Prevalence and correlates of oral hygiene among school attending adolescents in Pakistan

Masood Ali Shaikh

Madam, poor oral health is detrimental to quality of life, and imperils general health.[1] Regular brushing of teeth is an effective way of ensuring good dental health.[2] Poor dental hygiene has been reported to be associated with substance use, gender, poverty, and age.[3,4] To describe these factors' association with self-reported oral hygiene behaviour in the past 30 days in Pakistani students of class 8-10 and its prevalence; I used data from the two-stage cluster sample-based nationally representative Global School-Based Health Survey (GSHS) for Pakistan, conducted by the Ministry of Health in collaboration with the World Health Organization and Centers of Disease Control and Prevention, United States, in 2009.[5] Design-based analysis using STATA-12 was done using bivariate analysis and multivariate logistic regression; factors found statistically significant at p<0.10 level on simple logistic regression were used for multiple logistic regression.

Responses to GSHS question "During the past 30 days, how many times per day did you usually clean or brush your teeth?" were used to determine dental hygiene status. Poor dental hygiene was defined as either not cleaning or brushing teeth or doing it less than once per day in the past 30 days.

The overall prevalence of poor dental hygiene was 16.4% [95% confidence interval (CI): 12.6%, 20.2%] (n = 5165). In male students the prevalence was 22.4% (95% CI: 17.7%, 27.0%), while among females the prevalence was 7.1% (95% CI: 4.6%, 9.6%).

Table provides the respondent's demographic, tobacco use and socioeconomic status (as determined by going hungry

Table-1: Survey respondent's demographic attributes, and associations with brushing/cleaning teeth in bivariate and multivariate analyses.

Factor	Total n* (%)**	Crude OR§ (95% CI***)	Adjusted OR§ (95% CI***)
Age (Years)			
<14	966 (22.7)	1	N/A
14	2148 (38.9)	1.24 (0.84, 1.83)	
15	1899 (35.3)	1.30 (0.88, 1.91)	
>=16	172 (3.1)	1.53 (0.92, 2.54)	
Sex			
Male	3897 (61.2)	3.75 (2.28, 6.17)	3.58 (2.19, 5.86)
Female	1287 (38.8)	1	1
During the past 30 days went hungry because there was not enough food in home			
Never or rarely	4122 (80.9)	1	N/A
Sometimes/Most of the time/always	1012 (19.1)	0.99 (0.65, 1.49)	
During the past 30 days smoked cigarettes or used other tobacco products			
One or more days	4579 (89.9)	1.95 (1.38, 2.76)	1.40 (1.50, 1.70)
Did not	612 (10.1)	1	

Totals vary across different factors owing to missing information by factor.
* Unweighted frequencies
** Weighted percents
*** Confidence Intervals
§ Odds Ratio for the association between not cleaning or brushing teeth during the past 30 days or brushing/cleaning teeth for less than one time in a day.
N/A - Factor not included in the final logistic regression model.
<>: Respondents were primarily from public sector schools. However, it was not speaked as to what proportion of student were from private-sector schools.

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Independent Consultant, Gulshan-e-Iqbal, Karachi.
Correspondence: Email: masoodali1@yahoo.com

owing to unavailability of food in the home) factors description, as well as association with poor dental hygiene in bivariate and multivariate analyses. Age and going

hungry were not found to be statistically significant in the simple logistic regression model, and hence was dropped from the final multivariate logistic regression model. Final model included statistically significant factors of sex, and tobacco use. Results of the goodness-of-fit-test concluded that this model was a good fit for the survey data.

The prevalence of brushing/cleaning teeth once, twice, and three or more times per day in the past 30 days was 53.6% [95% confidence interval (CI): 50.3%, 56.8%], 19.0% [95% CI: 15.7%, 22.3%], and 11.0% [95% CI: 7.2%, 14.9%], respectively. Results from GSHS Pakistan indicate the need for directing health education efforts for improving dental hygiene particularly towards male adolescent students and tobacco users.

References

1. Petersen PE. The world oral health report 2003: Continuous improvement of oral health in the 21st century - the approach of the WHO global oral health programme. Community Dent Oral Epidemiol 2003; 31(Suppl 1): 3-23.
2. Claydon NC. Current concepts in toothbrushing and internal cleaning. Periodontol 2000; 48: 10-22.
3. Siziya S, Muula AS, Kazembe LN, Rudatsikira E. Harmful lifestyles' clustering among sexually active in-school adolescents in Zambia. BMC Pediatr 2008; 8: 6. doi: 10.1186/1471-2431-8-6
4. Cinar AB, Kosku N, Sandalli N, Murtomaa H. Individual and maternal determinants of self-reported dental health among Turkish school children aged 10-12 years. Community Dent Health 2008; 25: 84-8.
5. Centers of Disease Control and Prevention. Global School-based Student Health Survey (GSHS).(Online) (Cited 2013 March 1). Available from URL: http://www.cdc.gov/gshs/.