

Original Research Article

Evaluating the Psychological Concern of Malocclusion among Karnataka School Children of Different Socioeconomic Grounds

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ABSTRACT

Aims: To evaluate the Psychological concern of malocclusion among Karnataka school children of different socioeconomic grounds.

Settings and Design: School settings and Descriptive cross-sectional Epidemiological survey

Methods and Material: A cross-sectional epidemiological survey was conducted in all the 30 districts of Karnataka. School children in the age group of 10-16 years were the target population. Population proportionate technique was employed for the sample size estimation. A total sample of 9505 was randomly selected from 102 schools which consisted of Government, Aided and Private schools all over Karnataka. Modified Kuppaswamy's scale for grading the Socio-economic status of the children was used.

Statistical analysis: Simple Descriptive statistics, Oneway Anova and Scheff's Post-hoc test

Results and Conclusion: Private school children had high psychological concern about personal appearance and social issues. Government school children had low psychological concern about personal appearance and social issues.

Keywords: Personal issues, Social issues, Malocclusion, Government school, Aided school, Private school.

INTRODUCTION

Adolescence is a transitional stage of physical and mental development to new environmental and psychological structures, when some aspects of the facial appearance and dental esthetics have great importance for an adolescent's self-image and self-esteem.^[1] Malocclusion significantly affects

the esthetic appearance of the smile, which is a part of facial attractiveness.^[2] Therefore, the esthetic impacts of malocclusion can affect quality of life; impair social interaction, interpersonal relationships, and psychological well-being; and produce feelings of inferiority.^[3-5]

Social psychological impact to any malocclusion whether noticed by the patient himself or by other people such as low self-esteem, frequent teasing experiences and dissatisfaction to appearance may develop the desire for orthodontic treatment.^[6,7] The uptake of orthodontic treatment is influenced by the desire to look attractive, self-esteem and self-perception of dental appearance. Pre-adolescents and adolescents would be benefitted with the knowledge about malocclusion and its psychological concern since early orthodontic treatment could be advantageous in preventing further malocclusion and its psychological consequences.

There are no reported studies which have evaluated the psychological concern of malocclusion in school children in Karnataka state. In this context, the purpose of this epidemiological survey was to evaluate the psychological concern of malocclusion in Karnataka school children of different socio-economic backgrounds.

METHODOLOGY

With a prior permission from the Ministry of Higher Primary and Secondary Education Board of Karnataka, India, a survey was planned in the schools. The survey was carried out in selected schools in all the district head quarters. Children in the age group of 10-16 years were included in the study and constituted the study population. Population proportionate technique was employed for sample size estimation. According to the population census 2011, the total population in Karnataka was 61130704 out of which 10-16 years old children constitute 29% (According to National Family Health Survey-2, India [1998-99], child population in the age group of 10-16 years was taken as a reference). With 95% confidence level, the estimated sample size was 9505. In each district, schools were selected from a list of

schools provided by the Karnataka Higher Primary and Secondary Education Board by Simple randomization. A total of 102 schools all over Karnataka were surveyed during the year 2012-2013. A total sample of 9505 children in the age group of 10-16 years was selected from the randomized schools in each district all over Karnataka. Children who obtained written informed consent from parents to participate in the study were included. Exclusion criteria used were- history of previous orthodontic treatment, rampant caries, multiple missing teeth, mutilated malocclusion and other craniofacial anomalies like cleft lip and palate, facial hemiatropy, cleidocranial dysplasia etc.

Ethical clearance to conduct the survey was obtained from the Vokkaligara Sangha Dental College and Hospital Review and Ethical Committee. Prior permission to conduct the survey was taken from the concerned school authorities.

A pre-structured self-administered questionnaire consisting of 15 questions with multiple answers were given to the children after the clinical examination to assess their psychological concern towards malocclusion. The responses of the children to the questions were recorded on a 3 point Likert scale [a.Never, b.Sometimes, c.Often]. Face validity, Content validity and Cronbachs alpha were checked for the questions and were found to be reliable. Modified Kuppuswamy's scale for grading the Socio-economic status of the children was used. For the ease of analysis, the psychological concern questions were categorized to Personal issues and the Social concern. Later the psychological concern of children was graded on a 3 point Likert scale as 1. Low 2. Moderate and 3. High. An oral health lecture was given to all the children in the school to create awareness about Dental health and Orthodontic treatment.

Table 1: Gender and School type distribution of the sample.

Gender	No of children	School Type	Sample
Male	4966	Government school children	3139
Female	4539	Aided school children	3238
Total	9505	Private school children	3128
		Total	9505

Table 2: Questionnaire format to record the Psychological concern of children towards malocclusion .

Personal issues	<ol style="list-style-type: none"> 1. Have you ever been concerned what other people think about your teeth, jaws, lips or mouth 2. Have you ever worried that you are not as good looking as others 3. Have you ever been upset for your appearance 4. Have you ever felt nervous or afraid of your look 5. Have you ever felt shy or embarrassed 6. Have you ever felt irritable or frustrated 7. Have you ever felt unsure of yourself 8. Have your friends asked you questions about your teeth, lips, mouth or jaws 9. Have you ever worried that you are not healthy as others 	<ol style="list-style-type: none"> a. Never, b. Sometimes, c. Often
Social issues	<ol style="list-style-type: none"> 10. Have you ever felt that you did not wanted to speak loud in class 11. Have you ever felt that you did not wanted to talk to other children 12. Have you ever avoided smiling or laughing when with other children 13. Have other children teased you or called you names 14. Have other children made you feel left out 15. Have you ever avoided taking part in activities like sports, music or school trips. 	<ol style="list-style-type: none"> a. Never, b. Sometimes, c. Often

RESULT

Table 3: Comparison of Psychological concern among the School types.

School types	Psychological Concern					
	Personal appearance		Social issues		Total	
	Mean	S.D	Mean	S.D	Mean	S.D
Government	3.91 ^a	3.07	3.20	2.44	7.11	4.81
Aided	4.03 ^{ab}	2.98	3.10	2.07	7.13	4.90
Private	4.13 ^b	3.01	3.12	2.34	7.25	4.92
Total	4.02	3.18	3.14	2.39	7.16	4.88
F value	4.013		1.652		.781	
P value	.018		.192		.458	

*Note: F-Fisher's Value; P-Probability; HS-Highly significant; dfs= 2, 9502. Means with different superscripts are significantly different from each other as indicated by Scheffe's Post hoc test (Alpha=.05).

Psychological concern about personal appearance

One-way ANOVA reveals' a significant difference among the mean scores of psychological concern about personal appearance among the children of the Government, Aided and Private schools. F value of 4.013 was found to be significant at .018 levels. Scheffe's post hoc-test indicates that the children from Private schools (4.13) have high concern, children from Government schools (3.91) have the low concern and children from Aided

schools have moderate psychological concern about personal appearance.

Psychological concern about Social issues

One-way ANOVA reveals' a significant difference among the mean scores of psychological concern about the social issues among the children of the Government, Aided and Private schools. F value of 1.652 was not found to be significant at .192 levels. Scheffe's post hoc-test indicates that the children from Private schools (4.13) have high concern, children from Government schools (3.91) have the low concern and children from Aided

schools have moderate psychological concern about social issues.

DISCUSSION

In general, the children studying in Government schools are said to have lower awareness about malocclusion and its psychological concern about personal appearance than those in Private/Aided schools. This difference can be attributed to the lower socioeconomic background of the children of Government schools as identified by Wright^[8] Chen^[9] and Hamilton and Coulby.^[10] At times children with lower socio-economic backgrounds consider irregularity of teeth as normal.

In our study, children from Private schools had high psychological concern about personal appearance, children from Government schools had low psychological concern and children from Aided schools had moderate psychological concern about personal appearance. This difference could be due to more awareness of children in Private schools about malocclusion and its psychological implications compared to Government school children. The socio-economic situation also plays a major role as the parents' financial situation determines the need for treatment of malocclusion.

Our primary concern is to educate the children as they are considered to be an important target group to provide proper guidance for maintaining oral health. These educated children can in turn take home the message about oral health, mal-alignment of teeth and its psychological implications on oneself and on social issues. Government should facilitate for improving the oral health programs and orthodontic awareness in children of Government schools and also bring about Health insurance which covers Orthodontic treatment for the needy.

CONCLUSION

1. Private school children had high psychological concern about personal appearance and social issues.
2. Government school children had low psychological concern about personal appearance and social issues.
3. Aided school children had moderate psychological concern about personal appearance and social issues.

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