

Awareness and Attitude about Periodontal Treatments and Referrals among General Dentists in Taif, Saudi Arabia

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Abstract

Background: Periodontal disease is mainly caused by bacterial infection in gum, however, other factors, such as, diabetes, smoking, nutritional deficiency and hormonal changes are also responsible. For the prevention and treatment of this disease, a proper knowledge on diagnosis and treatment plan, as well as, attitude about timely referral of the patient to a periodontist is important. Hence, this study aims to evaluate the perception about diagnosing and referring periodontal patients by general dentists in Taif to ensure proper treatment outcome. **Materials and methods:** A questionnaire survey was conducted among 100 general dentists practicing in Taif. Data collected from the questionnaire was analyzed using the computer software Statistical Package for Social Sciences, SPSS 16. **Results:** About 78% of the general dentists are aware of the signs and symptoms of the periodontal disease. Majority of the general dentists choose oral hygiene instructions, scaling and polishing as the preferred treatment method. 39% general dentists feel that the increased life span of the teeth is resulted from a good surgical periodontal therapy, and majority of general dentists (75%) have a positive attitude to refer the patients to a periodontist for surgical procedures as evident in our study. **Conclusion:** As, a certain number of general dentists are not motivated in referring patients to a periodontist, this result is suggestive of the indication of upgrading the referral criteria of the patients to the periodontist to be implemented by the general dentists.

Keywords: Periodontal disease, referral, periodontist, general dentist, Taif, bacterial plaque.

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INTRODUCTION

Periodontal disease is basically an inflammatory disease of the gum caused by gram-positive bacteria predominantly [1]. This disease initiates with the formation of bacterial plaque that may result in gingivitis, and if not treated at proper time may eventually lead to the development of periodontitis causing tooth mobility and even loss of tooth. Periodontal diseases is also considered as an important risk factor for pre-term or low birth weight babies [2].

As, periodontal disease is one of the obstacles in good oral health as defined by WHO [3], a great deal of research has been undertaken on this disease. It is evident that periodontal disease is one of the most common health care problems in the United States, with 80 percent or more adults experiencing periodontitis at some time during their lives and at

least 20 percent having moderate to severe forms of periodontitis at any given time [4].

It is also known that periodontal disease do not show much symptoms unless it has reached advanced stages of destruction [5]. In this consequence, general dentists need to be aware about how to diagnose and treat periodontal disease in early stage, as well as, have a positive attitude about referring the patients to periodontists timely and properly when necessary. In many instances this referral process was found compromised as evident in the study [6]. Among various factors, non-referral attitude by the primary caregiver was also noted as a major barrier to provide the appropriate treatment of the patient [7].

To the best of our knowledge, no data about the awareness of periodontal disease and periodontal referral pattern among the general dentists of Taif has

been reported yet. Though, in this concern several studies have been carried out in other regions and countries, we found it worthwhile to correlate their findings with that of our studies towards an observation in terms of socio-economic and cultural dissimilarity if exists. Therefore, this study was undertaken to evaluate the general dentists in Taif about their knowledge and perception on periodontal disease, and their attitude to refer the patients to periodontists.

MATERIALS AND METHODS

A pre-designed, pre-tested and self-administered questionnaire survey was conducted in the duration of 2019- 2020 on 100 general dentists in Taif, Saudi Arabia working in the public hospitals of Saudi Ministry of Health and University hospital. Questionnaires formulated both in Arabic and English were sent to and received from the participating dentists by email properly answered by them in response to the interrogation about their knowledge and understanding in diagnosing periodontal disease, and also about their attitude in referring phase-1 and surgical periodontal therapy cases to the periodontists.

The data collected from the questionnaire was analysed using the computer software 'Statistical Package for Social Sciences' (SPSS) version 16. The frequencies and percentages of the responses from the general dentists were analysed at P value equal to or less than 0.05. The descriptive statistics was attained, and the mean, standard deviation and frequency distribution was calculated.

RESULTS

Our study group consist of 100 general dentists comprising 71% males and 29% females where 64% were in the age group of 19-30 years and 29% were in the age group 30-40 years, but this figure for the age group of 40-50 years was 7%. In the study group 85% had Bachelor degree while 14% had a Masters and only 1.0% had a PhD degree. Among them 74% had less than 5 years of work experience, while 20% and 6% had the work experience of 5 to 10 years and 10 to 15 years respectively. Majority (88%) of our study group are working in public hospitals though, a few (12%) are working in university hospital (Figure 1).

78% general dentists were aware of the signs and symptoms of periodontal disease though, a few (9%) were not, and 13% have the knowledge to some extent in this regard (Figure 2).

67% general dentists think that gingival bleeding is the primary sign of periodontal inflammation, while others think that mobility (6%), pain (1%), pocket formation (21%) and gingival enlargement (5%) are the primary signs for periodontal disease (Figure 3).

Though 66% and 25% general dentists do not want to refer the patients to a periodontist for Phase-1 periodontal therapy and periodontal surgery respectively, however, the percentage of general dentists is 34% referring the patients to periodontists for phase-1 periodontal therapy and 75% referring for periodontal surgery (Figure 4).

Among the general dentists, 40% prefer advising Oral Health Instruction (OHI), 1% wants to advise for harmful habit cessation, 31% perform scaling with polishing and 28% choose scaling with root planning as phase-1 periodontal therapy. In case of periodontal surgery, though a certain number of general dentists opt performing flap surgery (13%), gingivectomy (26%), frenectomy (3%), implant (2%) and root coverage surgery (1%); majority (55%) of them prefer not to perform periodontal surgery (Figure 5).

The number of general dentists vary in their perception on the outcome of periodontal surgeries that include increased life span of teeth (39%), stoppage of gingival bleeding (14%), reduction in tooth mobility (7%), increase in dental esthetics (1%) and elimination of periodontal pocket (28%). But, in opposed to these findings 11% feel periodontal surgery results in recurrence of disease (Figure 6).

64% general dentists said that they call their patients for periodontal post-surgical follow up, while 36% do not. As a risk factor of periodontal disease, 98% and 92% general dentists are aware of diabetes mellitus and smoking respectively. Result also shows, 22% general dentists are aware of the usage of Laser for periodontal surgery (Figure 7).

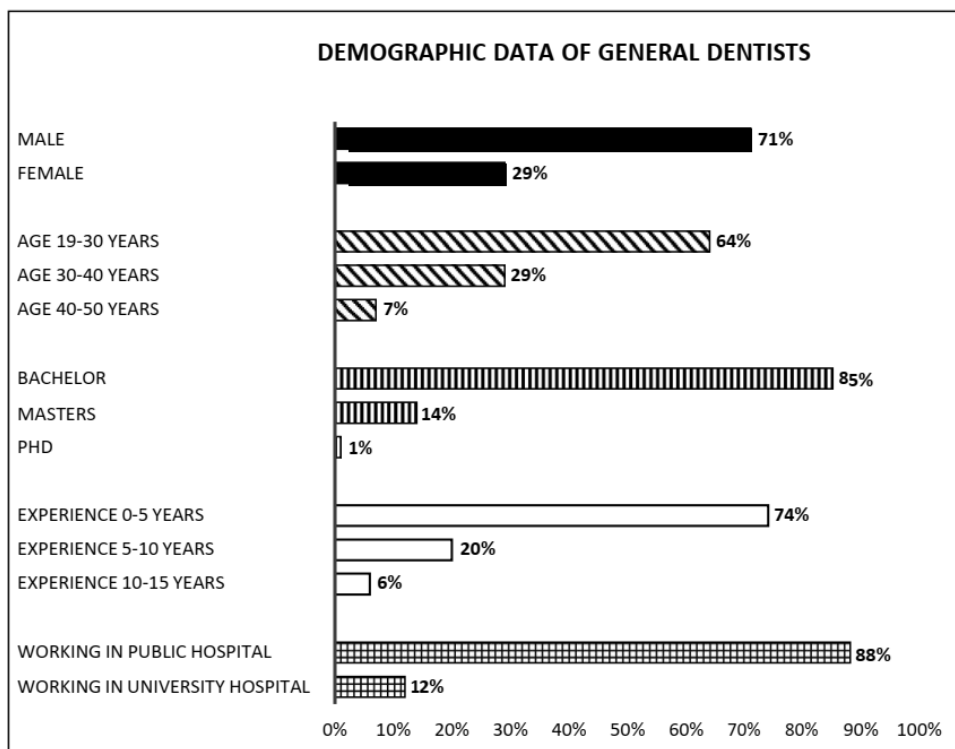


Figure 1: Demographic data of general dentists participating in the survey

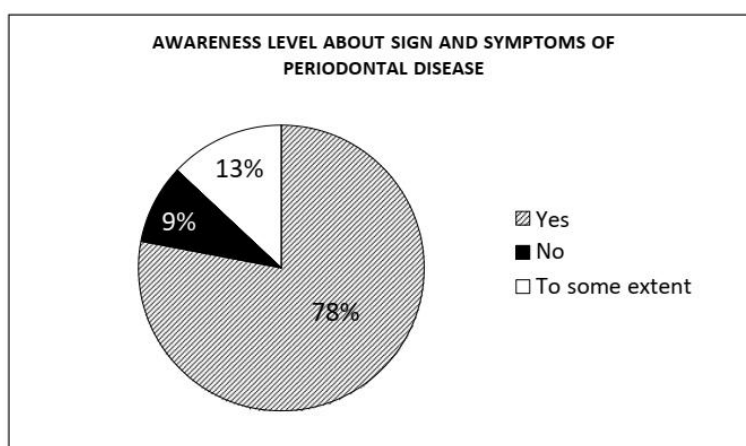


Figure 2: Percentage of general dentists about awareness of sign and symptoms of periodontal disease

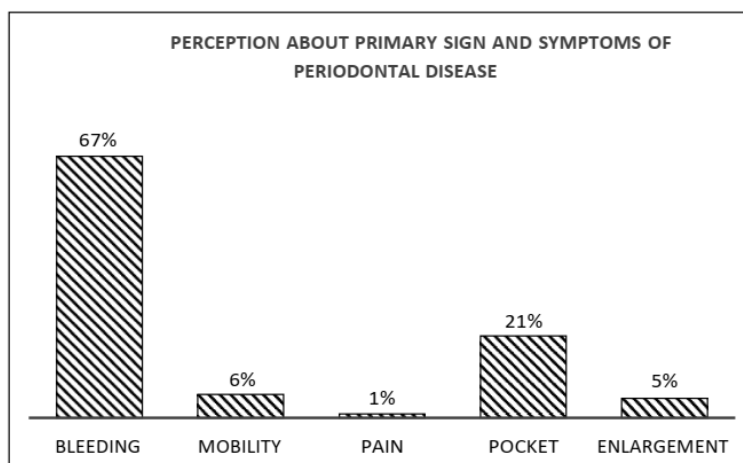


Figure 3: Percentage of general dentists having perception about primary sign and symptoms of periodontal disease

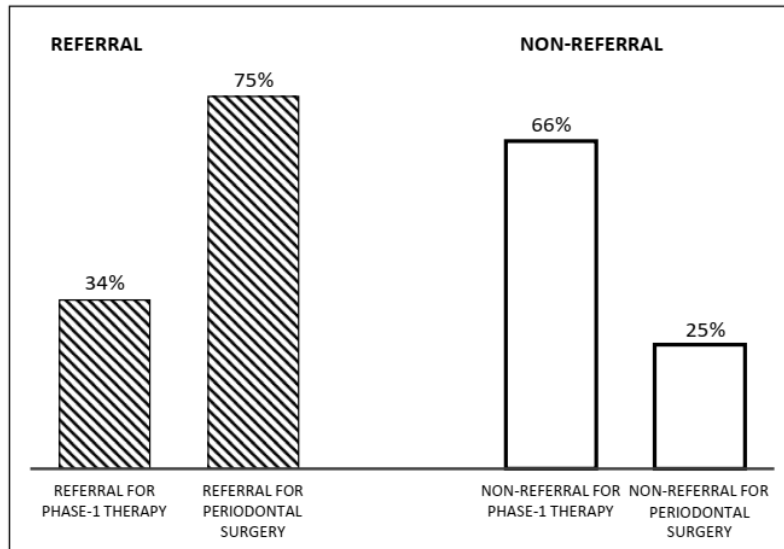


Figure 4: Number of general dentists referring and not referring patients to periodontist for phase-1 therapy and periodontal surgery

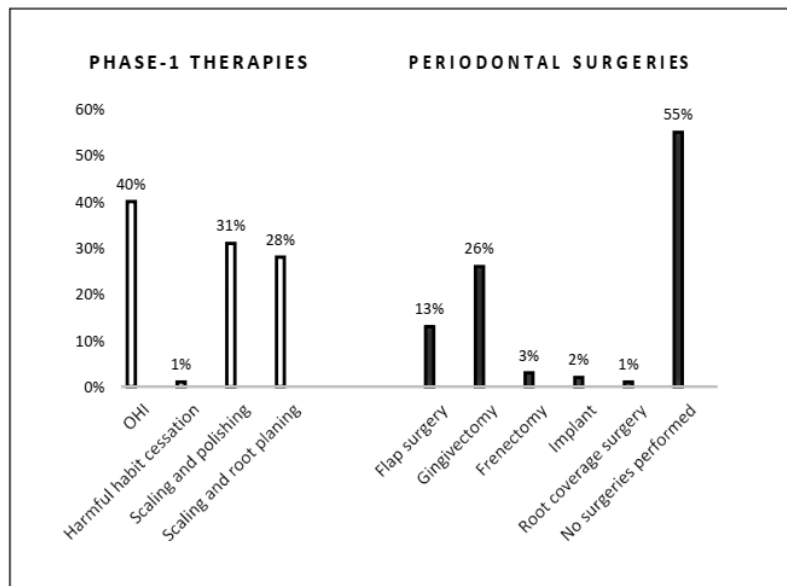


Figure 5: Percentage of general dentists preferring the procedures of phase-1 therapies and periodontal surgeries

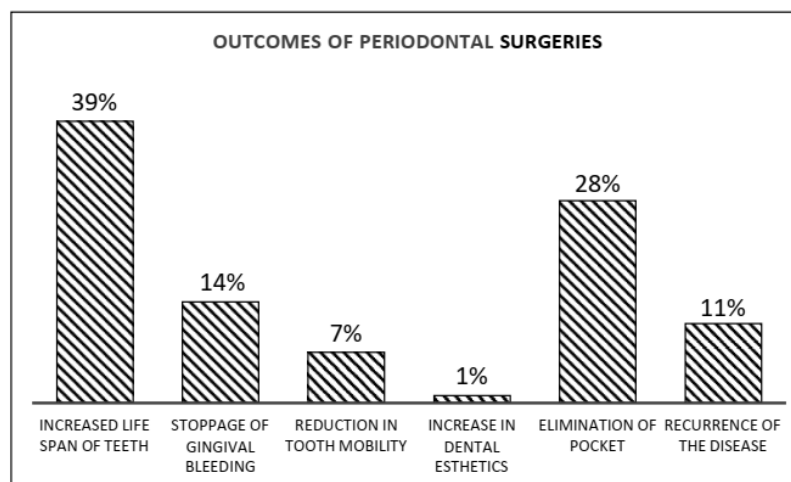


Figure 6: Percentage of general dentists having perception on the outcomes of periodontal surgery

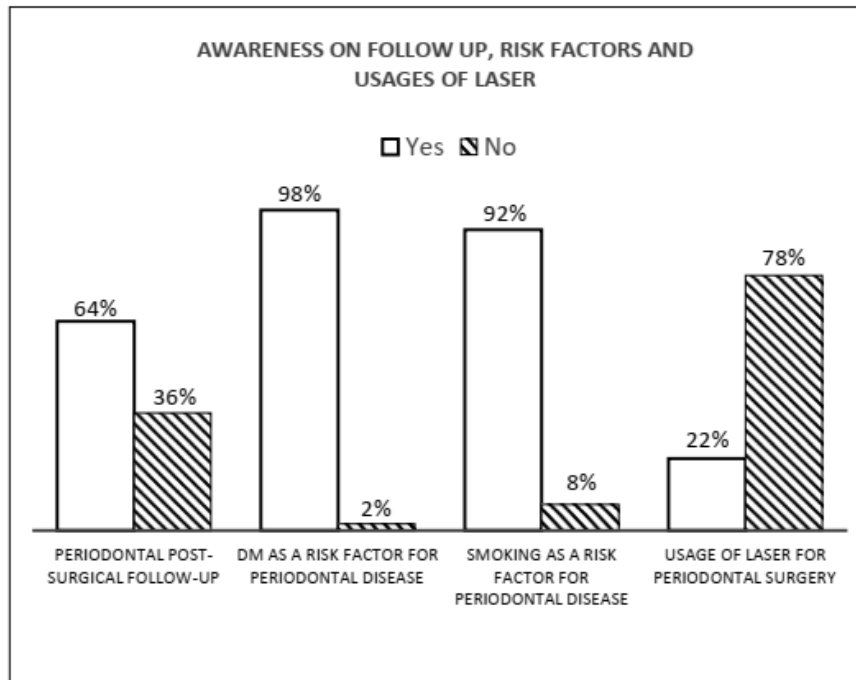


Figure 7: Percentage of general dentists about awareness on periodontal post-surgical followup, periodontal risk factors and usages of Laser for periodontal surgery

DISCUSSION

Regarding referring patients to a periodontist for periodontal surgeries, it is noticeable in our research that quite a good number of general dentists (75%) have the attitude to refer the patients that demonstrates the perception of the dentists about the importance of periodontal surgeries and significance of its outcome if performed by a periodontist instead of by the dentists themselves.

Though the number of dentists not referring the cases for periodontal surgeries is low (25%) in our research, this situation, however, demands explanation. Our study shows that 88% general dentists work in public hospitals many of which are located out of the main city in an area where it is too far or too difficult for a patient to access care from the periodontist located in Taif city or elsewhere. Thus, the proximity of the hospital of a general dentist in relation to the location of a periodontist can be considered to make an impact for the referral of the patients to a periodontist. This impact has been evaluated by several researchers in their studies. It has been revealed in a research [8] that dentists whose practices were more than 5 miles away from the nearest periodontist were more likely to refer patients compared to dentists geographically closer to a periodontist. As opposed to this fact, another study [9] has revealed no significant correlation between the location of the hospitals of general dentists and the number of referrals to periodontists. Though the incidence is low, however, our elucidation in favor of not to refer the patients to periodontists for periodontal surgeries considering

geographical proximity as mentioned above is not supported by any data in the present research.

Concerning the fact not to refer the patients to a periodontist, there had been another explanation [10] demonstrating that young dental graduates are referring less patients to a periodontist as they have to pay back their higher education loans at the time of their graduation from dental school leading the younger dentists to try to keep more patients in their own practices for periodontal treatment. Though, in our research, the study population are predominantly young general dentists (64%) ranging the age between 19 and 30 years, and most of the participating dentists (88%) work in public hospital with pre-decided salary package of Saudi Ministry of Health, hence, treating the periodontal patients by the general dentists themselves without referring to a periodontist will bring no additional financial benefit for them that contradicts the fact as speculated in above research [10].

Furthermore, majority of dentists (66%) in our research do not have the attitude to refer the patients for phase-1 periodontal therapy, they rather prefer to perform the procedures of phase-1 therapy, such as, scaling and root planning etc. by themselves. Though this practice is quite acceptable in general dentistry, but a concern has been developed in this regard leading to put forward a recommendation [11] that general dentists should refer a case when pocket depths are larger than 3 mm and then to consider a number of subsequent steps. Also, the similar considerations were proposed by another researcher

[12] for the general dentists to set certain variables as necessary factors in the diagnosis and treatment planning for periodontal patients when making referrals to a periodontist. However, the present research was not accompanied by any parameter as suggested above [11, 12].

It has been evaluated in a report [8] that among various demographic variables affecting patient referral from general dentists to periodontists, gender variation is also playing a role. This research demonstrated that female general dentists are more likely to refer more patients per month to a periodontist compared to males. Though, the number of female general dentists are less (29%) in our study, however, no survey was conducted in the present research whether there is any impact of this gender variation in the number of referrals to periodontist or not.

Moreover, another report [6] reveals that there are the cases where referring patients are often too late to receive proper periodontal treatment impacting their periodontal health, but our research does not represent any findings concerning whether the referrals were made late or not.

It has also been reported in a research [10] that in addition to disease characteristics patient-factors such as smoking should be kept in consideration for periodontal disease; in conformation with this fact our findings also demonstrate that most of the general dentists (92%) in our study are aware about smoking as a risk factor for periodontitis. However, apart from this risk factor, it was also observed that the number of participating dentists in our research is also high (98%) who are aware about diabetes mellitus as a risk factor of periodontal disease as well.

Conducting a survey [13] it was found that most general dentists felt confident in diagnosing and treating gingivitis and initial periodontitis. However, among them only 61.90% dentists were confident to diagnose aggressive/early onset periodontitis. The similar result was shown in our research where 78% of dentists showed awareness in understanding sign and symptoms of periodontal disease, while this figure was 64% for those who were aware about post-surgical reassessment of periodontal surgeries.

In another study it was documented [14] that most of the dentists do the periodontal interventions by themselves, only 37% of them refer their patients to periodontists. But on the contrary, our result shows, a good number of general dentists (75%) refer the patients to a periodontist for surgical procedure.

It was found in a research [15] that the number of general dentists is low who performed majority of periodontal surgeries. Lanning *et al.*, [15]

also reported that the most common periodontal surgeries performed by general dentists include crown lengthening (38%) and pocket reduction surgery (21%); but in our study the most common periodontal surgery performed by general dentists is gingivectomy (26%). In a research [13] several factors have been investigated that are considered responsible for general dentists to perform specific types of periodontal surgeries; among them one factor was continuous dental education on periodontics and other dental specialties received by them. The same factor is also common in Saudi Arabian general dentists as they need to collect a certain number of hours of continuous education in order to renew their dental license. This continuous education may have some impact on the general dentists in performing periodontal surgeries.

Moreover, a clinical guideline on when to refer periodontal patients were published by the Academy of General Dentistry in order to improve the referral process from general dentists to periodontists [12] suggesting that the decision must be made in each individual practice, considering a host of factors, and that it is inadvisable to treat a disease without an adequate understanding of the disease process and its effect on the individual. It is also documented [6, 10] that to ensure the patients receive the best available periodontal care, reanalyzing the referral processes is imperative.

As, it reveals in our research that 66% general dentists do not refer the patients to a periodontist for phase-I periodontal therapy while this figure is 25% for not referring patients for periodontal surgeries, thus, in conformation with the necessity of a clinical guideline as mentioned [12], a guideline by Saudi Ministry of Health can be recommended to the general dentists regarding referral criteria of the patients to periodontists. Side by side, based on the findings of our research, it also seems appropriate to assess general dentists' level of training in the process of referral making as demonstrated in the report [16].

CONCLUSION

Though the number of general dentists having poor understanding of periodontal diagnosis and failure in appropriate referral to periodontist is insignificant, still it may be worthwhile to take some measures in brushing up the skill and knowledge of general dentists in periodontal diagnosis, as well as, reanalyzing the referral process to ensure its implementation by the general dentists of Taif for expected periodontal treatment outcome.

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