BPE) is a good periodontal tool useful for the screening of the need for periodontal treatment in large populations. This study aimed to determine the need for periodontal treatment in adults from Santiago of Chile by using the BPE screening.

Methods: A sample study of 550 adults, ≥ 18 years, and proportionally distributed by age and gender was determined using standard size-sample calculation methods and probabilistic sampling stages involving districts, houses, and individuals. A single operator carried out the BPE screening by using a periodontal probe UNC15, recording the highest code per teeth sextant. In each individual, the need for periodontal treatment was determined and registered by both teeth sextant and individual. The protocol of the study was clearly explained to all the participants who agreed to participate in the investigation by signing an institutional review board-approved informed consent.

Results: No healthy individuals aged 42.4 ± 16 years were analyzed. From them, 58.5% required health promotion and periodontal disease prevention procedures (BPE=1 or 2), 18% required simple periodontal treatment (BPE=3), and 23.5% required complex periodontal treatment (BPE=4). Teeth sextants involving premolars and molars were the most frequently associated with complex periodontal treatment requirement. The complexity of the recommended treatment increased with age and did not show any association with gender. In addition, the number of teeth sextants edentulous increased with age.

Conclusions: All adults living in Santiago need some kind of periodontal treatment. The complexity of periodontal treatment increases by age; thus, it is relevant the early detection and treatment of the periodontal disease.

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Relationship between prosthetic factors and oral health-related quality of life in complete denture wearers

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Key words: Quality of life, Mastication, Patient Satisfaction, Denture

Objectives: The aim of this study was to evaluate the influence of prosthetic-related factors on oral health-related quality of life (OHRQoL) of complete denture wearers

Methods: Twenty-eight edentulous patients using conventional complete dentures composed the sample. The evaluation of prosthetic factors involved the clinical assessment of quality of dentures, patients' satisfaction, and masticatory ability, as well as recording of wearing time. The OHRQoL was determined through the oral health impact profile (OHIP-EDENT) questionnaire. Pearson's correlation coefficient and stepwise multiple linear regression analysis were used to statistical inferences ($\alpha = 0.05$).

Results: The OHRQoL showed a strong correlation with the masticatory ability ($r = 0.8 / P < 0.001$) and patients' satisfaction ($r = 0.7 / P < 0.001$), which also displayed a strong correlation between them ($r = 0.7 / P < 0.001$). Moreover, the regression model stated that these variables explained 68.2% ($r^2 = 0.682$) of the variation in the OHIP-EDENT data ($P < 0.001$).

Conclusions: The OHRQoL was influenced by prosthetic factors, when these were characterized by the masticatory ability and patients' satisfaction, and not by the quality of dentures nor wearing time.

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Public Health II**

**Evaluation of the Health Status of Children under 5 Years of Age of the Children's Development Centers
in Manizales**

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Key words: dental caries, social determinants of health, child development, nutritional state, child, preschool

Objectives: To identify the characteristics of oral health, growth and development, nutrition and social determination.

Methods: descriptive study with sample of 400 children. An oral examination was performed by calibrated dentists. The abbreviated scale of growth and development and anthropometric indicators were performed by a professional nurse and a survey to parents was applied by a communicator. Analyses were made using SPSS, SPAD, Excel and Anthro.

Results: average of ceo-d 1.35, increases according to the age. The average was higher in men. The caries experience with ceo index was 39% and with ICDAS criteria was 91%. Respectively, 51% and 49% showed normal horizontal and vertical overbite. The abbreviated scale of growth and development showed an alert related to the four indicators and their percentages lower than 7%. 79% had normal height for the age. 75% had normal weight for the age and 94% had normal body mass index (BMI). Social insertion: the father was the main money provider (54%). He has completed university studies (30%) and he was an employee (37%). The money provider makes the job (76%). Way of life: They had a legal contract (63%). The income is lower than a minimum wage (35%). They consider that being healthy *is not to feel any pain* (68%). Half of the children have been the product of an unplanned pregnancy. Life styles: The mother was the primary caregiver (75%). The patient has visited a dentist (86%). The patient has had a dental pain (13%). The multivariate analysis showed two groups. Groups were differentiated by the caries experience and the variables of affiliation to the social security, income, occupation, stratum, educational level of the primary caregiver, and age of the mother.

Conclusions: The characteristics of social determination identified and the high caries experience of children show the need to have interventions.

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Use of the Spanish version of Oral Health Impact Profile-14 to evaluate the impact of dental treatment on oral health-related quality of life among Costa Rican adults

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Key words: Oral Health Impact Profile, gender, social, psychological, dental treatment

Objectives: The Oral Health Impact Profile (OHIP) is an observational instrument that measures quality of life of oral health. Although this instrument is commonly being applied in population studies, no studies have been used in Central America to identify needs in clinical practice, selecting therapies and monitoring the progress of patients. Considering the above, we evaluate the association between dental satisfaction and the oral health related quality of life in a group of Costa Rican university patients when controlling for the sociodemographic factor of gender using OHIP.

Methods: The Spanish version of the OHIP-EE-14 was administered on two different occasions to 148 patients at ULACIT, San José, Costa Rica. A Two-sample T-Test with a significance level set at 0.05 was used to determine if oral health quality of life differed for men and women during course of treatment.

Results: Data was collected initially for 148 patients, of which 138 returned. There was a decrease in total scores and domains of OHIP-14 after intervention. When divided into gender, women reported higher impairment than men in total scores and domains of OHIP-14 at both baseline and after intervention. These differences were statistically significant ($P < 0.05$) at baseline between genders at OHIP sum scores, and domains of physical pain, psychological discomfort, psychological disability and social disability. After intervention, impairment was reported higher in women than men, with differences statistically significant ($P < 0.05$) at OHIP sum scores, and domains of functional limitation, psychological discomfort, psychological disability and social disability.

Conclusions: These results indicate that quality of life is not influenced by a single factor, but rather a very complex area that may fluctuate at different stages of life, between genders and cultures. The findings, the first in the region, suggest that dental treatment might impact psychological and social benefits differently among genders.

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CHANGES IN ORAL FUNCTIONS AND DISCOMFORT WITH ORTHODONTIC APPLIANCES

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Key words: Orthodontic appliances, Speech, Chewing

Objectives: The objective of this research was to present the types of orthodontic appliances, the expectation to the orthodontic treatment, presence of discomfort and the effects on oral functions during the use of orthodontic appliances in patients seen by undergraduate students.

Methods: This was a cross-sectional, descriptive study, based answers in the interview and questionnaire applied in 83 patients aged 7-13 years treated in clinics for undergraduate students in Dentistry, Federal University of Santa Catarina, Brazil. The questionnaires contained multiple choice questions, about on the expectation as to orthodontic treatment, presence of discomfort and perceived difficulties in the execution of oral functions (chewing, swallowing, speech and breathing) while using orthodontic appliances.

Results: Most used appliances were palatal expander (39%) and space maintainers (34%). To 44.7% of patients, the greatest motivation for using the orthodontic device was the expectation of improvement in smile esthetics. The discomfort was perceived by 53.19% of the sample and the most frequent complaints were dental and gum sensivity and difficulty speaking with the device, and 15% reported moderate or severe pain. Due to dental sensitivity, 33% of the patients said they would like to give up the treatment. The oral functions most affected by the device were chewing (78.9%) and speech (62.12%).

Conclusions: The improvement in the smile esthetics was the greatest motivation to orthodontic treatment, oral discomfort was often related to the use of orthodontic appliances and chewing and speech were considered the most affected functions by the use of orthodontic appliances.

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Prevalence of periodontitis in Chilean Adults

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Key words: Prevalence, Periodontitis, Surveillance

Objectives: In Chile, there are no reports about the prevalence of periodontitis according to CDC Periodontal Disease Surveillance Initiative. The aim of this study was to provide for the first time the prevalence of periodontitis in the adult Chilean population.

Methods: Using data from the First Chilean National Examination Survey 2007-2008 which included a complete evaluation of periodontal status in 1094 subjects aged 35-44 years and 467 subjects aged 65-74 years, estimates were determined according to suggested standard case definitions for population-based surveillance of periodontitis described by the CDC–AAP. Periodontal data included the prevalence and extent of clinical attachment loss (CAL) and probing depth (PD) on site according to specific thresholds, mean CAL/PD, the CDC/AAP case definition, and bleeding on probing.

Results: Over 57% of the sample had periodontitis, distributed as 8.78%, 37.41% and 11.47% with mild, moderate, and severe periodontitis, respectively. For adults aged 35-44 years the prevalence of periodontitis was 85.2% with a mean number of teeth present of 20.4 ± 6.3 , 0.7% of the subjects were edentulous. In senior adults (65-74 years) the prevalence of periodontitis was 91.7% although the mean number of teeth present in this group was 9.2 ± 7.5 and 20.7% were edentulous. Almost all of these findings were more prevalent in men than in women.

Conclusions: Periodontitis was highly prevalent in the Chilean population. The present data will enable development of appropriate public health programs and allocation of resources.

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