



EVALUATION OF THE TREATMENT PLAN SUGGESTED FOR PATIENT RECEIVING CONSERVATIVE THERAPY AT DENTAL SCHOOL

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Abstract

Objective: Its aim was threefold: (i) to determine the prevalence of caries in a group of patients attending to dental school, (ii) to determine the prevalence and severity of periodontal disease and (iii) to establish a relationship between the condition of patient's oral health education and their oral status.

Method: This present study was carried out at Conservative Department School of Dentistry faculty of Medical Sciences/ University of Sulaimani and consisted of 1000 adult patient 468 male and 532 females. The patients filled in a questionnaire and underwent a clinical and radiographic examination. The data was examined using the WHO's criteria for dental caries as well as the routine clinical examination of periodontium. A treatment plan is a carefully sequenced series of services designed to eliminate or control etiologic factor. A patient attending for treatment of a restorative nature may present for a variety of reasons. The success is built upon careful history taking coupled with a logical progression to diagnosis of the problem that has been presented.

Result: Among 1000 cases (831) patients exhibiting gingivitis while periodontitis present (144) among them and amount of plaque and calculus detected was (801), existing filling (988 teeth) among 1000 patients while number of the missing teeth (616) and decayed teeth was 999 cases observed among all patients.

Conclusion: In conclusion it can be said that the prevalence of dental caries was high, as was that of periodontal disease. However the severity of the periodontal disease was low and only a few patients required complex treatment.

Keywords: Caries Prevalence, Periodontal Disease, Treatment Plan.

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INTRODUCTION

Treatment planning is the method of formulating the treatment steps designed in sequence to eliminate disease and restore efficient, comfortable, aesthetic masticatory function to a patient (Moskona *et al.*, 1999; Rosenstiel *et al.*, 2006). Although treatment planning is an important aspect of clinical education in the dental school curriculum, little attention has been given to this subject in the dental college department and each department directs the treatment plan according to their speciality. However, there are minimal data about how these treatment planning courses have been evaluated, how they were integrated into the curriculum. Successful treatment planning is based on proper identification of the patient's needs (Rosenstiel *et al.*, 2006). Development of treatment plan for a patient consists of four steps: a) Examination and problem identification b) Decision to

recommend intervention c) Identification of treatment alternatives d) Selection of the treatment with patient's involvement (Shugars, 2002). Operative treatment generally proceeds from the most to the least involved teeth and the treatment of the chief complaint of dental pain will of course take precedence (Sivakumar *et al.*, 2012). The World Health Organization has recommended the DMF index for measuring the prevalence of dental caries and in 1977 expressed the need to have an international method/index to evaluate the need for periodontal treatment. Five years later it proposed the Community Periodontal Index of Treatment Needs (CPITN) as an index to measure the need for periodontal treatment in a community and this is a reliable and practical method of measuring prevalence, severity and the treatment needs in a community from an epidemiological standpoint, but it cannot be used to report the levels of periodontal disease (Barnes, 1994).

There are different indices that can be used to measure dental caries and periodontal disease. These epidemiological indices are work tools that allow us to quantify different aspects of the disease such as prevalence, severity, need for treatment etc (Sanchez Escalona, 1999). The purpose of this study was to survey and profile current treatment planning processes in dental clinics of the Conservative Department at School of Dentistry University of Sulaimani dental schools.

MATERIALS AND METHODS

A sample of 1000 adult patients, 468 male and 532 females seeking conservative dental treatment at the Conservative Department/ School of Dentistry University of Sulaimani. Three specific case sheet form for (operative, endodontic and fixed prosthodontics) were filled for every patient according to their chief complaint for each patient attending to dental school conservative department and sequences of treatment plan were observed for each patient including (full mouth periodontal examination with assessment of plaque and gingival index, probing pocket depth and attachment loss to assess statement of gingivitis or periodontitis and a radiographic examination, evaluation of number of missing tooth or filled or decayed teeth using DMF index). Number of missing teeth assessed using DMF index and then scored from (0, 1-5, 6-10, 11-15, 16-20, 21-25 and 26-30) and then treatment planning were established ranging from rehabilitation of cases using implant fixed prosthesis or fixed partial denture or removable partial denture depending on different factors including patient demand, cost, number (s) and position (s) of missing tooth (teeth), oral hygiene condition of patient etc.

Restorative need was assessed by clinical examination of teeth for the presence of caries by explorer and radiographic examination and number of filled tooth (teeth) for each patient evaluated using DMF index scored from (0, 1-5, 6-10, 11-15 and 16-20) giving a guide to level of patient education, attitude, seeking for conservative therapy for decayed tooth (teeth). After clinical examination of periodontium was being done (the presence of gingivitis and periodontitis scored 1 while absence of them scored zero) behind that the presence or absence of plaque and calculus was examined. Finally gender distribution of male and female for patients attending to dental school seeking dental conservative therapy was evaluated. The data then collected and descriptive statistical analysis was used to show the treatment plan suggested for the patients.

RESULTS

The results predict that the number of female was more than the male among the patients attending to conservative therapy at dental school as shown in Fig. 1. Overall existing clinical conditions of (gingivitis, periodointitis, prescence of plaque and calculus, number of missing teeth, decayed and filled teeth) among 1000 adult patients shown in Fig. (2&3). The results showing that all patients have at least one existing filling and maximum 20 filling. Whereas, 785 patient of 1000 case shown range between one and 10 existed filling as shown in (Fig. 34) while the number of missing teeth 384 patient showing no missing teeth and 379 patients have (1 to 5) missing teeth then the number declined and only 6 patient have missing (25-30) teeth as shown in (Fig. 5).

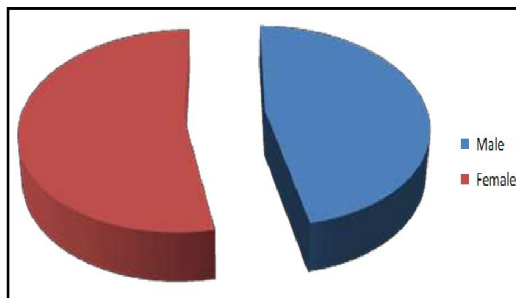


Figure 1. The number of patient included in this study according to their sex

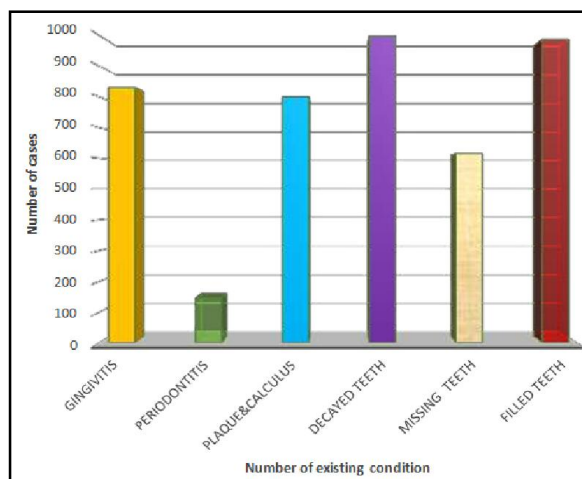


Figure 2. Distribution of the main clinical problem for patients attending to dental school

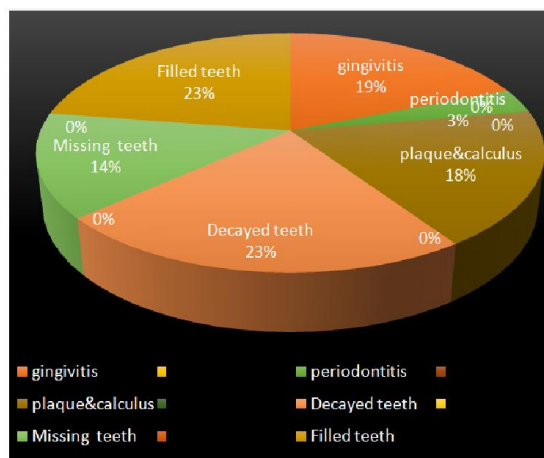


Figure 3. Percentage of distribution of clinical conditions among all cases

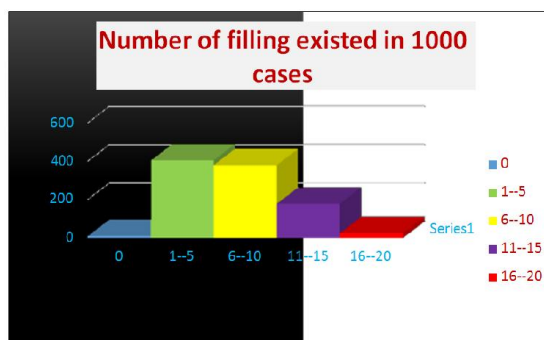


Figure 4. Number of filling existing in 1000 patients

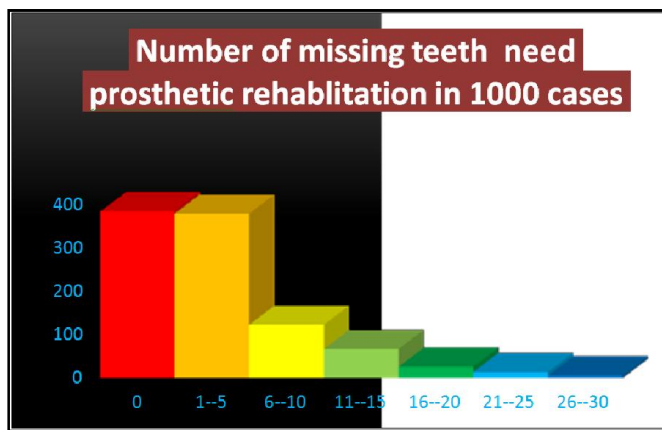


Figure 5. Number of missing teeth existing in 1000 patients

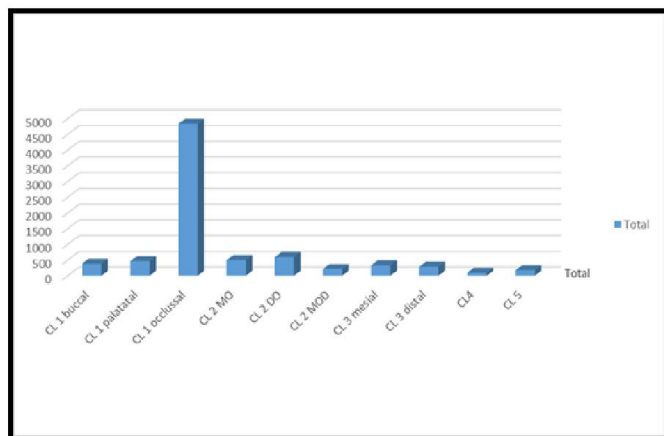


Figure 6. Distribution of dental caries lesion according to GV Black classification

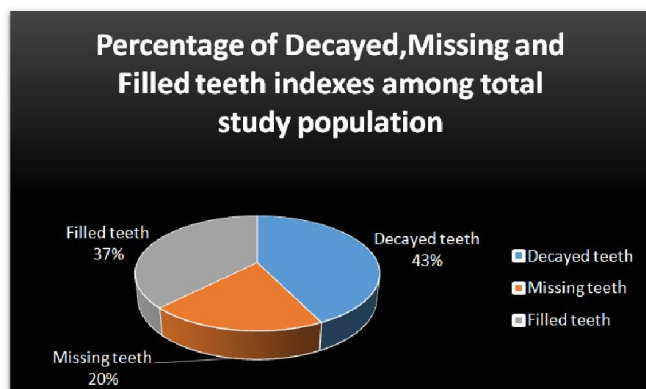


Figure 7. Percentage of decayed, missed and filled teeth according to DMF index

Decayed tooth was (7885) carious teeth observed through overall examination of all (1000) patient dentation and among them class I representing the most common type of dental caries according to GV black classification of dental caries while 4836 (61.3%) while class IV representing the least common by 95 (1.2 %) as shown in (Fig. 6).

Among 1000 cases (18469) teeth was evaluated according to DMF index and the result shown that decayed teeth represented highest level of (42.69%) while filled teeth represented (37.55%) and missed teeth (19.75%) as shown in (Fig. 7)

DISCUSSION

The purposes of the study was to evaluate amount of decayed, treatment plan sequence filled and missed teeth according to DMF index and assessment of periodontal condition to observe clinical condition of gingiva and periodontal condition to establish treatment plan sequences.

The incidence of dental caries has been extensively studied over the past 50 years in North America and Europe. Epidemiological studies have been useful in determining the extent of the need for and effectiveness of dental treatment. The most common measures of caries are an evaluation of the number of permanent teeth that are decayed, missing, or filled (DMF). Measures of primary teeth are reported as (DMF).

This measure is cumulative as it totals the number of restorations and extractions in addition to the number of teeth having active caries. DMF scores are not the true equivalent of caries prevalence as they overstate the prevalence of active caries (Ali Shah *et al.*, 2008). In this study G.V.Black's classification was used, which is more basic, practical and appealing. This clinical detection criteria of caries was simple and straight forward. Cavitated and non-cavitated lesions are easily identified and classified.

In the present study, nearly all cases of dentate subjects had active caries and filled teeth while missed teeth is low which is corresponding directly with level of periodontitis which was much lesser than the level of gingivitis and this came agree with study done by (Hessari *et al.*, 2008). Which showed that the tooth loss was less prevalent among men than women, urban and rural and those with high level of education than those of low level education and these was explained that patient attitude to restorative treatment had increased and disagree with study done by (Srivastava *et al.*, 2013) which observed in their study the higher rate of missed tooth that contribute to level of periodontal diseases.

The result of this study showed that the class I occlusal surface lesion was very high (61.3%) than the other classes and surface lesion and this came agree in accordance with study done by (Lukacs and Largaespada, 2006) then followed by class II, class III, class I palatal (lingual), class I buccal, class II mesio-occlusal-distal, class V and finally class IV in sequence and this came agree with study done by (Santi and Subbarao (2012) in part that stated the class I lesion represented the most common site while disagree with same study that stated the class V considered the least common among the other type of dental caries.

In this study the considering the amount of dental plaque and calculus which was the main cause of periodontal disease and also the amount of plaque and nutritional status as the factors involved in caries was (18%) and correspond directly with the level of gingivitis (19%) and near to decayed teeth (23%) and these result came agree in accordance with study was done by (Karimi *et al.*, 2012) which study the frequency and distribution of the resistant, infected, and non-infected individuals with respect to dental caries and periodontal disease was assessed by calculating the DMFT, the CPITN Index, and the Silness-LoePlaque Index as the

standard tools for measuring dental caries and periodontal disease and concluded that individuals with equal amounts or higher means were considered as a high degree of index and those with lower means were regarded as a low degree of index.

Conclusion

Behind limitation of this study and based on DMF index and clinical evaluation of gingival and periodontal condition can concluded that the findings of the present study showed that the level of gingivitis, decayed and filled tooth was high and this would be justifiable in view of the in-common mechanisms specifically over the issue of dental plaques. Fortification of plaque control methods, in addition to hygiene education could be an effective way in adjusting these ratios in favor of those resistant to both dental caries and periodontal disease.

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