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RESEARCH ARTICLE

Attitude towards malocclusion and orthodontic treatment among 10-35 years old Malaysians

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Abstract

Aim : The study was conducted to evaluate the attitude of Malaysians in the age group 10-35 years towards malocclusion, their desire for orthodontic treatment and the effect of gender on the attitude towards orthodontic treatment.

Materials & Methods : A cross sectional questionnaire based study was conducted among 250 patients from MAHSA University dental clinic and three other orthodontic outpatient dental clinics in Kuala Lumpur comprising of male and female patients. A structured questionnaire including demographic details of the patients along with 15 questions, especially designed to evaluate the attitude of people towards malocclusion and orthodontic treatment, was distributed among the patients. Quantitative data collection methods were used to investigate the relationship between attitude towards malocclusion among the population and their desire to have orthodontic treatment.

Results : The findings revealed that 72% subjects thought that they suffered from teeth irregularities and 54% subjects agreed that malocclusion is a problem for them. Additionally, 40% agreed that attaining straight teeth to be the major reason for seeking orthodontic treatment. Of these, 45% were females and 35% males. It emerged from this research that among females, 14% of cases were noticed by friends and only 5% among males. Among the reasons for not opting for orthodontic treatment, finance was the most common reason among females(42%) and lack of interest among the males(31%).

Summary : This study revealed a mixed reaction towards orthodontic treatment. However, majority agreed that orthodontic treatment would improve their mental and physical well being.

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INTRODUCTION

WHO classified malocclusion under the heading of Handicapping Dentofacial anomaly and described it as "an anomaly which causes disfiguring functional defect which is likely to be an obstacle to the patient's physical or emotional well being." Malocclusion is not a disease but rather a departure from an aesthetic

norm in a society. Malocclusion correction results in improved aesthetics, functional efficiency, harmony and structural balance.

In this age and era, where aesthetics play a significant role in each and every walk of life, be it at a personal or professional level, there has appeared to be a massive surge in the demand for orthodontic services. Demand for orthodontic treatment can be fuelled by various reasons including anticipated improvement in self-image, social pressure, as well as cultural and socio-economic background. According to some studies, gender, age, socio-economic background, self-esteem, and peer group norms are factors affecting self-perception of dental appearance, malocclusion, and the uptake of orthodontic treatment among population. Increased concern over dental appearance has been observed during childhood and adolescence to early adulthood (Shaw et al., 1975; Gosney, 1986; Espeland, 1992). Thus, knowledge about a lay person's attitude towards malocclusion is becoming increasingly important in providing orthodontic treatment. Treatment decisions are particularly important when the malocclusion represents a borderline need comprising mainly of aesthetic improvement (Shaw et al., 1991).

The reasons that lead patients to seek orthodontic treatment assume significance as it motivates patients and so, are the reasons that discourage the patients from seeking orthodontic treatment. One of the most common reasons is the expense followed by others like fear of pain, lack of interest and long duration of treatment.

An extensive literature search revealed five relevant studies. Of them, (Hoda M.A.A. et al, 2005) a study done in Saudi Arabia to determine the attitude toward malocclusion and desire for orthodontic treatment among 1459 subjects in the age group 9-17 years revealed that 92% of the subjects agreed that proper occlusion was important while remaining were indifferent to its significance. 69.4% 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 study (A.A.A Abdullah et al, 2001) 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. This was consistent with the findings of the present study so conducted. Another study (Ahmed Al Fawzan, 2013), done in Saudi Arabia, concluded that majority (88%) felt that they suffered from dental irregularities and aesthetic improvement was cited as the main reason for seeking orthodontic treatment. A study done in India, (B.Rajagopal et al, 2011) revealed that improvement in self-confidence was rated only second to the enhancement in dental aesthetics, followed by improvements in social life and career opportunities. A study conducted among Saudi Arabian children in age group 9-17 years (Hoda M.A.A., 2003) indicated that males were more dissatisfied with their dental appearance compared to females and showed a desire for orthodontic treatment mainly for aesthetic improvement. However, a study conducted in Malaysia, (Mon Mon Tin-Oo et al, 2010) concluded that dissatisfaction was more common in adult females than in adult males and age was not associated with satisfaction with dental appearance suggesting that dental appearance is becoming equally important in both older and younger adults. The dissatisfaction with tooth color was supported by their findings that most patients would like to have their teeth whitened.

In light of the ambiguous results among the earlier studies, in terms of gender impact on orthodontic treatment and lack of results in terms of reasons for not seeking orthodontic treatment, this study attempted to study the attitude of Malaysians towards malocclusion, identify favorable and unfavorable aspects of orthodontic treatment from the patient's point of view and their motivation to accept and continue with treatment.

MATERIALS AND METHODS

Material

This study was conducted using a structured questionnaire, comprising of 15 questions. This questionnaire was designed to investigate patient's attitude towards malocclusion and their desire for seeking orthodontic treatment. The questionnaire was administered in English and Malay language and the patient was asked to select only one option for each question. The questionnaire included patient's demographic data including gender, age, educational level along with 15 questions related to patient's dental satisfaction, awareness of their dental irregularities, any teasing experience, person who first noticed presence of dental irregularities, dental misalignment as a problem, reason for seeking orthodontic treatment, as well as reason for not accepting orthodontic treatment, way of becoming aware of orthodontic treatment, impact of orthodontic appliances on physical appearance and its effect on daily activities, duration of treatment and its expected outcomes.

Study Population

As per statistician's advice, 250 Malaysians, aged between 10-35 years old, were categorized into 5 groups according to age, 10-15, 16-20, 21-25, 26-30 and 31-35.

Study Site

MAHSA Orthodontic Dental Clinic, MAHSA University ; PJ Orthodontic Specialist Clinic; Wong Orthodontic (Dental) Clinic; Klinik Pakar Pergigian Dzul at Kuala Lumpur

Research Design

Ethical clearance was obtained from the institutional ethics committee. This study was a questionnaire based study, aimed at people in the age group 10-35 years. Pre-testing of the questionnaire was conducted prior to the actual survey, which improved the clarity of the questions. In September 2013, questionnaires were distributed to patients who were on the waiting list for orthodontic treatment in MAHSA orthodontic dental clinic apart from three private orthodontic clinics namely, P.J. Orthodontic Specialist Clinic, Wong Orthodontic (Dental) Clinic and Klinik Pakar Pergigian Dzul. The questionnaires were distributed to 50 people in each category, namely 10-15, 16-20, 21-25, 26-30 and 31-35 years. The participants were asked only to select one option for each question. The respective questionnaires were collected from each clinic every 2 weeks. After collecting 50 questionnaires for each group, the data was tabulated and analysed.

Results

Questionnaire results on questions 1 - 8

Question	Answer	Gender		Gender Percentage (%)		Total	
		Female	Male	Female	Male	Number	Percentage (%)
1) Are you satisfied with the appearance of your teeth?	Yes	71	62	51	56	133	53
	No	68	49	49	44	117	47
2) Have you ever been teased due to your appearance of teeth?	Always	16	6	12	5	22	9
	Sometimes	70	51	50	46	121	48
	Never	53	54	38	49	107	43
3) Does your teeth have any irregularities?	Yes	96	83	69	75	179	72
	No	43	28	31	25	71	28
4) Who first noticed your dental irregularities?	Self	57	52	42	48	109	44
	Parents	50	38	36	34	88	36
	Dentist	9	7	6	6	16	6
	Friends	20	6	14	5	26	10
	Others	3	8	2	7	11	4
5) Do you think that the incorrect alignment of your teeth is a problem to you?	Yes	80	56	58	50	136	54
	No	59	55	42	50	114	46
6) Would you go for orthodontic treatment?	Yes	104	67	75	60	171	68
	No	35	44	25	40	79	32
7) If no, why don't you want to go for orthodontic treatment?	Finance	15	8	42	18	23	29
	Superstitious	0	2	0	5	2	3
	Embarassment	2	2	6	5	4	5
	Fear of pain	7	10	20	23	17	21
	Lack of information	3	4	9	9	7	9
	lack of interest	1	14	3	31	15	19
	Time consuming	7	4	20	9	11	14
8) How did you get to know about orthodontic treatment?	Book	8	10	6	9	18	7.2
	Magazine	9	8	6	7.2	17	6.8
	Newspaper	5	4	4	3.6	9	3.6

	Internet	7	5	5	4.5	12	4.8
	Friends	42	42	30	37.8	84	33.6
	Relatives	58	39	42	35.1	97	38.8
	Others	10	3	7	2.7	13	5.2

Questionnaire results on questions 9 - 13

Question	Answer	Gender		Gender Percentage (%)		Total	
		Female	Male	Female	Male	Number	Percentage (%)
9) Do you think that wearing braces makes you look ugly?	Yes	56	40	40	36	96	38
	No	83	71	60	64	154	62
10) Do you think wearing braces is painful and does it affect your daily activities?	Yes	77	67	55.4	60	144	58
	No	62	44	44.6	40	108	42
11) Would you prefer to go for holiday or go for orthodontic treatment?	Holiday	92	68	66	61	160	64
	Orthodontic treatment	47	43	34	39	90	36
12) Do you think after your teeth have been straightened, which of the following area or areas of your life will be altered?							
Career opportunities	Yes	60	42	43	38	102	40
	No	46	38	33	34	84	34
	Not sure	33	31	24	28	64	26
Social interaction	Yes	93	68	67	61	160	64
	No	33	21	24	19	54	22
	Not sure	14	22	10	20	36	14
Confidence	Yes	108	77	78	69	185	74
	No	23	20	17	18	43	17
	Not sure	8	14	6	13	22	9
13) What is your reason for seeking orthodontic treatment?	To attain straight teeth	62	39	45	35	101	40
	Enhance self-confidence	16	13	12	12	29	12
	Enhance facial appearance	28	18	20	16	46	18
	Improve dental health	8	16	6	14	24	10
	improve speech	4	5	3	5	9	4
	Due to the parents	14	6	10	5	20	8
	Influenced by friends	2	4	1	4	6	2
	Dentist recommended	4	9	3	8	13	5
	Symbolises	1	1	1	1	2	1

	wealth						
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Questionnaire result on question 14 - 15

Question	Answer	Gender		Gender Percentage (%)		Total	
		Female	Male	Female	Male	Number	Percentage (%)
14) Do you think getting orthodontic treatment done is the same as wearing glasses for correcting the eyesights?	Yes	90	63	65	57	153	61
	No	49	48	35	43	97	39
15) What do you think about the time taken for orthodontic treatment?	Short	6	4	4	4	10	4
	Adequate	56	50	40	45	106	42
	Long	77	57	55	51	134	54

Based on the responses obtained from the 250 completed questionnaires, the majority of the patients who responded were females (55%). About 53% of the patients were satisfied with the appearance of their teeth. 72% of them believed themselves to be suffering from dental irregularities. When further questioned about incorrect alignment being an inconvenience, 54% responded in the affirmative. 57% had been teased either regularly or occasionally due to their dental appearance. 62% of the patients said that wearing braces did not make them look ugly but 58% of them believed wearing braces to be painful and that it may affect their daily activities. 54% of the patients believed that it takes a long time to finish orthodontic treatment. Most of the patients first noticed their dental appearance by themselves (44%) and in 36% parents noticed it first. 38% of the patients found out about orthodontic treatment through their relatives and 33% of them became aware of it through their friends. A significant percentage (68%) replied in affirmative and 32% in negative when asked about whether they would want to undergo orthodontic treatment. Among the subjects, who answered in the negative, 29% of them attributed their response to financial reasons, 21% to the pain and 19% expressed lack of interest in the orthodontic treatment. 74% believed that their confidence, 64% said that their social interaction and 40% agreed that their career opportunities may improve after the orthodontic treatment. A significant percentage (40%) of the people sought orthodontic treatment to attain straight teeth, 18% to enhance their facial appearance and 12% to enhance their confidence.

Discussion

Among the 250 patients included in this study suffering from malocclusion, majority were females. This is consistent with the results from previous studies (Lew K K, 1993; Holmes, 1992) which showed that females appreciate dental aesthetic and beauty more compared to males.

As per evidence from this study most of the patients experienced teasing about the dental anomalies, possibly due to low dental awareness among Malaysians, which is in contrast to the evidence of a pilot study which was conducted in Malaysia (Abdullah et al, 2001).

According to this study, most patients were aware of their dental anomalies and that they were the first to notice the dental irregularities, while parents were second most likely to notice the dental anomalies. These results are substantiated by the same pilot study (Abdullah et al, 2001).

Most of the patients were willing to receive orthodontic treatment even for a slight misalignment of the tooth, which is consistent with the findings reported by an earlier study (Malmgren, 1980). Out of the 32%, who refused orthodontic treatment, highest responders refused due to financial issues, followed by fear of pain and lack of interest.

Majority of patient become aware of the orthodontic treatment through their relatives and friends, especially adolescent age-groups. These findings were supported by an earlier study (Abdullah et al, 2001).

According to this study, majority believe that wearing braces does not affect their physical appearance and receiving orthodontic treatment is equivalent to wearing glasses for the eyes as they are familiar with braces among their peers. The results are similar to the results of the study done in Saudi Arabia (Hoda M.A.A., 2003).

This study revealed that most patient associate wearing braces to be painful and that it hinders daily activities like speech. They experienced discomfort because of foreign attachment on teeth surface and tenderness on activation of arch wire. Therefore, it is our belief that the practitioners can prescribe NSAIDS for controlling post-treatment pain and advise soft diet. This finding was supported by another study done (B Rajagopalan, 2011) in India.

64% of the responders showed lack of motivation to undergo treatment among Malaysian as they would prefer to go on a holiday than undergo orthodontic treatment. These findings are in contrast to another study done (Hoda M.A.A., 2005) in Saudi Arabia. This may possibly be attributed to the long time duration taken for completion of treatment. Therefore the patients lose interest in treatment as supported by 54% responders from this study.

More number of patients believed that they would experience positive changes in their social interaction and self confidence as compared to the number of subjects who associated orthodontic treatment with changes in their career opportunities. This could be due to adolescents forming a significant chunk of our study population, who would find it hard to visualize or to understand the possible contribution that orthodontic treatment could provide for their future career.

It is important to note that the time taken for orthodontic treatment could also affect the attitude of Malaysian people towards this treatment. 54% of subjects think that it takes a long time to complete the treatment compared to 4% of subjects thinks that the procedure of correcting malocclusion is short.

Further, this study's results showed that among the reasons for opting for orthodontic treatment, 40% wanted straight teeth, 18% wanted to improve facial appearance, 12% wanted to enhance confidence and 10% wanted to improve their dental health. This result is consistent with the findings of previously done studies (B Rajagopal, 2011; Salzmann, 1967). The high social premium our society places on well aligned teeth and attractiveness in general fuels the people's need to seek orthodontic treatment.

In conclusion, this study showed that Malaysians in the age group 10-35 years were aware of their misalignment of teeth and are not satisfied with their dental appearance. Majority of them will seek orthodontic treatment for aesthetic reasons in order to improve their appearance. Therefore, it is important to note that perception of malocclusion affects the patient's desire to seek orthodontic treatment.

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