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Research Article

### STUDY OF THE KNOWLEDGE AND ATTITUDE ABOUT PRINCIPLES AND PRACTICES OF ORTHODONTIC TREATMENT AMONG GENERAL DENTAL PRACTITIONERS AND NON- ORTHODONTIC SPECIALTIES

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**Abstract:**

**Background:** Orthodontic specialty can play an essential role of education and motivation of their patients about the principles and practice of orthodontic treatment; which can be very beneficial to the patient's lifestyle. It is, therefore, important to identify their level of knowledge and attitude toward orthodontic treatment. This study was planned to study this aspect in the form of comparative analysis in general dental practitioners and other specialties (except orthodontia) in dentistry.

**Objectives:**

1. To evaluate the knowledge, attitude and awareness in the field of Orthodontics among dentists and specialists from other disciplines of Dentistry.
2. To evaluate the knowledge and ability to correlate concepts in Orthodontics and other disciplines of Dentistry.
3. To assess the importance given to Orthodontics by general dental practitioners and non-orthodontic specialists.
4. To suggest and incorporate change in the dental syllabus in colleges to help the students to be more aware of the recent advances in Orthodontics.

**Methods and statistics:** A questionnaire survey was conducted to evaluate the knowledge, attitude and awareness in the field of Orthodontics amongst general dentists and non-orthodontic specialists. The questionnaire consisted of fifteen (15) questions related to diagnosis and treatment planning in Orthodontics. It was distributed to one hundred (n= 100) general dentists and non-orthodontic specialists selected from various regions of Punjab.

**Results:** After computing the data, we observed that the knowledge level among the study participants was moderately satisfying. Knowledge regarding the duration of the retainers was observed to be inadequate.

**Conclusion:** Improving the awareness amongst the practitioners in this area can help the patients with malocclusion to opt for orthodontic treatment at earlier stages and avoid complications later in the future. The study highlights on the need for more CDE (Continuing Dental Education) programs with active participation of general dentists and non-orthodontic specialists to update them. Further, modifications in the education system at the under graduate level in dental colleges to impart more diagnostic concepts can benefit the students.

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## INTRODUCTION:

Oral health generally has the effect on the general health of the individual and ultimately affects well-being, education, and development. In many countries, parents and their children's are not aware of the basic causes, incidence and prevention of the common oral diseases. One of the most common etiologies for the development of dental caries, fluorosis, temporomandibular disorders and gingival diseases is malocclusion.[1] Tooth malposition may also lead to difficulty in functional movements of the mandible, difficulty in mastication, swallowing, speech, increased susceptibility to trauma or periodontal problems.[2] Malocclusion means bad bite, and it consists of a spectrum of deviation from the normal or ideal occlusion to severe anomalies.[3,4] Malocclusion is defined as an "occlusion in which there is a molar relationship between the arches in any of the planes of spaces or in which there are anomalies in tooth position beyond the normal limits." Malocclusion usually creates feeling of shame for their facial appearance and may also give feeling of shy in their society[4] The outcomes of the orthodontic treatment are prevention of tissue damage, improvement in physical function and esthetic. The other major benefits are improving quality of life, development of self-confidence; and physical, psychological and social changes.[1-4] It is important to educate the individuals about the benefits of the orthodontic treatment. This can be accomplished by a multi-disciplinary approach in which general dental practitioners and other non-orthodontic specialties can play the role of oral orthodontic health educators, but only if they have good knowledge and attitude of principles and practice of orthodontic treatment.[5] Lew has also stated that "practitioners should focus their attention beyond the orthodontic mechanotherapy to the more subjective aspects of patient discomfort and attitude toward treatment.[6]

Therefore, there is a need to identify the knowledge levels of dental practitioners with respect to the orthodontic treatment as they play an important role in inculcating healthy lifestyle practices to their patients. This study was formulated for the comparative evaluation of the knowledge and attitude of the general dental practitioners and non-orthodontic specialties about the orthodontic treatment.

## MATERIALS AND METHOD:

A structured questionnaire was framed containing 15 questions. The questions addressed various aspects like the understanding of general dentists and non-orthodontic specialists about Orthodontics, their opinion regarding orthodontic treatment planning for patients and knowledge regarding functional appliances and similar concepts

pertaining to orthodontic treatment of patients. The questionnaire was distributed to general dentists and specialists other than orthodontists practicing in punjab province of pakistan. Total number of dentists who answered the questionnaire was two hundred (n=100). The participants ranged from freshly passed out general practitioners who were abreast of the latest technologies to the elderly practitioners who based their practice on not so up to date treatment strategies. Data was analyzed and descriptive statistics were computed using SPSS Version 17 (Table 1).

### Inclusion criteria

- 1.General dental practitioner with bachelor degree
- 2.Dentist with post-graduation degree in any branch (non-orthodontic specialty)
- 3.Age between 25 and 50 years.

### Exclusion criteria

- 1.Freshly pass-out dentists
- 2.Dentists with age more than 50 years
- 3.General dental practitioners, who stopped their practice.

### Statistical analysis

Scores were calculated based on the responses given by participants. The individual scores were summed up to get a total score. Statistical analysis was performed with the help of SPSS version 17. Descriptive statistics and mean scores were calculated.

## RESULTS:

According to the study participants, the maximum age up to which orthodontic treatment can be carried out was  $40.32 \pm 9.24$  years and the right age to start orthodontic treatment was  $22 \pm 12.75$  years. When the dentists were questioned if malocclusions can be treated during mixed dentition stage, 96% of them answered affirmatively. (Yes = 90%; No = 10%). About 95% of them were aware of the availability of functional appliance therapy as a treatment option. The fact that functional appliance can produce the best results when given during pre-pubertal growth spurt was approved positively by 85% and denied by 15%. When the practitioners were questioned if they always asked their patients to report for orthodontic treatment only after all the permanent teeth had erupted, 60 % of the dentists answered "No", while 40% answered "Yes".

Awareness regarding the existence of skeletal malocclusions when patients met their dentists with complaints of proclined teeth and incompetent lips was evaluated. It was observed that 90% of the dentists were aware of the skeletal malocclusions, while 10% were not.

The general dentists and other specialists were questioned to find out if they thought that orthodontic treatment always required extraction to

which a very small percentage of dentists answered affirmatively (Yes = 5%). Majority of them (95%) were aware that it was not an absolute necessity. The influence of orthodontic therapy on the cure of temporo mandibular joint (TMJ) disorders when tested showed that 72% believed that it can cure TMJ disorders while 26% did not believe so. It was encouraging to notice that all the study participants resorted to the assistance of Orthodontists for the management of patients with orthodontic issues. When patients reported with complaints other than orthodontic issues, 78% of the dentists looked for malocclusions on clinical examination as a routine,

while 22% failed to look for them. Around 27% recommended orthodontic treatment for patients with periodontal problems while 73% did not. Orthodontic treatment was denied for patients with missing molars by only a small proportion of dentists (7%). Among all the study participants, 80% were aware that mini screws can replace molars for anchorage while 20% were ignorant of this concept. Finally, their opinion as to how long the retainers should be worn after fixed appliance therapy was taken. The results were widely variable with durations ranging from six months to life long.

**Table 1: Descriptive statistics of the questionnaire survey - Perception of orthodontics by non orthodontic specialists and general dentists**

Question.No	Survey Question	Replace with descriptive statistics
1	Maximum age upto which orthodontic treatment can be carried out	40.32 ±9.24 years
2	Right age to start orthodontic treatment	12.75 ±3.91 years
3	Can malocclusions can be treated during mixed dentition stage	Yes=90% , No=10%
4	Aware of functional therapy	Yes=95%, No=5%
5	Functional appliance gives best result when given during pre-pubertal growth spurt	Yes=85%, No=15%
6	Aware of skeletal malocclusions when patients come to you with complaint of proclined teeth and incompetent lips	Yes=89%, No=11%
7	Do you ask your patient to report for orthodontic treatment only after all permanent teeth erupted	Yes=40%, No=60%
8	Orthodontic treatment always requires extraction	Yes=5 % , No=95%
9	Orthodontic therapy can cure temporo mandibular joint disorders	Yes=72%, No=26%
10	Specialist(Orthodontist) is called for opinion	Yes=100%
11	Looks for malocclusions on clinical examination when patients report with any other complaint	Yes=85%, No=15%
12	Recommends orthodontic treatment for patients with periodontal problems	Yes=27%, No=73%
13	Denies orthodontic treatment for patients with missing molars	Yes=7%, No=93%
14	Aware that mini screws can replace molars for anchorage	Yes=80%, No=20%
15	How long should the retainers be worn after fixed appliance therapy	Widely variable range extending from 6months to life long

### DISCUSSION:

The questionnaire survey was conducted to evaluate the knowledge, attitude and awareness in the branch of Orthodontics amongst general dental practitioners and dentists from all specialties except Orthodontics. The survey revealed some interesting findings that reflected the existing scenario of orthodontic practice as perceived by dentists from other specialties. The knowledge and awareness prevalent among the study participants was

moderately satisfactory. But the study results definitely highlight the need for more education of practice and treatment concepts in Orthodontics to the dentists who did not belong to this field.

There is evidence that features like traumatic deep overbite, unprotected incisors and impacted teeth may adversely affect the longevity of the dentition.[7] Various habits such as finger and thumb sucking, etc., may lead to serious

malocclusions that may require even more complicated surgical and orthodontic measures.[8,9] The awareness regarding such basic facts and recent treatment options is mandatory. Therefore, continuing dental education programs are the need of the hour to constantly update the recent advances among the general dentists. It would be also definitely beneficial if the curriculum in the dental colleges and universities can be modified and upgraded to include the modern concepts and therapeutic options. The under and post graduate students can be trained right from the student days and can be exposed to multi disciplinary recent updates.

The results of the present study like treatment of malocclusions during mixed dentition period, use of functional appliance, awareness of the skeletal malocclusion, extraction for orthodontic treatment were in accordance with the study done by Niveda and Saravana.[10]

### CONCLUSION:

This particular comparative study added more focus on the facts of existing condition and scenario of the knowledge and attitude of the general dental practitioners and other practicing specialties of dentistry toward the principles and practice of the orthodontic treatment. From the above study conducted, it was observed that most of the general dentists and non-orthodontic specialists were aware of the basic concepts of Orthodontics like age criteria for orthodontic treatment, diagnosis of malocclusion, and the need for orthodontic treatment. Conduct of Continuing Education programs to update them regularly in diagnosis of orthodontic problems, functional appliance therapy, management of periodontally compromised cases, use of orthodontic mini screws and retention protocol after orthodontic treatment might be of great help to the practitioners in providing meticulous care to their patients. Therefore for this purpose, the syllabus during undergraduation should include more emphasis on therapeutic concepts, and continuing dental education programs can be helpful for the other dental practitioners to upgrade their knowledge of orthodontic treatment.

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