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## **Assessment of Knowledge, Awareness & Perception Towards Orthodontics Speciality among the Health Care Professionals**

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### **Abstract**

Health is defined as being “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”- (WHO). For the wellbeing of individuals, the health care professionals and the allied health care professionals are interdependent to each other & also the primary care givers they are the indispensable component in the health care delivery system. Basic

knowledge and the treatment possibilities regarding the different health care professionals should be known in order to improve the health of the individual. To assess their level of knowledge awareness & perception and attitude toward orthodontic treatment among the health care professionals and also to elicit the knowledge between Health care professionals.

**Keywords:** Health Care Professionals, Orthodontics, Awareness

### **Introduction**

William Osler has rightly said, “Mouth is the mirror of general health <sup>[1]</sup>. For the wellbeing of individuals, the health care professionals and the allied health care professionals are interdependent to each other & also the primary care givers they are the indispensable component in the health care delivery system. Nagrik *et al* <sup>[1]</sup> concluded that medical doctors have inadequate awareness about the dental subspecialties. Basic knowledge and the treatment possibilities regarding the different health care professionals should be known in order to improve the health of the individual. One of the goals of oral health promotion is for knowledge to be shared among the members of the profession. So, in this process it is required to elicit the knowledge awareness & perception towards orthodontics speciality among the health care professionals and the allied sciences. Unity is the strength when there is teamwork and collaboration, wonderful things can be achieved (MATTIE STEPANEK).

### **Materials and Methods**

A questionnaire study was conducted among 400 sample which are randomly selected among health care professionals & allied sciences. A total of 27 multiple choice questions related to orthodontic awareness were prepared online using Google Docs and recorded in nominal scale. Questionnaire was distributed through various channels personal e-mails, Phone. These google form links which were provided to the participants were filled and submitted individually by participants online on the google platform. A follow-up to non-respondents was sent in the form of one reminder e-mail or one telephonic message. The data generated online was collected and analysed and its content validity was assessed.

List of questionnaires of the study:

1. Which branch you belong to:

A. Medical

B. Allied sciences

2. Which age group you belong to:

a. 18-21 yrs

b. 21-25 yrs

c. 25-30 yrs

d. above 30 yrs

3. Have you visited a dentist before?

a. Yes

b. No

4. Do you know the role of an orthodontist in dentistry? Choose one option only=

a. Root canal treatment

b. Extractions

c. Crown placement and dentures

d. Placement of braces

e. cleaning the teeth & gums problems

5. Have you noticed people having irregular teeth?

a. Yes

b. No

6. Have you noticed improper positioning of your teeth by yourself or was it told to you by society/others?

a. Yourself

b. Society/others

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7. Have anyone advised you to get your teeth aligned?

a. Yes

b. No

8. Have you felt need to the braces?

a. Yes

b. No

9. Have you taken orthodontic treatment?

a. Yes

b. No

10. Which of the following you feel may have an influence on your decision to go for an orthodontic treatment? choose one option.

- a. social network websites
- b. Family & Friends
- c. advises from health care professionals |
- d. Self-consciousness

11. Do you feel social life is adversely affected with braces?

- a. Yes
- b. No

12. Have you advised anyone for correcting irregularly placed teeth or with jaw problem to an orthodontist?

- yes
- no

13. Are you aware at what period of time the irregularly placed teeth should be corrected.

- a. yes
- b. no

14) Are you aware that the improperly positioned teeth can be corrected after the age of 40 years also?

- a. Yes
- b. No

15) Do you think irregular teeth can be a hindrance in maintaining oral hygiene?

- a. Yes
- b. No

16) Do you know that oral habits (thumb sucking, tongue thrusting, nail biting) have ill effects on teeth?

- a. Yes
- b. No

17) Do you believe that teeth should be properly aligned for better facial appearance?

18) Are you aware that patients with braces require better oral hygiene management as compared to patients without braces?

- a. Yes
- b. No

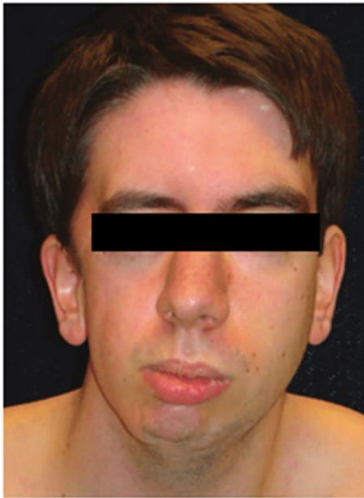
19) Do you know that braces can be painful and might lead to ulcerations?

- a. Yes
- b. No

20) Are you aware that orthodontic treatment will require diet restrictions?

- a. Yes
- b. No

21) Can all the jaw problems can be corrected with braces or not?



- a. Yes
- b. No

22) below picture can be corrected by           



- A. Braces only
- B. surgically
- C. Combination of both
- D. Cannot be corrected

23. Are you aware of the different types of braces available? (Metal/ Ceramic/Lingual)

- a. Yes
- b. No

24 ) Are you aware that ceramic and lingual braces are more expensive as compared to traditional metal braces?

- a. Yes
- b. No

25) Are you aware of the adjuncts to braces, similar to clear trays? (Such as Invisalign, ClearPath Flash, etc.)

- a. Yes
- b. No

26) Do you know that orthodontic treatment usually takes more time than other dental treatments?

- a. Yes
- b. No

27) Are you aware about the frequency of appointments during an orthodontic treatment?

- a. Yes
- b. No

### Statistical Analysis

- The data from completed forms were transferred to excel sheet, imported into SPSS version 16 and analysed.
- Univariate analyses was performed to calculate proportion.
- Chi-square test was used to compare the differences in proportions responses.

### Results

The study conducted a comprehensive analysis of the frequency distribution and p-values for different questions related to orthodontics in three distinct groups: the overall group, the medical group, and the allied sciences group. In the socio-demographic section, we found that the distribution of participants between the medical (153-49.84%) and allied sciences branches (154 - 50.16%) was nearly equal, indicating a balanced representation of both groups in the study. Moreover, the statistical analysis showed that there was no significant difference in the distribution of respondents across the two branches, suggesting that the demographic characteristics of the participants were adequately represented.

However, when examining the age group distribution, the study revealed a significant difference among the respondents. The 58.63% of participants in the overall group were in the 18-21 years age range, whereas the medical and allied sciences groups had relatively more participants in the 18-21 years age that is 58 (37.91%) and 122 (79.22%) respectively and fewer in the above 30 years age. This finding indicates that the age composition of the respondents varied significantly between the different groups, and it might be essential to consider age as a factor influencing the results and interpretations of the study.

Moving on to knowledge about orthodontics, the researchers asked various questions with multiple response options (A to E) to assess the participants' understanding of orthodontic concepts. The results demonstrated that for all the questions related to knowledge about orthodontics, there were significant differences in responses among the participants in the overall group as well as within the medical and allied sciences groups. These findings suggest that there are variations in the levels of knowledge and awareness about orthodontics among the respondents, regardless of their branch or field of study. In addition to knowledge-related questions, the study examined various other aspects of orthodontic treatment, such as social life impact, awareness of different types of braces, perception of pain, oral hygiene management, and more. For most of these questions, the p-

values indicated significant differences in responses among the participants in both the medical and allied sciences groups. This implies that factors like social considerations, awareness of treatment options, and perceptions of discomfort significantly influenced respondents' opinions and decisions regarding orthodontic treatment.

Overall, the study provides valuable insights into the differences in knowledge, perceptions, and attitudes towards orthodontic treatment between the medical and allied sciences groups. The findings highlight the importance of tailored educational interventions and awareness programs to improve orthodontic knowledge and foster positive attitudes towards orthodontic treatment among both medical and allied sciences professionals. Additionally, understanding these variations can help healthcare providers develop patient-centered approaches, providing personalized treatment plans and addressing individual concerns to enhance overall patient satisfaction and oral health outcomes.

In summary, the study showed that there are significant differences in responses among different groups (medical and allied sciences) and for various questions related to orthodontics. These findings may have implications for understanding the knowledge, perceptions, and attitudes towards orthodontic treatment among the participants.

### Discussion

The findings from this study provide a comprehensive understanding of the knowledge, perceptions, and attitudes towards orthodontic treatment among participants in the medical and allied sciences groups. The strength of this study lies in its rigorous data collection and analysis, encompassing a wide range of questions related to orthodontics. However, certain limitations should be considered while interpreting the results.

This study reveals a significant disparity in the knowledge and attitudes towards orthodontic treatment between general practitioner dentists and specialists. Similar findings were observed in a study conducted by Sastri *et al.* in India [2], as well as a study by Alnusayri in Saudi Arabia [3], both of which reported differences in knowledge and attitude between general practitioners and specialists. In contrast, a study conducted by Niveda S in Chennai on a similar sample size yielded moderately satisfying results [4]. Numerous other studies have also explored the knowledge of malocclusion parameters in various regions worldwide.

An interesting study conducted in Ireland focused on dental practitioners' undergraduate orthodontic training and its application in their practice. In contrast to our current study,

the results indicated that 54% of respondents showed positive responses regarding their academic knowledge of orthodontic concepts. Furthermore, approximately 60% of participants expressed confidence in handling orthodontic emergencies, and an encouraging 70% expressed aspirations for further education in this field.

These diverse findings underscore the importance of addressing the discrepancies in orthodontic knowledge and attitudes among dental practitioners. It emphasizes the need for targeted educational interventions to improve orthodontic awareness and understanding, ultimately contributing to enhanced patient care and treatment outcomes.

Egolf *et al.* conducted a study exploring factors such as beliefs, attitudes, perceptions, and potential reasons associated with compliance in orthodontic treatment. These factors encompassed personality type, both negative motives (such as pain, inconvenience, and dysfunction) and positive motives (like health awareness, specific dental knowledge, and personal oral embarrassment) [5]. On the other hand, a study by Bos *et al.* did not find a correlation between compliance and patient satisfaction among orthodontic patients [6].

In the current study, we assessed patients' information regarding the orthodontic treatment required for compliance and maintenance. The assessment of patients' attitudes was related to their perceptions of treatment service and cost, while questions about their practices were associated with their oral hygiene methods and carefulness. However, it is important to note that the present study did not specifically investigate the barriers to action, as the questions were not targeted at exploring the reasons for non-cooperation or non-compliance.

One of the major strengths of this study is the large sample size, which enhances the generalizability of the findings to a broader population of healthcare professionals in the medical and allied sciences fields. The study's comprehensive approach, covering sociodemographic questions, knowledge assessment, and perception-related inquiries, allows for a detailed examination of participants' understanding and attitudes towards orthodontic treatment.

The statistically significant differences observed in knowledge levels among participants signify the need for targeted educational interventions to improve orthodontic awareness in both medical and allied sciences groups. These findings are crucial for enhancing the quality of care provided by healthcare professionals in these fields and promoting evidence-based practices in orthodontics.

Moreover, the study's analysis of various factors influencing decision-making related to orthodontic treatment, such as social considerations, awareness of treatment options, and perceptions of discomfort, adds valuable insights for healthcare providers. This information can be utilized to develop patient-centered approaches, addressing individual concerns and preferences, and leading to better patient satisfaction and treatment outcomes.

Despite its strengths, the study has several limitations that should be acknowledged. Firstly, the data collected through self-report questionnaires may be prone to response bias and social desirability, potentially affecting the accuracy of the results. Participants might provide answers they perceive to be socially acceptable or what they think the researchers want to hear, leading to skewed responses.

Additionally, the study's focus on participants from medical

and allied sciences groups might restrict the generalizability of the findings to a more diverse population. Including participants from other professional backgrounds and the general public could offer a more comprehensive understanding of orthodontic knowledge and perceptions.

The lack of detailed information on the participants' educational background and experience in orthodontics could be another limitation. A more thorough assessment of their training and exposure to orthodontic practices would provide deeper insights into the factors influencing their knowledge and attitudes.

Furthermore, the cross-sectional design of the study prevents the establishment of causal relationships between variables. Longitudinal studies or interventional research would be valuable in exploring changes in knowledge and attitudes over time and the impact of educational interventions.

## Conclusion

In conclusion, this study sheds light on the knowledge, perceptions, and attitudes towards orthodontic treatment in the medical and allied sciences groups. The results highlight significant differences in knowledge levels among participants and underscore the importance of targeted educational interventions to improve orthodontic awareness in both groups. Healthcare providers can benefit from the findings by adopting patient-centered approaches that address individual concerns and preferences, leading to improved patient satisfaction and treatment outcomes.

However, the study's limitations should be considered, and further research is warranted to explore these aspects in a more diverse population and over longer periods. By addressing the gaps in knowledge and perception-related challenges, healthcare professionals can contribute to the promotion of better oral health practices and patient-centered care in orthodontic treatment. Ultimately, a collaborative effort among healthcare providers, educators, and researchers is essential to continually improve orthodontic knowledge and practices for the benefit of patients and the field of dentistry as a whole.

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## References

1. Nagrik AP, Bhagat BA, Yemle SB, Maidapwad S. Awareness of Specialties of Dentistry among Medical Trainees and Teaching Faculty of Medical College in the Central West India. *J Int Soc Prev Community Dent.* 2019; 9(3):269-274.
2. Sastri MR, Tanpure VR, Palagi FB, Shinde SK, Ladhe K, Polepalle T. Study of the Knowledge and Attitude about Principles and Practices of Orthodontic Treatment

- among General Dental Practitioners and Non-orthodontic Specialties. *J Int Oral Health*. 2015; 7(3):44-48.
3. Alnusayri MO, Alnezi KKK, Patil SR, Aeleni KR, Rao KA. Knowledge and attitude regarding principles and practices of orthodontic treatment among general dental practitioners and nonorthodontic specialists of Saudi Arabia: A preliminary study. *J Res Med Dent Sci*. 2017; 5(3):59-62.
  4. Niveda S, Saravana D. A survey of the knowledge, attitude and awareness of principles and practices in orthodontics among general dentists and nonorthodontic specialists. *IOSR J Dent Med Sci*. 2014; 13(1):44-46.
  5. Egolf R, BeGole EA, Upshaw HS. Factors associated with orthodontic patient compliance with intraoral elastic and headgear wear. *AmJ Orthod Dentofac Orthop*. 1990; 97:336-348.
  6. Bos A, Vosseiman N, Hoogstraten J, Prah-Anderson B. Patient compliance: A determinant of patient satisfaction? *Angle Orthod*. 2005; 75:526-531.