

## SOCIOECONOMIC STATUS AND ORAL HEALTH CARE ATTITUDES: A SNAPSHOT OF KARACHI BASED TEACHING HOSPITAL

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### ABSTRACT

*The objective of the study was to analyze oral hygiene practices amongst population of Karachi based on frequency of dental visits, brushing, flossing, pan chewing, smoking, miswak and its relation with socio-economic background. A questionnaire based study was designed to collect information regarding above mentioned variables in 994 patients at OPD providing dental care in a teaching hospital. Subjects were categorized as: Blue collared, white collared and the small business holders. The study found the statistically significant relationship between the frequency of dental visits, miswak usage and the pan chewing with the socioeconomic class. The trend of visiting a dentist without complaint was not common as 34% patients in all were visiting a dentist for the first time, 62% visited when needed, 4% visited once a year for general dental checkup without complaint. Tooth brushing was common tooth cleaning method 69% used tooth brush once daily, 13% brushed twice daily while 18% never used a toothbrush at all. The use of miswak alone or in addition to brushing in our study was frequently seen, as 43% subjects used miswak daily and 384 subjects were habitual pan chewers who mainly belonged to the blue collared class ( $P < 0.01$ ). We conclude that there is remarkable difference in current oral hygiene habits among, socio-economic levels. The low literacy rate in the low socioeconomic class is also a barrier for the development of the health seeking behavior and attitude among the population. This could be improved by the availability of Primary dental health program as part of general health policy.*

**Key Words:** Oral hygiene practices, socioeconomic status, frequency of dental visits.

### INTRODUCTION

The Human Development Index Report 2011 states that Pakistan stands at 145th position out of 187 nations.<sup>1</sup> According to this report the determinants of human development are health, education, income in equality, poverty, gender and sustainability. General and oral health both are interrelated and influenced directly or indirectly by all these mentioned factors.<sup>2</sup>

The oral health burden on Pakistani population is adding to the aggregate public health issues. In 2003, WHO released statistical testimony >70% of children

below the age of 15 years and more than 93% of age 65 years showed signs of severe oral diseases (Pakistan Situation Analysis of Oral Health Sector 2003: Ministry of Health, Pakistan).<sup>3</sup> The correlation between general health, oral health and socioeconomic status is already significantly reported.<sup>2,4,5</sup>

The healthcare provided in Pakistan is mostly treatment focused rather than being preventive; though oral diseases are preventable just by following the simple regime of oral hygiene care like regular brushing, flossing, dental visits and proper dietary practice.<sup>6</sup>

The low literacy rate in the low socioeconomic class is also a barrier for the development of the health seeking behavior and attitude among the Pakistani population. The cost has been a major hurdle to the provision of an effective oral health care system as most dental treatments are quite expensive.<sup>2,3</sup> The burden can be minimized by providing population with the preventive measures through oral health awareness programs, fluoride applications and most needed development of Primary dental health care system across the country.<sup>21,22</sup>

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Many studies conducted in different parts of the world have significantly shown directly proportional relationship of the oral health with socioeconomic class; the poorer possesses the most neglected mouth.<sup>7,18</sup>

The aim of the present is to observe the relationship of the different socioeconomic classes to the personal oral health care attitudes including tooth brushing & flossing habits, use of miswak, betel quid chewing and dental visits.

**MATERIAL & METHODS**

A total of 994 patients attending the dental OPD of Dow International Medical College irrespective of age and gender were randomly selected for the study. A questionnaire was designed to gather information regarding the chief complaint along with age, gender, and frequency of brushing, flossing, personal habits pan chewing and smoking. The socioeconomic status was defined on the basis of three parameters; income, occupation and the residential address.

As occupation gives us more information about skill level of job, for that purpose occupation status has been categorized into three groups<sup>20</sup> [Time Use Survey (2007)]; White Collared, Brown Collared and Blue Collared. White Collar is composed of Legislators, Senior Officials and Managers, Professionals, Technicians and Associate Professionals and Clerks. Brown Collar is comprised of Service Workers and Shop & Market Sales Workers Related Trades Workers. Blue Collar is (unskilled) Occupation like daily wedges factory workers, rikshaw drivers etc.

The questionnaire was filled by trained junior dentists who asked the questions and recorded the subject's answers. The questionnaire was formulated in English which was then translated into Urdu. Informed consent was obtained from participants after informing them of the objective of the study. The questionnaire included multiple option questions to collect information regarding their dental visits, the reasons for the visits, the reasons for not visiting a dentist on a routine basis, oral hygiene practices like frequency of tooth brushing, use of toothpaste and miswak, flossing the frequency and duration of deleterious habits like smoking, betelquid chewing. Participation in the study was voluntary and no incentive was offered.

The data was entered in computer and analysis was done using SPSS version 16. Data analysis included descriptive statistics such as frequency distribution, percentage and cross tabulation. Chi square test was applied and the level of significance was set at < 0.01 p-value.

**RESULTS**

Out of 994 subjects, 455 (46%) were females and 539 (54%) were males. Three hundred and forty three (34%) of the total subjects were visiting a dentist for

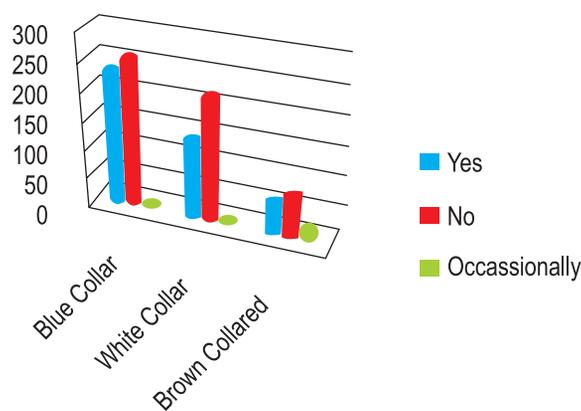


Fig 1: Distribution of miswak users among different socioeconomic statuses. p-value <0.01.

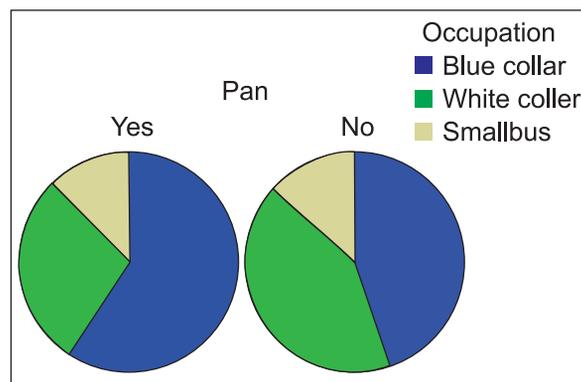


Fig 2: Distribution of pan chewers among different socioeconomic classes. p-value <0.01.

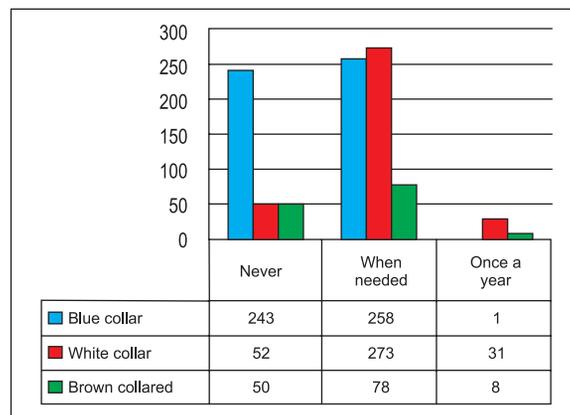


Fig 3: Frequency of dental visits in comparison to socioeconomic status. p-value <0.01.

the first time, 619(62%) visited when needed, 32(3%) visited once a year for general dental checkup without complaint.

Toothbrush was used as most common tool of oral cleaning with toothpaste. Six hundred and eighty nine (69%) used tooth brush once daily, only 124(12.5%) brushed twice daily 181(18%) never used a toothbrush at all. Miswak was also used alone or in combination of the tooth brush, 429 (43%) subjects used miswak as cleaning agent.

Three hundred and eighty four (38.6%) subjects were habitual pan chewers and 380(38.2%) were smokers. Five hundred and two (51%) subjects were blue collared, 362 (36%) white collared and 130 (13%) were brown collared. Pan chewing was more common in blue collared as out of 228 pan chewers 199(53%) belonged to Blue Collar, 88 (30%) out of 288 in White Collard and 35(44%) out of 78 in brown collared.

Statistically significant results were observed in frequency of dental visits with socioeconomic class. Almost 48% never visited a dentist, 51% visited only when needed while they had a complaint. There was no significant difference between the frequencies of tooth brushing in the subjects of different socioeconomic classes. Most subjects showed trends of brushing their teeth once daily class p-value (0.119).

Significant relation was found between the socioeconomic class and use of miswak. Miswak proved to be appreciably used by Blue collared class 46.2%.p-value (<0.01). According to results only 21.5% ( 214) subjects were practicing the dental floss.

The present study proved that males possess better oral hygiene habits as they brush their teeth regularly and visit a dentist more frequently (54%). It was observed that greater percentage of males 372 (37.5%) cleaned their teeth with paste at least once in a day in comparison with females 315(32.5%). However, this finding was not found to be statistically significant (p-value 0.63).

## DISCUSSION

Oral health behavior is affected by, socioeconomic conditions, education, psychological, cultural & religious belief.<sup>4,16,17</sup> Women, children, disabled, those belonging to rural areas, and poorer are deprived of health services.<sup>2</sup>

The oral health burden on the Pakistani population can be decreased by focusing on the preventive dentistry rather than treatment.<sup>21</sup> The American Dental Association recommend that adult dentate population should brush and floss their teeth at least once daily<sup>5,6</sup>, in order to prevent dental problems and diseases. Asadi ZG in his study observed that roughly 8% of population never cleaned their teeth while 36% cleaned their teeth everyday.<sup>14</sup> There was no statistical relation observed between oral hygiene habits with genders in this study, which is coherent with Sakki, Knuuttila ML, 1998.

In present study trend of brushing teeth with the paste regularly, was more frequent among subjects with high socioeconomic status whereas the low socioeconomic subjects were either not regular in the brushing or they preferred miswak. This finding was consistent with other studies.<sup>8,9,10,12</sup>

It is established fact that toothbrush alone, is not enough for complete removal of dental plaque therefore use of dental floss daily is being emphasized by dentist across the world<sup>5,12</sup> as part of daily oral health cleaning routine.

The awareness about importance of dental floss as interdental cleaning device was rarely found in this study among subjects of all classes. They were not using it because they were uninformed of its benefits; this shows the relation between their knowledge and behavior towards the value of oral health care.

Miswak for cleaning is well-liked in muslim world due to its association with religion, and also due to its cost effectiveness and easy accessibility.<sup>10,14,19</sup> Different studies in muslim countries, have demonstrated the use of miswak in their countries for. Al-Otaibi et al proved in Saudi Arabia that miswak use was more common than the toothbrush.<sup>19</sup> This is coherent with present study, that miswak is used commonly in low socioeconomic class. (Fig 1)

Betel Quid, Areca nut and tobacco are the major etiological factor of oral cancer. The habit of chewing betel quid with or without tobacco is very common in our population. Cheaper prices, cultural acceptance and easy access have made it popular even in school going children.<sup>16</sup> S. Rozi et al 2007 has reported the frequent use of smokeless tobacco in high school boys in Karachi.<sup>15</sup> In present study significant relationship was observed that betel quid chewing is more common in males of lower socioeconomic class (Fig 2).

The present study significantly proved the direct relationship of the socioeconomic status and the access to the dentist or to pay a dental visit. Many subjects belonging to lower socioeconomic class had never visited a dentist in their lifetime and this was their first dental visit with a presenting complaint (Fig 3). The dental pain was the most common presenting complaint, due to which the patients visit a dental clinic. This finding that is consistent with other studies, which have reported that people with higher education and socio-economic status are more likely to visit a dentist more frequently.<sup>17,18</sup> As most dental treatments are costly, so it is the major reason for ignoring the oral health enhancing behaviors, such as preventive dental visits.<sup>8</sup>

## CONCLUSION

The oral health issues in Pakistan are allied with the overall financial, societal, economical, conditions of the state. Most of the oral health issues ranging from the incipient dental caries, gingival, periodontal, to the serious conditions like cancers, Oral Submucous Fibrosis, can be prevented. General health policy must include Primary dental health care as well which in

turn train dental hygienists as Primary oral health care providers.<sup>21</sup> They should go to communities and spread awareness.

## REFERENCES

- 1 Primary Health Care: report of International Conference on Primary Health care, Alma-Ata, U.S.S.R., September 1978. Geneva: W.H.O, 1978.
- 2 Harchandani N. Oral Health Challenges in Pakistan and Approches to these Problems. *podj/Dec\_2012/p-29 POD Dec-2012*; 32, No. 3.
- 3 Bille K, Aslam. M. Oral Health in Pakistan A Situation Analysis. Islamabad. Pakistan. Government of Pakistan-Ministry of Health D WHO-Pakistan 2003.
- 4 Sabbah W, Tsakos G, Chandola T, Sheiham A, Watt RG: Social gradients in oral and general health. *J Dent Res.* 2007 Oct; 86(10): 992-6.
- 5 Borrell LN, Baquero MC: Self-rated general and oral health in New York City adults: assessing the effect of individual and neighborhood social factors. *Community Dent Oral Epidemiol* 2011 Aug; 39(4): 361-71.
- 6 American Dental Association. Wake up to prevention for the smile of a lifetime. *J Am Dent Assoc* 1988; 116: 6-13.
- 7 Sanders AE, Spencer AJ: Social inequality in perceived oral health among adults in Australia. *Aust N Z J Public Health.* 2004 Apr; 28(2): 159-66.
- 8 Sanders, A., Spencer, A., & Slade, G. (2006b). Evaluating the role of dental behaviour in oral health inequalities. *Community Dent Oral Epidemiol.* 2006 Feb; 34(1): 71-9.
- 9 Wamala S, Merlo J, Bostrom G: Inequity in access to dental care services explains current socioeconomic disparities in oral health: the Swedish National Surveys of Public Health 2004-2005. *J Epidemiol Community Health.* 2006 Dec; 60: 1027-33.
- 10 Farsi JM, Farghaly MM, Farsi N. Oral health knowledge, attitude and behaviour among Saudi school students in Jeddah City. *J Dent.* 2004 Jan; 32(1): 47-53.
- 11 Shah MA, Darby ML, Bauman DB. Improving oral health in Pakistan using dental hygienists. *Int J Dent Hyg.* 2011 Feb; 9(1): 43-52.
- 12 Sakki TK, Knuttila ML, Anttila SS. Life Style, gender and occupational status as determinants of dental health behavior. *J Clin Periodontol.* 1998 Jul; 25(7): 566-70.
- 13 Ronis DL, Lang WP, Passow E. Tooth Brushing, Flossing, and Preventive Dental Visits by Detroit-area Residents in Relation to Demographic and Socio-economic Factors *J Public Health Dent.* 1993 Summer; 53(3): 138-45.
- 14 Asadi SG, Asadi ZG. Chewing sticks and the oral hygiene habits of the adult Pakistani population. *Int Dent J.* 1997 Oct; 47(5): 275-8.
- 15 S. Rozi I; S. Akhtar I; II Prevalence and predictors of smokeless tobacco use among high-school males in Karachi, Pakistan. *East Mediterr Health J.* 2007 Jul-Aug; 13(4): 916-24.
- 16 Shah SM, Merchant AT, Luby SP, Chotani RA, Addicted school-children: prevalence and characteristics of areca nut chewers among primary school children in Karachi, Pakistan *J Paediatr Child Health.* 2002 Oct; 38(5): 507-10.
- 17 Paulander J, Axelsson P, Lindhe J. between level of education and oral health status in 35-, 50-, 65- and 75-year-olds. *J Clin Periodontol.* 2003 Aug; 30(8): 697-704.
- 18 Guarnizo-Herreno, Watt G, Fuller. E, Steele G Jimmy. Socio-economic position and subjective oral health: findings for the adult population in England, Wales and Northern Ireland. *BMC Public Health.* 2014 Aug 9; 14: 827.
- 19 Al Otaibi M, Zimmerman, M Angmar-Mansson B. Prevailing oral hygiene practices among urban Saudi Arabians in relation to age, gender and socioeconomic background. *Acata Odontol Scand,* 2003 Aug; 61(4): 212-6.
- 20 Najam us Saqib, GM Arif. Time Poverty, Work status and Gender: The Case of Pakistan, Pakistan Institute of Development Economic, Islamabad. [Link-www.pide.org.pk/pdf/Working%20Paper/Working Paper-81.pdf](http://www.pide.org.pk/pdf/Working%20Paper/Working Paper-81.pdf)
- 21 Shah MA, Darby ML, Bauman DB. Improving oral health in Pakistan using Dental hygienists. *Int J Dent Hyg.* 2011 Feb; 9(1): 43-52.
- 22 Muzaffar S, Lari Y, Abbas KS, Muhammed G, Farooq J, Jawad W et al. National Corruption Perception Survey 2011. 28th Dec 2011. The Transparency International Pakistan, Dec 2011. sponsored by Swiss Agency for Development and Cooperation SDC and The USAID.