



Knowledge and attitude regarding principles and practices of orthodontic treatment among general dental practitioners and non-orthodontic specialists of Saudi Arabia: A preliminary study

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ABSTRACT

To evaluate and compare the knowledge and attitude of the general dental practitioners and non-orthodontic specialties about the orthodontic treatment. The present study was carried out among 1716 dentists who were further divided into two groups. The study Group I included of 1077 general dental practitioners with a bachelor degree and Group II comprised of 639 non-orthodontic specialists. The study was carried out with a structured questionnaire, which comprised questions regarding the knowledge and attitude regarding orthodontic therapy. The scores were analyzed, and statistical analysis was done by applying Student's t-test. A significant difference regarding knowledge and attitude score between general dental practitioners and non-orthodontic specialties (Student's t-test, $P < 0.001$). When the comparison was carried out between male and female practitioners, more scores were observed among male practitioners in comparison with females but the difference was not significant (Student's t-test, $P > 0.01$). The results of the study were satisfactory, and suggested a need for more clinically oriented teaching and training in terms of orthodontic principles and practice.

Keywords: Dental practitioners, attitude, knowledge, orthodontic treatment

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INTRODUCTION

Oral wellbeing for the most part has the impact on the systemic health of the person and it legitimately influences prosperity, literacy, and advancement. In numerous nations, guardians and their youngsters' do not know about the fundamental factors, prevalence and counteractive action of the routine conditions

affecting the oral cavity [1]. A standout amongst the most widely recognized etiologies for the advancement of dental caries, fluorosis, temporomandibular dysfunctions, gingival and periodontal pathologies is malocclusion. Malpositioning of the tooth in the oral cavity may likewise prompt trouble in utilitarian developments of the mandible, hindrances in chewing, deglutition, articulation and susceptibility to injury or periodontal pathologies [2].

Malocclusion implies terrible chomp, and it comprises of a range of divergence from the routine or perfect impediment to serious anomalies [3]. Malocclusion is characterized as an impediment in which there is a molar contact between the curves in any of the planes of spaces or in which there are abnormalities in tooth position past as far as possible [4]. Malocclusion for the most part makes sentiment disgrace for their facial appearance and may likewise give sentiment bashful in their society [3]. The results of the orthodontic treatment are anticipation of tissue destruction, change in physical capacity and appearance. The other significant advantages are enhancing personal satisfaction, improvement of self-assurance; and physical, mental and social improvements [5]. It is essential to teach the people about the advantages of the orthodontic therapy. This can be proficient by a multi-disciplinary accession in which general dental experts and other non-orthodontic practitioners can assume the part of educating their patients about importance of occlusion and orthodontic therapy, however just in the event that they have perfect awareness and state of mind of standards and attitudes with regards to orthodontic therapy [6]. Hence, there is a requirement to recognize the level of knowledge of dentists regarding the orthodontic therapy as they assume an imperative part in instilling solid way of life practices to their patients. The present study was figured to assess the knowledge and attitude of the general dental professionals and non-orthodontic specialty practitioners with regards to orthodontic therapy.

MATERIALS AND METHODS

This study incorporated 1716 dentists who were further divided into two groups. The study Group I included of 1077 general dental practitioners with a bachelor degree and Group II

comprised of 639 non-orthodontic specialties with a postgraduate degree in any subject of dentistry other than orthodontics. The participants of this study were selected from various regions parts of Saudi Arabia, to study the knowledge and attitude toward principles and practice of orthodontic therapy. The concept of this study was made aware to all the participants through personal contact, telephonic conversation as well as through email, and the informed consent was obtained from each of the participants of the study. The study was carried out with the aid of a questionnaire which was used in a previous study [11]. The questions were framed to assess the knowledge and attitude toward orthodontic therapy like, orthodontic diagnostic protocol, opinion of orthodontist, providing information to patient regarding malocclusion when patient visits to them with other complaints, orthodontic therapy in patients having periodontal pathologies and orthodontic surgical treatment. The questionnaires were circulated to the participants through and they were asked to return their replies through separate email containing the answers with questions number. All the obtained scores were calculated based on the responses given by participants by summing up to obtain a total score. The collected data were represented as mean±standard deviation (SD). The collected data was recorded and analysed using SPSS 21.0 (Chicago, USA).

RESULTS

In the general practitioners group comprised of 766 males and 311 females and the specialists group consisted of 426 males and 213 females. The total mean score of all the questionnaires was analyzed for the general dental practitioners and non-orthodontic specialties, which was 16.36 and 20.04, respectively (Table 1)..

Table 1: The mean and total scores of the knowledge and attitude of genders

	General dental practitioners			Non-orthodontic specialists		
	Males	Females	Total mean score	Males	Females	Total mean score
Knowledge	8.64	8.23	8.48	9.91	9.76	9.53
Attitude	8.02	7.82	7.92	9.21	9.12	9.16
Total score	16.64	16.05	16.34	20.12	20.05	20.08

2: Comparison of the mean scores of the knowledge and attitude between two groups

		Mean±SD	t value	Significance
Knowledge	General dental practitioner	9.21±1.32	4.2645	P<0.001**
	Non-orthodontic specialists	11.02±1.89		
Attitude	General dental practitioner	7.12±1.34	4.9324	P<0.001**
	Non-orthodontic specialists	8.84±1.76		

Table 3: Comparison of the total score of knowledge and attitude, between genders and two groups

	General dental practitioners		Non-orthodontic specialists	
	Males	Females	Males	Females
Scores of knowledge and attitude (mean±SD)	15.752±1.31	14.86±2.45	14.21±1.49	13.28±1.73
	t value=1.3510	P>0.01*	t value=1.8540	P>0.01*
	15.64±1.47		12.86±1.41	
	t value=5.2674,		P<0.001**	

When the scores of knowledge were compared between general dental practitioner (8.48) and non-orthodontic specialties (9.53), a statistically significant difference was noted (Student's t-test, $P<0.001$). This suggested that the non-orthodontic specialists, who obtained an additional training for three years regarding the education of specialty in dentistry, possessed more knowledge about the orthodontic therapy (Table 2).

Similarly, a significant difference also observed in terms of the scores of attitudes of the non-orthodontic specialties (7.92) as compared to general dental practitioners (9.16) (Student's t-test, $P<0.001$). This indicates that non-orthodontic practitioners were having more positive attitude toward orthodontic therapy in comparison with general dental practitioners (Table 2).

When a comparison of the total score of all questions was carried out among general dental practitioner, and specialists was carried out, a significant difference was observed (Student's t-test, $P < 0.001$). When the overall scores of males and female practitioners were compared, male participants exhibited increased number of scores when compared with female practitioners, but the difference was statistically non-significant (Student's t test, $P>0.01$) (Table 3).

DISCUSSION

Malocclusion is the second most basic dental illness after dental caries in kids and youthful grown-ups. For the change of the facial presentation, amelioration of malocclusion is an imperative component, which is the primary point of the orthodontic therapy. The basic components having sway on choosing orthodontic therapy are improvement of facial looks and psychological bearing [7]. The status of oral health knowledge, demeanor and the conduct are altogether interlinked, and this basically relies upon the level of information and uplifting disposition of the dental practitioners [8-10].

In this study, a comparative evaluation was carried out to evaluate the knowledge and attitude of the general dental practitioners and non-orthodontic specialists, with the aid of a structured questionnaire. A significant difference was observed when the knowledge scores between general dental practitioners and non-orthodontic specialties were compared. This demonstrates that the knowledge of the dental specialists, who underwent the training for three more years after their graduation, was more when contrasted with the general dental professionals.

When all the practitioners asked regarding the age to start the orthodontic therapy, 80.31% of them replied that treatment can be started at any age. Seventy one percent of the participants replied that malocclusions to be treated during mixed dentition stage and 82.12% were answered appropriately regarding the emphasis of well-arranged dentition for the esthetic facial appearance. Almost all the specialists answered positively and 89.05% of general practitioners regarding the awareness of extracting some of the teeth for aligning of the malpositioned teeth. When asked about the influence of deleterious habits like mouth breathing or thumb sucking on the position of anterior dentition, 89.87% of general dental practitioners and 92.45% of the specialist were answered positively. 50.26% of general dental practitioners and 72.23% of specialists answered positively for the use of miniscrews and similarly 68.34% of general dental practitioners and 81.02% of specialists answered positively for the use of retainers. The observations of the present study were in agreement with the results of previous similar studies by Sastri *et al.*, [11] and Niveda and Saravana [12].

A significant difference was observed between general dental practitioners and non-orthodontic specialties regarding the attitude toward orthodontic practice and referral. This finding suggested that the specialties possess extended positive attitude toward the significance of the orthodontic therapy.

Regarding the attitude, the majority of the positive replies by general practitioners were obtained regarding the persuading for the orthodontic treatment and most of the of non-orthodontic specialties were replied positively regarding examining the malocclusion on clinical evaluation when patient visits them with other non-orthodontic complaints. The evidence that the communiqué of the patient for orthodontic therapy and surgeries related to the same were affirmed emphatically by 61.67% and 63.84% respectively; in case of non-orthodontic specialties, 69.12% and 72.56% respectively; in case of specialties.

Among all participants, around 46.62% believe that orthodontic therapy can be done in patients with periodontal pathologies, while 53.58% did not agree. When the total score of knowledge and attitude were compared between male and female participants, an increased score was noted in case of male individuals as compared female practitioners, but the difference was statistically non-significant. This observation confirmed that male practitioners had enhanced positive knowledge and attitude than female dental practitioners, regarding the principles and practice of orthodontic treatment.

CONCLUSION

The present study supplements enhanced focus on the details of current status and situation regarding the knowledge and attitude of the general dental practitioners and other non-orthodontic specialties in terms of the principles and practice of the orthodontic therapy. Subsequently, the present study demonstrated the requirement for expanded clinically oriented training and ideas regarding orthodontic therapy. For this reason, the syllabus amid undergraduate training programme ought to incorporate more accentuation on restorative ideas, and proceeding can be useful for the other dental specialists to redesign their insight into orthodontic therapy.

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