

A Survey of the Knowledge, Attitude, and Awareness of Principles and Practices in Orthodontics among General Dentists and Non-orthodontic Specialists

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Abstract

Background: A questionnaire survey was conducted to evaluate the knowledge, attitude, and awareness in the field of orthodontics among general dentists and non-orthodontic specialists. **Aims and Objectives:** The aims of this study were to evaluate the knowledge and ability to correlate concepts in orthodontics and other disciplines of dentistry and to assess the importance given to orthodontics by general dental practitioners and non-orthodontic specialists. **Materials and Methods:** The questionnaire consisted of 15 questions related to diagnosis and treatment planning in orthodontics. It was distributed to one hundred ($n = 100$) general dentists and non-orthodontic specialists practicing in rural/urban areas of Patna, Bihar. **Results:** After computing the data, we observed that the knowledge level among the study participants was moderately satisfying. Yet, the need for more education of the dentists in certain areas of orthodontics was perceived. **Conclusion:** Improving the awareness among 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.

Keywords: Attitude, Knowledge, Orthodontics, Questionnaire, Survey.

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 joint (TMJ) 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 esthetics. 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

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Received: Jan, 06, 2022; **Accepted:** Dec, 10, 2022; **Published:** Dec, 18, 2022

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How to cite this article: Singh DK, Sony K, Choudhary H, Vatsa R, Kumar S, Bhowmick D. A Survey of the Knowledge, Attitude, and Awareness of Principles and Practices in Orthodontics among General Dentists and Non-orthodontic Specialists. J Res Adv Dent 2023;14(2):44-46.

Access this article online

Website:
www.jrad.co.in

DOI:
<https://doi.org/10.53064/jrad.2022.14.2.321>

health educators, but only if they have good knowledge and attitude of principles and practice of orthodontic treatment.

Lew^[5] 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 METHODS

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 Patna city. Total number of dentists who answered the questionnaire was one 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 were analyzed and descriptive statistics were computed using SPSS Version 17.

RESULTS

The entire set of 15 questions asked in the survey and the data collected are shown in Table 1. According to the study participants, the maximum age up to which orthodontic

treatment can be carried out was 40.32 ± 9.24 years and the right age to start orthodontic treatment was 12.75 ± 3.91 years.

When the dentists were questioned if malocclusions can be treated during mixed dentition stage, 96% of them answered affirmatively (Yes = 96%; No = 4%). About 97% 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 87% and denied by 13%. When the practitioners were questioned if they always asked their patients to report for orthodontic treatment only after all the permanent teeth had erupted, 65 % of the dentists answered “No,” while 35% 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 89% of the dentists were aware of the skeletal malocclusions, while 11% 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 = 7%). Majority of them (93%) were aware that it was not an absolute necessity. The influence of orthodontic therapy on the cure of TMJ disorders when tested showed that 73% believed that it can cure TMJ disorders, while 27% 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, 85% of the dentists looked for malocclusions on clinical examination as a routine, while 15% failed to look for them.

Around 31% recommended orthodontic treatment for patients with periodontal problems, while 69% did not. Orthodontic

Table 1: Descriptive statistics of the questionnaire survey

Survey question	Reply with descriptive statistics (%)
Maximum age up to which orthodontic treatment can be carried out	40.32±9.24 years
Right age to start orthodontic treatment	12.75±3.91 years
Can malocclusions can be treated during mixed dentition stage	Yes=96, No=4
Aware of functional therapy	Yes=97, No=3
Functional appliance gives best result when given during pre-pubertal growth spurt	Yes=87, No=13
Do you ask your patients to report for orthodontic treatment only after all permanent teeth have erupted	Yes=35, No=65
Aware of skeletal malocclusions when patients come to you with complaint of proclined teeth and incompetent lips	Yes=89, No=11
Orthodontic treatment always requires extraction	Yes=7, No=93
Orthodontic therapy can cure temporomandibular joint disorders	Yes=73, No=27
Specialist (orthodontist) is called for opinion	Yes=100
Looks for malocclusions on clinical examination when patients report with any other complaint	Yes=85, No=15
Recommends orthodontic treatment for patients with periodontal problems	Yes=31, No=69
Denies orthodontic treatment for patients with missing molars	Yes=8, No=92
Aware that mini screws can replace molars for anchorage	Yes=79, No=21
How long should the retainers be worn after fixed appliance therapy	Widely variable range from 6 months to life long

treatment was denied for patients with missing molars by only a small proportion of dentists (8%). Among all the study participants, 79% were aware that mini screws can replace molars for anchorage, while 21% 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 6 months to life long.

DISCUSSION

The questionnaire survey was conducted to evaluate the knowledge, attitude, and awareness in the branch of orthodontics among 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. However, 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 such as 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 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 postgraduate students can be trained right from the student days and can be exposed to multi-disciplinary recent updates. We plan to conduct the study

on a larger population in the fourth coming days to have a more precise evaluation of the existing scenario.

CONCLUSION

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 such as 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.

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