

## Original Research

### Evaluation and knowledge in choice of at home dental bleaching versus in-office bleaching in Riyadh, Saudi Arabia

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#### ABSTRACT

**Aim:** The aim of this study was to evaluate residents' attitude towards in-office versus over-the-counter bleaching and to assess their awareness of indications and side effects of over-the-counter dental bleaching products. **Materials and Methods :** A cross-sectional survey was conducted among residents of Riyadh city, KSA. A closed-ended questionnaire was developed that contained an informed consent form and 13 questions. An online version of the questionnaire using created using survey monkey and was distributed through emails and social media such as WhatsApp and Facebook. Data were analyzed using SPSS Version 23. **Results:** A total of 678 participants responded to the survey. Most of the participants have done over-the-counter at home dental bleaching rather than in-office dental bleaching and stated that they were influenced by advertisements. The majority reported teeth sensitivity as side effects of bleaching. **Conclusions:** Most of the participants in this study reported that they have undergone home dental bleaching. However, they were not aware of the safety of home over-the-counter dental bleaching products.

**Key words:** Bleaching, Knowledge, Awareness

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#### INTRODUCTION

The desire to obtain the "perfect white smile" has given rise to a billion-dollar industry that bombards the public daily. The concern about dental appearance has been noted in the last few decades and evolution in dentistry requires helping unsatisfied people with their specific problems.<sup>1</sup> Tooth color was found the most important point of dissatisfaction in many countries.<sup>2-4</sup> Teeth whitening techniques are at-home and in-office. Some patients prefer at-home bleaching but in-office whitening is becoming attractive.<sup>5-6</sup> However, both treatments have similar short- and long-term results.<sup>7-8</sup>

In 2013, Al-Zarea conducted a study in Saudi Arabia and found that majority of people were dissatisfied with their tooth color.<sup>9</sup> Many people nowadays purchase over-the-counter dental bleaching kits with lack of sufficient knowledge regarding the precautions and side effect that come with it.<sup>10</sup> The aim of this study was to evaluate residents' attitude towards in-office vs over-the-counter bleaching and to assess their awareness of indications and side effects of over-the-counter dental bleaching products in Riyadh city, Kingdom of Saudi Arabia (KSA).

**Materials and Methods**

A cross-sectional survey was conducted among residents of Riyadh city, KSA. A closed-ended questionnaire was developed that contained an informed consent form and 13 questions consisting of two parts:

**Part 1:** Demographic data

**Part 2:** Questions evaluating the participants' awareness of over-the-counter bleaching indications and side effects.

After development of the questionnaire, a validity test was conducted prior to creation of the online version. An online version of the questionnaire using created using survey monkey and was distributed through emails and social media such as WhatsApp and Facebook. The questionnaire was distributed amongst residents of different age groups and educational levels living in Riyadh city, KSA. The data were entered into the computer and analyzed using the SPSS computer software (Statistical Package for the Social Sciences, version 23.0, SPSS Inc., Chicago, IL, USA).

Descriptive statistics were performed to present the overview of the findings.

**Results**

Of the total of 678 participants, the majority were female (82.6%), Saudi nationals (66.8%), and university level of education (82.0%). Approximately half the participants (48.7%) were between 15 to 24 years (Table 1). Response of participants on knowledge and awareness questions are shown in tables 2 and 3. Response on the methods of bleaching used at home is shown in figure 1. The majority reported teeth sensitivity as side effects of bleaching (Figure 2). Two-way cross-tabulation showed that females are more likely to agree that they are aware of teeth sensitivity as post whitening side effects than males. Saudi nationals are less likely to consider home bleach products are safe than non-Saudi nationals. Participants between 25-34 years are more likely to have undergone teeth whitening. These association were found to be statistically significant ( $p < 0.05$ ).

**Table 1: Demographic characteristics**

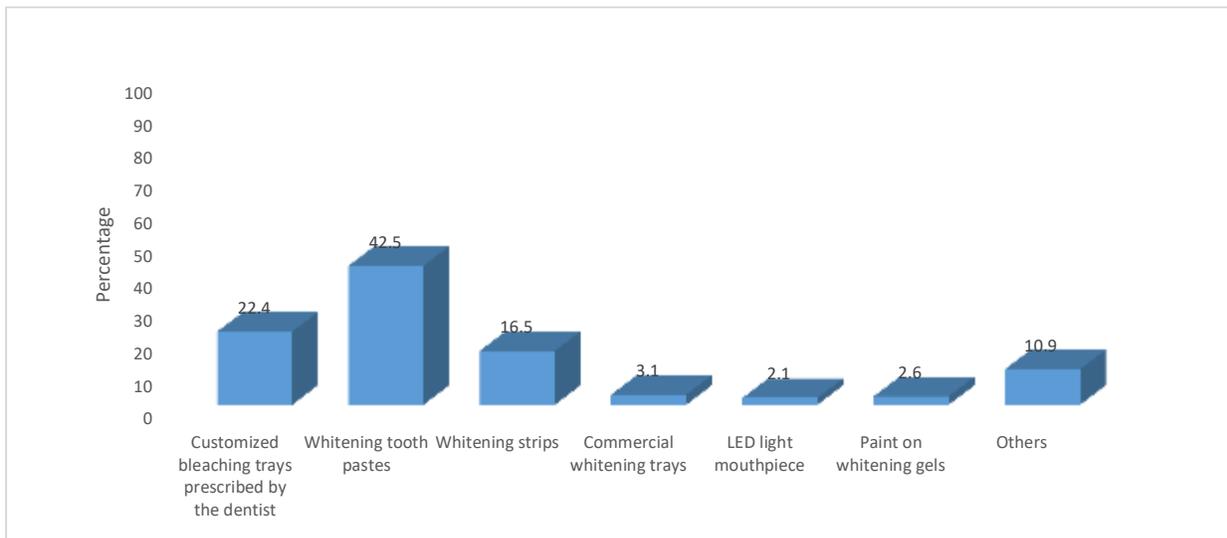
		Frequency (n)	Percent (%)
Gender	Male	118	17.4
	Female	560	82.6
Nationality	Saudi	453	66.8
	Non-Saudi	225	33.2
Age	15 to 24 years	330	48.7
	25 to 34 years	178	26.3
	35 to 44 years	97	14.3
	45 to 54 years	56	8.3
	55 to 64 years	16	2.4
	65 to 74 years	1	.1
Level of education	Elementary	1	.1
	Middle school	15	2.2
	High school	102	15.0
	University	557	82.0
	None	4	.6

**Table 2: Knowledge and awareness of the respondents**

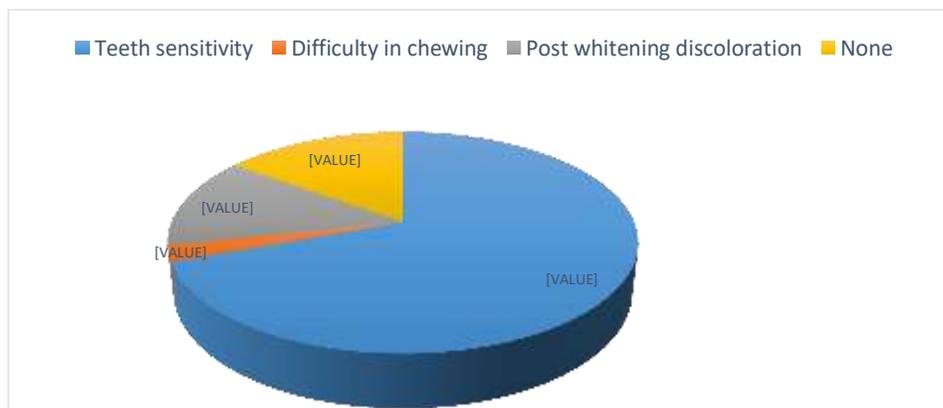
		Frequency (n)	Percent (%)
Are you satisfied with the current shade of your teeth?	Yes	262	38.6
	No	417	61.4
If you are not satisfied with the current shade of your teeth, do you consider consulting a dental professional?	Yes	460	71.3
	No	185	28.7
Have you ever undergone teeth whitening?	Yes	259	38.3
	No	418	61.7
Do you consider at home whitening products to be safe?	Yes	173	25.5
	No	130	19.1
	Not sure	376	55.4
Are you aware of post whitening side effects?	Yes	308	45.6
	No	368	54.4

**Table 3: Knowledge and awareness of the respondents (Multiple responses)**

		Responses		Percent of Cases
		Frequency	Percent	
What are the teeth whitening procedures you have heard of?	In office	431	40.6	63.7
	Dentist prescribed	158	14.9	23.3
	Over the counter bleaching agents	472	44.5	69.7
Which procedure have you done if you have ever undergone teeth whitening?	In office	126	22.3	22.7
	At home	197	34.8	35.6
	Both	92	16.3	16.6
	None	151	26.7	27.3
How did you know about teeth whitening?	Advertisements	320	36.3	47.5
	Articles	58	6.6	8.6
	Dentist	208	23.6	30.9
	Family and friends	296	33.6	43.9
What are the reasons for using bleaching products/treatment?	Smoking	114	11.8	17.0
	Teeth discoloration & stains	324	33.6	48.4
	Having dental fillings	52	5.4	7.8
	Improve esthetics	474	49.2	70.7



**Figure 1. Methods of bleaching used at home**



**Figure 2. Awareness of post bleaching side-effects**

## DISCUSSION

This study shows that majority of the participants have done over-the-counter at home dental bleaching rather than in-office dental bleaching and stated that they were influenced by advertisements. This finding was in line with in a previous study by Ahmed et al.<sup>11</sup> Around half the respondents were unaware of the post whitening side effects which was lower than the study conducted by Alamassi et al. which reported that approximately three fourth agreed that tooth bleaching has side effects.<sup>12</sup>

Almost half of the respondents reported they are not sure that home whitening products were safe. Post bleaching teeth sensitivity is one of the most common side effects<sup>10</sup> of teeth bleaching and this was reflected in the findings of the current study as the majority of the respondents reported that they were aware of teeth sensitivity as a post whitening side effect. This finding was found to be significantly higher in comparison to Alamassi et al.<sup>12</sup> Most of the respondents in the current study were unaware of the safety of home dental bleaching.

## Conclusion

Most of the participants in this study reported that they have undergone home dental bleaching. However, they were not aware of the safety of home over-the-counter dental bleaching products. It is recommended to direct more community projects to educate and raise awareness regarding indications and post-operative side effects of at home dental bleaching products.

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