

ACUITY OF ESTHETIC SMILE

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ABSTRACT

Nowadays, smile plays a significant role during social communication therefore the need for brighter and clear smile has grown exponentially as a result increases demands of the patient's for dental esthetic treatment. The objective for the current study was to determine the association between gender as well as professionals and non-professionals with teeth whitening perception and practices. It was an analytical cross sectional study performed at dental outpatient department of the private tertiary care center in Karachi from November 2018 till April 2019. Total sample of 400 subjects were taken through non probability convenience sampling. Data were collected by self-administered questionnaire. The questionnaire comprised of two parts; first part included the socio-demographic variables followed by variables related to assess perception and practices regarding different teeth whitening agents. Data was analyzed by using SPSS version 18, percentages and frequencies were taken out for qualitative variables followed by chi square test in order to determine the association among the variables. P value was kept significant at 0.05. Statistically significant association was found among gender with teeth whitening perception and practices ($p \leq 0.001$) as well as statistically significant association was found between professional with practices and perception of teeth whitening agents ($p \leq 0.001$) as compare to their counterparts. In current study more than two third of the subjects had the perception that teeth should be esthetically good for the social wellbeing but on other hand they were not practicing it. Also statistically significant difference was found among gender revealed females were more conscious regarding their smiles than males.

Keyword: Perception, Tooth bleaching, in office bleaching, Home bleaching, Esthetic

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INTRODUCTION

These days, everyone demands for properly aligned, well contoured and bright shiny teeth as they are considered as the sign of healthy mouth along with beauty criteria. Therefore, cosmetic awareness has increased the trend of tooth whitening among patients and dentists. During social communication, smile plays a vital role also bright and shiny teeth being the key component of a beautiful smile; have increased the demand for esthetic treatment.^{1,2}

Furthermore, it has been observed and reported that

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healthy smile is responsible in improving self-esteem along with self-confidence and has a positive influence upon people; in both their personal and professional lives.²

In addition, due to day by day increasing in awareness about health and beauty through mass media has further raised the demand for whiter teeth and converts it in to the needs of people. Therefore, esthetic dentistry has experienced many advances in its technology for restorative treatment of discolored teeth such as veneers, bleaching and crowns. However, among the entire therapeutic/prophylactic measures tooth bleaching is found to be the best conservative procedure that results in improvement of smile by lightening up teeth's color.^{3,4}

Locally in our country Pakistan, many addictive substances like betel nut and betel quid are being commonly practiced resulting in black, brown and red discoloration of teeth (extrinsic) along with other oral and dental hygiene problems.^{5,6} In addition, esthetic equilibrium of smile has also disturbed by the severe biological, chemical and mechanical changes.⁷

But due to changing in trend, people have started showing their concerns about having well arranged,

straight and stain less teeth. Thus dental professionals have responded to this increased concern affirmatively and offered a variety of teeth whitening options like in-office bleaching, dentist-supervised bleaching and dentist-provided bleaching and over the counter products.^{2, 8}

However the selection option for these methods/treatments are totally dependent upon the choice of dentist and patient's preference, economic and time factors and most importantly, type and cause of the discoloration involved.

Each method has its own advantages and disadvantages. In-office technique has the advantage that the whole procedure is under the control of the practitioner along with the soft tissue protection resulting in achievement of excellent esthetic in short span of time. However, there are some disadvantages of the bleaching procedure as well, such as alteration in the enamel organic component with loss of calcium as a result subjects feel dental sensitivity due to reduction in enamel micro-hardness, increased porosity and irritation of pulp.^{2, 9}

Globally, many researches have been conducted to evaluate patient's level of satisfaction in terms of dental esthetics.¹⁰⁻¹² A study on 1046 subjects was reported by Al Sadhan et al concluded that more efforts should be made to spread proper awareness about teeth bleaching agents among young females.² Another study from Saudi Arabia reported that most of people used saline and some of them used lemon as the common self-remedies at home.¹³ Study reported that the "factor teeth for facial analysis" and "factor positioning in the arch," for smile analysis were considered the most important subjects regarding the esthetic according to the respondents.¹⁴

Nowadays, in Pakistan media have influenced a lot of the people about esthetics of teeth through advertisements as well as they are promoting nonprofessional methods of teeth whitening due to which people are more inclined towards these nonprofessional methods. Moreover, the controversial findings and limitations in existing literature review have helped to set the objectives of this study that is to evaluate the overall perception and knowledge of teeth bleaching and aesthetics among the patients visiting dental OPD of Ziauddin University Karachi. To find out the association between gender and teeth whitening perception and practice as well as among professional and nonprofessional with teeth whitening perception and practices

METHODOLOGY

It was an analytical cross sectional study performed at dental outpatient department of a private tertiary care center in Karachi. A total sample of n=400 subjects were taken through non probability convenience sampling, total duration of the study was six months that is November 2018 till April 2019. Sample selection was based on inclusion criteria, participants with age

10 years and above who were agreed to participate in to the study as well as came to the dental OPD for regular checkups, appointments or on follow ups. All those subjects who were not interested in to the study were excluded.

A semi structured adopted questionnaire distributed among the subjects to assess their knowledge, perception and practices regarding teeth whitening agents. The questionnaire was comprised of two parts; first part included the socio-demographic variables followed by variables like satisfaction about teeth color, chewing habits and their duration and frequency, knowledge about teeth whitening procedure, teeth whitening strips, organic teeth whitening methods, agents that brighten up tooth color, regarding the outcome of teeth whitening, preferred method and teeth whitening's esthetics importance.¹⁵

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008. Informed verbal consent was taken from all the subjects of the study.

Data collection procedure was performed by one data collecting officer through distribution of the questionnaire among the participants visiting the dental OPD of Ziauddin College of Dentistry.

After data collection, it was entered in to SPSS version 18. Descriptive analysis was performed for qualitative variables for frequencies and percentages further, inferential statistics was made by using chi square test to determine the association of teeth whitening awareness and practices among both males and females as well as among professional and nonprofessionals. P value was kept significant at 0.05.

RESULTS

Out of total n=400 subjects, 45% (n=180) were males and 55% (n=220) were females. Of the total subjects 46.5% (n=186) were graduates, 31.2% (n=125) had completed their intermediate and only 22.2% (n=89) were matriculated. On asking about their profession, 42.2% (n=169) reported they were doing jobs, 36.8% stated that they are students, 12.2% (n=49) stated that they are house wives and only 8.8% (n=35) reported that they are running business.

On asking about habit of chewing tobacco, 22.5% (n=90) reported of having the habit while majority of the subjects that is 77.5% (n=310) denied of having the chewing habit. Furthermore, on asking about the duration of chewing habit from those who gave affirmative responses, 9.2% (n=37) had habit more than 6 years, 5.5% (n=22), 4.5% (n=18) and 3.2% (n=13) had habits from 2 years, 4 years and 6 years respectively. When asked about teeth brightening agents majority of the subjects 79.5% (n=318) denied however, only 20.5% (n=82) had replied affirmatively. Among those who were using teeth brightening agents majority were

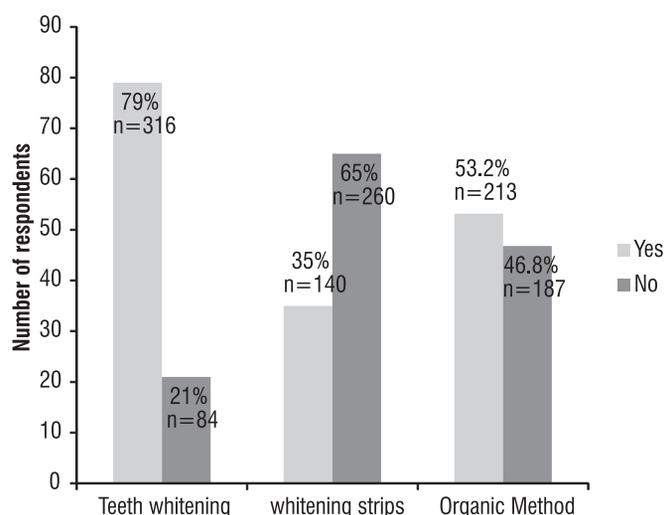


Fig 1: Awareness levels regarding tooth whitening methods

TABLE 1: ASSOCIATION OF GENDER WITH TEETH WHITENING

Variable	p-Value
Perception that whitening paste helps	0.003
Factors causing teeth staining	0.001*
Perception that teeth should be esthetically good for social well being	0.039*
Perception that outcome of teeth whitening is sensitivity	0.037*
Practice of teeth whitening agents	0.001*

Chi square test, *statistically significant

TABLE 2: ASSOCIATION OF PROFESSION WITH TEETH WHITENING

Variables	p-value
Factors causing teeth staining	0.001*
Perception that outcome of teeth whitening is sensitivity	0.003*
Practice of teeth whitening agents	0.001*

Chi square test, *statistically significant

those who used baking soda 10.2 % (n=41) whereas, rest were using different products like banana skin, charcoal, lemon, etc.

Fifty seven percent (n=227) stated that they preferred professional way of teeth brightening however, 43 % (n=173) said that it is better to brighten up teeth at home. Upon asking about the factors that causes teeth staining majority of the subjects 52.8% (n=211) reported excess use of tea/ coffee, 22.8% (n=91) said that it is due to smoking while 16% (n=64) and 8.5% (n=34) stated that food items and age respectively are responsible for staining.

On asking about the perception of subjects regarding outcome of the teeth brightening is dental sensitivity, majority 52% (n=208) reported no whereas about 48% (n=192) stated yes. Furthermore, on asking about the perception of the subjects regarding esthetics of the teeth during communication or public dealing is necessary; majority 93.8 % (n=375) respondent affirmatively while only few 6.25% (n=25) reported negatively.

DISCUSSION

Over all, most of data comprised of adults, the level of education was above matriculation and slightly higher proportion of females was observed in comparison to males. One fifth of the study participants were using brightening agents within which baking soda was most common. Also, gender predilection associated with usage of whitening agent with aesthetic concerns such as it promotes social wellbeing, helps with confidence. Likewise their approaches to teeth whitening also differed significantly across males and females. However, in terms of profession, no association was found between aesthetic concerns on brightening agent and social wellbeing.

It has been observed that appearance of teeth greatly influences self-esteem of a person and imparts self-confidence.¹⁶⁻¹⁸ The attitude towards healthy smile depends upon many factors such as age, gender, income, years of schooling, occupation and social interaction etc.¹⁹ Females being esthetically more conscious about their facial appearance have relatively higher tendency for using agents to improve their smile.²⁰⁻²² there are similar results where more females (twice higher) than males were using whitening agents for making their teeth look brighter. Since many females believed that commercial forms of tooth whitening agents are helpful in improving color of tooth which might explain the difference in the practices between males and females. Also, the study participants particularly females perceived dental esthetics is necessary for overall social wellbeing which was also found in other regional studies.

Other than the gender differences, people from different work sector perceive importance of teeth whitening differently. Since the esthetic concerns differ across profession of a person therefore their behaviors towards whitening of teeth also vary based upon their nature of work.²³ People who are socially active or whom job demand public dealing is relatively more concerned about their facial integrity and dental cosmetics. On the other hand, people from different work sector did not consider tooth paste as a helpful agent for tooth whitening. These judgments could be based upon their personal experiences in which whitening tooth pastes might not have changed their tooth color despite its usage. Hence, professionalism did not modify their preferences for using any specific (either professional or home-made) whitening agents.

Current study is in agreement with the study conducted at Medical University of Lodz, Poland including 313 patients seeking tooth bleaching treatment reported

that the 61.0% were not satisfied with the appearance of their teeth and 89.1% had attempted to improve the appearance of their teeth by using whitening dentifrices. However, half of them were concerned about the safety of the bleaching procedures.²⁴

Tea and coffee consumption have been shown to cause external staining on tooth and this was significantly associated with gender and profession of the study subjects. Nearly half of the house wives considered coffee and tea responsible for staining their teeth. Contrary to this, people from business sector thought smoked tobacco can stain their teeth. Similar differentials were seen across gender where more than half of females considered coffee or tea consumption a causative agent for teeth staining and nearly one third of males thought it was due to smoking which was consistent with previous studies. Despite a relatively higher knowledge about tooth whitening, whitening strips were not known to more than half of the study participants and nearly half knew about organic methods of tooth whitening.

CONCLUSION

In current study more than two third of the subjects had perception that teeth should be esthetically good for the social wellbeing but on other hand they are not practicing it. Furthermore, statistically significant difference was found among gender revealed females were more conscious regarding their smiles.

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| 2 Nazish Fawad: | Write-up, data collation. |
| 3 Atiya Abdul Karim: | Formulation of initial draft. |
| 4-6 Zuleka Yasin, Nihan Ahmed, Gulrukh Khan: | Data collation |