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PREDISPONING BUCAL FACTORS OF UNIVERSITY NEW STUDENTS STUDYING POPULATION: DENTAL CARIES AND DENTOBACTERIAN PLAQUE

Clinical Research

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ABSTRACT

INTRODUCTION Dental caries is a worldwide problem, in Mexico (2014) it has thrived 89%; dentobacterian plaque (80%/90%) wich is the main factor for gingivitis. Objective: identify if caries and dentobacterial plaque are predisponing factors in new student university population (2015) comparing results by degree in South Regional Complex (Benemerita Autonomous University of Puebla)
METHODS in a transversal, comparative, observing studio; 390 students of both sex, ages 17/22 years old who came to dental revision (Stomatology clinic BUAP/CRS) Comparing index average; DLO-D decayed, lost, plugged; index of dentobacterial plaque by degree´s subgroup.
RESULTS; general rate DLO-D was 11.6% overflowing OMS scale, being 81.52% dental organs decayed; 14.85% plugged and 3.63% lost. By degree: Business Administration 10.6%; Architecture 14.3% (highest idex); Stomatology: 10.67%; Medicine 11.80%.
CONCLUSIÓN: rate DLO-D overflows the established interval by OMS, with a possible influence of: consuming junk food, soda, eating continuously, occasional, never or urgent dental consulting, poor brushing techniques.

KEYWORDS

DLO-D rate, dental decay, dentobacterial plaque

INTRODUCTION

Dental cavity is a problem that besets world population. In Mexico "Epidemiologic Vigilance of bucal pathologys system" (SIVEPAB) (2014) Prevalence percentage of DC was 89%, with a range of ages between 20 to 24 years old[1].

Dentobacterian plaque (PDB) is the main factor of gingival inflammatory disease, prolonged contacto ver teeth surface of PDB stems from DC development, origined by lack of bucodental higyne that general population presents[2].

Between the main diseases that affect oral cavity is DC and periodontal problems (pp) mainly caused by the presence of PDB (60%-90%)of population; prior (WHO) World Health Organization, oral dental diseases are recognized of mainly prevalence in the world, of multifactorial causes without respecting age, sex, race, economic status, social position. Most University population suffer or has suffered some kind of oral disease, to achieve and keep oral healthness it´s necessary to know the rate of dental decayed organs, lost and plugged (DLOD) and PDB rate, considering oral higyne and stomatognatic diagnosis of new entrance university students (Fall 2015) of Benemerita Universidad Autonoma de Puebla (BUAP), complejo regional Sur (CRS) implementing educational programs to reinforce Stomatology degree objectives, to cover bucal habits, functional repercussion of cavity functional and periodontopathies, stetic and oral health.

Considering that oral higyne practice is an individual responsability, it has been developed through an educational process that is acquired in family. For this reason it is necessary to know how does PDB and DC affects in stomathology healthness of new entrance University Students of Fall 2015 students of BUAP CRS?

Taking up DC and PDB terms, Public Health and specificly stomatology has obligation of taking care of an aimed activity to improve oral health of population, they are in charge of preventing diseases, chewing disability and extending life.

Integral health, involves biological, physical, emocional and social balance, being pain free, healthy teeth, being able to feed, not having tissue injuries, counting with an image that stimulates self esteem value, that gives confidence in social media relationships; all this impacts positively in life quality, overall when you start a new step on academic University forming that affects social, cultural and axiological aspects.

The objectives of oral healthiness for 2020 in Dental International Federation (DIF) and OMS propose global challenges for the ones in charge of planning healthiness programs, in national and local drawings; giving a determination of three decayed teeth for a school population and teeth conservation of 85% in 18 year old teenagers[3].

Oral healt is integral part of the Healthy sistema and craniofacial complex that participates in vital functions like feeding and communication[4]

PDB characterized by a soft mass, tough, translucid, that lets adherence of bacterial colonies on teeth surface, (supragingival, subgingival) gum, tonge and other oral surfaces (even prosthesis). Are formed when adequate conditions for bacteria exist, inadequate oral hygiene and takes a very important paper in cavity etiology and periodontal illness.

PDB source of energy are high carbon hidrate nourishment content. Bacteria depredated organic substances and reduce them to metabolites, producing energy. With sugar excess, the Steptococcus mutants increase the polysaccharides building a reserve of energy for the cell to cover its metabolic necessities and keep on producing acyd, explaining the reduction of PH in people who are in fast[5].

It has a very close relationship with the kind of diet, if saccharine is ingested, the plaque is jelly with extracell polysaccharides matrix in case of streptococus existance[6]

To identify PDB of the dental organ surface, done with measurement units letting observations being registered in a graduated scale established by O´Leary and Col[5].

Data is registered thru PDB rate to evaluate and analyze its results. When plaque deposits keep accumulating, inadequate brushing technique , keeps growing and decalcifies dental organs (reversible or irreversible illness)[7]

Fejerskov defines cavity injury as a dynamic mechanism of demineralization and remineralization as a result of microbian metabolism added on dental surface, with the time it comes into a full mineral loss with possibility that a cavity may be formed. From multifactorial origin: host (oral, saliva and teeth higyne), microflora (bacterian infections) and sustrate (cariogenic diet). To be formed it needs favorable conditions: susceptible host, cariogenic oral flora and appropriate substratum present during a determinate time[8,9]

To know the DC prevalence of a population, it is required to know the proportion of people with the suffering, it is determined by de DLOD rate, under certain parameters:

a. Counting cavity injured teeth (excluding third molars), not including incipient cavities injuries
b. Counting how many teeth have been extracted by decay. Counting all teeth with plugging due to DC[10,11]

According to International classification of Wolrd Health Organiza tion, Mexican Republic is situated among the countries with high frequency Rank of oral illnesses frequency such as Dc[12].

The OMS estimates that five million people in planet have suffered DC and severity levels of cavity prevalence are: DLOD= 0-1.1 Very Low; 1.2-2.6 low 2.7-4.4, moderate 4.56.5 High 6.6 or very High, it defines DC as a focused process of multifactorial origin that begins after dental eruption, determining teeth hard tissue softening evoluting until cavity forming, causing dental loss if not atended on time[12]

Population suffers of in necessary form due to life style (inadequate oral diet and higyne) restricted Access to stomatological health services, lack of culture and high costs to be atended[13].

Most studies, they indicate a high percentage of population (more tan 90%) they present at least a cavity teeth, having the possibility to vary the proportion of affected people, by resistance and susceptibility of subject guest[14]

Material and method

1. Revealing pills
2. Facial mirror
3. Disposable glass
4. Clean water
5. Dental brush, dental flush
6. Tripod, periodontal catheter, gracey cureta, cotton, disposable bag
7. Stationary, bicolor, feathers

Method

1. Historical clinic, consent signature informed, detection of PDB previous instruction
2. Speech about brushing technique, dental floss usage, apply technique in a personal way
3. PDB and periodontal diagnosis
4. Profilaxis
5. Raise DLOD rate

Technique

Participants went to dental consultation by appointment to stomatology clinic area of BUAP CRS (period november/december 2015). The application of the survey and clinic history previously validated, designed for studying purposes (name, age, gender, feeding type and frequency, inherited illness; recent illness; higyne control, frequency, auxiliaries use: toothpaste, dental floss, rinse) a collection of that simple was done at the time of interrogating and inspecting the participants

$$\frac{\text{N° of free surface with stained plaque x 100}}{\text{N° total of free surfaces present}}$$

Score can be compared, everytime that an evaluation is done, the method where the patient recognizes his evolution6. Brushing technique was observed, oral exam was done by stomatologist of the clinical area, existant plaque was detected (revealing pill) pigmented areas are visualized and were registered in files by the interns previously calibrated; each teeth is divided in 4 sectors (mesial, vestibular, distal and lingual) do determine final score.

Index must be registered after plaque revealing, dental surfaces with plaque are transcripted. free stained plaque surfaces are numbered and free total present
Insufficient higyne from 24 to 100%
Questionable higyne from 13 to 23%
Aceptable higyne from 0 to 12%[15]

Due to cavity, the bacteria adhesión to teeth surface, it alouds its colonization previous to fine salival protein layer. Simple sugar consumming, whereas higher the adherence of microorganism capacity, higher the Dc[16]

Cavity prevalence was estimated, accord in to OMS criteria; teeth with restoration, plus in any surface of the same teeth cavity injury will be classified as decayed one.

Minimum value that could have the DLOD is zero, maximum 28 to collective level the rate calculation DLOD was obtained thru the average of the addition of decayed teeth, lost teeth because of cavity, plugged teeth, and this addition is divided into the total of students examined during the studio[11]

Results were captured in a Microsoft Excel data base for Windows, data was processed, using descriptive and inferencial statistic

Study design: epidemiological, descriptive, observational, transversal, comparative. 390 students from new entrants (period autumn2015) BUAP, of both sex, ages 17/22 years old who came to dental revision (Stomatology clinic BUAP/CRS) corresponding to 45% of the total, according to the rules for the selection of the sample:

Selection of the simple

-Inclusion criteria

Students who belong to the new student community (BUAP Urteh), period 2015.

- Exclusion: Students who do not belong to the community of new income, systemic disease, oral pathology or alteration.

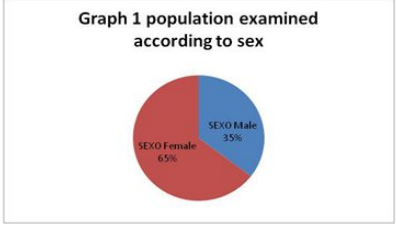
- Elimination: Students who do not show up for the appointment or who do not want to participate.

-Type of sampling

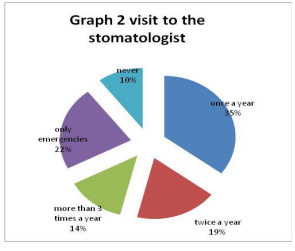
Simple random stratified finite population.

RESULTS

A total of 390 students who participated conclude: the 35.38% 64.62% female and male (Graphic 1) 50% of the students are 18 years old.

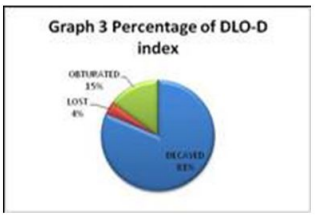


35% of 19 and 16% of 20. The data indicate that 22% of the total students visit the stomatologist only in case of emergency and 35% do it once a year (Graphic 2)

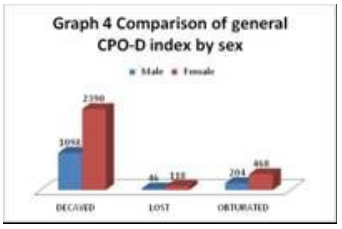


which shows the level of general DLO-D index of 11.6, according to the scale established by WHO, 6.6 is considered very high level. The data indicate that there are a total of 3688 decayed dental organs, 164 lost and 672 obturated (Table 1)

Table1	DECAYED	LOST	OBTURATED
	3688	164	672

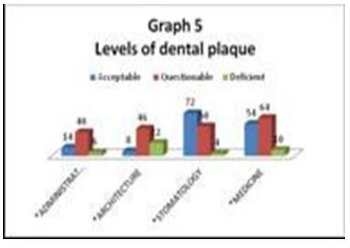


The general percentage of the DLO-D index: 81.52% decayed, 14.85% obturated and 3.63% lost (Graph 3) Regarding gender, the female group 252 presented 2390 decayed, 118 lost, 468 filled; the male group of 138 presented 1098 decayed, 46 lost, 204 obturated (Graph 4). According to this, the female DLO-D Index level is 12.60, the male level is 9.76 (Very high for both)



The DLO-D index obtained by UA was:
Business Administration: 10.6; Architecture: 14.3; Stomatology: 10.67; Medicine: 11.80

What indicates that the faculty of Architecture has the highest DLO-D index in addition to the deficient plate level in 8.5%, Business Administration the lowest index.



Regarding the plaque dental obtained by the O'Leary Index represented in a general way by UA (Graph 5), Stomatology has 28.08% of students with acceptable plate level and the total number of students (390), 57.7%, reinforcing the results that 76.4% of the participants brush their teeth three times a day.

DISCUSSION

Studies conducted by Cartens and Salako show that the DLOD index in rural populations is below the values found for urban areas.[17-18] since factors such as residence area, diet, hygienic habits, geographic, cultural and economic accessibility influence. The results show disparity in the manifested since the index was 11.6, results associated with variables such as constant consumption of carbohydrate foods, yogurt, flours. Visits to the stomatologist attending only cases of urgency or presence of pain.

The sex variable is recognized, Kaste, Slade and Zoitopoulos[19,20] identified in women at increased risk of early way that is related to establishing patterns chronology of tooth eruption, starts earlier in females than males, a factor which coincides with the study and the DLO-D index was 12.60 female and male 9.76, this high incidence results in a public health problem.

Regarding diet, it is considered one of the most relevant risk factors for the establishment of Dental caries, an association that has been clearly demonstrated by Poulsen, Raadal and Douglass[4] and that coincides according to the detected results.

The prevalence of Dental caries is a primary measure of oral health and an indicator of long-term prospects for dentition. In the total population examined, this disease was found in relation to sex, and in all groups it was higher than 90%. Regarding dentobacterial plaque, the stomatology group has the highest level of acceptable plaque. It is recommended to implement brushing techniques and visits to the stomatologist more frequently.

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