IMPACT OF TOOTH COLOUR ON ORAL HEALTH RELATED QUALITY OF LIFE AND SELF ESTEEM

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ABSTRACT:

Facial appearance has a significant psychological and social effect on the human personality. The oral region plays a key role when an individual speaks or meet with another person. It is apparent that the importance placed on aesthetics by western societies is increasing which in turn has led to the development of advanced aesthetic techniques and treatments. The aim of the study was to assess the relationships between the discrepancy between perceived and ideal tooth colour, satisfaction with tooth colour, self-esteem and oral health related quality of life.

The correlation between satisfaction with tooth colour and discrepancy in tooth colour was highly significant (p<0.01). The correlation (r) between degree of satisfaction and oral health related quality of life was 0.10 (p= 0.03), which is a small but significant correlation supporting a relationship between these two variables.

As far as the correlation between self-esteem and oral health related quality of life is concerned which was -0.19 (p= 0.02), is a small but significant correlation, suggesting a weak relationship between two variables. The negative coefficient correlation indicates that people with higher self-esteem had higher oral health related quality of life

Key words: Aesthetics, Oral health, Personal satisfaction, Personality, Quality of life, Self esteem

INTRODUCTION:

Health is defined by the World Health Organization as, 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'. [1]

Oral-health-related quality of life (OHRQoL) is a sub division of health-related quality of life and is defined as 'an individual's assessment of how the following affect his or her well-being: functional factors, and experience of discomfort/pain in relation to oral and facial concerns'. [2] Similar to health-related quality of life, 'oral health-related quality of life is a multidimensional issue composed of complex of interrelated domains that includes survival, or duration of life; the absence of impairment, disease, or symptoms; appropriate physical oral functioning; the absence of discomfort and pain; emotional functioning; social functioning associated with the performance of normal roles; perceptions of adequate oral health; satisfaction with oral health; and absence of social or cultural disadvantages related to oral health'. [3]

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Facial appearance has a significant psychological and social effect on the human personality and the features most commonly associated with facial attraction are the eyes and the mouth.[4,5] The oral region plays a key role when an individual speaks or meet with another person. [6] It is apparent that the importance placed on aesthetics by western societies is increasing. [7] Some authors have suggested that media has a significant role in judgment of good or acceptable dental appearance. [8]

The value of dental appearance to an individual is largely subjective. It may be influenced by personality and may affect their satisfaction with their appearance and their quality of life. One such personal factor is self-esteem. Self-esteem is 'the personal sense of value or worth, or the degree to which a person values, approves of, appreciates, prizes, or likes him or herself'. [9]

Therefore, the research is aimed to assess the relationships between the discrepancy between perceived and ideal tooth colour, satisfaction with tooth colour, self-esteem and oral health related quality of life.

Specifically, it was hypothesised that self-esteem would not be associated with discrepancy in tooth colour but would be associated with satisfaction with tooth colour and health-related quality of life. Likewise, discrepancy in tooth colour would be related to satisfaction, which in turn would be

related to oral health-related quality of life.

MATERIALS AND METHODS:

The study was approved by the University of Sheffield Research Ethics Committee. A cross-sectional design was used. Undergraduate students of University of Sheffield's were recruited for the study. Total 140 participants were taken to detect a correlation of 0.3 with 90% power and a significance level of 0.05 (SISA website)

Potential subjects were informed of the purpose, risk/benefits of the study, and were invited to participate. Verbal consent was obtained. Photographs were used for subjective assessment of tooth colour (perceived tooth colour). The system consisted of a Kodak DCS 410 digital camera (aperture F11, shutter speed 1/10 sec), mounted on a purpose built frame. Images taken with the Vita shade tabs in a Petri dish with distilled water to reduce reflection and 30cm away from camera and grey back ground was used. The photographs were than coded using letters A to CC, where the Code A indicated the whitest tooth and code CC indicated the yellowest. The letters were then re-coded sequentially from 1 (lightest) to 29 (darkest). Subjects were asked to look at the photographs on the laminated A4 white sheet of different shades of tooth colour and to point out which photograph resembled most closely their tooth colour, and then they were asked what colour they wanted their teeth to be. Discrepancy of tooth colour was calculated as the

difference between the perceived and ideal tooth colour.

Rosenberg Self-esteem scale (1965) was used for measuring self-esteem. Degree of satisfaction with the existing colour of teeth was recorded on a 7-point (1-7) response scale, from very satisfied to very dissatisfied. Oral health related quality of life was assessed by OHIP (Oral Health Impact Profile) Aesthetics questionnaire. [10] Responses were made on a Likert scale and coded 'very often' (score 4), 'fairly often' (score 3), 'occasionally' (score 2), 'hardly ever' (score 1) and 'never' (score 0), similar to the original OHIP-49. A lower score indicated higher oral health related quality of life.

The pre-coded questionnaires were then entered into the statistical package SPSS version 14 for cleaning and analysis.

Statistical analysis

Analysis of data was performed using a standard statistical package software (SPSS) version 14. Due to the skewed distribution of the data, root transformation of the data was attempted. Mann-Whitney U test was performed to find out the difference between both genders in terms of total OHIP score, total self-esteem, satisfaction with the existing tooth colour and the colour they wanted their teeth to be. Spearman's Rank Order correlation was used to calculate the strength of the relationship between different continuous variables.

RESULT:

140 people participated in the study of which 61 were males (43.6%) and 79 were females (56.4%). The range of age was 18 to 25 years, with a mean of 21.01 and standard deviation (SD) of 1.68.

Data on self-esteem, discrepancy in tooth colour, satisfaction and oral health related quality of life are summarised in table 1, which shows low levels of impact on OHIP-A and reasonably high levels of satisfaction among the students. The internal reliability for Rosenberg's self-esteem scale and OHIP-A as assessed using Cronbach's alpha were 0.78 and 0.49 respectively.

The correlation between satisfaction with tooth colour and discrepancy in tooth colour was r = 0.521 (p<0.01). The direction of the correlation was positive. The correlation (r) between degree of satisfaction and oral health related quality of life was 0.10 (p= 0.03), which is a small but significant correlation supporting a relationship between these two variables. The correlation between quality of life and perceived and desired tooth colour was r = 0.09 (p=0.31). Thus oral health related quality of life was not related to discrepancies between perceived and desired tooth colour.

Self-esteem and degree of satisfaction were correlated (r= 0.19. p= 0.02). This weak positive relationship indicated that higher degree of satisfaction with tooth colour was seen in people with higher self-esteem. As far as the correlation between self-esteem and oral health related quality of life is concerned which was -0.19 (p= 0.02), is a small but

significant correlation, suggesting a weak relationship between two variables. The negative coefficient correlation indicates that people with higher self-esteem had higher oral health related quality of life

DISCUSSION:

The results of the study supported the hypothesized relationships for self-esteem. It was found that self-esteem was not associated with discrepancy in tooth colour but was associated with satisfaction with tooth colour and health-related quality of life. Likewise, discrepancy in tooth colour was related to satisfaction, which in turn had a related to oral health-related quality of life.

Several researchers believe that having poor oral health status or oral disease, might impact on quality of life.[11, 12, 13] However, only certain factors were addressed in the studies, for example, self-awareness of needing dental treatment or self-evaluation of being orally healthy.[13] The individuals' subjective perceptions, concerning the impact of their oral health on their daily lives, have been rarely addressed.

It was interesting to find out whether the individuals' subjective perception of their tooth colour does, in fact, affect their daily life. Therefore, in present was focused on the subjective aspects of individuals' oral health, in order to explore how the individuals perceived their oral status, and how it affected the quality of their daily life and self-esteem.

A study suggested that manipulating tooth colour to make teeth whiter doesn't make an individual more attractive or younger appearing to others. [14] In present study it was found that self-esteem actually mediated the relationship between the tooth colour, satisfaction and quality of life. So if whitened teeth do not increase attractiveness and self-esteem is not associated with discrepancy in tooth colour but has an association with satisfaction and health-related quality of life than, should teeth be whitened?

The results of present study suggest that if we want to improve the oral health-related quality of life, we might focus efforts on improving self-esteem as much as on changing the tooth colour because the importance of appearance decreases when the psychological self becomes stronger and clearer. [6]

The literature also supports the idea that manipulating tooth colour to make teeth whiter doesn't necessarily make an individual more attractive or younger appearing to others. [14] This indicates that if people have better self-esteem they may not worry about the colour of their teeth as a relationship exists between quality of life and self-esteem, which may mediate the relationship between tooth colour and quality of life.

Hence, it can be concluded that the development of personal skills as a form of health promotion to improve self-esteem holds promise to improve OHQoL in relation to tooth colour.

CONCLUSION:

It is concluded from present study that self-esteem was not associated with discrepancy in tooth colour but was associated with satisfaction with tooth colour and health-related quality of life. Likewise, discrepancy in tooth colour was related to satisfaction, which in turn had a relation with oral health-related quality of life.

The results of this study suggest that to improve the oral health-related quality of life, we might focus efforts on improving self-esteem as much as on changing the tooth colour.

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FIGURE:
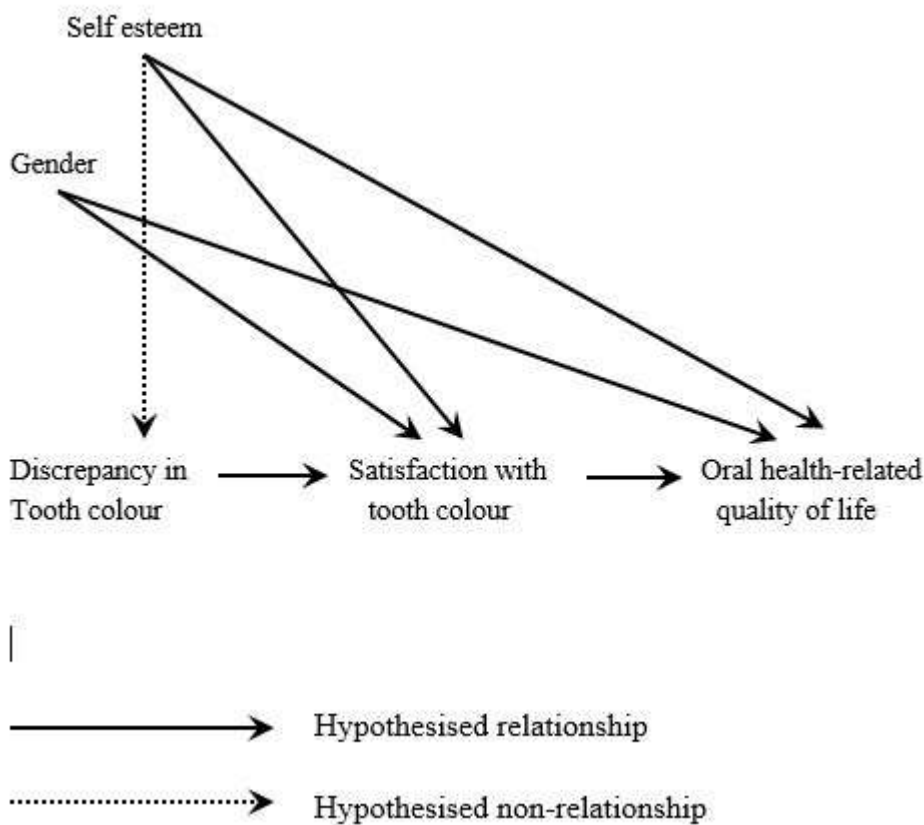
Figure 1. Hypothetical model of relationships between discrepancy in tooth colour, self-esteem satisfaction and quality of life

TABLES:

Table 1. Self-esteem, OHIP-A, satisfaction and difference in tooth colour by Gender

	Males		Females	
	Median	IQR	Median	IQR
Self-esteem	37.0	2.0	37.0	4.0
OHIP	7.0	3.5	8.0	5.0
Satisfaction	5.0	2.0	5.0	2.0
Difference in colour	3.0	3.0	2.0	3.0