

# Knowledge and attitude of secondary schools students toward orthodontic treatment in Al amamra district

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## ■ Abstract:

One of the most prevalent dental problems affecting oral health is malocclusion. However, people start to see malocclusion in different way specially for esthetic appearance. Hence, orthodontic treatment becomes prevalent and necessary. The goal of this study was to know the range of knowledge and attitude of secondary school students toward orthodontic treatment in Al amamra district in Libya. A descriptive cross sectional study involved 203 students. The questionnaire method was used to collect data and the collected data was analyzed using the SPSS ( version 16). the study revealed high difference of knowledge and attitude score between males and females ,which showed more scores in case of males. For Recommendation we advise to keep wear preservative appliance to maintenance teeth alignment after complete the treatment. As well as, we suggested starting orthodontic treatment in early ages to improve aesthetic appearance.

● **Keywords:** Keywords: knowledge; attitude; orthodontic treatment; secondary school students.

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■ المستخلص:

إن سوء الإطباق هو أحد أكثر مشاكل الأسنان شيوعًا التي تؤثر على صحة الفم. ومع ذلك، يبدأ الناس في رؤية سوء الإطباق بطريقة مختلفة خاصة فيما يتعلق بالمظهر الجمالي. وبالتالي، أصبح العلاج التقويمي شائعًا وضروريًا. كان الهدف من هذه الدراسة هو معرفة مدى المعرفة والسلوك لدى طلاب المدارس الثانوية تجاه العلاج التقويمي في مدينة العمامرة في ليبيا. شملت الدراسة المقطعية الوصفية 203 طالبًا. تم استخدام طريقة الاستبيان لجمع البيانات وتم تحليل البيانات التي تم جمعها باستخدام برنامج SPSS (الإصدار 16). كشفت الدراسة عن وجود اختلاف كبير في درجة المعرفة والسلوك بين الذكور والإناث، والتي أظهرت تفوق الذكور. للتوصية، ننصح بالاستمرار في ارتداء جهاز وقائي للحفاظ على الإصطفاف السليم للأسنان بعد الانتهاء من العلاج. وكذلك اقترحنا البدء في العلاج التقويمي في سن مبكرة لتحسين المظهر الجمالي.

● الكلمات المفتاحية: المعرفة؛ السلوك؛ العلاج التقويمي؛ طلاب المرحلة الثانوية

## Introduction

Oral health is that tool of being free from the pain mouth and facial. As well as, oral hygiene is that the best measure to stop dental caries and periodontal diseases (Asharif et al., 2021). Malocclusion is the other oral health problems (Dhar et al.,2007), in which it has been considered to be the third most prevalent oral health problem (Zakirulla et al.,2019).Malocclusion is defined as mal-relationship between the dental arches in any of the planes in the mouth (Essamet M and Darout I.A,2016). This malrelationship is often genetic or environmental and or a mixture of both along with various local factors like oral habits . malocclusion may affect the lifestyle of people due to its psychological and other disorders like eating, talking, and aesthetics (Zakirulla et al.,2019).

Malocclusion has an impact on oral health by increase prevalence of cavities due to the accumulation of plaques which result difficulty to reach areas in the mouth for this reason dental caries is seen as a crucial side effect of malocclusion (Bhullar and Nirola,2012).

Orthodontic treatment has several advantages, including preventing of tissue damage and improving both aesthetics and physical function. The desire to appear attractive, self-esteem, and self-perception of dental appearance all have an impact on treatment acceptance (Bhullar and Nirola,2012). Individuals with malocclusion may feel shy in social relations, may lose job opportunities and feel

ashamed about their dental look so facial appearance plays an important role altogether of human life which possesses great impact during pre-adolescent and adolescent phases, this is usually because they develop increased self-consciousness to their appearance ,they believe that others are concerned with their looks, this increase self-awareness leads them to be more concerned about their health (Choi *et al.*,2015). So students also as their parents alleged to be awareness about the important of oral health and orthodontic treatment (Humagain ,2011). At now, students should be encouraged to share their opinions about their teeth and how they feel about the prospect of orthodontic treatment.

## **I. Material And Methods**

### **1. study design:**

The survey was conducted as cross sectional study.

### **2.study area and study population:**

The studied population were secondary school students in Al-amamra district in Msallata city.

### **3. Study duration:**

This survey was conducted in December 2019 and August 2020

### **4. Sample size:**

The total sample size was 203 students.

### **5. Data collection:**

A comprehensive survey method has been adopted, whereby the questionnaire was build up in English language then translated to Arabic and distributed to all members of the sample, by following the direct contact method to answer the questionnaire and clarify any inquiry related to the questions included in it to ensure the answer on all the 17 questions in this questionnaire.

### **7.Data analysis:**

The Statistical Package for social science (SPSS ,version 16) was used to analyze the data. Descriptive statistics was used for all variables. Values was expressed as frequencies and percentage. T test was used to compare between the means of the responses to the sample of the study.

## 8. Ethical approval:

To conduct this study, a written permission was obtained from the Dean of medical technology faculty and the head of education services office.

## II. Results

The number of surveyed population was 203 secondary school students in Alamamra city. There were 128(63.05%) females and 75 (36.95%) males. From the results of Table 1 and Figure 1 below, concerning the responses of the study sample; it is clear that the average of the answers for all the questions were within the answer (Yes), except for the first question was within the answer (No ).the mean value of the items ranged between 1.01 and 1.78, while standard deviation value ranged between (0.12) and (0.50).

The arithmetic average the year for all the questions falls within the answer. (Yes) with the value (1.24). Through these results, is evident that is necessary following the instructions about oral hygiene and eat habits during treatment duration, that the teeth should be regular in correct position to have best esthetic appearance

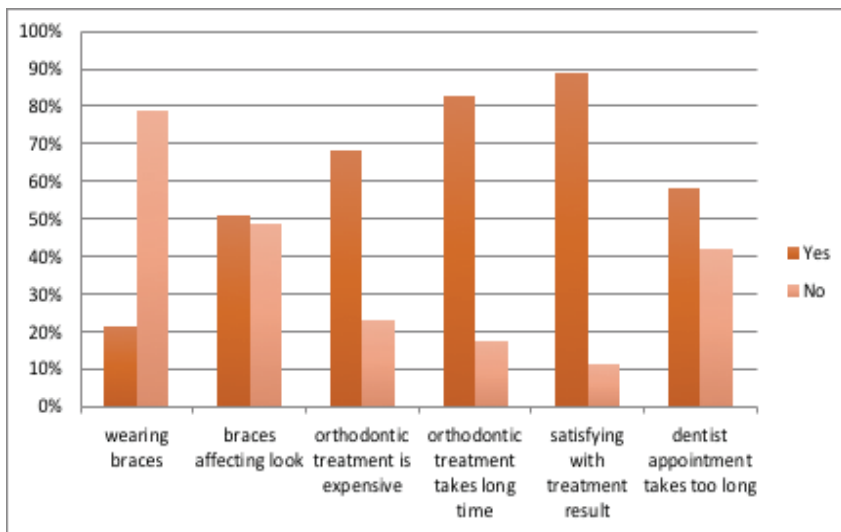
**Table1-the average secondary school students answers about Knowledge and attitude toward orthodontic treatment**

Question Yes		Likert Scale		Mean	Std. Deviation
		No			
1- Are you wearing braces?	F	43	160	<b>1.78</b>	<b>0.40</b>
	%	21.18	78.82		
2- Do you think warring braces affect your look?	F	104	99	<b>1.48</b>	<b>0.50</b>
	%	51.23	48.77		
3- Do you think orthodontic treatment is expensive?	F	138	65	<b>1.32</b>	<b>0.46</b>
	%	67.98	32.02		
4- Do you think orthodontic treatment takes too long?	F	168	35	<b>1.17</b>	<b>0.37</b>
	%	82.76	17.24		
5- Do you think you will be satisfied with treatment results?	F	180	23	<b>1.11</b>	<b>0.31</b>
	%	88.67	11.33		
6- Do you think dentist appointment takes too long?	F	118	85	<b>1.41</b>	<b>0.49</b>
	%	58.13	41.87		

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Question Yes		Likert Scale		Mean	Std. Deviation
		No			
7- Do you know the purpose of orthodontic treatment is correcting irregular teeth and jaws?	F	184	19	<b>1.09</b>	<b>0.29</b>
	%	90.64	9.36		
8- Do you know that duration of orthodontic treatment takes too long?	F	169	34	<b>1.16</b>	<b>0.37</b>
	%	83.25	16.75		
9- Do you know that is necessary following the instructions about oral hygiene and eat habits during treatment duration?	F	200	3	<b>1.01</b>	<b>0.12</b>
	%	98.52	1.48		
10- Do you know if you leave the treatment incomplete the problem enlarges?	F	171	32	<b>1.15</b>	<b>0.36</b>
	%	84.24	15.76		
11- Do you know that you should wear preservative appliance to maintenance teeth alignment after complete the treatment?	F	161	42	<b>1.20</b>	<b>0.40</b>
	%	79.31	20.69		
12- Do you know that starting orthodontic treatment in early ages improve aesthetic appearance?	F	170	33	<b>1.16</b>	<b>0.36</b>
	%	83.74	16.26		
13- Do you know that irregular teeth have bad effect?	F	177	26	<b>1.12</b>	<b>0.33</b>
	%	87.19	12.81		
14- Do you know that thumb sucking has bad effect on teeth alignment and aesthetic appearance?	F	162	41	<b>1.20</b>	<b>0.40</b>
	%	79.80	20.20		
15- Do you know that some teeth you have to be removed to correct another?	F	168	35	<b>1.17</b>	<b>0.37</b>
	%	82.76	17.24		
16- Do you know that the teeth should be regular in correct position to have best esthetic appearance?	F	198	5	<b>1.02</b>	<b>0.15</b>
	%	97.54	2.46		
17- Have you seen or met people with irregular teeth?	F	195	8	<b>1.03</b>	<b>0.19</b>
	%	96.06	3.94		
<b>Average</b>				<b>1.24</b>	<b>0.11</b>

\*(F) meaning frequency



**Figure 1- Attitude of secondary school students toward orthodontic treatment:**

As shown in table 2 that the general average response for females is equal to (1.25) and it falls within the answer (yes), and that the value of the statistical significance of the test is equal to (0.000) which is less than 0.05 and indicates the significance of the differences, and this indicates there is a knowledge and attitude toward orthodontic treatment among females.

**Table 2- the average female students answers about Knowledge and attitude toward orthodontic treatment.**

Gender	Mean	Std. Deviation	T- Test	P.Value
Female	1.25	0.11	-8867.92	0.00

The table 3 shows that the general average response for males is equal to (1.23) and it falls within the answer (yes), and that the value of the statistical significance of the test is equal to (0.000) which is less than 0.05 and indicates the significance of the differences, and this indicates there is a knowledge and attitude toward orthodontic treatment among males.

**Table 3-the average male students answers about awareness and attitude toward orthodontic treatment.**

<b>Gender</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>T- Test</b>	<b>P.Value</b>
Male	1.23	0.11	-7117.78	0.00

The results in table 4 showed that the average general response for male and females is ranged between (1.25- 1.23) and it falls within the answer (yes), and that the value of the statistical significance of the test is equal to (0.000) which is less than 0.05 and indicates the significance of the differences, and this indicates there is knowledge and attitude towards orthodontic treatment to favor of males more than females.

**Table 4-comparison between the average male and female students answers about knowledge and attitude toward orthodontic treatment.**

<b>Gender</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>T-Test</b>	<b>P.Value</b>
Male	1.23	0.11	-7117.78	0.00
Female	1.25	0.11	-8867.92	0.00

#### **IV. Discussion and conclusion**

There is increasing in the knowledge toward orthodontic treatment among children and adults in different societies worldwide (Anitha and Asiya,2010). To the best of our knowledge, there is no published research that assessed the knowledge and attitude towards orthodontic treatment in Libya. Hence, this study was the first that conduct secondary school students in Alamamra city revealed a significant knowledge and attitude towards orthodontic treatment among the target students, this agreed with a study on orthodontic patients (Chaudhary et al., 2024) . In our study , the results were higher in males than females. This finding is similar to a previous study that showed more scores in males than female but the difference was not significant (Sastri et al.,2015) .

However, unlike the present study, Sherestha and colleagues in Nepal identified that female orthodontic patients were better understanding than males ( El Mofty

2022; Sherestha *et al.*,2014). This was supported by a study on dental students that showed females had good knowledge and attitude compared to the males regarding dental esthetics and treatment (Agrawal, 2018 ;Mathew *et al.*, 2023 ). Also Annemieke *et al.* reported that treated female students evaluated their experiences with orthodontic more positively than males. Another study in Turkey also revealed that there was a higher awareness among female students than males (Cigerim and Erhamza; 2021) . Pandey *et al.* reported that the level of knowledge and awareness of orthodontics was significantly higher in females compared to males. As well as a study in Saudi Arabia concluded that girls were more aware than boy which could be that girls take care of their appearance more than boys (Zakirulla, M *et al.*2019).

On the other hand, A study found moderate levels between males and females regarding knowledge and awareness about orthodontics and irregular teeth( Siddegowda;2013). Essamet and Darout concluded that levels of knowledge and awareness of orthodontics were high in their study that assessed awareness of orthodontics of 2000 university students, and that there was no difference between knowledge and awareness of orthodontics among female and male students. Quadri *et al.*, also revealed that both female and male students had the same level of awareness about orthodontic treatment.

Generally, in this study, there is a high knowledge and attitude towards orthodontic treatment among the participants which is similar to some studies in different countries. However, the present study found that males had high awareness and attitude compared to females which was significantly different from the other studies. Also, based on the findings, about half of the number of the target students think that wearing the braces do not look good, and two third of students think that orthodontic treatment is expensive. That might indicate that socioeconomic and socioculture of the students could play role in their range of awareness and have an impact on the uptake on orthodontic treatment.

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