



Survey On Awareness And Knowledge Of Orthodontic Treatment Among Young Population In The Suburbans Of Tiruvallur - A Questionnaire Survey

Lingeshkumar.N^{1*}, Vijayadhith C², Ashok Pothuri³, Mohana krishnan P J⁴, Mothi Krishna N⁵

^{1*,4,5} Assistant Professor, Dept. of Orthodontics, Priyadarshini Dental College & Hospital.

² Professor and head, Dept. of Orthodontics, Priyadarshini Dental College & Hospital

³ Associate Professor, Dept. of Orthodontics, Priyadarshini dental College & Hospital

***Corresponding Author: Lingeshkumar N**

**Assistant Professor, Dept. of Orthodontics, Priyadarshini Dental College & Hospital*

<i>Abstract</i>	
	<p>History of orthodontics dates back long ago where humans attempted correcting the teeth problems using gold alloys. Proper alignment of tooth has been an essential factor for functional, esthetics and overall oral health preservation. Many studies have been done in the past in assessing the knowledge and attitude of patients regarding orthodontic treatments. But the studies were limited based on the age, sex, geographic location and socioeconomic status of the study population. Some comparative studies have been conducted in assessing the knowledge of orthodontic treatment between dental and non dental graduates. Objective of this study is to assess the knowledge and awareness about various orthodontic treatment among non dental students residing in suburbans of Tiruvallur district.</p>
<p>CC License CC-BY-NC-SA 4.0</p>	<p>Key Words- <i>Orthodontic treatment, Esthetics, Malposed teeth, Young population.</i></p>

INTRODUCTION

Edward Angle coined the term Malocclusion. Any deviation from the normal occlusion is called as malocclusion and the etiology is multifactorial. Common causes of malocclusion is classified into environmental, systemic and local factors. Smile is being considered to be one of the most effective tool in influencing people and with growing awareness of esthetics, most people tend to Orthodontic treatment to improve the facial esthetics and normal function. The

prevalence of malocclusion is influenced by the knowledge, perception and attitude towards the oral hygiene. Wedrychowska¹ suggests that patients from urban areas tending more to orthodontics treatment than rural areas and girl prefer orthodontic treatment than boys. Social media handles have potential in creating knowledge and awareness about things that were difficult to reach the masses of population. Factors like gender, age, unfruitful previous visit to dentist, Financial background plays important role in patients to seek orthodontic treatment. Metropolitan cities socio culture, financial backgrounds, awareness and availability of speciality dental care makes the patients tending more in seeking orthodontic treatment, whereas all these factors negatively affect the rural population in seeking orthodontic treatment. Studies have been conducted throughout various parts of country seeking the awareness and perception and knowledge of orthodontics and

its results³. There is a diminutive awareness among the adults regarding the treatment procedure and availabilities of treatment options. Patients are reluctant about the ill effects of malocclusion⁵. But there are only a handful of studies that defines the attitude of young graduates who are not in the field of dentistry about the orthodontic treatment. This study aims to seek the knowledge and awareness of young non dental graduates attitude towards the orthodontic treatment.

MATERIALS AND METHODS

A structured questionnaire consisting of two sections containing total of 19 questions were given to students who were from the suburbs of Tiruvallur. Sample population was given a self questionnaire through online platform "Google Form". Consent regarding the sample population were obtained through the Google Forms where participants not willing to participate in this study are excluded. The data collected were scrutinized and analyzed for validation. This questionnaire helped us in assessing the awareness about orthodontic treatment in young graduates.

INCLUSION CRITERIA –

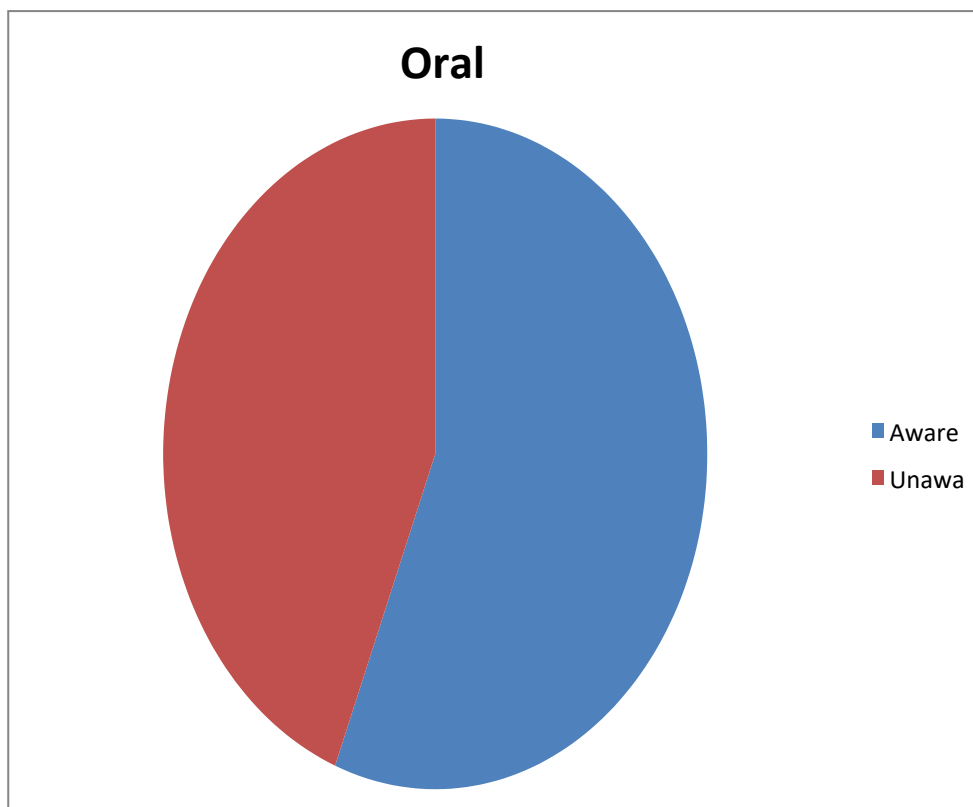
Patients of age between 14- 25 years of age Participants willing to participate in the survey

EXCLUSION CRITERIA –

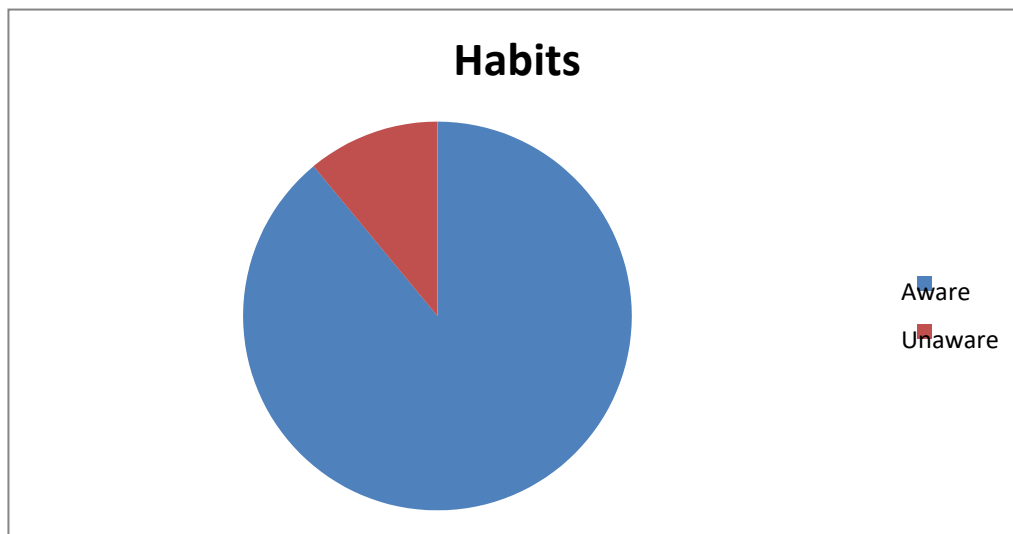
history of systemic disorders Participants who are not willing to participate. Patients with Dentofacial deformities.

RESULTS

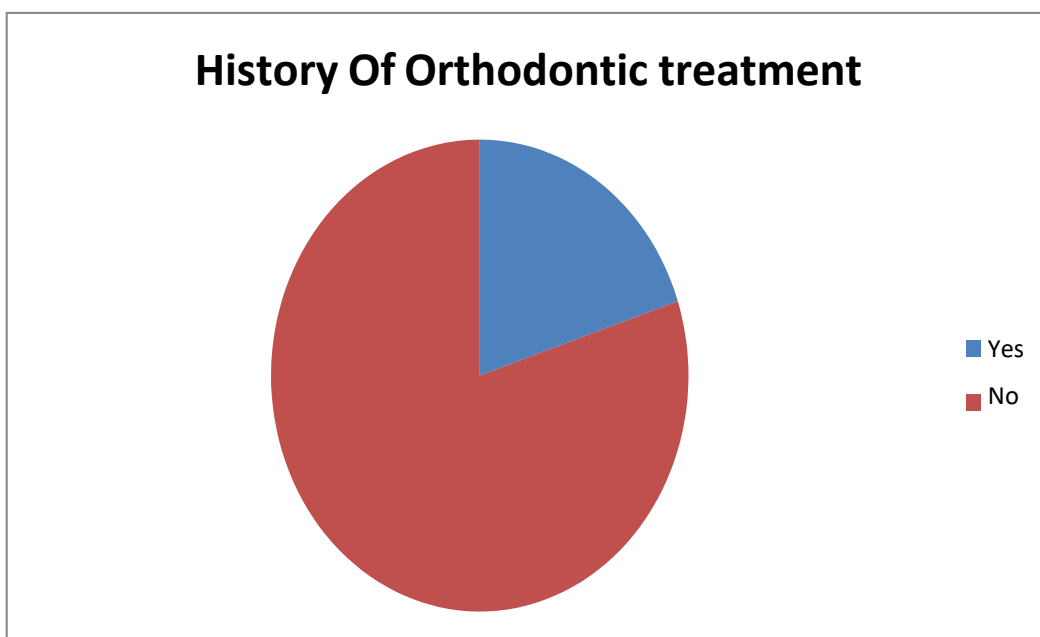
Total of 216 participants were taken out of which 24 participants were not willing to participate in this study. So a total of 192 participants were involved. Questions were divided into two sections in which section 1 involves the participants biographic data and section 2 involves their attitude and perception of Orthodontic treatment. Section 2 was designed in such away that questions were in the order of assessing the knowledge of the orthodontic problems, their attitude and their past experience of the orthodontic treatment. Around 56% of the study participants were aware of the speech difficulties and poor oral hygiene maintenance associated with irregularly placed teeth



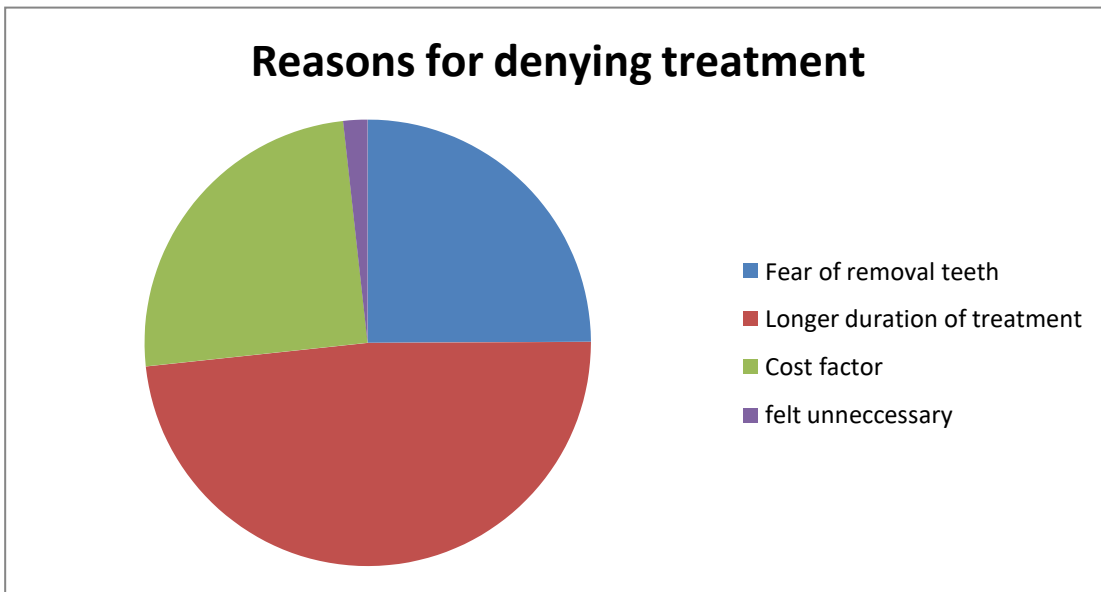
Around 89% of the participants were aware that habits like thumb sucking, nail biting and tongue thrusting habits might cause aligning problems.



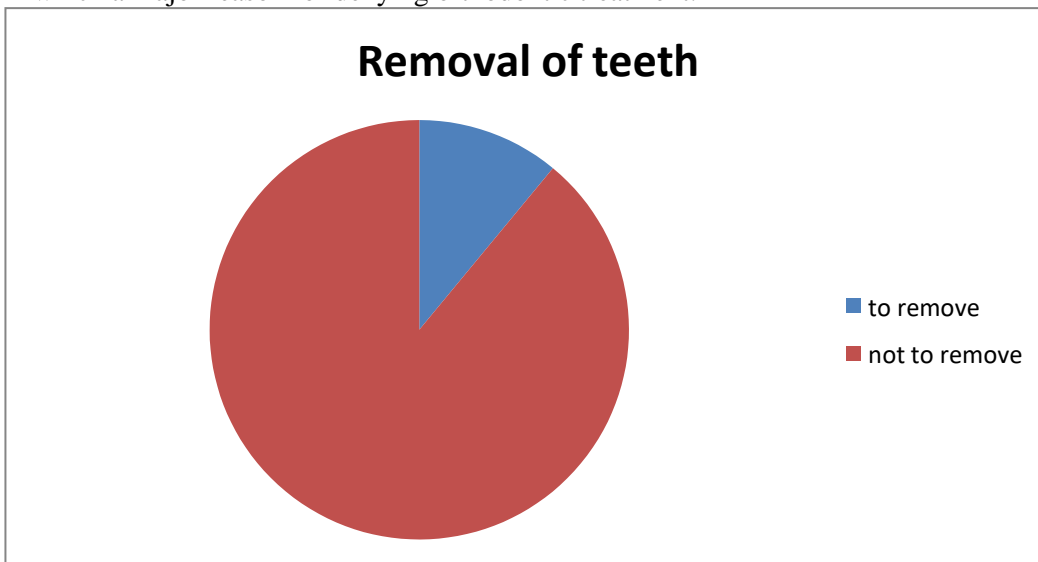
To assess the perspective of orthodontic treatment and pain, study participants were asked about the previous history and pain experienced during the time of treatment. Around 33% of the study participants underwent orthodontic treatment prior. Of which 40% of them experienced high pain during the treatment and 20% experienced moderate pain. Out of those participants who underwent orthodontic treatment, around 40% of them felt little to mild difficulties while eating with the appliance in place.



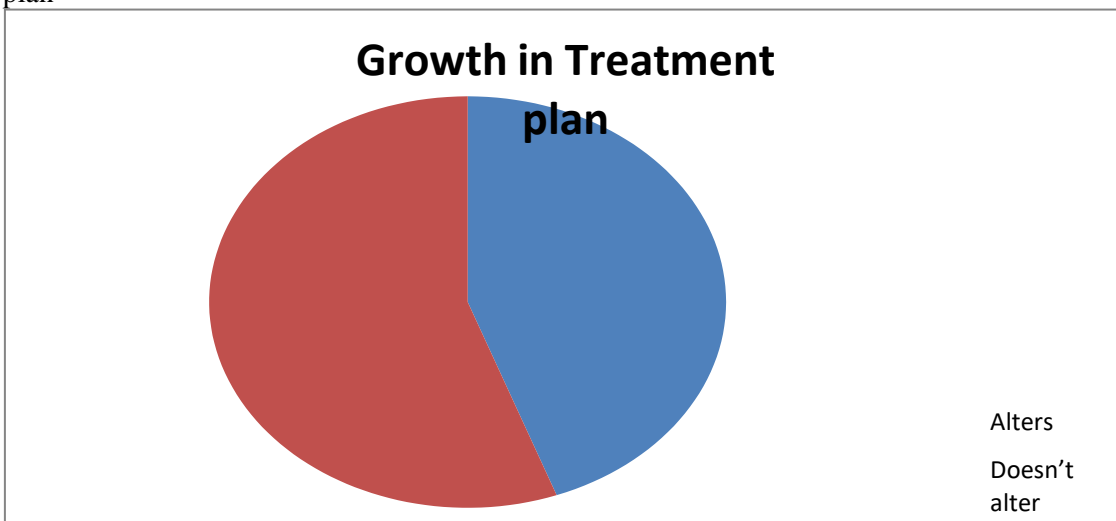
Around 44% of the study participants were willing to correct their malposed teeth, whereas 56% who didn't feel like undergoing orthodontic treatment. Out of which 33% feels like they don't need any orthodontic treatment and other 33% felt longer duration of the treatment as a main denying factor for not undergoing orthodontic treatment.



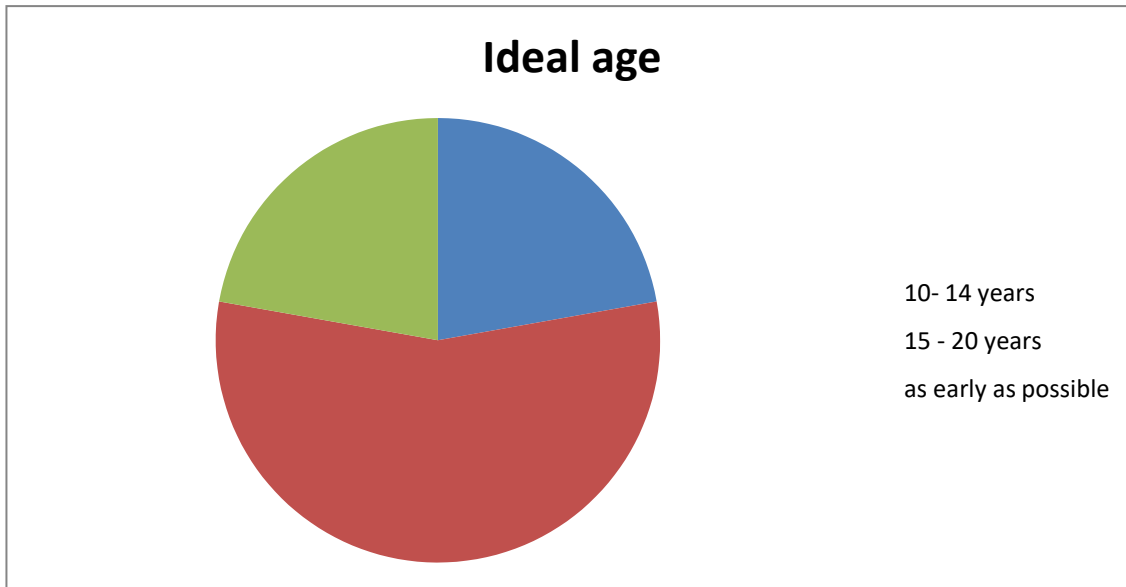
Around 11% of the study participants feels that correction of malposed teeth always requires removal of teeth, in which a major reason for denying orthodontic treatment.



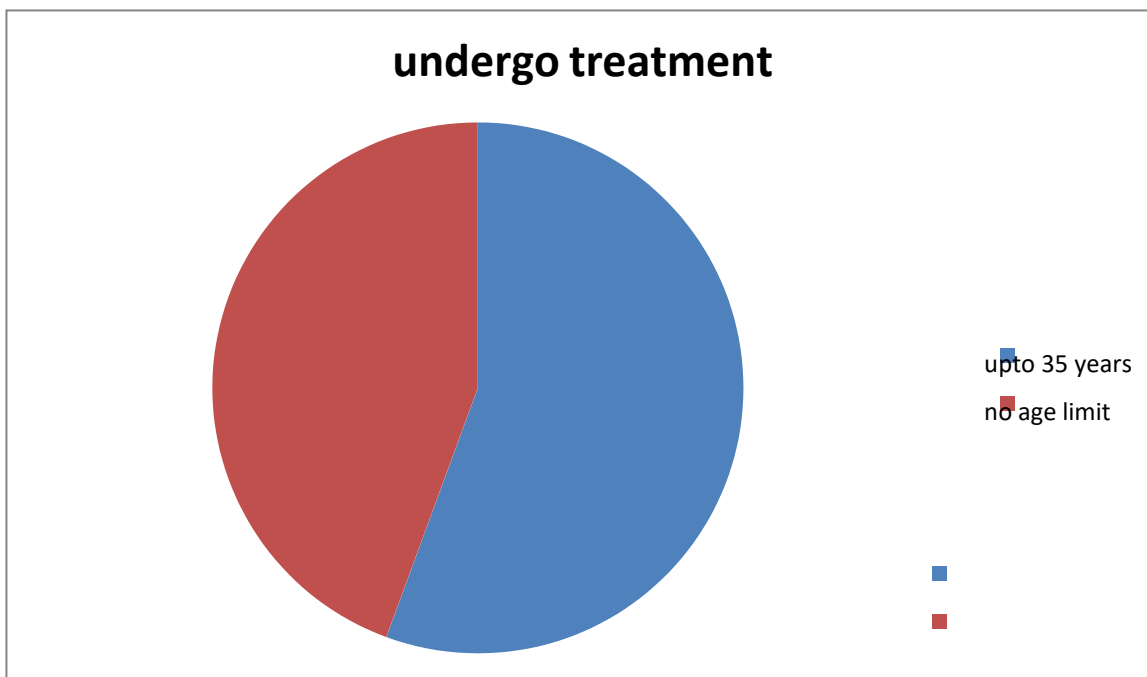
Around 44.4% of the participants felt that growth of the patient plays important role in devising the treatment plan



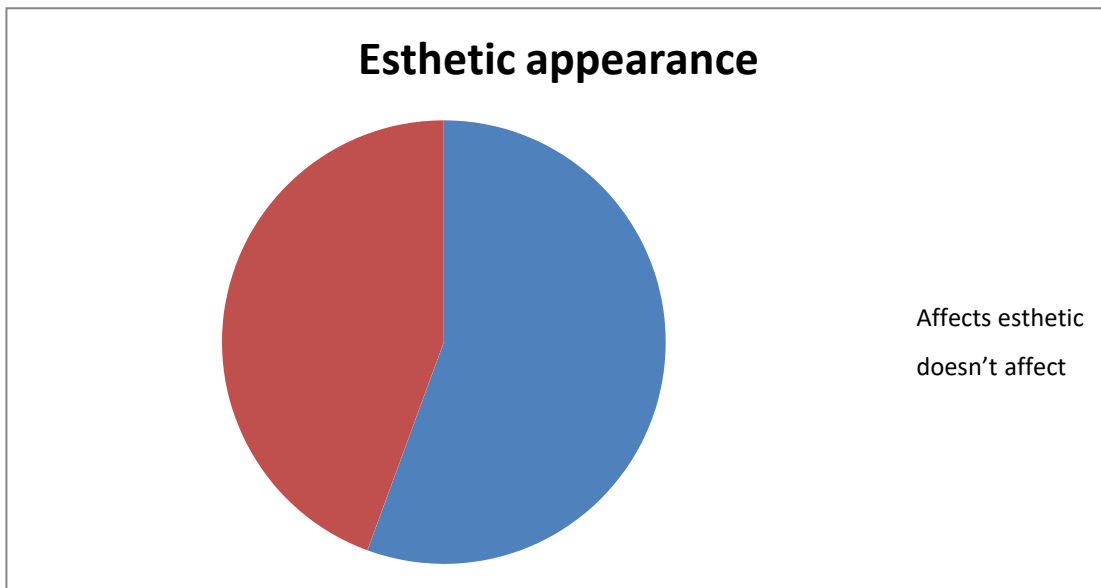
To assess the knowledge on patients undergoing orthodontic treatment, 55.6% of the study participants think that ideal age for teeth correction would be between 15 – 20 years of age. Around 22.2% thinks that orthodontic treatment should began as early as possible and rest feel that ideal age should be between 10- 14 years of age.



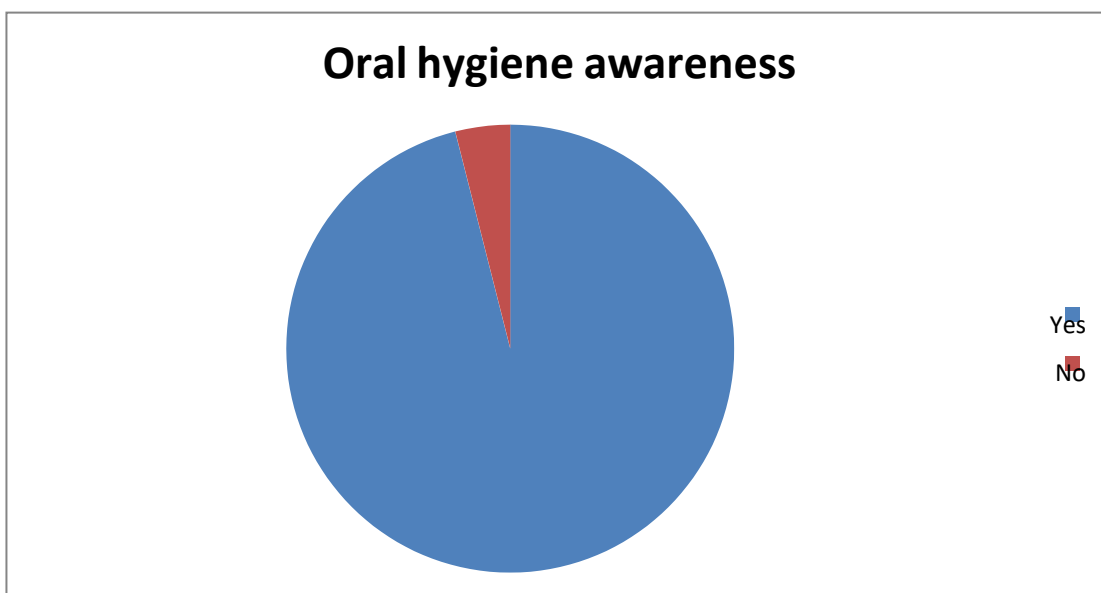
Around 44.4% of the study participants said that there is no definite age limit in undergoing orthodontic treatment, whereas 55.6% feels that upto 35 years one can undergo orthodontic treatment.



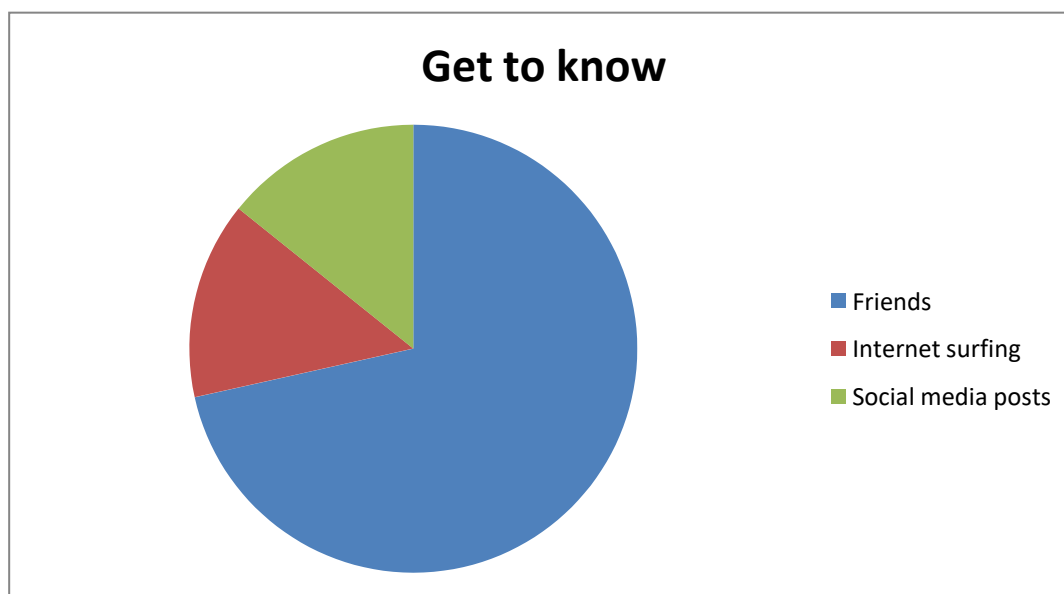
Around 55.6% think that orthodontic fixed appliances affect the esthetics of the face because of the metallic look while eating and speaking. They were unaware of the esthetic brackets like mono and polycrystalline brackets.



Around 77.8% of the study participants were aware that orthodontic treatment require additional oral hygiene maintenance.



Around 44.4 % of the study participants were aware of other possible treatment options like Distalization, Expansion, Self ligating brackets and Clear aligner therapy. Around 71.4% of them get to know about various treatment options through their friends and 14.3% get to know through the internet and 14.3% through social media posts and videos.



DISCUSSION-

Health and education are interdependent; neither can exist without the other, and to think otherwise would be a barrier to progress. Malocclusion has been impermissibly impairing our sense of self for a very long time, and people's perception of its more recent negative impacts varies from place to place. Particularly in rural areas, the issue appears to be more severe in developing nations like India.

A study by Verulkar² reveals very little knowledge of growth-modifying devices and moderate to substantial knowledge of ceramic and stainless steel brackets. Enhancing general understanding of orthodontic appliances, particularly those pertaining to early functional jaw orthopedics, should be the main goal of educational programs for the population.

Despite the fact that our population is becoming more and more aware of malocclusion and the need to repair it,⁴ study shows that young adults have a very low level of awareness of the negative impacts of malocclusion. Additionally, people are reluctant to correct some malocclusions because they view them as normal.

Major problem concerning the patients undergoing Orthodontic treatment is pain. Various studies have been conducted in the past in correlating the usage of NSAIDs and its correlation with orthodontic tooth movement. According to its physiology, personality, and various assessment techniques, pain during orthodontic tooth movement is observed. Regarding the nature of orthodontic forces and the perception of discomfort other than pain, factors are detailed both generally and specifically. Orthodontists must tackle this condition as best they can because orthodontic treatment may result in some level of anguish for the patients.⁶ This is in correlation with our study as around 40% of the study population felt moderate to high pain.

Adult patients are requesting orthodontic treatment at an increasing rate in modern dentistry. After fixed orthodontic appliances are installed, oral hygiene becomes significantly more difficult. As a result, those who have fixed orthodontic appliances are more likely to get dental cavities and gingivitis, which can cause the gingival attachment to fall off. After three months of active orthodontic treatment, it has been shown that there is a statistically significant rise in the lactobacilli levels, pH, buffer capacity, plaque index (PLI), and increased salivary flow rate⁷. Around 55.6 % of the study population felt that one can undergo orthodontic treatment upto the age of 35 years. But the studies have revealed that adequate bone support for the teeth to move is necessary for orthodontic treatment.

Although the evidence is of poor and middling quality, orthodontic treatment during childhood or adolescence leads to modest gains in the Oral Health Related Quality of Life (OHRQoL) domains measuring emotional and social well-being⁸. Around 55.6% study participants think that ideal age for correcting teeth is in the range of 15- 20 years.

Major point concerning the patients undergoing orthodontic treatment is removal of teeth for the purpose of space creating. Not all the problems require removal of teeth, whereas certain problems like moderate proclination of upper and lower incisors and mesialized molar require the usage of special treatment plans like mini implants, total arch distalization. This plan can be determined by doing extensive cephalometric and facial examinations. Space can be created for teeth to align while ensuring ideal lip support and chin morphology by using early arch- development procedures, selective extractions, temporary anchorage devices,

or interproximal reduction.

The severity of the original malocclusion and a number of other factors, including the technique used, the number of operators participating, the patients' cooperation, and the ability of the operators, all appear to affect how long therapy lasts. It is necessary to investigate the contribution of each factor, which is still unknown. Self-ligation may shorten treatment periods, however there is scant evidence to support this.⁹

Around 55.6% of study participants think that orthodontic fixed appliances affects the esthetics of the face. Patients' perception on esthetic differs person to person. Study conducted by Moritz Forsch¹⁰ in the year 2020 evaluated the perception of esthetic appearance by means of eye tracking measurements and survey investigation. The use of modern digital oculometric measuring techniques (eye-tracking techniques) is common in marketing, computer/robotic science, psychological, medical, and other types of research. The objective perception of various esthetic orthodontic appliances was investigated in the current study using eye-tracking data.

CONCLUSION

It is prudent to draw the following conclusion as a result that the population in the suburbs of Tiruvallur have a rough outline of orthodontic treatment awareness and they perceive the orthodontic treatment as a mode of improving the self confidence and improving the quality of life. Additional awareness campaigns should be launched, emphasizing the detrimental effects of malocclusion and the orthodontic treatment options that are available, as well as ongoing programs in schools and colleges that are supported by health-care educators and the media to reach the wider populations are to be done to improve the quality of life.

REFERENCES

1. Wedrychowska-Szulc B, Syrynska M. Patient and parent motivation for orthodontic treatment – A questionnaire study. *Eur J Orthod.* 2010; 32(4):447-52.
2. Verulkar A, Kamble R, Srivatsav S, Bajaj T, Potode N. Evaluation of the awareness of different orthodontic treatment appliances in patients undergoing orthodontic treatment of Maharashtra – A survey. *J Datta Meghe Ins Med Sci Univ* 2020; 15: 347-52.
3. Sri TS, Balakrishnan N, Sreenivasagan S, Nivethiga B. Knowledge, Attitude and awareness toward orthodontic treatment among patients: A questionnaire survey. *J Adv Pharm Technol Res* 2022; 13:S578-83.
4. Faizee SH, Veerasankar S, Avanthika K, Aruna Lakshmi M R, Angeline B, Rachel BJ. Awareness survey about the effects of malocclusion among young adults. *Indian J Dent Res* 2018; 29: 705-10.
5. Dr. Krithika A, Dr. C. Deepak, Dr. P. Deenadayalan, Dr. Akshay Tandon, Dr. Nidhi Angrish, Dr. Katepogu Praveen. A survey on awareness of malocclusion among the general population in Chennai. *Eur. Chem. Bull.* 2023, 12; 3: 6389-6396.
6. Marianne Bergius, Starvos Kiliaridis, Ulf Berggren. Pain in Orthodontics. *J Orofac Orthop* 2000; 61:125-37.
7. Atassi F, Awartani F. Oral Hygiene Status among Orthodontic Patients. *J Contemp Dent Prac.* 2010; 11(4): 25-32.
8. Haneih Javidi, Mario Vettore and Philip E. Benson. Does orthodontic treatment before the age of 18 years improve oral health related quality of life? A systematic review and meta analysis. *Am J Orthod Dentofac Orthop* 2017; 151(4): 644-655.
9. Dimitrios Mavreas, Athanasios E. Athanasiou. Factors affecting the duration of orthodontic treatment: a systematic review. *European Journal of Orthodontics* 2008; 30: 386-395.
10. Moritz Forsch, Lena Krull, Marlene Hechtner, Roman Rahimi, Susanne Wriedt, Heiner Wehrbein, Cornelius Jacobs, Collin Jacobs. Perception of esthetic orthodontic appliances: An eye tracking and cross sectional study. *Angle Orthod* 2020;90(1): 109-117.