



Control of Bad Smile- A Review

Authors

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Abstract

Background: Smile has an influence on the facial attractiveness, bad smile result in decreasing facial attractiveness and self-esteem and makes individuals unsatisfied on themselves. Several factors influence the smile such as color, size and shape of the teeth, buccal corridors and gingival display. Patients looking for improving their smile by visiting dental clinics, the strategy used to improve the smile of patients depend on the problem exist, budget of the patient and dentist's evaluation.

Aim: The aim of this review is to overview the factors influence smile in cosmetic dentistry aspects.

Methods: Several scientific websites were used to search for scientific articles related to the present subject including Google Scholar and Pubmed. Key words such as bad smile, cosmetic dentistry and factors influence smile were used to obtain articles.

Results: 8 articles were found to be related to our subject and used in this review.

Conclusion: Smile has a great influence on facial attractiveness and self-esteem. The smile is influenced by several factors many of them can be improved by cosmetic dentistry such as teeth shape, size and color, while others can't be controlled by cosmetic dentistry such as aging. The Judging of good and bad smile differs according to the opinion of patients and dental specialist.

Keywords: Smile attractiveness, Smile esthetic, Dental esthetic.

Introduction

Bad smile has a bad influence on the man or women. Also, it affects the self-confidence. Improving the appearance of the smile is known as smile makeover and can be done through the cosmetic dentistry by Dental veneers, Composite Bonding, Tooth Implants, and Teeth whitening. There are many factors that should be taken into consideration in the control of bad smile like facial appearance, skin tone, hair color, teeth (color, width, length, shape and tooth display), gum tissue and lips^[1]

The beautiful smiles have revealed repeatable, objective principles that can be systematically applied to evaluate and improve dental esthetics^[2]

Three composition elements are necessary to create unity and esthetics in the perfect smile: central dominance, regressive proportion, and symmetry across the midline^[3]

Facial and muscular aspects are different between patients and are essential criteria for evaluation. Dentists can use photographic analysis to assess how the lips and soft tissue frame the smile in different positions^[4]

Gingival health and appearance are linked to esthetic conditions which are the crucial element of satisfied smile design.

Micro-esthetics involves the components that make teeth look like teeth. The anatomy of natural anterior teeth is specific for each tooth and that

tooth's location in the dental arch. Specific incisal translucency patterns, characterization, lobe development and incisal haloing all are components of the micro esthetics of each tooth. Dentists and technicians alike endeavor to replicate the micro esthetics of teeth in restorations^[5]

The artistic work of the dentist and the technician can combine to create a natural and pleasing overall appearance by talking into consideration the groupings of individual teeth and the relation of this teeth with surrounding soft tissue and the patient's facial characteristics^[4].

Aim

The aim of this review is to overview the lousy smile in cosmetics dentistry aspects

Materials and Methods

Scientific websites were used to research for articles related to the current subject such as Pubmed, Research gate and Google scholar. Several keywords were also used to obtain the possible articles related to our subject including; bad smile, cosmetic dentistry, control, aesthetics and restorative procedures. Articles not related to the subject were excluded, and we included only article focused on our subject.

Discussion

1. The influence of smile on facial attractiveness:

Facial attractiveness has a role in social interaction as it influences personality evaluation, mating success, performance and employment prospects^[6-8]. There is an association between self-confidence and facial attractiveness^[9]. Both of smile attractiveness and facial attractiveness are connected to each other strongly^[9], this returns to the fact that attention of individuals is directed toward the eyes and mouth of the face of speaker^[10].

The improved dentofacial appearance was thought to positively impact attractiveness^[11,12]. The smile plays an important role in appearance and facial

expression as the mouth is the center of communication in the face^[9]. It was found that higher social abilities were associated with esthetic smiles of individuals and these individuals were more attractive on photographs than other individuals with lower level of esthetic smiles^[12,13].

2. Factors influence esthetic smile and smile classification

Esthetic smile is depending on shape of the face, ratio, texture, head, pattern of placement, buccal corridors, asymmetries, tooth shape, size, position and color as well as the framing of the lips and the amount of gingival display, gums, smile width and line as well as age of the patient^[9,14,15]. The presence and absence of buccal corridors influence the smile^[15].

In one study^[16] it was found that the minimum buccal corridors was associated with more attractive smile in both men and women and the presence of buccal corridors was considered as and orthodontic problem. On the contrary, Ritter et al concluded that esthetic smile on photographs didn't affected by these negative spaces^[17]. One study^[18] showed that extraction and non-extraction treatments of the buccal corridor width didn't differ, however in another study^[19] it was found that rapid expansion maxillary treatment resulted in diminishing in buccal corridors. The lips control the portions that appear from gingival, teeth and oral cavity of the individual while smiling^[20].

The higher elevation of the upper lip during smiling results in appearance of large portions of teeth and gingival which in turn influence the esthetic of smile^[9]. Gingival display has an impact on smile, increasing the gingival display is known as gummy smile which makes smile far from ideal^[15].

Gummy smile results from increasing in overjet and overbite, short length of the upper lip or incisor crowns and the vertical overgrowing of the maxilla^[21]. However, two studies showed that the crown length of incisors and upper lip length

didn't affect gummy smile^[22,23]. This influence of gummy smile affected by the opinions of participants, if they are orthodontists or individuals of population and this can be reinforced by the study of Loi et al^[24] who investigated the impact of the amount of gingival display on smile esthetic, the study was conducted on orthodontists, dentistry students and individuals from population, the study depended on the opinions of participants, there was no difference between males and females, while dentistry students considered that when the lip cover the upper incisor teeth by 2 mm this makes the smile to be attractive, whereas orthodontists reported that 0 mm of gingival display was the most attractive. Another study by Hunt et al^[25] supported the opinion of orthodontists in the previous study.

Tjan et al^[26] classified smile to 3 categories; high, average and low. In high smile, the display of cervicoincisal length of the maxillary incisors is shown completely along with a contiguous band of gingiva (figure1), while in low smile, less than 75% of the display appears (figure2). In case of average display, 75-100% shows of maxillary incisors, and the incisal curvature of the maxillary located at the anterior teeth became parallel to the inner curvature of the lower lip and totally or slightly touch the lower lip (figure3)^[26].



Fig 1: High smile



Fig 2: Low smile



Fig 3: Average smile

Arch width is another factor affecting smile, it was suggested that modification of smile esthetics depends on the contraction of the arch due to non-extraction and extraction orthodontic treatments^[15]. Two studies^[27,28] showed that in extraction cases the dental arches got contracted and as a result the smile esthetics reduced. Other study^[29] showed that dental arches contraction not always resulted from extraction treatment, so the study concluded that neither non-extraction nor extraction affected the esthetics of smile.

The tooth shape was another factor influencing smile esthetic and it depends on face^[15]. However, several studies^[30-32] reported that there was no correlation between the form of face and the natural or artificial teeth. A study conducted on orthodontists, restorative dentists and non specialists depending on their opinions to evaluate the correlation between tooth shape and smile

esthetic, it was found that regardless the tooth shape, the three groups found that the smile of female was more attractive than that of men as the smile of females was round and round square, whereas that of males was square round form^[33].

There are limited studies regarding teeth shape and its impact on smile esthetic, also there was limitation in the number of studies conducted on the impact of dental asymmetries on smile esthetic. Dental asymmetries have negative impact on smile esthetic^[15]. One study showed that prosthodontists, orthodontists and non-specialists considered that esthetic smile wasn't affected by wearing of the cusp tip of the maxillary canine, but their opinions conflicted in asymmetry distance, where both orthodontists and prosthodontists considered that 0.5 mm asymmetry in the gingival margin of the maxillary incisor affected the smile esthetics, where as non-specialists considered it at 2 mm^[34].

Age has an impact on the smile of individuals as a result of changes in mouth and facial areas^[15]. One study conducted on individuals with different ages showed that aging resulted in increase in the upper lip length by 4 mm and reduction in the maxillary teeth display during smiling, also it was found that there was a reduction in the height of the maxillary lip line during rest and smile and it decreased about 2 mm in spontaneous smile, these findings indicated to the negative influence of aging on esthetic smile^[35].

Another study^[36] found that smile enlarged transversally and contracted vertically with aging as the increase in age led to decrease in sufficiency of the muscles that allow the smile. Several studies found that patients' satisfaction with their dental appearance was affected by the color of their teeth and malocclusion^[9,37-39]. White teeth may impact quality of life^[40] and it was found that white teeth was associated with intellectual ability, social status, psychological balance and higher score of social competence^[41]. However, Grososky et al^[42] didn't think that white teeth positively affect the attractiveness.

3. Dentistry and smile

Teeth is the most significant factor that influence person's smile, if the individual is unsatisfied with his teeth look, then he try to hide them and hence influence his smile as he either avoid smiling or they cover his mouth^[14]. The goal of orthodontic treatment is to establish an attractive smile^[43]. Half of individuals who visit dental clinics wish to look more beautiful^[14], also, orthodontic patients looking for increasing their quality of life and self esteem^[11,44].

Some individuals have the financial ability to improve their smiles by veneers, orthodontics, and crowns^[45]. A study by Beall^[46] showed that esthetic dentistry results were close to that of cosmetic surgery, it showed also that smile had an influence on attractiveness of individuals. Cosmetic dentistry has a role in the acceptance of person by another^[47]. It was suggested that the motivation of adolescent to demand orthodontic treatment is associated with the social implications of malocclusion^[48]. Another study reported that cosmetic dentistry gained great importance by adolescent, as 100% of participants aged 12 years considered that dental arch was important in aesthetic facial appearance^[49].

Orthodontists should determine during treatment planning which dental characteristics should be preserved and corrected in treatment for esthetic enhancement^[43]. Patients who want new smile and have low budget can be directed to Snap On Smile, which is a removable comfort appliance that requires no injections or preparation of the existing teeth, it is totally non-invasive completely reversible procedure^[45]. The Snap On Smile is designed to fit over the teeth, it is completely tooth-borne and it enables the patient to eat and speak without disengagement of the appliance, also the appliance doesn't cover the plate or impinge the gingival^[45].

Indications of the Snap On Smile include; economical option when patient's smile affected by missing of teeth, hurry new smile and functional appliance for patients with para functional habits^[45]. Teeth discoloration is another factor

influencing the smile, it was found that 50% of participants in one study^[50] were concerned about the discoloration of their teeth. Another study^[20] showed that light tooth shade had a positive impact on the smile. Discoloration can be existed inside the tooth structure or over it^[51].

Treating the discolored teeth depend on biological distances, the quality and quantity of remaining dental structure, degree of discoloration, position of the teeth and expectations of the patient^[52]. Hence there are many options presented to the patients such as ceramic laminate veneers, full coverage crowns and masking^[53]. Laminate veneers are indicated to correct abnormalities such as displeasing shape, lack of size and volume, discoloration and extensive lesions, they can be processed either directly or indirectly^[54,55].

Proper preparation of abnormal teeth then veneering them with direct resin composite represent favorable treatment option due to the possibility of teeth structure conservation^[56]. Preparation of teeth for veneers is related to the mass losses compared to unprepared teeth, lower mass is lost by direct composite veneer preparation than mass lost in preparation of conventional indirect ceramic veneers^[57]. Other advantages of laminate veneers include fewer expense, reversible treatment, no need for more cementation steps, simple intraoral polishing, better marginal adaptation, easily repairing of fractures and cracks^[54]. However there are disadvantages of laminate veneers such as susceptibility to discoloration and low resistance to wear^[54]. Laminate veneer changes the texture and form of the teeth without severe discoloration, so it is indicated to improve esthetic^[58].

Conclusion

Smile has a great influence on facial attractiveness; the smile in turn is influenced by several factors including age, teeth shape, size and color, arch width, gingival displays, aging and buccal corridors. However the influence of these factors not only depending on dentistry, but also the opinion of the patient and dentists, so the

opinion and satisfaction of the patient should be considered when performing orthodontic treatments. Also the studies on some of these factors are limited and further studies should be performed.

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