

ASSOCIATION BETWEEN SELF-CONCEPT AND GINGIVITIS IN 10-15 YR OLD CHILDREN OF MORADABAD CITY

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ABSTRACT

Aim: To assess the correlation of self-concept of a child with gingival diseases.

Materials & Methods: The present study was carried out on 252 children of 10-15 year old, reported to the Out Patient Department of Pedodontics and Preventive Dentistry; of Teerthanker Mahaveer Dental College and Research Centre; Moradabad, in order to assess the relation between Self-concept of the child with gingival diseases. The statistical analysis was done using SPSS (Statistical Package for Social Sciences) Version 15.0 statistical Analysis Software.

Results: Statistically, with increasing self-concept scores, prevalence of mild gingivitis decreases (100% for average to 58.8% for high), however, the association was not significant statistically ($p=0.555$).

Conclusion: there was no statistical significant relation between self-concept score and prevalence of gingivitis.

Key words: - Self-Concept, Gingivitis, Loe and Silness Index.

Introduction

Psychological testing in general includes many aspects in which most important fundamental part is self-concept.¹ Self-concept is a fundamental part of a child's psychological function and is defined as "*the individual's belief about himself or herself, including the person's attributes and who and what the self is*" by Baumeister (1999).^{2,3} It is made up of sense of being good, and a sense of being capable of doing things well. Self-concept affects a person by how they view of oneself (Self-image), how much value themselves as person (Self-esteem or self-worth), and what the person wishes to be really like (Ideal self).

Despite great improvements in the oral health of populations in several countries, global problems still persist. Oral disease such as gingivitis is one of the major public health problem. A bio-psychosocial model of disease is highly relevant to dentistry since most oral health problems can be prevented or controlled through preventive behaviors. Recent work illustrates the potential contribution of psychosocial factors in understanding the disease process, as well as improving risk prediction. Literature is lacking in the studies related to self-concept on gingivitis, but previous investigations have examined the links between the self-concept and some dental health behaviors which have detrimental effects on gingivitis.^{4,5} Macgregor & Balding (1991)⁴ and Regis et al. (1994)⁵ reported that high self-esteem, and to a lesser extent internally perceived control, is associated with positive dental hygiene practices. This may be causal i.e., people who value themselves more may take more care looking after themselves. Self-concept changes with age. There is increasing interest in the use of psychometric measurements as predictors of dental health behavior.

Nowadays, researchers point out the need to consider the functional and psychosocial dimensions of oral health in the

implementation and evaluation of public health dentistry interventions.⁶ But, yet there is a paucity of data relating self-concept in relation to gingival diseases in children. Hence, this study was undertaken to interrelate self-concept with that of gingivitis in children. This study can help in determining the cognitive behavior and perceptions of child with gingival diseases. In turn, this will help the clinician to prioritize the needy part during counselling process and alter the level of communication. The behavior management of patients can be delineated by understanding which domains of personality are to be managed.

Materials and Methods

The present study was carried out on 252 children (126 male and 126 female) of 10-15 year of age, from the Dept. Of Pedodontics and Preventive Dentistry; Teerthanker Mahaveer Dental College and Research Centre; Moradabad. All the children selected were with the following criteria:

Inclusion Criteria:-

1. All the subject selected were medically fit, healthy and free of any systemic diseases (ASA-I)
2. Children selected were of the same socioeconomic status and geographical distribution
3. All selected children were on a vegetarian diet
4. Children selected were free from any developmental disorder related to psychiatric illness.
5. All children were living with their respective family members.

Exclusion Criteria

1. Children with any systemic disease or any kind of allergy or with any history of antibiotic consumption in the recent past.

Distribution of Children According to their Self Concept Scores for overall as well as for the two genders:

Table 2: Distribution of children according to their self-concept scores								
Sl No	Self-Concept Scores		Male (n=126)		Female (n=126)		Total (n=252)	
			No.	%	No.	%	No.	%
1.	Low	1-48	0	0	0	0	0	0
2.	Below average	49-96	0	0	0	0	0	0
3.	Average	97-144	4	3.2	2	1.6	6	2.4
4.	Above average	145-192	72	57.1	60	47.6	132	52.4
5.	High	193-240	50	39.7	64	50.8	114	45.2
Mean Score±SD (Range)			187.6±20.2 (134-235)		190.4±19.1 (125-244)		189.0±19.7 (125-244)	
$\chi^2=3.477$ (df=2); p=0.176								

- Children with local factors that might affect the gingival condition like lip incompetence, mouth breathing, orthodontic appliance, cleft lip or palate.
- Children with disorder like ADHD, OCD, Hyperkinetic child etc.
- Children with defective audio, speech or visual acuity.

Assessment of self-concept was done with the help of Self-concept questionnaire by R. K. Saraswat, this test provides six dimensions of self-concept namely physical, social, temperamental, educational, moral and intellectual. The inventory contains a total of 48 items, each item is provided with five alternatives. The responses were obtained on the test booklet itself. This questionnaire gives the score for a particular dimension of self-concept as well as the total self-concept score. The summated score of all items provides the total self-concept of the individual. A high score of this inventory indicates a high self-concept, whereas a low score indicates low self-concept.⁷ Recording of Gingival Disease was done with the help of Gingival Index given by Loe H and Silness J (1963). This index helps to assess the severity of gingivitis and its location in four possible areas.⁸

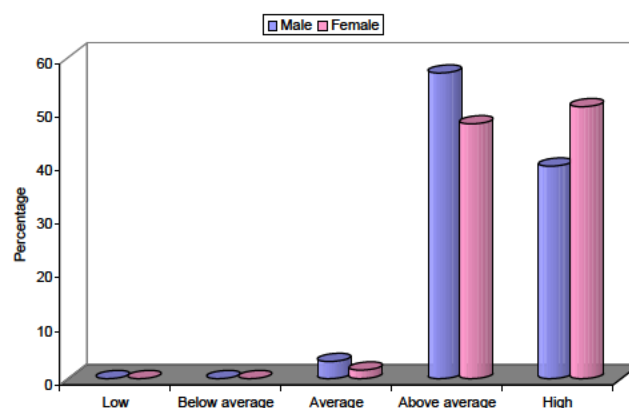
Results

The present study was carried out at Department of Pedodontics and Preventive Dentistry, Teerthankar Mahaveer Dental College and Hospital, Moradabad, Uttar Pradesh with an aim to study the interrelation gingival disease and self-concept in children.

For this purpose, a total of 252 children (126 males and 126 females) fulfilling the inclusion criteria and not falling into the domain of exclusion criteria were enrolled in the study. Gender wise distribution of children has been shown in Table 1 below:

Table 1: Mean age and Gender wise distribution of children		
Age	Male (n=126)	Female (n=126)
Mean Age ± SD (Range) in years	12.31±1.29 (10-15)	11.91±1.30 (10-15)
t=2.427; p=0.016 (S)		

Age of children ranged from 10 to 15 years. Mean age of males was 12.31±1.29 years, whereas that of females was 11.91±1.30 years. Statistically the difference between two genders was significant (p=0.016).



Graph 1 Shows the distribution of Children according to Self-concept Score

None of the children were having low or below average self-concept scores. Majority (n=132; 52.4%) had above average self-concept scores. There were 114 (45.2%) children with high self-concept scores. Average scores were encountered in 6 (2.4%) children only.

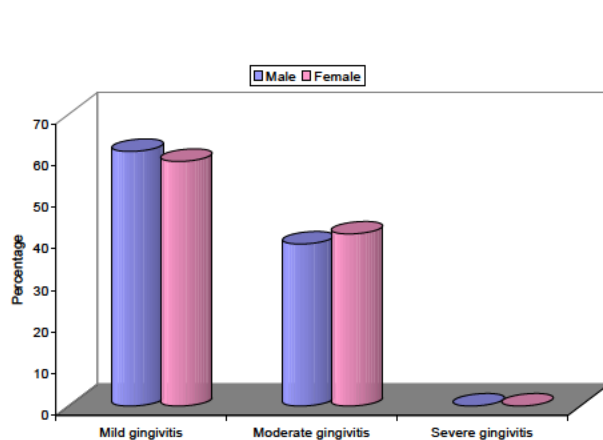
In evaluating the distribution of children according to their self-concept scores for the two genders, trends similar to those obtained for combined evaluation (irrespective of gender) were observed with the majority of children in both the genders having above average and high scores. Only 4 (3.2%) boys and 2 (1.6%) girls had average self-concept scores. Statistically, there was no significant difference between two genders with respect to self-concept scores (p=0.176).

The majority of children had mild gingivitis (n=151; 59.9%) followed by those having moderate gingivitis (n=101; 40.1%). None of the children had severe gingivitis (n=0; 0%). Mean Loe and Silness index was 0.90±0.36 (range 0.10-1.91).

Distribution of Children According To Loe And Silness Index For Gingival Diseases For Overall As Well As For Two Genders:

Table 3: Distribution of children according to Loe and Silness Index

Sl No	Loe and Silness Index		Male (n=126)		Female (n=126)		Total (n=252)	
			No.	%	No.	%	No.	%
1.	Mild Gingivitis	0.1-1	77	61.1	74	58.7	151	59.9
2.	Moderate Gingivitis	1.1-2	49	38.9	52	41.3	101	40.1
3.	Severe Gingivitis	2.1-3	0	0.0	0	0.0	0	0.0
Mean Score±SD (Range)			0.88±0.36 (0.10-1.91)		0.91±0.35 (0.21-1.90)		0.90±0.36 (0.10-1.91)	
χ ² =0.149 (df=1); p=0.700								



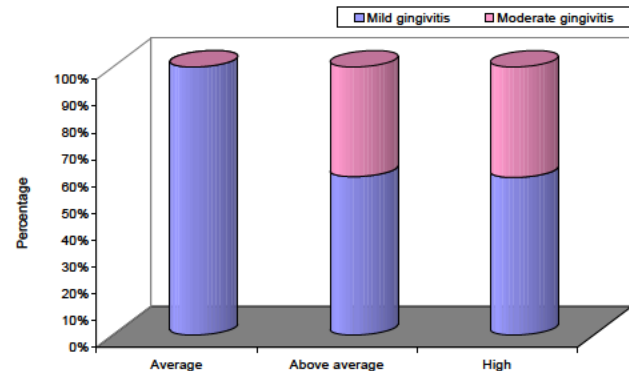
Graph 2 Shows distribution of children, according to Loe and Silness Index

Among boys, a total of 77 (61.1%) had mild gingivitis and remaining 49 (38.9%) had moderate gingivitis. Mean Loe and Silness Index of boys was 0.88 ± 0.36 (range 0.10-1.91) while among girls 74 (58.7%) had mild gingivitis and remaining 52 (41.3%) had moderate gingivitis. Mean Loe and Silness Index of girls was 0.91 ± 0.35 (range 0.21-1.90). Statistically, there was no significant difference in gingival disease status of two genders (p=0.700).

ASSOCIATION OF DENTAL GINGIVAL STATUS WITH SELF CONCEPT

Table 4 Shows association of gingival status with self-concept (n=252)

Sl No	Status	Average (n = 6)		Above Average (n = 132)		High (n = 114)	
		No.	%	No.	%	No.	%
1	Mild gingivitis (n=151)	6	100	78	59.1	67	58.8
2	Moderate gingivitis (n=101)	0	0	54	40.9	47	41.2
$\chi^2=0.590$ (df=2); p=0.555							



Graph 3 Shows association of gingival status with self-concept

With increasing self-concept scores, prevalence of mild gingivitis decreased (100% for average to 58.8% for high), however, the association was not significant statistically (p=0.555).

Discussion

The present study was a cross sectional comparative study, done among 252 children (126 males and 126 females) of 10-15 years old, in order to assess the relation between Self-Concept of the child with that of gingival disease, in Dept. Of Pedodontics and Preventive Dentistry, Teerthanker Mahaveer Dental College and Research Centre, Moradabad. No studies have been reported on gingivitis and self-concept, therefore comparisons could not be done. The studies are varying in terms of mentally disabled children as samples, with different study criterion and different scales.

The mean age of our study subjects was 12.11 ± 1.3 years with equal no. of boys and girls. Different variables are discussed under separate sections as below.

Gingivitis: In the present study, gingival index was used to measure the gingivitis in children. This index has been routinely used in various studies to assess gingivitis. Our study results showed a prevalence of 100% with a mean gingival score of 0.90 ± 0.36 i.e., mild gingivitis. The prevalence in our study is much higher than the other studies reported by Singh M et al in 2011 (78.35%)⁹, Dhar V et al (2007) 84.37%¹⁰ and Bali RK et al in 2003 (57%)

in 12 year old children in India.¹¹ This can be explained due to variation in type of index used, different ethnic and cultural background of study subjects. The girls showed high scores of gingivitis (0.91 ± 0.35) than boys but the prevalence was similar. Prevalence of mild gingivitis was more than moderate gingivitis showing the lack of oral hygiene maintenance in children. Though this study did not assess for oral hygiene maintenance or oral hygiene status, due to lacking cooperation from children and the parents.

Self-concept: More subjects were present in above average (52.4%) and high (45.2%) self-concept groups when compared to average. None of the subjects were in below average or low group, which is suggestive of a high self-concept in our study subjects. The mean score obtained for self-concept in our study group was 189.0 ± 19.7 . This score was more than that of a study conducted by Virk et al among orphan children (176.75 ± 21.37)¹² and Parthasarathy & Swaminathan in 1992 (182.32 ± 17.45)¹³ in normal children who used a similar instrument to assess the self-concept. This could be due an urge to fight stress which arises from conflicts seen when children move out from a sheltered environment of the home, which protects from hardships and competitiveness in the world to the schools. Another reason could be due to overprotective and caring parents as well as the safety of home environment have limited exposure to reality, children form their own self-concept and compare themselves with parents and siblings at home to form a concept of self which will be usually high.

In the present study, mild gingivitis showed a decreasing prevalence from the self-concept group of average (100%), above average (59.1%) and high (58.8%). Moderate gingivitis was present in above average (40.9%) and high (41.2%) self-concept groups with almost equal prevalence though no significance was obtained after statistical analysis. There were no studies to compare the results of present study to others.

The above results of self-concept in relation to gingivitis in our study can be due to the relation of low self-concept and low self-esteem showing poor health behaviour (Kallestel et al.)¹⁴, poor tooth brushing frequency (Macgregor & Balding 1991⁴, Regis et al, 1994⁵) and poor flossing frequency and decreased frequency of dental attendance (Mcgregor et al 1997).⁴ It was also shown that self-concept deficits are more pronounced in eating-disordered patients¹⁵ and eating disorders have been related to high dental caries.¹⁶ Low self-concept leading to poor oral hygiene maintenance can be the reason for gingivitis.

The findings from this study should also be interpreted in light of some limitations. First, the sample addressed only to Moradabad on the purposive sampling basis; therefore, the results may not be generalized to larger population. Second, the non-equivalent group design used in the present study does not allow us to relate the different psychological variables and oral diseases in the study. Hence further studies with larger sample size, with two or more groups, with other psychological domains on oral health status, with

multicentric studies should be conducted to have a clear picture of the influence of self-concept and gingivitis.

Conclusion

The present study done to explore the relation between self-concept with gingival status, which showed a weak correlation as with increasing self-concept scores, prevalence of mild gingivitis decreased however, the association was not significant statistically.

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