

# **A Questionnaire Survey On The Perception Of Orthodontic Treatment According To Age Between Medical And Non-Medical Professionals In Gujarat**

**Dr. Zalak H. Patel,**

Post graduate student Department of Orthodontics and Dentofacial Orthopedics, Narsinhbhai Patel Dental College and Hospital, Sankalchand Patel University, Visnagar.

**Dr. Ajay Kubavat,**

Professor and Head Department of Orthodontics and Dentofacial Orthopedics, Narsinhbhai Patel Dental College and Hospital Sankalchand Patel University, Visnagar.

**Dr. Sanjeev Jakati,**

Reader, Department of Orthodontics and Dentofacial Orthopedics, Narsinhbhai Patel Dental College and Hospital Sankalchand Patel University, Visnagar.

**Dr. Khyati Patel,**

Reader, Department of Orthodontics and Dentofacial Orthopedics, Narsinhbhai Patel Dental College and Hospital Sankalchand Patel University, Visnagar.

**Dr. Mansi Mehta,**

Post graduate student, Department of Orthodontics and Dentofacial Orthopedics, Narsinhbhai Patel Dental College and Hospital, Sankalchand Patel University, Visnagar.

**Dr. Manan Shah,**

Post graduate student, Department of Orthodontics and Dentofacial Orthopedics, Narsinhbhai Patel Dental College and Hospital, Sankalchand Patel University, Visnagar

**Corresponding Author- Dr. Zalak H. Patel,**

Post graduate student Department of Orthodontics and Dentofacial Orthopedics, Narsinhbhai Patel Dental College and Hospital, Sankalchand Patel University, Visnagar. Email- zalakpatel.02@gmail.com

## **ABSTRACT:**

**Aim:** Estimate the overall frequencies of positive perception towards orthodontic treatment among medical and general population. **Objective:** To compare the percentage of interest in orthodontic treatment between medical and non-medical professional and according to age. **Material and method:** 60 medical and 60 non-medical professional participated in the study. Questionnaire was given to them and necessary data was tabulated. The medical and non-medical professionals' perception towards orthodontic treatment was recorded. **Statistical analysis:** chi-square test and fisher's exact test. **Result:** The overall rate of positive response towards orthodontic treatment of medical group was 75% while 51.7% was found for non-medical group. According to age younger group i.e 20s and 30s showed better perception towards orthodontics treatment than the middle-aged group. **conclusion:** study concludes that awareness is still

required for both the medical and non-medical professional for orthodontic treatment and middle-age population has to be taken in consideration when it comes to awareness for orthodontic treatment.

**Key words:** Perception, Orthodontic treatment, Age, Questionnaire

## **INTRODUCTION:**

The number of middle-aged or elderly adult patients seeking orthodontic treatment has increased as a result of rising average life expectancy and national income<sup>1</sup>. Adult patients in their 20s and early 30s, rather than teenagers, have traditionally been treated with "so-called" adult orthodontics<sup>2</sup>. This idea of "adult patients" has been increasingly expanding to include patients who are middle-aged or elderly<sup>3</sup>. Reports of these alterations come from all across the world<sup>4</sup>. The patients' desire to preserve their natural teeth and improve both their function and aesthetics, as well as the profession's better ability to cure issues, are the key causes of this shift in opinion<sup>5</sup>.

Adult patients who are middle-aged or elderly are more likely to have periodontal disease, as well as different bone turnover rates and psychological profiles from younger individuals<sup>6</sup>. These individuals should be informed about the limitations and options for orthodontic treatment, which may be different from those of younger patients<sup>7</sup>. This demands for an accurate assessment of the patients' perspectives on the treatment<sup>8</sup>. As a result, it's crucial to look into why individuals decide to get orthodontic treatment and to examine the obstacles standing in the way of treatment for patients of all ages<sup>9</sup>. Few research, however, have looked at middle-aged adult patients in India's attitudes of and demand for orthodontic treatment<sup>10</sup>.

While the patient may believe other aspects are equally significant to begin treatment, the orthodontist may prioritise function and occlusion in assessment<sup>11</sup>. It's interesting to note that up to 80% of people who visit orthodontic clinics overlook structural or functional considerations<sup>12</sup>. According to some referred individuals decline orthodontic treatment for malocclusions that are considered to be debilitating by professionals, while others are eager to receive treatment for small displacements<sup>13</sup>. It appears that personal judgement plays a significant role in determining what constitutes acceptable and unsatisfactory occlusion<sup>14</sup>.

By categorising adults into two groups of medical and non-medical professionals, this questionnaire study aimed to assess the overall frequencies of positive perception toward orthodontic treatment and to identify any obstacles or unfavourable perceptions standing in the way of them receiving orthodontic treatment.

## **AIM OF THE STUDY**

The aim of the questionnaire study is to

Estimate the overall frequencies of positive perception towards orthodontic treatment among medical and general population. To identify barriers or negative perceptions preventing them from receiving orthodontic treatment.

## **OBJECTIVES OF THE STUDY**

The main objective of the questionnaire study is

To compare the percentage of interest in orthodontic treatment between medical and non-medical professional and to compare the percentage of interest in orthodontic treatment according to age.

## **MATERIALS AND METHODS**

**ETHICAL CLEARANCE :** The ethical clearance is not required as this study is a questionnaire study and therefore no invasive procedure were done on human being or animals.

**SAMPLE SIZE:** 120

**Inclusion criteria:** non-medical professional and medical professional were included, medical professional included were from the field of Medicine, dentistry, physiotherapy and Nursing, age group between 20-40 years, both sexes were included.

**Exclusion criteria:** participants who have already taken orthodontic treatment, age below 20 years and above 40 years, people with systematic diseases and any other disabilities were excluded.

## **DATA COLLECTION**

The study was performed in the department of orthodontics and dentofacial orthopaedics, narsinhbhai patel dental college and hospital, Gujarat. This study is the questionnaire study were two groups were study regarding their perception towards taking orthodontic treatment. Two groups were divided into a) medical professional b) Non-medical professional .Within each group they were further divided into four age groups.

Age group -1: 20-25 years, Age group -2: 26-30 years, Age group -3: 31-35 years, Age group -4: 36-40 years.

Consent of the participants were taken for the questionnaire study. The participants were asked to fill up the questionnaire form and the data obtained was received in-person (offline questionnaire). The participants' opinions regarding their consideration of receiving orthodontic treatment were recorded using a specially designed questionnaire. The questionnaires were completed by 120 participants. Data was obtained and formulated in Microsoft excel.<sup>TM</sup> Data was tabulated according to medical and non-medical professionals and age groups. Statistical analysis was performed using the chi-square test with statistical significance defined as  $p < 0.05$  and fischer's exact test and comparison was done according to above parameters.

### **Result:**

The study comprised of 120 participants out of which 60 belonged to the medical profession and 60 belonged to the non-medical profession.

Out of the 60-study subject in non-medical professional group, 27 (45%) were male and 33 (55%) were females. Similarly in the medical professional subject group 26 (43.3%) were male and 34 (56.7%) were female.

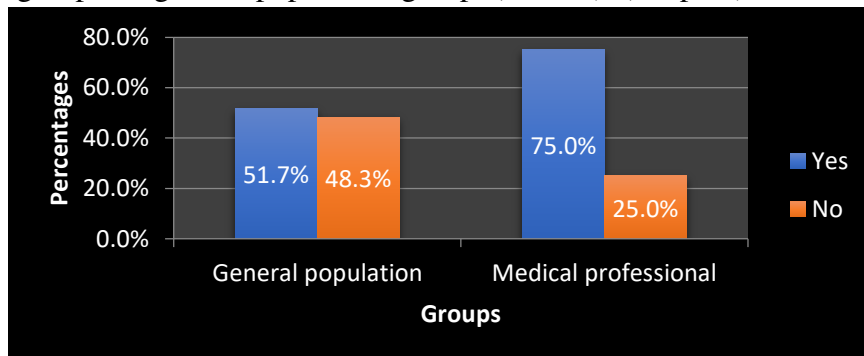
In both medical and non-medical professional the subjects were further divided into four age groups as shown in table-1.

Age groups	Groups n (%)	
	General population	Medical professional
20 – 25 years	15(25)	15(25)
26 – 30 years	15(25)	15(25)
31 – 35 years	15(25)	15(25)
36 – 40 years	15(25)	15(25)
Total	60	60

Table -1 age wise distribution between general population and medical professional

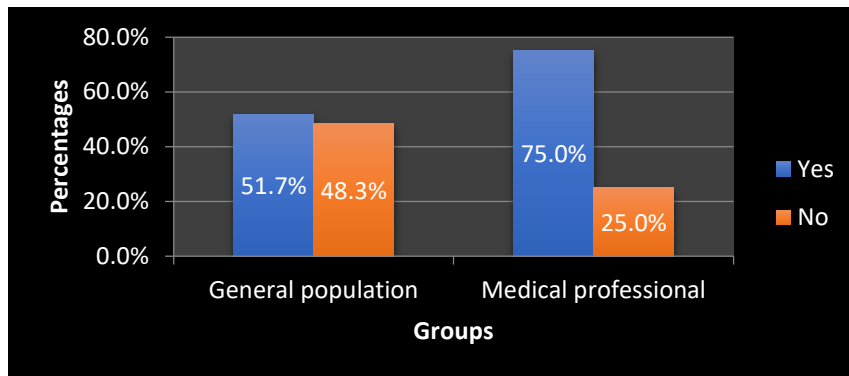
**Percentage of interest in orthodontic treatment compared by medical and non-medical professional:**

The rate of positive perception towards orthodontic treatment was much higher in medical group than non-medical professional. Different questions in the questionnaire which suggested the same. About 75% study subjects in medical professional group while 51.7% study subjects in general population group believed that teeth should be properly align for better facial appearance. Statistically, significant difference was present between medical professional group and general population group. (P<0.05). (Graph 1)



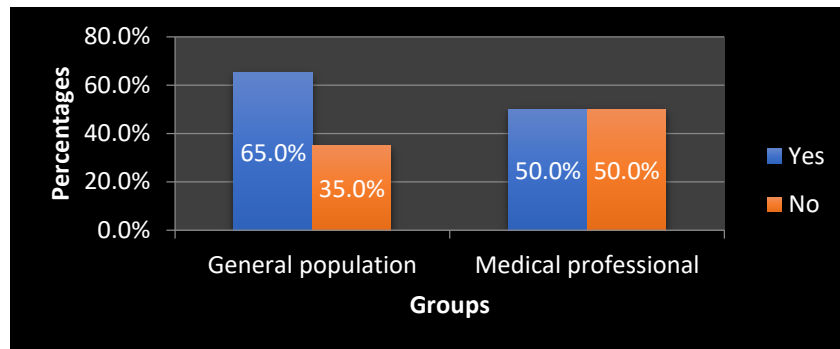
**Graph 1:** Comparison of medical professional and non-medical professional based on perception towards facial appearance

Moreover, about 75% study subjects in medical professional group while 51.7% study subjects in general population group considered that orthodontic treatment was costly. Statistically, significant difference was present between medical professional group and general population group. (P<0.05). (Graph 2)



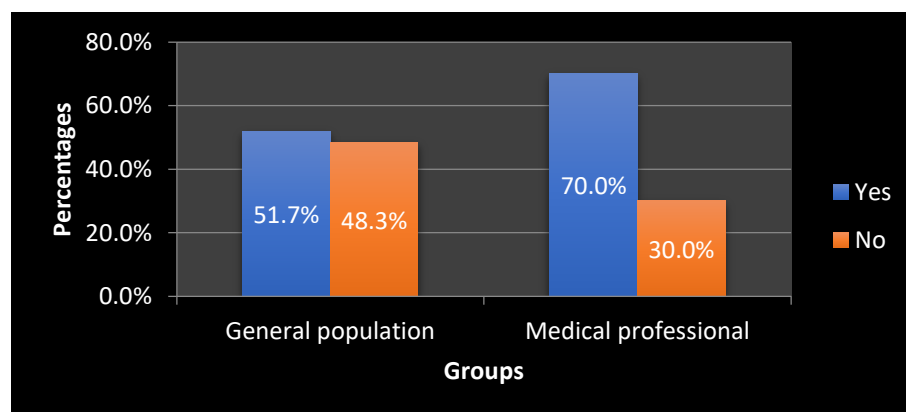
**Graph 2:** Comparison of medical professional and non-medical professional based on cost of orthodontic treatment

About 50% study subjects in medical professional group and 65% study subjects in general population group believed that orthodontic treatment is painful. Statistically, significant difference was present between medical professional group and general population group. ( $P < 0.05$ ). (Graph 3)



**Graph 3:** Comparison of medical professional and non-medical professional based on pain perception.

Also, about 70% study subjects in medical professional group and 51.7% study subjects in general population group considered to take orthodontic treatment on recommendation. Statistically, significant difference was present between medical professional group and general population group. (Graph 4)



**Graph 4:** Comparison of medical professional and non-medical professional based on recommendation.

#### **Percentage of interest in orthodontic treatment compared by age:**

In the total sample population both the groups were divided into four age group: 20-25 years, 26-30 years 31-35 years, 36-40 years. When comparison was done according to the four age groups, it was found that medical professionals of the age group between 20-25 age group and 26-30 age group showed high positive perception of orthodontic treatment need.

When asked about receiving orthodontic treatment in age group of 20-25 years, both medical professional (80%) and non-medical professional (73%) showed positive perception towards orthodontic treatment. Similar results were seen in 26-30 age group as well (66% for general population and 75% percent for medical professionals). Moreover, in 31-35 age group, 55% showed positive perception while in general population positive perception was 70%). However, in age group of 36-40 years, medical group showed 60% while non-medical group showed only 30% positive perception towards orthodontic treatment.

In the questionnaire, when asked to subject participants who are they more likely to they consult about orthodontic treatment, irrespective of the age group, general population were more likely to go to general dentist while medical professional preferred going to an orthodontist. No statistical difference was observed.

#### **Discussion**

The vast majority of studies on the need for orthodontic treatment have been conducted on children and adolescents<sup>15</sup>. In questionnaire-centered studies, children self-perceived a higher treatment need than was professionally assessed on esthetic grounds<sup>16</sup>. The demand for orthodontic treatment, however, is difficult to assess in children, and it will considerably change with increasing age<sup>17</sup>. Moreover, the self-perception of treatment need in older adults may be different from the treatment need evaluated by orthodontic experts.<sup>18</sup> Livas and Delli have indicated that adults persistently underestimated the definitive treatment need as determined in terms of dental health<sup>19</sup>.

Orthodontics has gained immense popularity with an increasing concern for aesthetics could be a general notion that medical professionals are much more educated and aware about the orthodontic treatment than the non-medical professionals. However, no such study has been conducted which compares the same. Thus, comparing the same between both the groups will not only help to evaluate the awareness between both the groups but also give an insight of various factors like perception to pain, treatment charges, facial appearances could affect the perception about orthodontic treatment.

When both medical professional as well as non-medical professional were asked about receiving orthodontic treatment, though no statistical significance was seen, surprisingly general population (68%) showed higher percentage of willingness to undergo orthodontic treatment rather than medical professionals (65%). This implies that need for awareness about orthodontic treatment is not only confined to non-medical professional but medical

professionals should be equally educated about the perception of orthodontic treatment needs.

However when opinion were taken related to facial appearance, it is the medical group which showed greater interest towards there facial aesthetics (75%) whereas in general population the percentage dropped down to 51%. Hence this can be attributed to the fact that facial aesthetics is one of the reasons for taking orthodontic treatment among medical professional.

When time factor was taken in consideration, both the groups showed percentages towards the higher side. The medical group showed 88.3% while general population showed 76.7%. Hence this suggest that time is an important factor for both groups.

Though a vast difference was seen in both the groups when pain perception was taken in consideration. The general group showed 65 % while medical group showed only 50% regarding pain in orthodontic treatment. From this one can conclude that awareness is needed in general population group than medical group.

Moreover, India is a population of 1.3 billion people with birth rate increasing at a rapid rate in the past decade. With this, not only youth are aware about the orthodontic treatment, middle aged people as well as older patients have started to visit an orthodontic clinic lot more than before. However, these patients are concerned both for their aesthetic need as well as the functional stability. Thus, intergroup comparison based on the age group was also done between medical and non-medical professionals.

In both the group four groups were made according to age among which younger age group which is 20-25 year and 26-30 years shows more positive response for taking orthodontic treatment in both the groups while the other two groups that is 30-35 years and 36-40 years showed less positive response for orthodontic treatment. Similarly when facial appearance factor is considered the 20s and 30s age groups showed higher interest in orthodontic treatment than the people in 30s and 40s age group.

The result have shown difference in both medical and non-medical groups based on various parameters but awareness is still the need of the hour in both the groups. Though medical professional being in the same stream, still there is lack of knowledge and awareness toward orthodontic treatment. Therefore when awareness is considered towards orthodontic treatment both the groups should be given equal importance.

### **Conclusion**

Study suggests that variability among the medical and non-medical professional for the orthodontic treatment need but still there is requirement of awareness not only for the general population but also for the medical professional. Some factors still has same impact on both the groups for the orthodontics treatment need and that needs to be looked into. And when aged population were taken in consideration the younger population shows more positive attitude towards orthodontic treatment. Therefore, awareness is required in middle-aged population for the orthodontic treatment.

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