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An Assessment of Awareness of Medical Doctors to Malocclusion and Orthodontic Services in a Nigerian Teaching Hospital.

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Abstract

Background: The general health and well-being of individuals can be affected by the state of their oral health. Medical doctors may play an important role in early detection of orthodontic problems in critical areas including timely referral of malocclusion, thus preventing complications. This study assessed the level of awareness of medical doctors concerning malocclusion, orthodontic practitioners and orthodontic treatment services.

Methods: This cross-sectional study was conducted among 85 medical doctors in Aminu Kano Teaching Hospital, Kano (AKTH). Self-administered questionnaires were developed and distributed for data collection while statistical Software Package for Social Sciences (SPSS version 20) -Chicago was used for analysis. Statistical significance was set at $p < 0.05$.

Results: The sample population consisted of 83.5% male doctors and 16.5% female doctors with a mean age of 34.5 ± 6.4 years. Although, many of the doctors did not know that lip-sucking (61.2%) and thumb-sucking habit (48.2%) could adversely affect the front teeth alignment, most of them demonstrated good awareness concerning the orthodontic practitioners. Majority (69.4%) of the doctors were aware that orthodontic treatment services were being carried out in AKTH. Most male doctors did not know that the duration for orthodontic treatment was longer than most other dental procedures and this was statistically significant ($p = 0.025$).

Conclusion: Majority of the doctors were aware of availability of orthodontists personnel and orthodontic services in AKTH.

However, more male doctors had adequate knowledge of the features of malocclusion whereas their female counterparts were more informed about the duration of orthodontic treatment ($p < 0.05$).

Key words: Orthodontist; dentist; malocclusion; orthodontic treatment; medical doctors

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Introduction

The general health and well-being of individuals may be affected by the status of their oral health.¹ Malocclusion is one of the most common oral health problems of mankind along with dental caries, gingival disease, and dental fluorosis.^{2a} It can be referred to as an occlusion in which there is mal-relationship between the arches in any of the planes or there are anomalies in tooth position beyond the normal limits.

Malocclusion is often associated with health risks including poor oral hygiene, periodontal disease, temporo-mandibular joint disease, speech problems, mouth breathing and many more complications.^{2,4}

Generally, orthodontic problems (malocclusion traits) are associated with low mortality or morbidity; hence, they are overlooked by most health professionals as less important. Studies have shown that malocclusion can significantly impact on the psychosocial health of the affected person.^{5,6}

Prevention and interceptive treatment of oral diseases is expected to be effective if medical doctors who have more regular contact with individuals in developing countries are actively involved in screening and timely referral of patients with oral diseases especially malocclusion.⁷

Early detection of orthodontic problems, timely referral and prompt orthodontic treatment is of immense benefit in preventing the worsening of malocclusion complications.

Therefore, there is a need to assess the levels of awareness of medical doctors with respect to oral health and orthodontic treatment as they play an important role as primary care givers for most health-

related complaints in our healthcare sector. If medical doctors know the impact of malocclusion and orthodontics on the health and general well-being of their patients, they will be able to identify, educate, provide motivation and refer their patients for orthodontic assessment on time.⁸

There are few reported studies to assess the awareness of malocclusion, orthodontists and orthodontic treatment among medical doctors in Nigerian teaching hospitals.

This study assessed the level of awareness of medical doctors in Aminu Kano Teaching Hospital concerning malocclusion, orthodontic personnel and orthodontic treatment services.

Materials and Methods:

Ethical approval to conduct this study was obtained from the Research Ethics Committee of Aminu Kano Teaching Hospital (AKTH), Kano state, Nigeria

(NHREC/21/08/2008/AKTH/EC/2103) while informed consent was obtained from individual participants.

The study was a cross sectional survey conducted among a sample of 85 medical doctors with minimum degrees of Bachelor of Medicine; Bachelor of Surgery (MBBS holders) working in various departments of AKTH which is a major referral centre in north west Nigeria. AKTH is located in Kano Metropolis senatorial district, specifically in Tarauni local government area of the state.

All individuals who were non-MBBS holders were excluded from this study. MBBS holders who had received or were receiving orthodontic treatment were also excluded from this study.

Convenience sampling was used to recruit subjects in various departments that met the selection criteria. Data was collected with the use of self-administered questionnaires and all the acquired data were processed and analyzed using statistical Software Package for Social Sciences (SPSS version 20) Chicago. Statistical significance was set at $p < 0.05$.

Results

The medical doctors consisted of 83.5% males and 16.5% females (Table 1) working in AKTH, Kano. The age of the participants ranged from 23 to 55 years with a mean of 34.5 ± 6.4 years. Their number of years of medical practice ranged from 0 to 29 years with a mean of 7.5 ± 5.5 years. Most (51.8%) of the participants were between 30 and 39 years old and they were mostly married (60.0%).

Table 2 shows that concerning the doctors' knowledge on malocclusion/irregular teeth, most (61.2%) of the doctors did not know that lip-sucking had an effect on the front teeth alignment while some (48.2%) also did not know that thumb-sucking had

an influence on the front teeth alignment. Concerning the section on awareness about dentist/orthodontist, most of the doctors demonstrated good awareness. However, with regards to knowledge on orthodontic treatment, majority (69.4%) of the doctors were aware that orthodontic treatment services were available and being carried out in AKTH while fewer medical doctors (52.9%) knew that few teeth may have to be removed for aligning/arranging irregular teeth.

Table 3 shows that more (79.4%) of the male doctors had noticed people having upper front teeth (incisors) stand out too far compared to their female counterparts (20.6%) and it was statistically significant ($P=0.041$).

Most of the male doctors (94.3%) compared to their female counterparts (5.7%) did not know that the duration for orthodontic treatment was longer than other dental procedures ($p=0.025$).

Figure 1 shows that concerning awareness about orthodontic treatment, majority (90.6%) of the doctors have heard about braces while only a few (17.6%) of them thought that braces were only for cosmetic purposes.

TABLE 1: socio-demographic characteristics of the participants

Characteristic	Frequency	%
Gender		
Male	71	83.5
Female	14	16.5
Total	85	100.0
Age groups		
20-29	27	31.8
30-39	44	51.8
40-49	12	14.1
50-59	2	2.3
Total	85	100.0
Marital status		
Single	34	40
Married	51	60
Total	85	100.0
Tribe		
Hausa/Fulani	46	54.1
Yoruba	7	8.2
Ibo	11	12.9
Others	21	24.7
Total	85	100.0
Religion		
Islam	61	71.8
Christianity	22	25.9
Others	2	2.3
Total	85	100.0

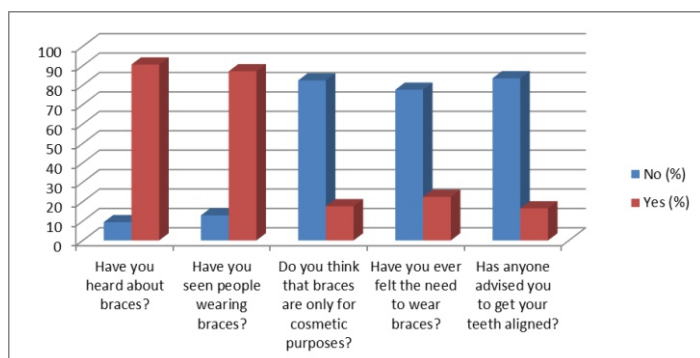
Table 2: Awareness and knowledge of medical doctors malocclusion and orthodontic services

	No: f (%)	Yes: f (%)
Have you heard of Malocclusion before?	22 (25.9)	63 (74.1)
Have you noticed people having irregular teeth?	2 (2.4)	83 (97.6)
Do you know crooked/irregular teeth have ill effects?	17 (20.0)	68 (80.0)
Are you aware that spaces between teeth are Abnormal?	31 (36.5)	54 (63.5)
Are you aware that crowded teeth are abnormal?	8 (9.4)	77 (90.6)
Do you think having upper front teeth (Incisors) bite behind the lower front teeth (Incisors) is abnormal?	29 (34.1)	56 (65.9)
Have you noticed people having upper front teeth (Incisors) stand out too far?	17 (20.0)	68 (80.0)
Have you noticed people having upper front teeth (Incisors) cover too much of the lower front teeth (Incisors)?	19 (22.4)	66 (77.6)
Do you believe teeth should be properly aligned/ arranged for a better facial appearance?	8 (9.4)	77 (90.6)
Does thumb-sucking have an effect on the front teeth alignment?	41 (48.2)	44 (51.8)
Does lip-sucking have an effect on the front teeth alignment?	52 (61.2)	33 (38.8)
AWARENESS ABOUT DENTIST/ ORTHODONTIST		
Are you aware of a dentist?	0 (0.0)	85 (100.0)
Have you visited a dentist before?	22 (25.9)	63 (74.1)
Have you heard of an Orthodontist?	12 (14.1)	73 (85.9)
Are you aware that orthodontists align/straighten teeth?	15 (17.6)	70 (82.4)
KNOWLEDGE ABOUT ORTHODONTIC TREATMENT		
Did you know taking braces treatment at an earlier age would improve facial appearance?	17 (20.0)	68 (80.0)
Do you know the duration for braces treatment is longer than other dental procedures?	35 (41.2)	50 (58.8)
Do you know that orthodontic treatment is costly?	29 (34.1)	56 (65.9)
Are you aware that few teeth may have to be removed for aligning/arranging irregular teeth?	40 (47.1)	45 (52.9)
Are you aware that Orthodontic treatment is done in AKTH?	26 (30.6)	59 (69.4)

Table 3: Relationship between gender and levels of awareness and knowledge of Medical doctors

Awareness and Knowledge of the respondents		Gender		Total: n(%)	X ²	
		Male: n(%)	Female: n(%)			
Have you heard of an orthodontist?	No	10(83.3)	2(16.7)	12(100.0)	0.000	0.984
	Yes	61(83.6)	12(16.4)	73(100.0)		
Have you heard of malocclusion before?	No	18(81.8)	4(18.2)	22(100.0)	0.063	0.802
	Yes	53(84.1)	10(15.9)	63(100.0)		
Have you noticed people having upper front teeth (incisors) stand out too far?	No	17(100.0)	0(0.0)	17(100.0)	4.190	0.041
	Yes	54(79.4)	14(20.6)	68(100.0)		
Do you know the duration for braces treatment is longer than other dental procedures?	No	33(94.3)	2(5.7)	35(100.0)	5.004	0.025
	Yes	38(76.0)	12(24.0)	50(100.0)		
Are you aware that orthodontic treatment is done in AKTH?	No	21(80.8)	5(19.2)	26(100.0)	0.207	0.649
	Yes	50(84.7)	9(15.3)	59(100.0)		

Figure 1: AWARENESS ABOUT BRACES TREATMENT



Discussion

The aim of this study was to assess the level of awareness of medical doctors in Aminu Kano Teaching Hospital concerning malocclusion, orthodontist and orthodontic treatment opportunities. Malocclusion is not a life threatening condition, however it has a lot of impact on the physical, emotional and psychosocial health of individuals affected.⁹

The gender distribution of the study participants shows that there were more male doctors than female doctors and majority were in the middle age group and married. This is consistent with the gender distribution within the Nigerian health sector which is still skewed in favour of men.¹⁰ This may be related to the cultural preference to educate male children over their female counterparts, thus leading to more male doctors than females in this study.

This study revealed that though majority of the doctors had heard about malocclusion, only few of them knew that lip-sucking and thumb-sucking had an effect on the front teeth alignment. This therefore justifies the need to enlighten medical doctors in the study population and generally concerning aetiological factors of malocclusion in order to ensure timely and appropriate referrals in the future.

Most of the doctors in this study exhibited excellent awareness about orthodontists as oral health providers. This high level of awareness may be due to the fact these doctors may have been practicing medicine for a long time, thereby increasing their chances of being familiar with orthodontists. The average number of years of practice of the doctors was 7.5 ± 5.5 years. The finding is in line with the reported increase in global awareness concerning

orthodontics as a dental specialty¹¹ and this is also consistent with other studies^{12,13} which reported that the levels of dental health knowledge are associated with the level of education and income. Medical doctors in a teaching hospital have either acquired or are in the process of acquiring advanced education and so they can be considered highly educated. This finding contradicts the poor awareness reported among medical students of King Khalid University, Abha, Saudi Arabia.⁸ This is likely due to the fact that participants in this study are medical doctors who obviously have more knowledge than medical students.

Our finding shows no significant difference in gender concerning knowledge of orthodontist and malocclusion as related to oral health. This is consistent with other studies.^{1,14} This may be due to the fact that both sexes had similar levels of education and were equally knowledgeable with regards to issues of oral health.

This study also showed that a good proportion of the doctors had heard about braces treatment, had seen people wearing braces and were aware that orthodontic treatment was being carried out in AKTH, thus making it easier for them to refer patients. Most of the participants did not think that orthodontic treatment was for cosmetic purposes.

The male doctors were more observant of features of malocclusion as they noticed people having upper front teeth (incisors) stand out too far compared to female doctors and this difference was statistically significant.

The female doctors were significantly more aware of the details of orthodontic treatment as most of them knew that the duration for orthodontic treatment was longer than other dental procedures. Female medical doctors seem to be more cautious and concerned about time spent in treatment than men.

Based on the results of present study, the authors would like to recommend for the inclusion of orthodontic topics in the continuous medical education (CMEs) programmes being organized from time to time for medical and dental practitioners who want to renew their annual practicing licenses in the country.

Some of the limitations of this study include the small sample size compared to the total number of doctors in the country which will make the results not

generalizable to all medical doctors in Nigeria; and the fact that this was a cross-sectional study with possible respondent bias.

The reported findings in this study will serve as a baseline for further studies on medical doctors concerning the subject in this environment.

Conclusion

This study shows that the awareness of doctors surveyed with regards to orthodontists and orthodontic generally is high

Male doctors were more knowledgeable about the features of malocclusion than females whereas more female doctors knew more about the duration of orthodontic treatment than their male counterparts.

Contributors

All authors contributed equally

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Conflict of Interest

None declared

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