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Research Article

ASSESSMENT OF RELATIONSHIP OF SELF-LIKING, SELF-COMPETENCE WITH SELF-REPORTED ORAL HEALTH BEHAVIORS AMONG 15 YEAR OLD CHILDREN OF DAVANGERE CITY -A CROSS SECTIONAL SURVEY

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ABSTRACT

Aim of the study: To assess the relationship of Self-Liking, Self-Competence with self-reported oral health behaviors in children of Davangere city aged 15 year old children of Davangere city.

Materials and methods: A descriptive, cross sectional survey was conducted on a total sample consisting of 220 subjects aged 15 years in Davangere city. Relevant and required information for the survey was obtained from the study subjects by using specially designed proforma which contained a) Romanian self-administered questionnaire, which was used to record the self-reported oral health behaviors. b) Tafarodi's SLC scale to measure Self-liking/Self-competence. Chi-square test was used for statistical analysis to assess the relationship between Self-liking, Self-competence and self-reported oral health behaviors.

Results: A majority of the participants were found to have moderate Self-competence and Self-liking and their self-reported oral health behavior was expressed as excellent. Brushing twice a day was a common finding and they visited dentist mainly seeking preventive services or for checkup.

Conclusion: The participants with better Self-competence and Self-liking perceived their oral health behaviors as good. They were found to have good oral hygiene practices and sought more preventive oral health care services.

Keywords: Self-liking, Self-competence, Self-reported oral health behaviors, Davangere city.

INTRODUCTION

Health behavioral management is an important cornerstone of holistic concept and it is one of the approaches in health promotion¹. It is associated with various psychological characteristics like Self-efficacy, Self-esteem and Locus of Control². Among all these characteristics Self-esteem has emerged as one of the important central construct in the field of health research during past few decades². Self-esteem can be defined as "A personal judgment of an individual's worthiness, derived from the reflected appraisal of others, and having a dimension with 'positive' and 'negative' ends"³. Among the lay community, it is widely believed that positive self-esteem is healthy and desirable, and is evident through the use of self-esteem questionnaire as out-come measure in studies of health and well-being⁴. Self-esteem is most commonly assessed using the Rosenberg's Self-Esteem Scale, which considers Self-esteem as a global evaluation of personal worth⁵. Global self-esteem measures two distinct

though related constructs: Self-liking (sense of social worth) and Self-competence (sense of personal efficacy)⁶. Self-liking is the part of self-esteem that is strongly socially dependent. It is a part of Self-esteem which signifies how one "feels" about oneself. Self-competence is the overall sense of oneself as capable, effective and in control. It is often discussed for its motivating role in purposive behavior and for its adaptive role in coping with stress^{7,8}. It is developed through individual's cumulative experiences giving rise to an effectively charged sense of self⁶.

Self-esteem in recent days has become one of the most efficient tools of psychometric measurements of health behavior and also probable psychosocial risk marker for self-reported oral health behaviors². It creates a favorable environment in the society where, people begin to demand for the health needs [felt needs]. Hence Self-esteem may be one of the important constructs which may result in improvement of oral health.

Exploration of available literature revealed no studies on Self-esteem and its relation with Self-reported oral health behaviors being done on Indian population. Thus a study is planned to assess the relationship of Self-liking, Self-competence with self-reported oral health behaviors among 15 years old children of Davangere city.

OBJECTIVES OF THE STUDY

- a) To assess Self-competence and Self-liking in 15 years year old children of Davangere city.
- b) To assess self-reported oral health behaviors in 15 year old children of Davangere city
- c) To assess relationship of Self-competence and Self-liking with self-reported oral health behaviors in 15 year old children of Davangere city.

MATERIALS AND METHOD

The present study is an Descriptive, Cross-sectional survey conducted to assess the relationship of Self-Liking, Self-Competence with self-reported oral health behaviors among 15 year old children of Davangere city.

I. Ethical clearance

The synopsis of the proposed study was prepared and submitted to the Chairperson, Institutional Review Board for Ethical approval. After the review and scrutiny by the board members, approval was granted to conduct the study.

Description of Questionnaire

Required data was collected using a specially designed proforma which contained the following components.

- a. **Romanian self-administered questionnaire⁹**- used to record the self-reported oral health behaviors which contained items related to socio-demographic factors and perceived oral health behaviors. The responses were measured on nominal scale.
- b. **Self-liking / Self-competence scale¹⁰** (consisting of 20 items).
 - It measures two dimensions of Self-esteem (Self-liking and Self-competence).
 - The responses were measured on 5-point Likert’s scale.

Eligibility Criteria

a. Inclusion Criteria:

- Subjects aged 15 year old children residing in Davangere city for ten or more years.

b. Exclusion Criteria:

- Subjects who are mentally incapacitated to give valid response to questions.

Sample size determination

a. Source of data:

The present study was conducted on a total sample of 220 subjects aged 15 year old children, randomly selected from Davangere city.

b. Sample size calculation

Sample size was calculated based on the data of a previously published scientific article which had assessed the relationship of Self-liking, Self-competence with dental caries.⁷

Formula for sample size determination¹¹:

$$n = Z_{\alpha}^2 p q / L^2$$

Minimum sample size determined = 200

Total sample size = N = 200+ 10 % of the minimum sample size (anticipated non-response or partial response).

N = 200+ 20= 660

N = **220 subjects**

Sampling procedure for 15 years age groups:

Required permission to conduct the survey was obtained from the Deputy Director for Public Instruction (DDPI, Davangere) and from the selected school authorities. 55 subjects belonging to the age groups of 15 years were selected from two schools of each zone by using simple random sampling technique (Lottery method). List of schools was obtained from the DDPI office, Davangere and. Similarly subjects were selected from other three zones to reach a sample size of 220 subjects

Scheduling of survey

A detailed schedule of the survey was prepared well in advance. It was scheduled to meet all the school children of all selected schools during the institutional working hours (9.00 a.m. to 5 p.m.). The data collection from 15 years participants was done during leisure hours, so that their academic activities were not disturbed. A prior appointment was taken from concerned authorities of schools.

Informed consent:

WHO Informed Consent Protocol for Qualitative studies was followed⁷. They were informed that they were free to talk to anyone with whom they feel comfortable regarding the research (For 15 years old subjects with their peers or their teachers) before giving their decision to participate in the study. Participants were informed clearly at the outset that participation in the study will be voluntary and they can indicate clearly whether they choose to participate or not. Participants were strongly assured that investigator would maintain the confidentiality of data. After the subjects voluntarily decided to participate in the present study subjects were recruited to the present study. For 15 year old subjects: - Consent was obtained from the concerned teacher, as children were legally not competent to give valid consent. Assent was obtained from each child just before administering the questionnaire.

Administration of questionnaire

On the scheduled day the investigator reached the school at the time allotted to him and introduced him to the subjects and appraised them about the study. The investigator administered the questionnaires (Kannada or English language depending on subject’s convenience of understanding). The subjects were then instructed to answer the questions in the questionnaire. They were informed to feel free and raise any questions to clarify their doubts. On an average it took 20-30 minutes for subjects to answer all the questions in the questionnaire. The answered questionnaires were received from the subjects after they finished answering on the same day.

Statistical procedures

Dataset was subdivided and distributed meaningfully in individual tables. Statistical analyses were performed using Statistical Package for Social Sciences Software (SPSS version 17, USA). Significance level was fixed at equal to or less than 0.05 (p= ≤ 0.05). Chi-square test was applied for analysis as data was nominal data.

RESULTS

Subjects who have scored less than or equal to a score of 38 were considered to have Low Self-competence. Those who have scored above 38 up till 41 were considered to have Moderate Self-competence and those who have scored more than 41 were considered to have High Self-competence. Subjects who have scored less than or equal to a score of 37 were considered to have Low Self-liking. Those who have

scored above 37 up till 39 were considered to have moderate Self-liking and those who have scored more than 39 were considered to have high Self-liking.

Table 1 shows Self-competence and Self-liking categorized into three levels (Low, moderate and high) in the study subjects. About 45% of subjects showed moderate Self-competence. About 41% showed moderate Self-liking; indicating that majority of study subjects had moderate Self-competence and Self-liking.

Table 1: Distribution of study population based on age groups, self-competence levels and self-liking levels

Age group	Self-competence	Tooth brushing frequency			Total
		More than twice	Twice daily	Once daily	
15 years	Low n(%)	2 (3.4)	47 (81)	9 (15.5)	58 (100)
	Moderate n(%)	3 (3.2)	85 (91.4)	5 (5.4)	93 (100)
	High n(%)	11 (20)	40 (72.7)	4 (7.3)	55 (100)
	$\chi^2= 17.88$		$p=0.00$ [Significant]		
	Self-competence	Flossing frequency			
		Everyday	Never	Total	
	Low n(%)	0	58 (100)	58 (100)	
	Moderate n(%)	0	93 (100)	93 (100)	
	High n(%)	0	55 (100)	55 (100)	
	Self-competenceMouth rinsing frequency		Everyday	Once a week	Total
Low n(%)	52 (89.6)	6 (10.4)	58 (100)		
Moderate n(%)	91 (97.8)	2 (2.2)	93 (100)		
High n(%)	54 (98.2)	1 (1.8)	55 (100)		

Table 2 shows relationship of Self-competence with daily tooth brushing frequency, flossing frequency and mouth rinse frequency. Out of 206 subjects in the study group, majority that is 172(83.5%) reported of tooth brushing twice. The difference between groups was found to be statistically significant (P=0.00). Whole study group that is 206(100%) reported of never flossing their teeth. Majority that is 197(95.6%) reported of mouth rinsing daily. The difference between groups was not found to be statistically significant (P=0.052).

Table 2: Distribution of study population based on Self-competence levels in relation to Tooth brushing, flossing and mouth wash frequencies

AGE	SELF-COMPETENCE				SELF-LIKING			
	LOW n(%)	MODERATE n(%)	HIGH n(%)	TOTAL	LOW n(%)	MODERATE n(%)	HIGH n(%)	TOTAL
15 YEARS	58 (28.20%)	93 (45.10%)	55 (26.75%)	206	72 (35%)	86 (41.70%)	48 (41.70%)	206

Table 3 shows relationship of Self-competence with previous dental visit and reason for dental visit. Out of 206 subjects, majority that is 130(63.1%) reported that their previous dental visit was 6-12 months ago. A majority of study subjects were found to have moderate Self-competence. The difference between the groups was found not to be statistically significant (P=0.14). Majority of subjects that is 153(74.3%) reported routine check-up or tooth cleaning and scaling as reason for their dental visit. The difference between the groups was not found to be statistically significant (P=0.06).

Table: 3-Distribution of study population based on Self-competence levels in relation to previous dental visit and reason for dental visit

Age Groups	Self-competence	Previous dental visit		
		6-12 months Ago	1-2 years ago	Total
15 Years	Low n(%)	39 (67.2)	19 (32.8)	58 (100)
	Moderate n(%)	52 (55.9)	41 (44.1)	93 (100)
	High n(%)	39 (70.9)	16 (29.1)	55 (100)
			$\chi^2=3.87$	$p=0.14$
	Self-competence Reason for dental visit			
	For checkup When treatment Total needed			
	Low n(%)	48 (82.8)	10 (17.2)	58 (100)
	Moderate n(%)	70 (75.3)	23 (24.7)	93 (100)
	High n(%)	35 (63.6)	20 (36.4)	55 (100)
			$\chi^2=6.59$	$p=0.06$

Table 4 shows relationship of Self-liking with daily tooth brushing frequency, flossing frequency and mouth rinse frequency. Out of 206 subjects in the study group, majority that is 172 (83.5%) reported of tooth brushing twice daily. A majority of subjects were found to have moderate Self-liking. The difference between groups was found to be statistically significant (P=0.02). Whole population that is 206(100%) reported of never flossing their teeth. Majority that is 197(95.6%) reported of mouth rinsing daily. The difference between groups was not found to be statistically significant (P=0.12).

Table 4: Distribution of study population based on Self-liking levels in relation to tooth brushing, flossing and mouth rinsing frequencies

Age group	Self-liking	Tooth brushing frequency			Total
		More than twice	Twice daily	Once daily	
15 years	Low n(%)	2 (2.8)	63 (87.5)	7 (9.7)	72 (100)
	Moderate n(%)	6 (7.0)	70 (81.4)	10 (11.6)	86 (100)
	High n(%)	8 (16.7)	39 (81.3)	1 (2.1)	55 (100)
			$\chi^2=9.12$	$p=0.02$ (Significant)	

Self-liking	Flossing frequency			
	Everyday	Never	Total	
Low n(%)	0	72 (100)	72 (100)	
Moderate n(%)	0	86 (100)	86 (100)	
High n(%)	0	48 (100)	48 (100)	
Self-likingMouth rinsing frequency				
	Everyday	Once a week	Total	$\chi^2= 4.59$ p=0.12
Low n(%)	68 (94.4)	4 (5.6)	72 (100)	
Moderate n(%)	82 (95.3)	4 (4.7)	86 (100)	

Table 5 shows relationship of Self-liking with previous dental visit and reason for dental visit. Out of 206 subjects in the study group majority of subjects that is 130(63.1%) reported that their previous dental visit was 6-12 months ago. The difference between the groups was found not to be statistically significant (P=0.72). Majority of subjects that is 153(74.3%) reported routine check-up or tooth cleaning and scaling as reason for their dental visit. The difference between the groups was found to be statistically significant (P=0.01).

Table 5: Distribution of study population based on Self-liking levels with previous dental visit and reason for dental visit

Age group	Self-liking	Previous dental visit				
		6-12 months Ago	1-2 years ago	Total		
15 years	Low n(%)	47 (65.3)	25 (34.7)	72 (100)		
	Moderate n(%)	55 (64)	31 (36)	86 (100)		
	High n(%)	28 (58.3)	20 (41.7)	48 (100)		
			$\chi^2= 0.74$	p=0.72		
	Self-liking Reason for dental visit					
	For checkup When treatment Total needed					
		Low n(%)	59 (81.9)	13 (18.1)	72 (100)	
		Moderate n(%)	66 (76.7)	20 (23.3)	86 (100)	
		High n(%)	28 (58.3)	20 (41.7)	48 (100)	
			$\chi^2=9.15$	p=0.01[Significant]		

DISCUSSION

The present study was conducted to assess the relationship of Self-liking, Self-competence with self-reported oral health status behaviors among 15 years old children of Davangere city. In the present study, 15 year old children were selected because this is the indicator age group as recommended by WHO in Basic Oral health surveys methods¹². 15 years is the age when children complete their schooling and enter Pre-University colleges especially under state syllabus schools. It is a transitional period which brings in a lot of changes in the attitudes and behavior.

Relationship between Self-competence and Self-liking and tooth brushing frequency in study subjects

Majority of the study subjects reported of tooth brushing twice daily. Association between Self-competence and tooth brushing frequency was found to be statistically significant only in 15 year old subjects (P= 0.00). Similar results were obtained in the studies conducted by Macgregor and Balding (1991)¹³, Macgregor and Balding (1994)¹⁴, Macgregor IDM et al (1997)¹⁵, Honkala S et al (2007)¹⁶, Locker D (2008)¹⁷, Kawamura et al (2009)¹⁸, Dumitrescu AL et al (2009)², where it was seen tooth brushing frequency and the proportion of subjects brushing their teeth increased with good Self-esteem. The finding of present study suggests that as there is increase in Self-competence and Self-liking an individual probably tries to adopt good oral hygiene habits like tooth brushing and tries to practice it throughout his life.

Relationship between Self-competence and Self-liking and flossing frequency in study subjects

Majority of the participants reported of never flossing their teeth. Contrary results were obtained in the studies conducted by Macgregor IDM et al (1997)¹⁵, Kawamura et al (2009)¹⁸ and Dumitrescu AL et al (2009)². The difference in the finding of present study can be due to fact that, flossing as an oral hygiene practice has not gained as much importance and popularity as tooth brushing in India. Majority of the participants in the present study even did not know what dental floss was. The reason for this unawareness among the study population can be attributed to lack of information about this oral hygiene practice.

Relationship between Self-competence and Self-liking and mouth rinsing frequency in study subjects

Majority of the study subjects reported daily mouth rinsing (with water). These findings are in line with the studies conducted by Dumitrescu et al (2007)¹⁹, Kawamura et al (2009)¹⁸ and Dumitrescu et al (2009)², where it was seen that mouth rinsing frequency increased with increased Self-esteem. Majority of the subjects reported daily mouth rinsing (with water). This may be due to practice of mouth rinsing with water after every meal which is a habit among a majority of Davangere residents.

Relationship between Self-competence, Self-liking and previous dental visit

Majority of the study subjects reported their previous dental visit 6-12 months ago. Similar results were obtained in the studies conducted by Macgregor and Balding (1991)¹³, Macgregor and Balding (1994)¹⁴, Macgregor IDM et al (1997)¹⁵, Honkala S et al (2007)¹⁶, Locker D (2008)¹⁷,

Kawamura et al (2009)¹⁸, Dumitrescu AL et al (2009)², where it was seen that with increase in Self-esteem, majority of study subjects had their previous dental visit a year ago.

Relationship between Self-competence and Self-liking and reason for dental visit.

Majority of the study subjects reported reason for dental visit as seeking preventive services. Association between Self-liking and reason for dental visit was found to be statistically significant only in 15 year old subjects (P=0.01). These findings are in line with the studies conducted by Dumitrescu et al (2007)¹⁹, Kawamura et al (2009)¹⁸ and Dumitrescu et al (2009)². Subjects with high Self-competence and Self-liking were more likely to visit dentists mainly for preventive services.

Limitation of this cross sectional design is that present study can provide a glimpse of the possible association existing between Self-competence, Self-liking and self-reported oral health status and behaviors. In order to understand the cause-effect dynamics between these variables, analytical epidemiological studies are required.

CONCLUSION

The following conclusions can be drawn out of the present study.

1. Moderate Self-competence and Self-liking were common occurrences in the study population.
2. Moderate Self-competence and Self-liking observed in these subjects might have positively influenced their oral health.
3. Daily mouth rinsing, tooth brushing twice daily were the common oral hygiene practices.
4. Tooth cleaning and scaling was the common reason for dental visits which suggests better oral health awareness.

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