



Referral pattern of periodontal disease among general dental practitioners in Iraq

Padrão de referência da doença periodontal entre os clínicos odontológicos gerais no Iraque

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ABSTRACT

Objectives: To evaluate the type of “periodontal treatment” performed by general dental practitioners and the referral patterns of periodontists in Iraq. **Material and methods:** A total of 201 general dentists were asked to complete a self-administered questionnaire consisting of nine questions regarding periodontal treatment and the referral patterns of periodontists. **Results:** The study showed that 91.1% of general dental practitioners (GDPs) performed “phase-I therapy”, and most of them done “scaling”. Regarding surgical periodontal therapy, only 12.9% of them performed surgical periodontal therapy, half of the GDPs did gingivectomy, and less than 30% performed crown lengthening. When evaluating maintenance therapy after periodontal treatment, it was found that 77.9% of the GDPs scheduled appointments for patients in the maintenance phase, 49.4% of them after one month, 24.7% after three months, and 15.6% after six months. Using TRUF analysis, most general dentists believed that the patient and periodontal factors were responsible for the recurrence of periodontal disease. **Conclusions:** There is still a lack of awareness of periodontal surgical procedures among the “general dental practitioners”. Thus, it is essential to increase the comprehension of periodontal treatment among general dentists.

KEYWORDS

Periodontal treatment; Phase-I therapy; Surgical periodontal treatment; General dental practitioner; Referral pattern Attitude.

RESUMO

Objetivo: Avaliar o tipo de “tratamento periodontal” realizado por dentistas generalistas e os padrões de encaminhamento aos periodontistas, no Iraque. **Material e métodos:** Um total de 201 dentistas generalistas preencheram um questionário autoaplicável que consistiu em nove perguntas sobre o tratamento periodontal e os padrões de encaminhamento para periodontistas. **Resultados:** O estudo mostrou que 91,1% dos dentistas gerais (DG) realizavam “terapia fase I” e a maioria realizava “raspagem”. Em relação à terapia periodontal cirúrgica, apenas 12,9% deles realizavam, sendo que metade dos DG realizavam gengivectomia e menos de 30% realizavam aumento de coroa clínica. Ao avaliar a terapia de manutenção após o tratamento periodontal, constatou-se que 77,9% dos DGs agendaram consultas para pacientes em fase de manutenção, sendo 49,4% após um mês, 24,7% após três meses e 15,6% após seis meses. Usando a análise TRUF, a maioria dos dentistas gerais acredita que o paciente e os fatores periodontais são responsáveis pela recorrência da doença periodontal. **Conclusões:** Ainda existe um desconhecimento dos procedimentos cirúrgicos periodontais entre os “dentistas generalistas”. Assim, é essencial aumentar a compreensão do tratamento periodontal entre os cirurgiões-dentistas gerais.

PALAVRAS-CHAVE

Tratamento periodontal; Terapia de Fase I; Tratamento periodontal cirúrgico; dentistas generalistas.

INTRODUCTION

“Periodontal disease” is a chronic infection caused by bacteria that affects the gingiva and supporting tissues of the teeth. This disease initiates when microorganisms in plaque cause gingival inflammation, which affects the gingiva, bone, and attachment fibres that support the teeth and hold them in the jaw [1]. Increasing the lifetime of dentition is the main role of dentists through the prevention and treatment of this disease [2]. The specialty of “periodontology” is growing in different parts of the world, ranging from diagnosis, treatment involvement, regenerative procedures, and growth factors for various “periodontal diseases” [3]. Most dental patients are treated by the “general dental practitioners” (GDPs), so their knowledge, attitude, and awareness about the “periodontal diseases” and their management are of utmost importance. It has been found that different factors, such as lack of patients’ access to care, poor socioeconomic status, anxiety, non-acceptance of referrals, and non-referral attitude by the primary care provider, are the major obstructions to providing suitable treatment [4]. Many “GDPs” have a low interest in managing periodontal problems [5].

The importance of the success of the complete management of dental patients is the diagnosis and management of “periodontal disease”. The importance of the achievement of successive restorative treatment and ensuring the general health of the patient depends on the basic principles of periodontal knowledge, which is esteemed by most “GDPs” [6].

The cornerstone of periodontal therapy is “Non-surgical periodontal therapy” (NSPT), which is the first recommended treatment to control periodontal infections. It is also known as “cause-related therapy” [7], “Non-surgical therapy” involves and is not limited to scaling and root planning (SRP) combined with oral hygiene instructions (OHIs) and patient motivation [8], which aim at eliminating or reducing putative pathogens and shifting the microbial flora to more favourable environments to achieve stable periodontal conditions [9].

“Scaling” is the removal of plaque, calculus, debris, and stains from the crown and root surfaces of the teeth using specially designed sharp dental hand instruments or ultrasonic scalers [10].

“Root planning” has been defined as instrumentation to eliminate the microbial flora on the root surface or lying free in the pocket, including all particles of calculus and all contaminated cementum and dentine. The objective is to remove the softened cementum so that the root surface is made hard and smooth [11].

The essential part of “periodontal treatment” for patients with a history of inflammatory “periodontal diseases” is the maintenance phase, which continues at varying intervals after the termination of active periodontal therapy [12].

The dental referral process involves sharing the reciprocal care and treatment of the patient between the referring doctor and the specialist to whom the patient has been referred. The decision to refer a patient to a specialist for care and support is guided by many factors, including clinical, personal and economic factors, of both the referring doctor and the specialist, combined with the patient’s preferences and means, making the referral process a complicated system in the everyday practice of dentistry [13].

This study proposed to identify the referral patterns of GDPs to “periodontists”, to help practitioners to deliver effective periodontal treatment to patients in practice, to overcome some of the obstacles that are inherent in the process and to improve the general knowledge of the general dentists towards “periodontal treatment”.

MATERIAL AND METHODS

This cross-sectional study was conducted using 201 GDPs, with a mean of 8.72 practice years, including 99 males and 102 females, who were working either in a private clinic or a public health institute in Iraq with at least three years of experience. At least two years of practical work were guaranteed since the first year after graduation. All graduates had been enrolled in a residency program for one year.

A questionnaire involving general information such as name, gender, and duration of practice, consisting of nine questions and sub-questions (Frame I), was distributed to each participant by visiting their workplace or by e-mail. The questionnaires were used in previous studies [5,14,15].

Frame I - Questionary

Date

1 - Name:-

2 - Total no. of years of practice:-

3 - Do you refer your patients to a periodontist for phase 1 therapy?
 Yes No

*Phase 1 therapy includes scaling, root planning, dietary counseling and advising proper brushing technique and mouthwashes

If no

Which periodontal therapy do you carry out in your clinic?

A - Scaling
 B - Scaling and root planing
 C - Advice proper brushing technique
 D - Advice mouthwashes
 E - Advice stopping of harmful habits
 F - Diet counseling
 G - splinting

4 - Which surgical periodontal treatment do you carry out yourself in your clinic?

Gingivectomy Flap surgery Crown lengthening

Frenectomy/vestibuloplasty Ridge Augmentation
 Free gingival Autograft

Others (please specify)

5 - Do you refer a patient to a periodontist for surgical procedures?
 Yes No

If no

Please tick any of the following reasons

a - Carry out surgical procedures yourself
 b - Not satisfied with results of periodontal treatment
 c - Have very few patients of periodontal disease who get motivated for periodontal surgery
 d - others(please specify)

IF yes

a - How frequently do you call a periodontist for consultation /refer a patient to a periodontist for surgical procedures

- Twice a week
 - Once a week
 - once a month
 - Others

b - For which signs and symptoms of the patients do you consult a periodontist

I. Bleeding gums
 II. presnce of periodontal pockets
 III. Mobile teeth
 IV. Gingival enlargement
 V. Periodontal abscess
 VI. Gingival recession
 VII. Other mucogingival problems

6 - What is your opinion about the result of periodontal treatment

Always	Occasionally	Never
a) Stoppage of bleeding	{ } { } { }	{ } { } { }
b) Elimination of pocket	{ } { } { }	{ } { } { }
c) Reduction in mobility	{ } { } { }	{ } { } { }
d) Increase life span of teeth	{ } { } { }	{ } { } { }
e) Root coverage	{ } { } { }	{ } { } { }
f) Recurrence	{ } { } { }	{ } { } { }

7 - Do you recall your patient for maintenance therapy after the periodontal treatment
 { } Yes { } No

A . If Yes

Recall after.

a - 1 month
 b - 3 month
 c - 6 months
 d - In case of recurrence

8 - What do you think are the factors responsible for the recurrence of the periodontal disease after the treatment

a - patient factors (lack of maintenance and awareness
 b - periodontal factors(lack of skill and time)
 c - General dentist factors(lack of skill,chair-side time,motivation,awareness)

9 - What is your opinion about the cost-effectiveness of the periodontal treatment

a - Beneficial to all concerned
 b - Too costly for the patients

The questionnaire investigated the referral patterns in non-surgical treatment and surgical treatment, the type of “periodontal treatment” provided by “GDP”, maintenance therapy, the causes of recurrence of “periodontal disease” and the cost of periodontal treatment.

Excluding criteria

Specialist dentists and GDPs that attended periodontal continuing education programmes were excluded.

Statistical analyses of the data were performed using SPSS version 23.0. The descriptive statistics are presented as percentages and frequencies, and TRUF analysis was used to assess the best reach.

RESULT

The study included a total of 201 participants, with 99 (49.3%) males and 102 (50.7%) females. This study showed that 91.1% of General dentists performed “phase-I therapy”, while 87.1% of them referred the patient to a periodontist for surgical procedures, and 77.9% recalled the patient for maintenance therapy (Table I).

Table I - Frequency distributions according to GP responses to questions.

Characteristics	Respondents	
	No	No (%)
Gender	male	99 49.3
	female	102 50.7
Refer patients to the periodontist for “phase I therapy.”	yes	18 9.0
	no	183 91.1
Refer patients to the periodontist for surgical procedures	yes	175 87.1
	no	26 12.9
Recall patients for maintenance therapy	yes	155 77.9
	no	44 22.1

Regarding “phase-I therapy”, almost all of the GDPs performed “scaling”. More than half of them done “scaling and root planning”, provided advice for proper brushing techniques, guidance for mouth washing, and counsel for stopping harmful habits. At the same time, the

splinting did not have a degree of acceptability (Figure 1).

Regarding surgical periodontal therapy, only 12.9% of GDPs performed surgical periodontal therapy, half of them done gingivectomies, and less than 30% did “crown lengthening”, “flap surgery”, “frenectomy” “vestibuloplasty”, “ridge augmentation” and free “gingival autograft” at their clinic (Figure 2).

On evaluating referral frequency, the study found that half of the dentists referred a patient to a specialist once a month.

Approximately 55% of GDPs consulted periodontists because they had a patient complaining of gingival recession, 48.5% for mobile teeth, 33% for gingival enlargement, 31.5% for periodontal pocket, and only 9% for gingival bleeding (Figure 3).

The opinion of GDPs regarding the outcome of “periodontal treatment” revealed that most of them were confident the treatment resulted in cessation of bleeding. More than half of them believed that periodontal treatment infrequent intervals resulted in a reduction in the mobility of the teeth, increased the life span of teeth, and preserved root coverage. Most of the general dentists believed there was occasional recurrence after “periodontal treatment” (Figure 4).

On evaluating maintenance therapy after “periodontal treatment”, it was found that 77.9% of GDPs scheduled appointments for patients in the maintenance phase, 49.4% of them after one month, 24.7% after three months, and 15.6% after six months (Figure 5).

On assessing the responsible factors for the recurrence of “periodontal disease” and by using TRUF analysis, most of the respondents believed that “patient factor” and “periodontal factors” are responsible for the recurrence of “periodontal disease” (Figure 6).

The cost of “periodontal treatment” was accepted by 78.6% of GDPs (Figure 7).

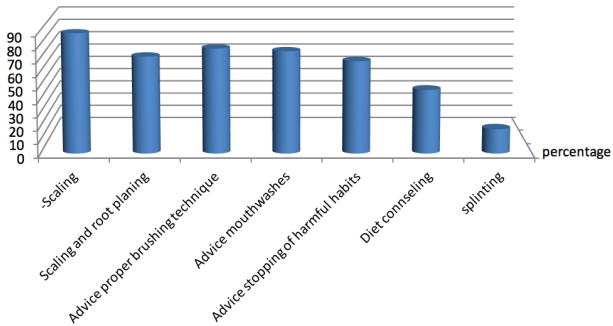


Figure 1 - "Phase one periodontal therapy" carried out by "General dental practitioner" in their clinics.

numbers of surgical periodontal treatment

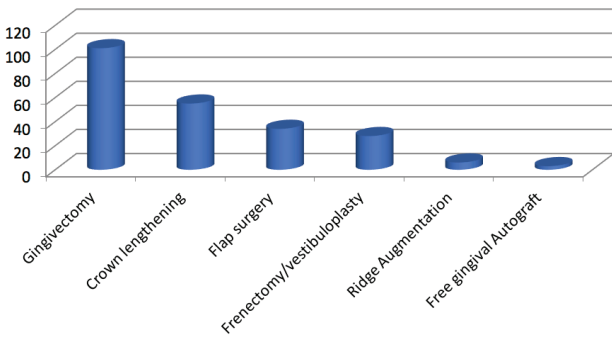


Figure 2 - Surgical periodontal therapy carried out by "General dental practitioners" in their clinics.

percentage

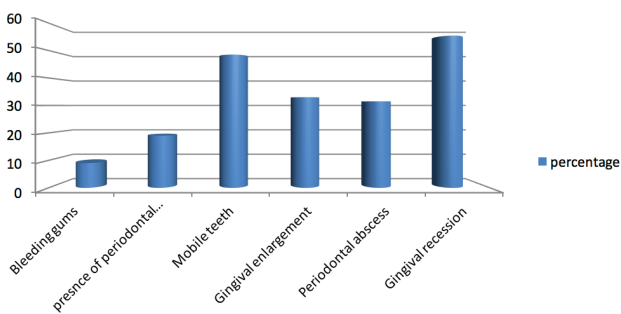


Figure 3 - Frequency distribution of the cases that require consultation, according to "General dental practitioners."

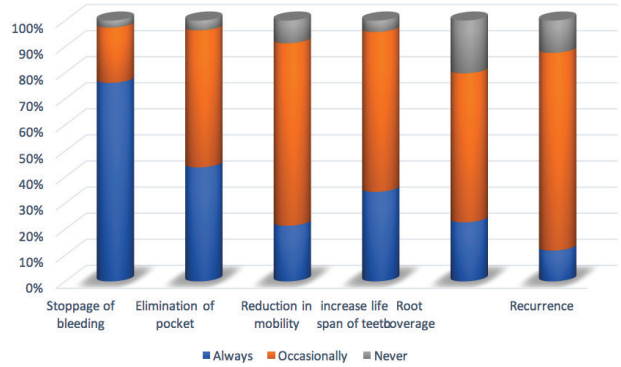


Figure 4 - Frequency distribution of general practitioners' expectations regarding the outcome of "periodontal treatment."

percentage

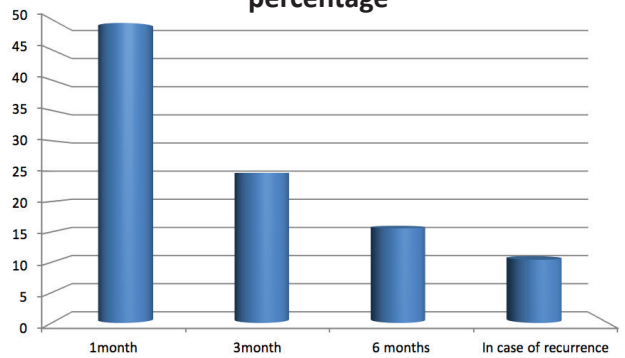


Figure 5 - Frequency distribution of GP responses regarding maintenance therapy after the "periodontal treatment."

TRUF analysis

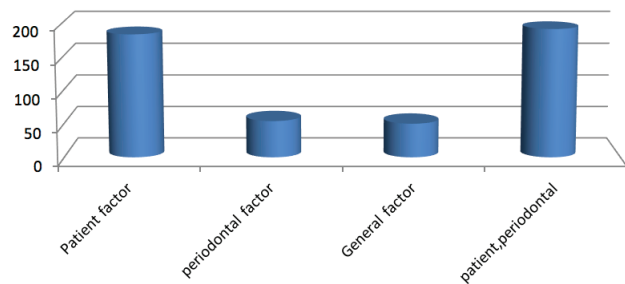


Figure 6 - Evaluating the responsible factors for the recurrence of the "periodontal disease" and by the use of TRUF analysis.

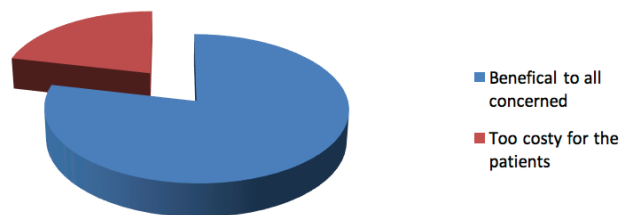


Figure 7 - the cost of the periodontal treatment.

DISCUSSION

Few studies are managing the field of estimating the attitudes and periodontal practice of “general dental practitioners” in Iraq. Most phase-I therapy was performed by GDPs at their clinic [16,17], while 87.1% of them referred patients for surgical treatment, possibly due to inadequate experience. GDPs must recognize which type of “periodontal treatment” is suitable for them, and when referral to periodontists is critical [18].

A total of 50.2% of GDPs performed gingivectomy at their clinic, and 27.4% of them did crown lengthening. These results were much higher than the results from Washington [16], and Nova Scotia, Canada [19].

The Washington study found that only 3.3% of GDPs performed crown-lengthening procedures, while the Nova Scotia, Canada study revealed that 17.0% performed crown-lengthening, and 29.3% performed gingivectomy [19].

The study found that half of the GDPs referred patients to periodontists for surgical procedures once monthly. Deficiency in the skill of “periodontal disease” diagnosis led to a lack of periodontal referrals; therefore, more attention should be paid to diagnosing periodontal disease in its early stages during dental education.

The high percentage of periodontal disease in the Iraqi population compared with the frequency of “periodontal treatment” performed by GDPs in this study could raise concerns about the degree to which adequate treatment is provided for periodontal patients. Training oral health professionals, especially dentists, should be the first step in improving the public health awareness and the knowledge and attitudes achieved by dentists during the academic dental education period regarding the importance of applying preventive concepts. These measures would enable dentists to provide patients with the best community- and individual-based preventive activities [20]. This situation should alert dental educators to examine the suitability

of periodontics education in the dental school curriculum, as has been advocated by Cobb et al. and Fardal et al. [21,22].

GDPs believed that both patient and periodontal factors were responsible for the recurrence of “periodontal disease”, the “general dental practitioner” should be able to treat mild-to-moderate “periodontal disease” and determine when to refer moderate-to-advanced cases to a periodontist for treatment. When planning the treatment of patients with “periodontal disease”, patient factors, such as smoking and the patient’s willingness to abide by oral hygiene instructions, are essential for consideration [18]. Thus, patient motivation and corporation are important parts of any “periodontal treatment”. The success of “periodontal treatment” depends on mutual understanding between patients, general dentists, and periodontists.

The GDP should know their role in patient motivation and should be instructed in the correct recall protocol [5,23]. Only 19.4% of GDPs believe that periodontal treatment is too costly for patients; thus, most GDPs believe that the cost is beneficial to all concerned.

Limitations of the study

Many dentists do not like to participate in any kind of survey.

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