



Satisfaction with Vital Tooth Bleaching among a Group of Nigerian Patients

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Abstract

Background/Objective: The “color” of the tooth can be improved by several treatment methods. This study evaluated the satisfaction of patients who received vital tooth bleaching in a tertiary hospital in Nigeria.

Methodology: This was a cross-sectional study of patients who received vital tooth bleaching. Prior to commencing the bleaching treatment, the shades of the upper and lower anterior teeth (canine to canine) of all the participants were determined, using the Vita Classical Scale. All participants received 2 bleaching cycles of vital tooth bleaching using 35% Hydrogen Peroxide gel. Evaluation of satisfaction with tooth color was done before and after bleaching treatment using a 5-point Likert scale.

Results: Eleven shades were recorded prior to the commencement of the bleaching procedure with the most prevalent shades being shade A2 (27.3%). There was improvement in the tooth shade for all patients using the linear scale with a mean shade difference of 5.59 ± 2.99 . Prior to the commencement of the bleaching procedures, 40.9% of the participants were “not satisfied” with the color of their teeth. There was some level of increase in satisfaction of tooth color after bleaching among the participants. There was statistically significant association between the satisfaction with the outcome of the bleaching procedure and the gender of the participant.

Conclusion: Bleaching procedures when properly and safely done by professionals in well-selected cases, using 35% hydrogen peroxide, will generally provide improvements in tooth shade as well as the patient’s perception of such improvements, which is critical to client satisfaction with dental care.

Keywords: Vital Tooth Bleaching; Satisfaction; Tooth Color

Introduction

The “color” of the tooth can be improved by several treatment methods, ranging from simple enamel micro-abrasion to more ablative strategies which include the use of veneers and crowns [1,2]. Due to its effectiveness and the increasing quest for whiter teeth by the general population [3,4], tooth bleaching has become an aesthetic dental procedure and an integral part of dental practice. The International Organization for Standardization (ISO) defines tooth bleaching as the removal of intrinsic or acquired discoloration of natural teeth through the use of chemicals, sometimes in combination with the application of auxiliary means [5].

The vitality of a tooth dictates the type of bleaching technique to be performed, whether vital or non-vital. Tooth bleaching is the most conservative way of modifying tooth “color” because it does not involve the loss of tooth structure [6,7]. The active ingredients required in tooth bleaching agents are hydrogen peroxide and carbamide peroxide [8-10] in varying concentrations.

Although, the traditional approaches consider the assessment of bleaching products, features of their services and characteristics as the yardstick for quality measurement, the new approach now defines their quality by the customer’s/client’s demand [11]. The provision of quality service should fulfil the needs and presupposi-

tions of a patient in an effective way, the larger the gap between the patients' expectations and what they are actually being offered, the poorer is the quality of service [12].

While it is true that a substantial number of patient satisfaction surveys around the world have shown great importance in quality assurance for various fields of medical care, there is however, a paucity of studies regarding patient satisfaction with dental care [13]. Furthermore, the available studies on dental patients' satisfaction have focused largely on dental visits in general [14] than on satisfaction with dental care among patients who have received a homogenous set of dental procedures [15]. This study therefore sought to evaluate the satisfaction of patients who received vital tooth bleaching in a tertiary hospital in Nigeria.

Methodology

This was a cross-sectional study of patients who received vital tooth bleaching at the Conservation Clinic of the Department of Restorative Dentistry, University of Benin Teaching Hospital, Benin City Edo state, Nigeria. Ethical approval for this study was obtained from the Ethics and Research Committee of the University of Benin Teaching Hospital prior to the commencement of this study.

Sixty-six patients who met the inclusion criteria for the study were recruited. A convenient sampling technique which involved the recruitment of consecutive patients was utilized. Inclusion criteria included patients who were 18 years and above who gave

written informed consent, had tooth shades of A2 and above on the VITA shade guide as arranged on the linear scale below, had complete upper and lower anterior teeth and who were willing to come for the review appointments. Patients who had received professional tooth whitening in the previous one year, those who were currently using over-the-counter bleaching agents, those who refused to give informed consent, those who were undergoing orthodontic treatment with fixed appliances, those who had teeth with severe tetracycline stains or fluorosis or had anterior restorations or active multiple carious lesions, were excluded from the study.

The participants had oral prophylaxis 10 days prior to the bleaching procedure to remove all debris and accumulated deposits and were encouraged to sustain the oral hygiene levels without using an proprietary bleaching toothpaste.

Prior to commencing the bleaching treatment, the shades of the upper and lower anterior teeth (canine to canine) of all the participants were recorded by two trained and calibrated volunteers, using the Vita Classical Scale (Vita®, Zahnfabrik, Sackingen, Germany). However, only the shade of the midpoint of the right central incisor was used for analysis. The 16 tabs of the shade guide were arranged from highest (B1) to lowest (C4) value. Although this scale is not linear in the truest sense, the changes were taken as representing a continuous and almost linear ranking for the purpose of analysis [16] as has been used in previous studies [17,18]. This is as shown below.

Vita shade guide	B1	A1	B2	D2	A2	C1	C2	D4	A3	D3	B3	A3.5	B4	C3	A4	C4
Scores	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Table

Shade was recorded at baseline prior to vital tooth bleaching procedure. All participants received 2 bleaching cycles of vital tooth bleaching using 35% Hydrogen Peroxide gel (Total Blanc Office H35®, Nova DFL, Rio de Janeiro, Brazil). After the second bleaching cycle, the shade was taken again. The assessment of shade difference using Vita Classical Scale (Vita®, Zahnfabrik, Sackingen, Germany) was calculated by subtracting the tab score corresponding to the baseline shade from the tab score of the shade after treatment. The highest possible difference was 15 and the lowest was 0. The results were assigned qualitative values as follows: 0: No change, 1 - 3: Mild change, 4 - 7: Moderate change, 8 - 11: Drastic change, 12 - 15: Very drastic change.

Evaluation of satisfaction with tooth color was done before and after bleaching treatment. Participants were asked to rate their perceived level of satisfaction before and after bleaching treatment on a 5-point Likert scale anchored by; 5: "Completely satisfied", 4: "Very satisfied", 3: "Quite satisfied", 2: "Barely satisfied", 1: "Not satisfied".

The data collected for analysis were socio-demographics, teeth shade (before and after) bleaching and the level of satisfaction after the bleaching treatment. The data was analyzed using Statistical Package for the Social Sciences version 26.0 (IBM SPSS Inc, Chicago, IL, USA) and subjected to descriptive analysis which included mean

and standard deviation for numerical variables, frequencies and percentages for categorical variables. Data comparison was done using Chi-square and Fisher’s exact test for categorical data.

Results

Sixty-six patients were recruited to participate in this study. There was a female preponderance with females accounting for 68.2%. The participants ranged in age from 18 to 60 years with a mean age of 27.4 ± 9.2 years. Majority (37.9%) of the participants belonged to the 18 to 22 years age group. Most of the participants were unmarried (74.2%) or students and dependents (59.1%). The highest level of education of most of the participants (93.9%) was tertiary education (Table 1).

	Frequency N = 66	Percentage (%)
Age		
18 - 22	25	37.9
23 - 27	17	25.8
28 - 32	8	12.1
≥ 32	16	24.2
Age (Mean ± SD)	27.4 ± 9.2	
Sex		
Male	21	31.8
Female	45	68.2
Occupation		
Professionals	7	10.6
Skilled workers	8	12.1
Semi-skilled workers	4	6.1
Unskilled workers	8	12.1
Students and dependents	39	59.1
Marital status		
Single	49	74.2
Married	17	25.8
Level of education		
No formal education	1	1.5
Primary	1	1.5
Secondary	2	3.0
Tertiary	62	93.9

Table 1: Socio-demographic data of participants.

Eleven shades were recorded prior to the commencement of the bleaching procedure with the most prevalent shades being shade A2 (27.3%), followed by B3 (21.2%) and C4 (10.6%). While the least represented shades were C2, C3 (1.5% each) and B4 accounting for 3.0% (Figure 1).

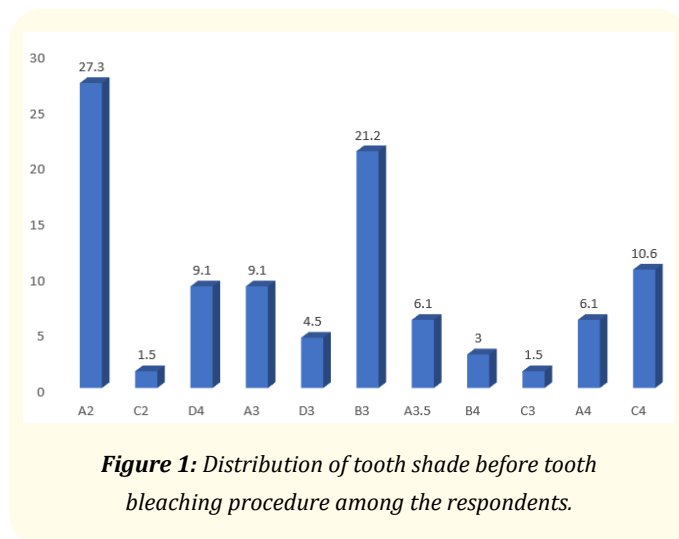


Figure 1: Distribution of tooth shade before tooth bleaching procedure among the respondents.

There was improvement in the tooth shade for all patients using the linear scale with improvements ranging from 1 to 11 shade difference with a mean shade difference of 5.59 ± 2.99. The shade difference was observed to have the same hue in 59.1% of the cases but had different hues in 40.9% of cases. The most prevalent shade recorded after bleaching was A2 (22.7%) followed by A1 (21.2%) and B2 (19.7%). The least represented shades after bleaching were D3, C3, C1 and A3.5 accounting for 1.5% each (Figure 2). Using the rating of the color change, 37.9% experienced drastic change, 36.4% mild change and 25.8% moderate change.

Prior to the commencement of the bleaching procedures, 40.9% of the participants were “not satisfied” with the color of their teeth while 43.9% were “barely satisfied” with the color of their teeth (Figure 3). However, after the bleaching procedure, 25.8% of the participants became “completely satisfied” with the color of their teeth while 36.4% of the participants became “very satisfied” (Figure 4).

There was statistically significant association between the satisfaction with the outcome of the bleaching procedure and the

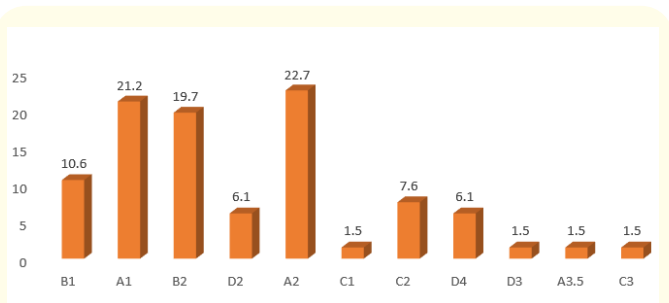


Figure 2: Distribution of tooth shade after tooth bleaching procedure among the respondents.

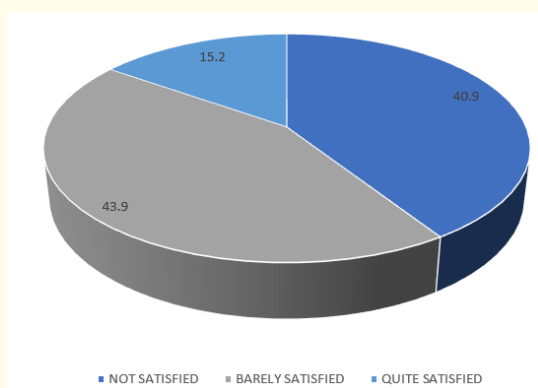


Figure 3: Satisfaction with teeth color prior to bleaching procedure among the respondents.

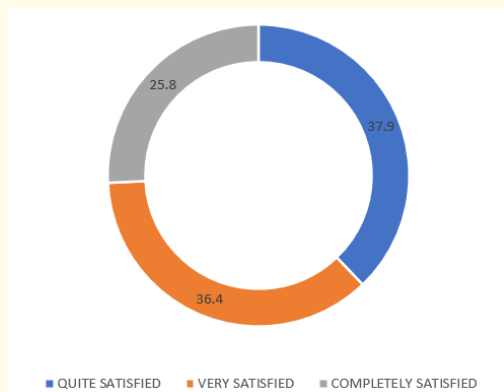


Figure 4: Satisfaction with teeth colour after bleaching procedure among the respondents.

gender of the participant ($P = 0.001$). No male participant was “completely satisfied” with the outcome of the bleaching procedure while 37.8% of the female participants were “completely satisfied”. Majority (66.7%) of male participants were “quite satisfied” with the outcome of the bleaching procedure (Table 2).

Gender	Satisfaction with outcome of the bleaching procedure			Total
	Quite satisfied	Very satisfied	Completely satisfied	
Male	14 (66.7)	7 (33.3)	0 (0.0)	21 (100.0)
Female	11 (24.4)	17 (37.8)	17 (37.8)	45 (100.0)
Total	25 (37.9)	24 (36.4)	17 (25.8)	66 (100.0)

Table 2: Association between gender of participants and satisfaction with outcome of the bleaching procedure.

$P = 0.001$.

There was some level of increase in satisfaction of tooth color after bleaching. None of those who were “quite satisfied” with their teeth color prior to bleaching remained “quite satisfied”. Instead, their satisfaction level increased as half of them became “very satisfied” and the other half, “completely satisfied”. Furthermore, a higher proportion of those who were initially “not satisfied” and “barely satisfied” with their teeth color became “quite satisfied” with the tooth bleaching outcome. However, this was not statistically significant $P = 0.07$ (Table 3). A higher proportion (41.2%) of those who recorded moderate change in tooth color were completely satisfied with the outcome of the bleaching procedure while (40.0%) of those who recorded a drastic change in tooth color were quite satisfied with the outcome of the bleaching procedure. However, this was not also statistically significant $P = 0.44$ (Table 4).

Discussion

Tooth bleaching is a procedure which seeks to provide an improvement in the “color” of the teeth of dental patients who seek it or accept it as a part their treatment plans. It is therefore important that client satisfaction is achieved. Assessment of client satisfaction after bleaching is important in evaluating the extent to which the bleaching procedure by the dentist has bridged the gap between the patient’s expectation and the improvements made. Tooth bleaching is increasingly being sought and accepted by the public. This acceptability is reflected strongly in this study by the

Satisfaction with tooth colour prior to bleaching	Satisfaction with outcome of the bleaching procedure			Total
	Quite satisfied	Very satisfied	Completely satisfied	
Not satisfied	12 (44.4)	8 (29.6)	7 (25.9)	27 (100.0)
Barely satisfied	13 (44.8)	11 (37.9)	5 (17.2)	29 (100.0)
Quite satisfied	0 (0.0)	5 (50.0)	5 (50.0)	10 (100.0)
Total	25 (37.9)	24 (36.4)	17 (25.8)	66 (100.0)

Table 3: Association between dissatisfaction with tooth color prior to bleaching and satisfaction with outcome of the bleaching procedure among the participants.

P = 0.07.

Change in tooth colour	Satisfaction with outcome of the bleaching procedure			Total
	Quite satisfied	Very satisfied	Completely satisfied	
Mild	9 (37.5)	9 (37.5)	6 (25.0)	24 (100.0)
Moderate	6 (35.3)	4 (23.5)	7 (41.2)	17 (100.0)
Drastic	10 (40.0)	11 (44.0)	4 (16.0)	25 (100.0)
Total	25 (37.9)	24 (36.4)	17 (25.8)	66 (100.0)

Table 4: Association between change in tooth color and satisfaction with outcome of the bleaching procedure among the participants.

P = 0.44.

willingness of 15.9% of all the participants in the study who originally identified as being quite satisfied with the natural shades of their teeth, to be recruited for participation in this study without any inducement.

Consistent with reports of female patients accessing dental care in dental facilities [19] and acting more positively towards oral health [19,20] than their male counterparts, there was also a female preponderance of participants in this study on tooth bleaching, a major esthetic procedure. Also, there was a higher proportion of those aged between 18 and 27 years. This may be because females and younger age groups with tooth discoloration tend to report more associated psychological problems and show an increased desire to have the discoloration removed than their male and older counterparts [21]. Females and the younger age groups have also been found to be more influenced by the media and cultural expectations of a perfect smile [22].

This study was carried out in a university community which may have influenced the occupations and educational levels of the participants as most of them were dependent persons (mostly undergraduates) and had attained tertiary education.

Across the different groups which indicated their different pre-treatment satisfaction with the shades of their teeth, there was a general increase in satisfaction levels after treatment, which suggests a tendency for clients to perceive of improvements in their tooth shades after professional bleaching. The verifiable improvement in the tooth shades of all the participants using the VITA shade guide confirms that tooth bleaching using 35% hydrogen peroxide gel is effective in every well-selected case.

The appearance of the dentition is of concern to a large number of people seeking dental treatment, with tooth color being of particular cosmetic importance [23]. Noticeable discoloration can impact on a person’s self-image, self-confidence, physical attractiveness and employability [21]. A study on the prevalence of self-assessed tooth discolorations in United kingdom [22] reported that about half of the population perceived they had discolorations between normal and severe, while 6% of the population perceived they had severe tooth discolorations. The desire for whiter teeth shade is an important stimulus for seeking dental aesthetic treatment. Therefore, an improvement in tooth shade is considered an important factor which influences patient’s satisfaction with bleaching treatment. So a patient’s perception and satisfaction with

treatment must not be ignored. Although it seems that bleaching efficacy and the patient's satisfaction with the outcome may not necessarily be related.

In this study, the patients' level of satisfaction before and after bleaching were assessed on a 5-point Lickert scale anchored by; 5- "Completely satisfied", 4- "Very satisfied", 3- "Quite satisfied", 2- "Barely satisfied", 1- "Not satisfied", while the outcome of bleaching treatment was assessed using Vita Classical Scale (Vita, Zahnfabrik, Sackingen, Germany). 40.9% of our study participants were not satisfied with the colour of their teeth while 43.9% were barely satisfied with the colour of their teeth. This finding is similar to that of Enabulele and Omo [24] who observed that more than half of the respondents in their study were dissatisfied with the colour of their teeth with the majority (82.8%) expressing their desire to improve the shades of their teeth by whitening procedures.

Most studies evaluating shade changes after tooth bleaching used the Vita shade guide and results were expressed in shade guide unit (SGU) [25,26]. Value-oriented shade guides give clinically relevant results which have been proven to meet patients' expectations as far as tooth bleaching is concerned because successful bleaching calls for perceivable difference in tooth colour.

As mentioned earlier, noticeable discolourations can impact on a person's self-image, self-confidence and physical attractiveness [21], thus tooth shade is an important factor determining satisfaction with dental appearance. This study revealed that there was no positive correlation between the severity of discolouration and self-reported satisfaction before vital tooth bleaching, indicating that satisfaction with tooth colour may not be related to the severity of the discolouration. However, this finding is different from the result of another study where self-reported satisfaction with tooth colour decreased with increasing severity of discolouration [27].

Also there was no positive correlation between sex and age and the level of satisfaction with tooth colour before vital bleaching. Contrary report by Mon Mon and colleagues [28] found that higher percentage of females expressed greater dissatisfaction than males. This may suggest that females are more concerned with their dental appearance than males and more critical in judging their dental appearance. On the other hand, Enabulele and Omo [24] found out that more males and the younger age group expressed greater level of dissatisfaction before bleaching treat-

ment. Our result is similar to that of another study [28] where age was not associated with patient's satisfaction. This was accorded to the strong influence of the media which portrays men and women of all ages needing to look younger and more beautiful.

Studies [29,30] have observed that patients with higher level of education were more satisfied with their tooth colour compared to those with lower academic achievement, this could be due to the fact that individuals with higher level of education may reflect higher self-esteem and may not necessarily be disturbed by minor changes in their tooth colour. However, educational level did not have an impact on the level of satisfaction with tooth colour in our study.

Contrary to the findings in a previous report [31] this study did not reveal any positive correlation between levels of dissatisfaction with tooth colour before bleaching and satisfaction with the outcome of the bleaching procedure among the participants. Although, there was substantial improvement as well as some level of increase in patient's satisfaction after bleaching, but this was not statistically significant. All participants who were "quite satisfied" before bleaching became "very satisfied" and "completely satisfied" with their treatment. While a higher proportion of those who were "not satisfied" and "barely satisfied" with their tooth colour became "quite satisfied".

There was statistically significant association between satisfaction with outcome of the bleaching procedure and the gender of the participant with the females expressing higher levels of satisfaction than their male counterparts. This difference in gender expression of satisfaction may be because women have been considered to be more capable than their male counterparts in shade selection [32] and may be able to notice a difference in tooth shade no matter how slight thereby making them more satisfied with bleaching outcome.

This current investigation revealed that there was no correlation between bleaching efficacy and satisfaction with outcome of the bleaching procedure among participants. This result is similar to that of a study on patient's satisfaction and complications of over-the-counter bleaching products [33] but different from that of another study [34]. The degree of satisfaction a patient has with the outcome of the bleaching procedure may be due to individual preferences and expectations which are difficult for the clinician to envisage.

Conclusion

Within the limitations of this clinical study, the following conclusions were made. Firstly, there was no positive correlation between sex, age, level of education with satisfaction with natural tooth colour. However, females expressed significantly higher levels of satisfaction with their tooth shades after bleaching than their male counterparts. Secondly, while there was also no positive correlation between prior satisfaction levels with tooth shade before bleaching and the new satisfaction levels with the outcome of the bleaching procedure, bleaching procedures when properly and safely done by professionals in well-selected cases, using 35% hydrogen peroxide, will generally provide improvements in tooth shade as well as the patient's perception of such improvements, which is critical to client satisfaction with dental care. It is therefore important that dentists involved in aesthetic dentistry and particularly in tooth bleaching, prioritize and document client satisfaction levels along with scientifically verifiable improvements in tooth shade (from baseline shade to final shade) at the conclusion of the entire tooth bleaching process.

Bibliography

1. Biji B, Chengappa M, Sreejesh N, Priyadarshini M. Microabrasion: An effective method of improvement of esthetics in Dentistry. *Case Report Dent*. 2013.
2. Lynch CD, McConnel RJ. The use of microabrasion to remove discoloured enamel: a clinical report. *J Prosth Dent*. 2003;90(5):417-419.
3. Christenen GJ. Are snow-white teeth desirable? *J Am Dent Assoc*. 2005;136(7):933-935.
4. American Dental Association. Oral Health of the US population. Consumer issues and public opinion survey, 2005.
5. International Organization for Standardization. Dentistry-product for External Tooth Bleaching. ISO28399:2011.
6. Jorgensen MG, Carrol WB. Incidence of tooth sensitivity after home whitening treatment. *J Am Dent Assoc*. 2002;133:1076-1082.
7. Fugaro JO, Nordahl I, Matis BA Mjor IA. Pulp reaction to vital bleaching. *Oper Dent*. 2004;29:363-368.
8. Li Y. Safety controversies in tooth bleaching. *Dent Clin N Am*. 2011;55:255-263.
9. Goldenberg M, Grootveld M, Lynch E. Undesirable and adverse effect of tooth whitening products: a review. *Clin Oral Investig*. 2010;14:1-10.
10. Mohammed QA. Tooth-bleaching procedures and their controversial effects: a literature review. *Saudi Dent J*. 2014;26:33-46.
11. Aghamolaei T, Eftekhaari TE, Rafati S, Kahnouji K, Ahangari S, Shahrzad ME, et al. Service quality assessment of a referral hospital in Southern Iran with SERVQUAL technique: Patients' perspective. *BMC Health Serv Res*. 2014; 14:322-326.
12. Berry, Leonard L, Zeithaml, Valerie A, Parasuraman A. *Five Imperatives for Improving Service Quality*. Sloan Management Review; Cambridge. 1990;31(4): 29-38.
13. Laslett, A-M. Patient satisfaction among users of the Royal Dental Hospital of Melbourne, Research Report submitted in partial fulfilment of the requirement for the Master of Public Health, Department of Social and Preventative Medicine, Monash University, Melbourne. 1994.
14. Calnan M, Dickinson M, Manley G. The quality of general dental care: public and users' perceptions. *Qual Health Care*. 1999;8(3):149-153.
15. Mjör IA, Moorhead JE, Dahl JE. Reasons for replacement of restorations in permanent teeth in general dental practice. *Int Dent J* 2000;50(6):360-366.
16. Arranging the Vita Classical shade guide by value.
17. Enabulele JE, Omo JO. Determination of the extent of the polychromatic nature of teeth using a Nigerian adult population. *Ann Dent Oral Health*. 2020;3:1-5.
18. Burrows S. A review of the efficacy of tooth bleaching. *Dent Update*. 2009;36:537-51.

19. Buunk-Werkhoven YAB, Buunk AP. Fear of social rejection and oral self-care in men versus women. *Int Dent J.* 2015;65(Suppl):1-57.
20. Hamasha AA, Alshehri A, Alshubaiki A, Alsaffi F, Alamam H, Alshunaiber R. Gender-specific oral health beliefs and behaviors among adult patients attending King Abdulaziz Medical City in Riyadh. *Saudi Dent J.* 2018;30(3):226-231.
21. Keller MG, Roe FG. The safety in use of 10% carbamide peroxide (opalescence) for bleaching teeth under supervision of a dentist. *Br Dent J.* 1999;184(4):190-194.
22. Alkhabitib MN, Holt R, Bedi R. Prevalence of self-reported tooth discolouration in United Kingdom. *J Dent.* 2004;32(7):561-566.
23. Ibiyemi O, Taiwo OJ. Psychological aspect of anterior tooth discolouration among adolescent in Igbo-ora, South western Nigeria. *Annals of Ibadan Postgrad Med.* 2011;9:94-99
24. Enabulele JE, Omo JO. Self-perceived satisfaction with dental appearance and desired treatment to improve aesthetics. *Afr J Oral Health.* 2017;7:1-7.
25. Tay LY, Kose C, Longuercio AA, Reis A. Assessing the effect of desensitizing agents before in-office bleaching. *J Am Dent Association.* 2009;140:1245-1251.
26. Kossatz S, Danlanhol AP, Cunha T, Longuercio A, Reis A. Effect of light activation on tooth sensitivity after in-office bleaching. *J Oper Dent.* 2011;36(3):251-257.
27. Van der Geld P, Oosterveld P, Van Heck G, Kuijper-Jagtman A. Smile attractiveness, self-perception and influence on personality. *The Angle Orthodontist.* 2007;77(5):759-765.
28. Mon Mon Tin-Oo, Norkhafizah S, Nurhidayati H. Factors influencing patient satisfaction with dental appearance and treatment they desire to improve aesthetics. *BMC Oral Health.* 2011;11:6.
29. Akarslan Z, Sadik B, Erten H, Karabulut E. Dental esthetic satisfaction, received and desired treatment for improvement of esthetics. *Indian J Dent Research.* 2009;20(2):195-200.
30. Xiao J, Zhou X, Zhu W, Zhang B, Li J, Xu X. The prevalence of tooth discolouration and the self-satisfaction with tooth colour in a Chinese urban population. *J Oral Rehab.* 2007;34(5):351-360.
31. Eva KS, Zrinka B, Matea C, Matej P, Zrinka T. Clinical and patient reported outcomes of bleaching effectiveness. *Acta Odontol Scand.* 2018;76:30-38.
32. Bimler DL, Kirkland J, Kimberly AJ. Quantifying variations in personal color spaces: Are there sex differences in color vision? *Color Res Appl.* 2004;29:128-34.
33. Heinisch C, Larsson K, Mattsson J, Karrison S, Alstad T, Ellen B. Patient satisfaction and complication of over-the-counter bleaching product. *Oral Hyg Health.* 2015;3(2):1-7.
34. Leonard RH. Efficacy, longevity, side effects and patient perception of night guard vital bleaching. *Compend Contin Edu Dent.* 1998;19:766-781.

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