

An University-Based Survey on Awareness Regarding Oral Health and Orthodontic Needs

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Abstract

Introduction: In this modern era, though the general population is aware of a dentist, many people are unaware of an orthodontist and their practice. Although malocclusion is one of the most common dental problems, it is quite low on the priority list.

Aims of Study: A cross-sectional observation (non-experimental) survey to assess orthodontic awareness among university students.

Materials and Methods: A set of 30 questionnaires was prepared to assess orthodontic awareness among 380 subjects out of 435 enrolled students of Desh Bhagat University, Punjab.

Results: Attitude group: Most of them showed a positive attitude toward dentists (73.95% male and 72.5% females), had undertaken oral prophylaxis, had a positive outlook toward positioning of teeth, and understood the importance of arch alignment for facial appearance (significant male, female comparative relation). Awareness group: Most of them were aware of their and their family members' dental problems, oral hygiene, and dental problems (significant *P*-values for male, female comparison front tooth injury and family members' problems). Motivation group: Patients showed a lack of motivation regarding the cost of treatment, proper age of treatment, and variability offered by an orthodontist (significant difference between male and female knowledge regarding age of treatment and extractions).

Conclusion: Most of the students showed a positive attitude, acceptable awareness, but a need to increase motivation for orthodontic practice.

Key words: Attitude, Awareness, Motivation, Orthodontic treatment, University students

INTRODUCTION

Facial appearance plays a major role in all stages of human life.^[1] 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.^[1] Health is multi-factorial, with particular importance for oral health knowledge and awareness, as it is an inseparable part of general health.

Malocclusion, one of the common problems, is not a disease in itself but a variation in the arrangement of teeth, morphology of jaws, face, and cranium.^[2]

Orthodontic treatment allows for the improvement of the patient's facial and dental esthetics and gives a positive attitude toward life. Orthodontic treatment provides confidence, social acceptance, prevents gum recession, trauma to the teeth, cavities, gingivitis, periodontitis, and possible loss of teeth in some individuals.^[3] Even if people are aware of orthodontics, they hesitate to seek the treatment because of the high cost of treatment, long duration of treatment, esthetic concerns about placement and appearance of the orthodontic appliance, and the extraction of some teeth if necessary.

In an extensive literature review by the researcher, there are no reported studies to assess the awareness of

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Orthodontic treatment in university students of Punjab and the northern region.

Aim of the study

The objective of the present epidemiological survey was to assess the awareness of orthodontic treatment among university students (Desh Bhagat University [DBU]) in Punjab.

MATERIALS AND METHODS

In the present study, 435 DBU students (age 18–30 years), almost evenly divided into male and female subjects, were studied. 55 out of them got excluded, those who will not mark all the questions.

A pre-structured self-administered questionnaire consisting of 30 questions was given to the children to assess their knowledge, attitude, awareness, and motivation toward orthodontic treatment. The responses of the students to

the questions were recorded mainly on a 2-point Likert scale (a. yes, b. no).

RESULTS

10 questions were assigned to each category of attitude, awareness, and motivation. According to the survey answers, we found out that. Gender distribution of the sample participating in the study is represented in Table 1.

Attitude-based response [Table 2]: Majority(73.2%) of the sample included in this study had visited a dentist before (Q1), 56.8% underwent oral prophylaxis (Q2), and most of them used common oral hygiene measures (Q3). 90% keep their teeth and tongue clean (Q4,5), approximately 75% noticed people with improper positioning of teeth and 70% were aware about their malalignment by themselves (Q6,7), only 30% students accept that they got any irregularity of teeth, 20% agree that there is some dental protrusion (Q8, 9), 70% were not aware of an orthodontist (Q10).

Awareness based response [Table 3]: 50% were not aware that orthodontist can bring teeth to proper position (Q11), 86% believed that properly positioned teeth improve facial appearance (Q12), 15% encounter any injury to front teeth, 10% had some chewing problem, only 5% reported any

Table 1: Sex distribution

S. No.	Frequency	Percent	Valid percent	Cumulative percent
Valid				
1	176	46.3	46.3	46.3
2	204	53.7	53.7	100.0
Total	380	100.0	100.0	

Table 2: Attitude relation with respect to sex

Ques.	Male		Female		Chi-square value	P-value
	n	%	n	%		
1. Have you ever visited a dentist?						
Yes	130	73.9	148	72.5	0.083	0.773; NS
2. Have you ever got teeth cleaning done?						
Yes	102	58.0	114	55.9	0.165	0.684; NS
3. Do you clean your tongue while brushing?						
Yes, with a brush.	85	48.3	108	52.9	2.137	0.344; NS
Yes, with a tongue cleaner	73	41.5	83	40.7		
4. How many times do you brush in a day?						
Once	91	51.7	64	31.4	19.713	0.001*
Twice	83	47.2	131	64.2		
Thrice	2	1.1	3	1.5		
More than 3 times	-	-	4	2.0		
5. Have you ever noticed people with improperly positioned teeth?						
1	132	75.0	182	89.2	14.226	0.001*
2	2	1.1	-	-		
6. Are you aware that an orthodontist can bring your teeth into proper position?						
Yes	98	55.7	105	51.0	0.839	0.839 ^{NS}
7. Do you think that teeth be properly positioned for a better facial appearance?						
Yes	152	86.4	191	93.6	5.672	0.017*
8. Are you a mouth breather?						
If yes, sometimes	84	47.7	69	33.8	7.789	0.020*
Frequently	3	1.7	6	2.9		
9. Do you encounter frequent dry mouth problem?						
Yes	33	18.8	31	15.2	0.852	0.356
10. Do you know different types of habits that can cause improper positioning of teeth?						
Yes	78	44.3	121	59.3	8.518	0.004*

sig.(*) ,non sig.NS,Highly sig.(**)

Table 3: Awareness relation with respect to sex

Ques.	Male		Female		Chi-square value	P-value
	n	%	n	%		
1. Which of the following teeth cleaning aids do you use? Select all applicable						
Toothbrush	142	80.7	175	85.8	1.779	0.182;
Tooth paste	137	77.8	186	91.2	13.179	<0.001** NS
Tooth powder	8	4.5	5	2.5	1.254	0.263; NS
Mouthwash	49	27.8	62	30.4	0.297	0.586; NS
Interdental brush	5	2.8	1	0.5	3.360	0.067; NS
Floss	9	5.1	3	1.5	4.100	0.043*
2. Did you notice the improper positioning of your teeth by yourself, or was it told to you by society/others?						
Yourself	123	69.9	161	78.9	4.085	0.043*
Society/others	53	30.1	43	21.1		
3. Do you have irregular teeth (crowding)?						
Yes	54	30.7	52	25.5	1.266	0.260; NS
4. Do you have forwardly placed front teeth?						
Yes	34	19.3	53	26.0	2.376	0.123; NS
5. Have you heard of an orthodontist?						
Yes	62	35.2	74	36.2	0.045	0.832; NS
6. Do your front teeth got injured frequently?						
Yes	27	15.3	17	8.3	4.532	0.033*
7. Do you have a chewing problem?						
Yes	19	10.8	14	6.9	1.843	0.175; NS
8. Do you have a snoring problem?						
Yes	9	5.1	13	6.4	0.275	0.600; NS
9. Is there any gap between your teeth?						
Yes	31	17.6	48	23.5	2.008	0.156; NS
10. Is any other family member got related problems mentioned above?						
Yes	42	23.9	53	26.0	0.226	0.635; NS

sig.(*) ,non sig.NS,Highly sig.(**)

Table 4: Motivation relation with respect to sex

Questions	Male		Female		Chi-square value	P-value
	n	%	n	%		
1. Do you have a problem closing the mouth?						
Yes	11	6.3	18	8.8	0.888	0.346; NS
2. Do you know at what age orthodontic treatment should be started?						
During school	127	72.2	153	75.0	0.393	0.531; NS
During junior college	49	27.8	51	25.0		
3. Do you know the side effects of improperly positioned teeth?						
Yes	66	37.5	75	36.7	0.022	0.882; NS
4. Do you know that taking proper orthodontic treatment at an early age would improve your facial appearance?						
Yes	131	74.4	172	84.3	5.711	0.017*
5. Do you know the cost of orthodontic treatment?						
Yes	34	19.3	53	26.0	2.376	0.123; NS
6. Do you know how much time, orthodontic treatment takes?						
<1 year	111	63.1%	136	67.2%	0.697	0.404; NS
2-3 years	65	36.9%	67	32.8%		
7. Are you aware that few teeth may to be removed for proper positioning of irregular teeth?						
Yes	75	42.6	107	52.4	28.107	0.000*
8. Do you know about orthodontic braces and its types?						
Mettalic	146	83.0	183	89.7	3.706	0.054; NS
Ceramic	42	23.9	19	9.3	14.843	<0.001**
Lingual	14	8.0	7	3.4	3.703	0.054; NS
Invisalign	13	7.4	6	2.9	3.930	0.047*
9. Are you aware that the improperly positioned teeth can be corrected at the age of 35-40 years also?						
Yes	32	18.18	50	24.5	2.236	0.135; NS
10. Have you noticed changes being carried out with braces?						
Yes	113	64.2	145	71.1	2.048	0.152; NS

sig.(*) ,non sig.NS,Highly sig.(**)

snoring problem and 6.3% reported any difficulty in closing the mouth (Q13, 14, 16, 17). Very few people were mouth breathers or had the dry mouth problem (Q15, 18).

Motivation-based response [Table 4]: They believed that this kind of treatment should be started at an early age (Q21) to improve their facial appearance; these subjects were not aware of the side effects of improperly positioned teeth (Q22). Moreover, taking treatment at an early age is beneficial (Q23). Students were not yet aware of the functioning of the orthodontist (Q26). 40% did not know ill habits affecting the area of specialization (Q27). These subjects were not aware of the cost of such treatment, did not know the duration of such treatment, were unaware that a few sound teeth had to be sacrificed for the treatment, and had limited knowledge about the variability of braces (Q 22, 24, 25, 26, 29). These subjects were not familiar about adult orthodontic treatments (Q30).

DISCUSSION

Health and education go hand in hand; one cannot exist without the other, and to believe anyone differently is to hamper progress. Malocclusion has been delinquently affecting our individuality for ages problem seems to be more acute in developing countries like India.^[4]

A remarkable awareness regarding dentists (73%), brushing (95%), and tongue cleaning (95%) was noted in the present study. These results might have been due to the effort of college management to enhance oral hygiene by free camps.

In the present study, 75% of students noticed people with irregular teeth. A study by Siddegowda^[1] reported a value of 74% (sample comprising high school and middle school children), so more educated groups showed better vigilance.

Among the studied population, most participants (86.4% male, 93.6% female) were aware that irregularity of teeth can affect their appearance and noticed the improper positioning in the general population (approx. 80%). A study by Jakati *et al.*^[2] found only 39% of people showing a positive attitude. Similarly, a study on attitudes by Carlsson^[5] toward dental appearance revealed that 73% participants agreed that beautiful and perfect teeth are very important for how you are treated by other people. Mane *et al.*^[6] found that 67.2% of people do not know the ill effects of irregular teeth. Siddegowda^[1] reported that 73% of the sample were unaware of the ill effects. The probable reason might be the fact that the general population sample of Jakati *et al.*^[2] was less conscious than study by Siddegowda,^[1] Faizee *et al.*^[4] and the present study (dental campus, a part of the university), which presented more acceptable results.

However, in the present study and the study done by Faizee *et al.*^[4] It was noted that students were not aware that malocclusion could affect speech, chewing food, besides cause gum problems, cavities, and pain in the jaw. In the present study, it was found that 56% participants did not know that habits could lead to malocclusion; Faizee *et al.*^[4] noted that 42.7% of the participants did not know that habits could lead to malocclusion. A study by Mane *et al.*^[6] found 71.6% of people did not know the ill effects of oral habits on teeth. Hence, our results were intermediate between previous work.

In our study, 30% of students were unhappy with the arrangement of their teeth. In the study by Faizee *et al.*^[4] 47.3% were unhappy with the arrangement of their teeth. This result was analogous to a study done on factors influencing patient satisfaction with dental appearance, which states that 52.8% were not satisfied with their dental appearance, and also highlights the fact that almost 50% of the population is not satisfied with their dental alignment. The decreased number in our study might have been the result of overconscious behavior.

In our present study, it was found that only 35% of people know about an orthodontist (Q10), most of the sample in the study by Jakati *et al.*^[2] were unaware of an orthodontist (27%). In a study by Mane *et al.*^[6] 32% of people had not heard of an orthodontist before. However, 65% were aware that irregularly placed teeth can be corrected by a dentist, but only 35% knew that orthodontists specialize in the correction of malocclusion. These results were in accordance with Faizee *et al.*^[4] This emphasizes the fact that measures should be taken to inculcate self-perceived oral health knowledge among young adults.

Very few students answer positively:- Only 30% (do you have irregular teeth) 35% were reported by Jakati *et al.*,^[2] 20% (Do you have forwardly placed front teeth?), 19% (Do you have chewing problem?), 9% (Do you have snoring problem?), 31% (Is there any gap in between your teeth?), 11% (Do you have problem in closing the mouth), 20% got some idea about the cost of treatment and similar results were shown by Atram *et al.*^[2] This result was in accordance to a study done by Murad *et al.*^[7] and Soni *et al.*^[3] who also reported that most subjects lack knowledge about the ill effects of the malocclusion, and people may consider its presence as normal, especially when it is asymptomatic.

In the present study, participants did not realize that habits such as mouth breathing (only 40%) can affect the arrangement of teeth, nor were they aware that it can affect speech, mastication, and cause pain in the jaw.

Most of the participants, 72%, believed that orthodontic treatment should start at an early age. These results were in

accordance with Jakati *et al.*^[2] (78%) This might have been the reason that only 35% were aware of adult orthodontics (as supported by Jakati *et al.*^[2]).

In the present study, it was found that 59% understand the importance of tooth removal for orthodontics, and 80% and 20% were aware of metal and ceramic brackets, respectively. On the contrary, a study done by Harish *et al.*^[8] stated that only 11.5% had the concept that all orthodontic treatments require the removal of teeth, and 60.5% were aware of different bracket types. A study by Jakati *et al.*^[2] found 11% of people know about extractions in orthodontics, and 60% know about metallic and ceramic braces. So, in the present study, students showed a better knowledge regarding extraction needs might be an additional benefit of the dental campus.

Despite awareness of malocclusion and the need to make corrections has increasingly become prevalent among our population, it is evident from our study that there is diminutive awareness among young adults about the ill effects of malocclusion. Moreover, people are reluctant to certain malocclusions because they consider it normal. Moreover, participants believe in the concept that malocclusion occurs due to familial tendency or genetics. Hence, people lack the desire to treat these malocclusions, as they have an opinion that it is a natural phenomenon that runs in the family.

So, it is prudent to conclude that more awareness camps, describing the ill effects of malocclusion and the available orthodontic treatment options, should be portrayed, and also regular programs should be conducted in the schools and colleges with the support of healthcare educators and media.

Limitations of the study

- This was an university-based survey, so results might be more pleasing than a random population survey.
- The survey, including different age groups, would have

been more informative.

CONCLUSION

Females were more aware about oral hygiene and orthodontics, might had shown the more positive attitude towards their esthetics. Females were significantly more aware about improper positioning of teeth and its ill effect on facial appearance, also aware about any irregularity of teeth and knows the importance of orthodontics though, Males showed statistically more significance regarding dental protrusion.

Besides, this survey created awareness of orthodontic treatment among young adults; a largescale study is recommended to assess people's perception about malocclusion based on which awareness can be created in the general public.

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