



KNOWLEDGE AND ATTITUDE TOWARDS ORTHODONTIC TREATMENT AMONG ADOLESCENT PATIENTS VISITING A PRIVATE DENTAL CLINIC IN UDAIPUR CITY RAJASTHAN: A CROSS-SECTIONAL DESCRIPTIVE STUDY

Sumeet Sharma¹

¹ Department of Orthodontics and Dento-facial Orthopedics, Geetanjali Dental College and Research Institute, Udaipur, Rajasthan, India

CORRESPONDING AUTHOR: sharma.sumeet39@gmail.com

ABSTRACT

Aim: Present study is conducted to put some light on the knowledge and attitude of adolescents coming to private dental clinic

Material and Methods: The present study was conducted on adolescent subjects visiting a private dental clinic for various reasons. The study was conducted in May- June 2017. In these 2 months out of total patients a total of 342 adolescents had visited to the clinic. Out of which 293 adolescents had given there informed consent were included in the study. A structured close ended questionnaire was prepared to check the Knowledge and attitude of the study participants.

Results: According to majority of study participants {91 (31%)} knows that Orthodontist does treatment of gums. Most of the study participants {106 (37%)} had neutral attitude that Orthodontic treatment really improves looks of a person. According to majority of them {192 (66%)} person with irregularly arranged teeth should undergo Orthodontic treatment.

Conclusions: It has been concluded that patients visiting to the dental clinic had low knowledge regarding the Orthodontic treatment and fair attitude towards it.

KEYWORDS: adolescents, orthodontic treatment, knowledge

<http://dx.doi.org/10.19177/jrd.v5e3201751-56>

INTRODUCTION

Occlusal development is a long process starting around the sixth week of intrauterine life and concluding around the age of 20 years. This long developmental process is a sequence of events that occur in an orderly and timely

fashion under the control of genetic and environmental factors. Dental occlusion is an integral part of craniofacial structure and coordination of skeletal growth changes. Occlusal development is essential for establishing a normal and harmonious arrangement of the occlusal

system.

Untreated malocclusions can result in a variety of problems, including susceptibility to dental caries, periodontal disease, bone loss, temporomandibular disorders, and undesirable craniofacial growth changes.

Moreover, the child's appearance may be harmed, which can be a social handicap. The benefits of improving a child's appearance at an early age should not be undervalued. The goals of many clinicians who provide early treatment are not only to reduce the time and complexity of comprehensive fixed appliance therapy but also to eliminate or reduce the damage to the dentition and supporting structures that can result from tooth irregularity at a later age. In short, early intervention of skeletal and dental malocclusions during the primary and mixed dentition stages can enable the greatest possible control over growth changes and occlusal development, improving the function, esthetics, and psychologic well-being of children¹.

Facial appearance plays a major role in all stages of human life which has got a great impact during pre-adolescent and adolescent phases. This is because they develop increased self-consciousness to their appearance. They harbor the belief that others are concerned with their looks as they themselves are. This increased self-awareness leads them to be more concerned about their health. Health is multifactorial and is an inseparable part of general health^{2,3}. Oral health knowledge and awareness are considered to be an essential pre-requisite for health-related behavior⁴. Awareness is the state or ability to perceive, to feel or to be conscious. Awareness forms the basis for planning oral health which is an inseparable part of general health. On an extensive literature review by the researcher, there are no reported studies to assess the awareness of Orthodontic treatment in school children. School children are considered important target group for various health education activities with the underlying objective of inculcating healthy lifestyle practices to

last a lifetime. Proper education of growing children is the need of the hour. These educated children in turn take home the message about oral health, malalignment of teeth, consequences of the malocclusion and their treatment⁵.

Various studies^{6,7,8} conducted on knowledge and attitude towards Orthodontic treatment in the past revealed that most of the subjects agreed that proper occlusion was important while remaining were indifferent to its significance. Many were in favor of malocclusion correction. Aesthetics was the main reason motivating the subjects to seek orthodontic treatment, followed by proper occlusion, ability to chew and self-confidence. A pilot study⁹ investigating the reasons for seeking orthodontic treatment among 115 subjects aged 11-30 years in Malaysia concluded that psychological benefit was the most common reason followed by improvement at a professional level.

Therefore in the light of past studies in which no clear results were stated and not any studies were conducted in India. Present study is conducted to put some light on the knowledge and attitude of adolescents coming to private dental clinic.

MATERIAL AND METHODS

The present study was conducted on adolescent subjects visiting a private dental clinic for various reasons. Adolescence begins with the onset of physiologically normal puberty, and ends when an adult identity and behavior are accepted. This period of development corresponds roughly to the period between the ages of 10 and 19 years, which is consistent with the World Health Organization's definition of adolescence. The subjects who belonged to the age group of 10 to 19 years and given their informed consent were

included in the study.

The study was conducted in May- June 2017. The OPD of the clinic was on an average 20 patients per day. In these 2 months out of total patients a total of 342 adolescents had visited to the clinic. Out of which 293 adolescents had given their informed consent. Interview schedule was conducted by single person. Ethical clearance was obtained from the Institutional review board.

QUESTIONNAIRE

A structured close ended questionnaire was prepared to check the Knowledge and attitude of the study participants. A pilot study was conducted on 10% of study participants to pretest the questionnaire. Reliability of the Questionnaire was assessed by using Test-Retest and the values of measured Kappa (k) = 0.81 Weighted Kappa (k_w) = 0.80. Internal consistency of questionnaires was assessed by applying Chronbachs-Alpha (α) and the value of α=0.73 was measured.

The Questionnaire consists of 3 parts. First part consists of Demographic details of the study participants which includes age, gender, educational qualification, socioeconomic status. Second part consists of questions evaluating knowledge of study participants which consists 8 questions. Third Part consists of 7 questions on attitude of study participants.

Data was entered in Microsoft excel 2010. Descriptive analysis was done and number and percentage was presented in data.

RESULTS

Table 1 shows demographic status of the study population which revealed that majority of population 161(55%) was of 15-18 years of age group. Most of the study participants 192(66%)

were females. Study participants 122 (42%) mainly belong to middle class in socioeconomic status.

Table 1. Demographic status of study participants.

DEMOGRAPHIC VARIABLES	N (%)
AGE	
10-14 YEARS	132 (45%)
15-18 YEARS	161 (55%)
TOTAL	293 (100%)
GENDER	
MALE	101 (34%)
FEMALE	192 (66%)
TOTAL	293 (100%)
EDUCATIONAL QUALIFICATION	
SCHOOLING	199 (68%)
COLLEGE	91 (31%)
JOB	3 (1%)
TOTAL	293 (100%)
SOCIO-ECONOMIC STATUS	
HIGH	59 (20%)
MIDDLE	122(42%)
LOW	112(38%)
TOTAL	293 (100%)

Table 2 shows that most of the study participants {204 (70%)} had knowledge of irregularly arranged teeth. Most of them have the {152 (52%)} knowledge that teeth should be properly aligned for a better facial appearance. Bad looks is the main side effects of irregularly arranged teeth, according to 161 (55%) of the study participants. 200 (38%) of the study participants knows that Dentists treats irregularly arranged teeth. According to majority of study participants {91 (31%)} knows that Orthodontist does treatment of gums. According to 100 (34%) of study participants more than 20 years of age is the best time for Orthodontic treatment. Majority of study participants {95(32%)} states that Orthodontic treatment takes less than 1 year for completion.

Table 3 shows that about

187(64%) of study participants agree with the point that Braces in Orthodontic treatment do not look good. 202 (69%) of them feels that due to braces in mouth it is tough to clean the teeth. Most of study participants {138(47%)} thought that Orthodontic treatment is more painful than other dental procedure but most of them agree with the fact that Orthodontic treatment takes much more time than other dental procedure and is costly than other Dental procedure. Most of the study participants {106 (37%)} had neutral attitude that Orthodontic treatment really improves looks of a person. According to majority of them {192 (66%)} person with irregularly arranged teeth should undergo Orthodontic treatment.

DISCUSSION

Present study is conducted to evaluate the Knowledge and attitude of study participants towards Orthodontic treatment. Most of the study^{10,5,11} conducted were mainly evaluated the awareness towards the Orthodontic treatment. In this study, Knowledge and attitude was evaluated.

In the present study participants who belongs to age group of 10-18 were included in the study as compared to the study by Siddegowda R³ in which age group of 10-16 years was included. While in a Malaysian study conducted by Bailwad SA¹² had included the age group of 10-35 years of age group. According to World Health Organization¹³ the adolescent age group belongs to 10-18 years of age therefore this age group in included in the study.

Table 2. Shows knowledge of study participants towards orthodontic treatment.

Questions	Options	N (%)
Q1. Have you noticed people having irregularly arranged teeth?	a) Yes	204 (70%)
	b) No	89 (30%)
	c) Don't know	0 (0%)
	TOTAL	293(100%)
Q2. Do you believe teeth should be properly aligned for a better facial appearance	a) Yes	152 (52%)
	b) No	49 (17%)
	c) Don't know	92 (31%)
	TOTAL	293(100%)
Q3. What are the ill effects of Irregularly arranged teeth?	a) Trauma	70 (24%)
	b) Bad looks	161 (55%)
	c) No effects	24 (8%)
	d) Don't Know	38 (13%)
	TOTAL	293(100%)
Q4. Who treats irregularly arranged teeth?	a) Dentist	200 (68%)
	b) Surgeon	10 (3%)
	c) Don't know	83 (29%)
	TOTAL	293(100%)
Q4. Who treats irregularly arranged teeth?	a) Dentist	200 (68%)
	b) Surgeon	10 (3%)
	c) Don't know	83 (29%)
	TOTAL	293(100%)
Q5. What is Orthodontist does?	a) Root canal Treatment	52 (18%)
	b) Treatment of gums	91 (31%)
	c) Proper arrangement of teeth	73 (25%)
	d) Don't know	77 (26%)
	TOTAL	293(100%)
Q6. What is the best age of availing Orthodontic Treatment?	a) Below 10 years	38 (13%)
	b) 10-20 years	96 (33%)
	c) More than 20 years	100 (34%)
	d) Don't know	59 (10%)
	TOTAL	293(100%)
Q7. What is an average time for Orthodontic treatment?	a) Less than 1 years	95 (32%)
	b) 1-2 years	62 (21%)
	c) More than 2 years	54 (18%)
	d) Don't know	82 (29%)
TOTAL	293(100%)	
Q8. What is the average cost of Orthodontic treatment?	a) Less than 20,000 rs	59 (20%)
	b) 20,000 rs to 30,000 rs	58 (19%)
	c) More than 30,000 rs	68 (23%)
	d) Don't know	111 (38%)
	TOTAL	293(100%)

In the present study there was fair knowledge towards mal alignment of teeth among the study participants which is similar to results in study conducted by

Siddegowda R³. Contrary results were seen in study done by Devishree RA et al¹⁰ in which there is less knowledge about the irregular teeth. In an another study

Siddegowda R et al¹⁴ the knowledge towards Irregular teeth was moderate among study participants.

Table 3. Shows attitude of study participants towards orthodontic treatment.

Questions	Options	N (%)
Q1. Braces in Orthodontic treatment do not look good?	a) Agree	187 (64%)
	b) Disagree	88 (30%)
	c) Neutral	18 (6%)
	TOTAL	293(100%)
Q2. Due to braces in mouth it is tough to clean the teeth?	a) Agree	202 (69%)
	b) Disagree	79 (27%)
	c) Neutral	12 (4%)
	TOTAL	293(100%)
Q3. Orthodontic treatment is more painful than other dental procedure?	a) Agree	123 (42%)
	b) Disagree	138 (47%)
	c) Neutral	32 (11%)
	TOTAL	293(100%)
Q4. Orthodontic treatment takes much more time than other dental procedure?	a) Agree	249 (85%)
	b) Disagree	32 (11%)
	c) Neutral	12 (4%)
	TOTAL	293(100%)
Q5. Orthodontic treatment is costly than other dental procedure?	a) Agree	168 (57%)
	b) Disagree	122 (42%)
	c) Neutral	3 (1%)
	TOTAL	293(100%)
Q6. Orthodontic treatment really improves looks of a person?	a) Agree	98 (33%)
	b) Disagree	89 (30%)
	c) Neutral	106 (37%)
	TOTAL	293(100%)
Q7. Person with irregularly arranged teeth should undergo orthodontic treatment?	a) Agree	192 (66%)
	b) Disagree	87 (30%)
	c) Neutral	14 (4%)
	TOTAL	293(100%)

In the present study there is poor knowledge about Orthodontic treatment among study participants. Same results were shown in study conducted by Shrestha RM et al¹⁵ and Siddegowda R³ which also states poor knowledge regarding Orthodontic treatment. Many studies^{10,16} also states moderate knowledge towards Orthodontic treatment. A study by Shrestha RM et al¹⁵ showed a good level of knowledge towards Orthodontic Treatment among Nepalese patient.

In the present study majority of study participants agree with the fact that braces in Orthodontic treatment do not look good. Contrary results were seen

in the study by Shrestha RM et al¹⁵ in which more study participants were disagree with this facts.

In the present study most of the participants were agree with the facts that due to braces in mouth it is difficult to clean the mouth properly, same results were shown by study conducted by Shrestha RM et al¹⁵.

In the present study many study subject disagree with the fact that Orthodontic treatment is more painful than other dental procedure. Opposite results were shown by Bailwad SA et al¹² in which more study participants' feels Orthodontic treatment painful.

Most of the study participants in

the present study were agree with the statement that Orthodontic treatment takes more time than other Dental treatment which is line with results shown by studies conducted by Bailwad SA et al,¹² Devishree RA et al¹⁰.

In the present study most of the study participants were agree with the statement Orthodontic treatment is costly than other dental procedure which is same as most of the studies conducted on this topic.

In the present study majority of study participants agreed with the point that person with irregularly arranged teeth should undergo orthodontic treatment. Same results were shown in

the study conducted by Muqtadir Quadri SM¹¹.

CONCLUSIONS

From above results and discussion it has been concluded that patients visiting to the dental clinic had low knowledge regarding the Orthodontic treatment and fair attitude towards it. The dentists from whatever specialty should provide proper knowledge and motivate the patient with malocclusion.

These information are pertinent for better clinical management for service providers. It can help improve their service and enhance rapport with the patients. Actually, orthodontist's interpersonal behavior and role in patient motivation is another aspect of successful orthodontic treatment. The orthodontist should give positive feedback and communicate with the patient on the issues of patient cooperation and their inconveniences. Orthodontists should explain about the appliance including retainers, and advice on oral hygiene, dietary control and appliance maintenance methods. Patients who are dissatisfied with the treatment and interpersonal aspects tend to avoid care and jeopardize the name, and fame of the orthodontic practice and the practitioner.

More studies should be conducted in future to know the impact of various factors on knowledge and attitude of a common man towards Orthodontic treatment.

REFERENCES

- Bahreman, A. (2013). Early-age orthodontic treatment. Hanover Park, IL: Quintessence Pub. 6th edition: 1-3.
- Choi SH, Kim BI, Cha JY, et al. Impact of malocclusion and common oral diseases on oral health-related quality of life in young adults. *Am J Orthod Dentofacial Orthop* 2015; 147: 587-595.
- Mahajan BK. Social environment, Textbook of preventive and social medicine. Jaypee Brothers Medical Publishers Ltd 1991; 82-7.
- Wright FA. Children's perception of vulnerability to illness and dental disease. *Community Dent Oral Epidemiol* 1982; 10: 29-32.
- Siddegowda R. An Epidemiological Survey on the Awareness towards Orthodontic Treatment among Middle School and High School Children of Karnataka State. *J Cell Sci Ther* 2015; 6: 213.
- Hoda MAA, Sulaiman ESA. Attitude toward malocclusion and desire for orthodontic treatment among 9-17 year old Saudis. *Dental News* 2005; 12(5): 32-38.
- Fawzan AA. Reasons for seeking orthodontic treatment in Qassim region: a Pilot Study. *International Dental Journal of Student's Research* 2013; 1(3): 58-62.
- Rajagopal B, Varalakshmi S, Vijai, S, et al. Perception Towards Orthodontic Treatment of Patients Suffering from Malocclusion: A Cross Sectional Survey *J. Oral Health Comm. Dent* 2011; 5(3): 132-135.
- Abdullah A, Yassin Z, Zamzam N. Reasons for seeking orthodontic treatment: A pilot study. *Ann Dent. Univ. Malaya* 2001; 8: 13-19.
- Devishree RA, Felicita AS. A Survey on Awareness of Orthodontic Treatment among Male Population Reporting to Dental Clinic. *JMSCR*; 04(8): 11900-11905.
- Muqtadir Quadri SM, Thilagrani PR, Dhanyasi AK, et al. Awareness towards Orthodontic Treatment in Central Indian School Children. *Sch. J. Dent. Sci.*, 2015; 2(1): 45-48.
- Bailwad SA, Bhattacharjee D, Ong C, et al. Attitude towards malocclusion and orthodontic treatment among 10-35 years old Malaysians. *International Journal of Advanced Research* 2015; 3(5): 1316-1322.
- World Health Organization. Young people's health – a challenge for society. Report of a Study Group on Young People and Health for All by the Year 2000, Technical Report Series, No. 731. Geneva: World Health Organization, 1986 <http://whqlibdoc.who.int/trs/WHO_TRS_731.pdf> (Version current at September 8, 2003).
- Siddegowda R, Rani MS. An Epidemiological Survey on Awareness towards Orthodontic Treatment in South Indian School Children. *Open Journal of Dentistry and Oral Medicine* 2013; 1(1): 5-8.
- Shrestha RM, Bhattarai P, Dhakal J, Shrestha S. Knowledge, Attitude and Practice of Patients towards Orthodontic Treatment: A Multi-centric Study. *Orthodontic Journal of Nepal* 2014; 4(1): 6-11.
- Pandey M, Singh J, Mangal G, Yadav P. Evaluation of awareness regarding orthodontic procedures among a group of preadolescents in a cross-sectional study. *J Int Soc Prev Community Dent.* 2014 Jan; 4(1): 44-7.