

Knowledge, Attitude and Practice Regarding Smokeless Tobacco among Adolescence of Two Private Schools of Gadap Town Karachi

Mahwish Bano¹, Asghar Ali², Muhammad Ali Leghari³, Samreen Mazhar⁴

ABSTRACT

Objective: To evaluate the knowledge, attitude and practice regarding smokeless tobacco among adolescence of two private schools of Gadap Town Karachi

Materials and Methods: This descriptive cross sectional study was carried out in 300 school going children of two private schools of Gadap Town Karachi. The children were 11-19 years of age. The study was conducted for a period of six months from October 2014 to March 2015. Data was collected by self structured questionnaire related to personal information regarding the use of smokeless tobacco habits and the diseases that could be caused by the consumption of smokeless tobacco. Simple Random Sampling technique was used for data collection. Informed consent was taken from the principals of both private schools. Data was analyzed using SPSS software version 20.

Results: The study participants, 93.0% had the knowledge about smokeless tobacco while 2.7% subjects had no knowledge and 4.3% were in a category of "I don't know" about smokeless tobacco. 32% participants had the habit of chewing chalia, 10.7% individuals were placing gutka in the mouth while mawa was placed by 7.3% and mainpuri 6%. Pan chewing habit was 9% and often naswar placing was 4%. One packet of smokeless tobacco was used by 18.7% individuals per day and 22% students used two packets per day.

Conclusion: Knowledge, attitude and practice about smokeless tobacco among adolescence of two private schools of Gadap Town Karachi was unsatisfactory. High prevalence of daily use of smokeless tobacco has been identified in this peri-urban area of Karachi.

Keywords: Knowledge, Attitude, Practice, Smokeless tobacco products, School children

INTRODUCTION:

Most of the oral diseases are directly related to lifestyle, Oral disease can be considered a public health problem due to its high prevalence and significant social and psychological impact and there is an important consideration to reduce harmful oral health habits related

to chewing, such a reduction can be achieved through appropriate awareness programs regarding health education.¹ Smokeless tobacco is consumed extensively throughout the world and it's a public health problem especially in Asian countries like India and Pakistan.² The most important preventable cause of disease burden and death all over the world is tobacco. The smokeless tobacco products have received increasing attention by the tobacco industry and public health community.³ Cigarette manufacturers have developed new smokeless products, including moist snuff and snus brands, presented in attractive packaging and available in various flavors.⁴ The use of tobacco remains responsible for being one of the largest contributors to premature death, causing every year millions of deaths worldwide. An international research study has estimated the number of betel quid users globally to be 600 million.^{5,6,7} Smokeless tobacco users in India and Pakistan together have been estimated to be 100 million in number. Habitual betel quid chewing is commonly practiced by men and women in Bangladesh, India, Pakistan and Sri Lanka, while tobacco smoking is much more common among men in these countries compared to women, except for certain small geographic areas.⁸ Smokeless tobacco is associated with increased risk of chronic diseases.⁹ These diseases include destructive periodontitis, oral and oropharyngeal cancers, oral potentially malignant disorders, notably leukoplakia, erythroplakia, and oral sub-mucous fibrosis and cardiovascular disorders including stroke. The other diseases associated with tobacco consumption include erectile dysfunction and problems in pregnancy, including stillbirth and low birth weight babies.¹⁰ Smokeless tobacco is available in various forms that are either placed in the mouth or inhaled, including a finely ground or shredded tobacco known

✉ Dr. Mahwish Bano

Demonstrator
Department of Community Dentistry
Baqai Dental College
Baqai Medical University
Karachi
Email: drmahwishsyed@yahoo.com

✉ Dr. Asghar Ali

Associate Professor & Head
Department of Community Dentistry
Baqai Dental College
Baqai Medical University
Karachi

✉ Dr. Muhammad Ali Leghari

Senior Lecturer
Department of Community Dentistry
Baqai Dental College
Baqai Medical University
Karachi

✉ Dr. Samreen Mazhar

Assistant Professor
Department of Community Dentistry
Baqai Dental College
Baqai Medical University
Karachi

Received: 13-11-2015

Revised: 06-12-2015

Accepted: 08-12-2015

as snuff that may be in dry and moist forms and loose leaf forms known as chewing tobacco; and newer dissolvable compressed powdered tobacco tablets etc.^{11,12} Studies related to use of tobacco have documented that deaths from tobacco will become double in 2030 comparing with 1999 due to increased tendency to use tobacco. Although, already about 50% of deaths due to tobacco are in high-income countries, but we should expect that tobacco-related mortality and morbidity will move towards developing countries because of addictive tobacco use in these countries.^{13,14} Studies have identified personal, social, and environmental factors which are involved in the decision to try smokeless tobacco products and in the progression to regular use and nicotine addiction. Some studies have examined concurrent correlate use of smokeless tobacco especially in young people or longitudinal predictors of use in selected geographic regions, but prospective studies are not much reported among the area of US national sample of young people.^{14,15} In Pakistan also there is scarcity of literature on smokeless tobacco use in adolescence. Present study was undertaken to evaluate the knowledge, attitude and practice regarding smokeless tobacco among adolescence of two private schools of Gadap Town Karachi.

MATERIALS AND METHODS:

This descriptive cross sectional study was carried out for a period of six months from October 2014 to March 2015 among adolescence of two private schools of Gadap Town Karachi. Data was collected by self structured questionnaire related to personal information regarding use of smokeless tobacco habits and the diseases that could be caused by the consumption of smokeless tobacco. 300 males and females study participants were evaluated.

The questionnaires for children was circulated in the class by trained teachers of the school and were collected on the same day after they have filled out the answers. The data for this study was collected by carrying out an interview among participants. The stratified simple random sampling technique was used. The questionnaire was divided into four parts. First part included questions on demographic characteristics of children that is the age, gender, educational status and father's occupation. Second part of the questionnaire included questions to test the knowledge of children regarding the family and its opinion, harmful effects and ban on purchase of smokeless tobacco products etc. Third part comprised of questions related to their attitude towards the use and duration of smokeless tobacco e.g., pan, chalia, maawa, mainpuri, naswar etc. Fourth part consist of questions related to their frequency and plan regarding the use of smokeless tobacco etc. A written consent was taken from school principal as well as children before the collection of data. Data was entered and analyzed by Statistical Package for Social Sciences (SPSS 20). Descriptive statistics of socio-demographic information and knowledge, attitude and practices of each chewing product was determined.

RESULTS:

Knowledge Regarding Smokeless Tobacco: A total of 300 enrolled subjects, 65.7% (197) were males and 34.3% (103) were females. The mean age of male and female was 1.34 with standard deviation +0.476. Out of 300 study participants 93.0% had the knowledge about smokeless tobacco while 2.7% subjects had no knowledge and 4.3% were in a category of "I don't know about smokeless tobacco". 51% study participant's family had knowledge about the use of smokeless tobacco whereas the 43.7% participant's family had no knowledge regarding the use of smokeless tobacco and 5.3% of those study participants had not known about the use of smokeless tobacco. 2.3% subjects knew that smokeless tobacco is not good for human health while 87.7% subjects had no opinion of smokeless tobacco being related to health and 10% of participants said I don't Know, regarding smokeless tobacco. 79.7% subjects said yes about the harmful effects of smokeless tobacco that can cause oral cancer while 4.3% study participants responded no, about the harmful effects of smokeless tobacco but 16% subjects said I don't not know about the injurious effects of smokeless tobacco. 32.7% participants got knowledge from parents about the injurious effects of smokeless tobacco whereas the 5.3% participants knew the dangerous effects of smokeless tobacco use through self learning while the 18% participants learn the harmful effects of smokeless tobacco from books and education but dentist provide information to 4.7% participants regarding the injurious effects of smokeless tobacco, on the other hand 19% individuals knew the harmful effects of smokeless tobacco by TV. only 3.3% individuals knew the risk of smokeless tobacco through radio, although 1.7% study participants knew the dangerous effects of smokeless tobacco by newspapers. 56.3% subjects wanted a ban on the purchase of smokeless tobacco products on the other hand 9.7% subjects did not want a ban on the purchase of smokeless tobacco whereas the 34% individual did not know about any ban on buying smokeless tobacco products (Table 1).

Attitude Regarding Smokeless Tobacco: 32% participants chewed chalia. 10.7% individuals placed or used gutka in the mouth; On the other hand placing mawa & mainpuri was 7.3% and 6% respectively. Chewing pan habit was found to be 9% and naswar placing was 4%. Individuals who used all of the above (chalia, gutka, mawa, mainpuri, paan, and naswar) were 2.7%. The participants not using smokeless tobacco were 29.3%. Regarding the mode use for the use of smokeless tobacco, 29.3% participants placed tobacco between upper or lower lips and gums while tobacco was chewed by 42.3% students. The duration of smokeless tobacco use was 1 year 21%, 2 year 19.3%, 3 year 20.3% and more than 3 years (others) were 11.3%. 24.3% students used smokeless tobacco when they were hungry, in contrast 30.7% individuals did not use smokeless tobacco when they were hungry. 17% was in the category of "I don't know" about the status of hungry and using smokeless tobacco. The effect on appetite after using

smokeless tobacco was increased appetite 4%, decreased appetite 26%, no change in appetite 18% and I don't know regarding appetite was 24%. The participants using smokeless tobacco under stress were 22% while not using smokeless tobacco under stress were 33.7%. The participants not knowing about use of smokeless tobacco in stress were 16.3%. The students clean their teeth after smokeless tobacco use were 15% on the other hand those who did not clean were 43.7% and students who were in category of "I don't know" were 13.3% (Table 2).

Table: 1
Knowledge regarding smokeless tobacco

	Variable	Frequency	Percentage
Knowledge of ST	Yes	279	93.0
	No	8	2.7
	I don't know	13	4.3
	Total	300	100.0
Family use of ST	Yes	153	51.0
	No	131	43.7
	I don't know	16	5.3
	Total	300	100.0
Opinion of ST	Yes	7	2.3
	No	263	87.7
	I don't know	30	10.0
	Total	300	100.0
Harmful effect of ST	Oral cancer occur	239	79.7
	Oral cancer do not occur	13	4.3
	I don't know	48	16.0
	Total	300	100.0
How you know the harmful effect of ST	Parents	98	32.7
	Self learning	16	5.3
	Books/Education	54	18.0
	Dentist	14	4.7
	TV	57	19.0
	Radio	10	3.3
	Newspaper and magazines	05	1.7
	Total	300	100.0
Ban on purchase of ST	Yes	169	56.3
	No	29	9.7
	I don't know	102	34.0
	Total	300	100.0

Practice Regarding Smokeless Tobacco: 18.7% individuals used one packet of smokeless tobacco per day and 22% students used two packets per day. 22.3% participants used three packets of smokeless tobacco per day while 9% individuals used more than three (others) packets per day. 40.3% students spent 10 rupees per day on purchase of smokeless tobacco and

20.3% participants spent 20 rupees. 7.7% students spent 30 rupees while 3.7% spent more than 30 rupees (others). The frequency of smokeless tobacco in family of participants daily was 38.7%, weekly 4.7, monthly 2.7% and occasionally 7%. The 16.7% participant's family member never used smokeless tobacco, while 5.3% individuals did not know about family member use of smokeless tobacco. 37.7% individuals restricted the use of smokeless tobacco in family while 9.7% students were not restricting the use in family. 11.3% participants were in category of "I don't know" about restricting the use of smokeless tobacco in family. 22.3% individuals had a plan to reduce the consumption of smokeless tobacco while 19% did not have any plan regarding the use of smokeless tobacco. 12.3% students had a plan to quit the use of smokeless tobacco. 17% did not know about their use of smokeless tobacco in future (Table 3).

Table: 2
Attitude regarding smokeless tobacco

	Variable	Frequency	Percentage
Types of ST	Chalia	96	32.0
	Gutka	32	10.7
	Mawa	22	7.3
	Mainpuri	18	6.0
	Pan	27	9.0
	Naswar	12	4.0
	All of the above	8	2.7
	No	85	28.3
Mode of ST use	Placed tobacco b/w upper or lower lips & gums	88	29.3
	Chewing tobacco	127	42.3
	Total	215	71.6
Duration of ST	1 year	63	21.0
	2 year	58	19.3
	3 year	61	20.3
	Others	34	11.3
	Total	216	72.0
Use when Hungry	Yes	73	24.3
	No	92	30.7
	I don't know	51	17.0
Effect on appetite	Increase appetite	12	4.0
	Decrease appetite	78	26.0
	No change	54	18.0
	I don't know	72	24.0
Use tobacco in stress	Yes	66	22.0
	No	101	33.7
	I don't know	49	16.3
Cleaning of teeth after ST use	Yes	45	15.0
	No	131	43.7
	I don't know	40	13.3

Table: 3
Practice regarding smokeless tobacco

Variable		Frequency	Percentage
Packets use per day	One	56	18.7
	Two	66	22.0
	Three	67	22.3
	More	27	9.0
Rupees spend on ST	10 Rs	121	40.3
	20 Rs	61	20.3
	30 Rs	23	7.7
	Others	11	3.7
Frequency of ST in family	Daily	116	38.7
	Weekly	14	4.7
	Monthly	8	2.7
	Occasionally	21	7.0
	Never	50	16.7
	I don't know	16	5.3
Restrict the use of ST in family	Yes	113	37.7
	No	29	9.7
	I don't know	34	11.3
Plan for ST	To reduce consumption	70	23.3
	No plan	57	19.0
	To quit	37	12.3
	I don't know	51	17.0

DISCUSSION:

Awareness regarding smokeless tobacco use and its hazards is an important but often neglected topic. Probably this study is the first of its kind that was carried out among schools of Gadap Town Karachi. The socio-economic and demographic data of the study population typically represented a low socioeconomic group of Pakistan. As larger proportion of Pakistani population belongs to this less privileged section and chewing habits are more commonly practiced by this disadvantaged segment of the society, such a population readily makes an ideal choice for the study we have conducted. The smokeless tobacco using habits among the lower socioeconomic strata of Pakistan studied in our study was very high as 32% of the participants were using at least one of the items under investigation on daily basis.¹⁶ Epidemiological studies on the tobacco chewing and smoking habits in Pakistan have been lacking. Sporadic data is available, limited to a few studies carried out in a couple of cities, has analyzed the same data used in this study, however, only smoking habits were reported and the variables were not analyzed in detail, required to initiate a cessation program.¹⁷ Present study reports detailed analysis of smokeless tobacco habits. It has included parameters required to initiate a cessation program.

In the absence of comprehensive data on tobacco use in Pakistan, a review of the consumption and trends cannot be made. However, considering that the tobacco industry in Pakistan is expanding and there has been an increase in land used for tobacco cultivation, it is

reasonable to infer that tobacco use has increased in Pakistan over the years. 48% men and 7% women use smokeless tobacco in the developing countries while 42% men and 24% women use smokeless tobacco reside in developed countries.¹⁸ Present data shows that tobacco use is alarmingly high amongst Pakistani population. Such a high prevalence of tobacco (both smoking and smokeless) has also been seen in other developing countries like India, Bangladesh, China, Indonesia, Malaysia, Africa, South Africa, Nigeria, Israel, Estonia, Bulgaria, and Syria¹⁹. In Czech Republic the incidence of tobacco use is reported to be low among the males but is increasing among the females. Incidence of smoking in the North America is decreasing, at the same time the use of smokeless tobacco is on the rise.²⁰ In our study 93% participants had heard about the term smokeless tobacco and their products pan, chalia, naswar, mawa, mainpuri, and gutka. The perception of the people about the products was based on correct as well as incorrect information, in contrast to studies carried out in Indian and Bangladeshi populations that have reported a perception regarding smokeless tobacco to be beneficial to the body. However others did not find any clear association or found a negative association with the level of education, household income, area of residence and tobacco use²¹.

In our study about 32% individuals were using at least one item of smokeless tobacco on daily basis. Same results are documented in a study conducted among Asians in UK, reported 32% participants were chewing smokeless tobacco on regular basis.²² Moreover, in our population overall mean frequency of use among daily chewers was higher than the individual frequency of most items, indicating that more than one substance was being used on daily basis among most daily chewers. Children and younger people are more likely to get exposed to these products, and such exposure could lead them to develop lifelong habit. Male gender and young age group were the main identified risk factors for the daily use of chewing substance. These findings are in coherence with those reported in another study from Asian subcontinent.²³

In this study lowest naswar use per day was 4%, followed by 10.7% gutka, 7.3% mawa, 6% mainpuri, 9% paan which hints towards the addictive potential of these substances. 32% chalia was the most common substance of daily use while 29.3% participants placed tobacco between upper or lower lips and gums and 42.3% used chewing tobacco. Pakistanis do not commonly use "Pan". The reason for this limited use by the rural low economic group may be the low affordability of pan as compared to chalia and cigarettes. The current study did not look into the type of quid used for "pan". The carcinogenic potential of the type of quid used cannot be overlooked. The level of tobacco and pan use may be under estimated for women that may be due to under reporting because of cultural prohibitions but further studies are recommended in these areas.²⁴

Pakistan has to reinforce its political and public health efforts to control this preventable killer and build an

alliance between the ministries of health, education, commerce, agriculture, the Central Board of Revenue and the provincial governments to ban all forms of tobacco advertisements, sponsorship and marketing. Ban on all forms of tobacco consumption in all public places and increase in the excise taxes on all forms of tobacco should also be undertaken.²⁵ Thus high prevalence of daily use of smokeless tobacco products has been identified in adolescence residing in peri-urban area of Karachi, Pakistan.

CONCLUSION:

Knowledge, attitude and practice regarding smokeless tobacco among adolescence of two private schools of Gadap Town Karachi were found to be below and unsatisfactory. Knowledge especially about the carcinogenicity of these items among the studied population was unsatisfactory. However, positive attitudes were also identified regarding the measures to restrain their production, marketing and use which should be used to facilitate the formulation of policies against these items.

REFERENCES:

1. Javed F, Al-Hezaimi K, Warnakulasuriya S. Areca-nut chewing habit is a significant risk factor for metabolic syndrome: a systematic review. 2012; 16:445-8
2. Heck JE, Marcotte EL, Argos M, Parvez F, Ahmed A, Islam T et al. Betel quid chewing in rural Bangladesh: prevalence, predictors and relationship to blood pressure. *Int J Epidemiol* 2012; 41:462-71
3. Tsai WC, Wu MT, Wang GJ, Lee KT, Lee CH, Lu YH et al. Chewing areca nut increases the risk of coronary artery disease in Taiwanese men: a case-control study. 2012; 7:162-8
4. Muttagi SS, Chaturvedi P, Gaikwad R, Singh B, Pawar P. *Ind J Med and Paed Oncol* 2012; 33:32-5
5. Shafique K, Mirza SS, Vart P, Memon AR, Arain MI, Tareen MF, et al. Areca nut chewing and systemic inflammation: evidence of a common pathway for systemic diseases. 2012; 9:22-9
6. World Health Organization. Defining and Assessing Risks to Health [Online]. 2002 Available from: URL: <http://www.who.int/whr/2002/en/>
7. PSC. The snus experience: Lessons from Norway, Sweden and Canada on the public health consequences of widespread oral tobacco use. Physicians for a Smoke-Free Canada: Ottawa, 2007. Retrieved Aug 24, 2008 from, http://www.smoke-free.ca/pdf_1/Snus-comparative-experiences.pdf.
8. Wayne GF, Connolly GN. How cigarette design can affect youth initiation into smoking: Camel cigarettes 1983-93. *Tob Control* 2002; 1:132-9
9. World Health Organization. Quantifying selected major risks to health. The World Health report 2002-Reducing risks, promoting healthy life
10. Gupta PC, Warnakulasuriya S. Global epidemiology of areca nut usage. *Addict. Biol.* 2002; 7: 77-83
11. International Union Against Cancer. Tobacco Control Fact Sheet 8, December. International Union Against Cancer, Tobacco and Cancer Programme, Geneva, 1996
12. World Bank Economics of Tobacco for the South Asia Region, 2003. <http://www.worldbank.org/tobacco/pdf/country%20briefs/South%20Asia%20Region.doc> Accessed 6 July, 2003
13. Critchley JA, Unal B. Health effects associated with smokeless tobacco: a systematic review. *Thorax.* 2003; 58, 435-43
14. Gupta PC, Ray CS. Smokeless tobacco and health in India and South Asia. *Respirology.* 2003; 8, 419-31
15. Nair U, Bartsch H, Nair J. Alert for an epidemic of oral cancer due to use of the betel quid substitutes gutkha and pan masala: a review of agents and causative mechanisms. *Mutagenesis.* 2004; 19, 251-62
16. Mack TM. The pan-Asian paan problem. *Lancet.* 2001; 357, 1638-9
17. Maher R, Devji S. Prevalence of smoking among Karachi Population. *JPMA* 2002; 52(6): 250-3
18. Merchant AT, Luby SP, Perveen G. Smoking among males in a low socioeconomic area of Karachi. *JPMA* 1998; 48(3):62-3
19. Alam SE. Prevalence and pattern of smoking in Pakistan. *JPMA* 1998; 48(3) 64-6
20. Shah SH, Shah SN, Rizwanullah. Prevalence and pattern of tobacco use in rural area of Peshawar. *JAMC* 1993; 6(2): 5-8
21. Tobacco or Health: A Global Status Report. Country Profile 1997. www.cdc.gov/tobacco/who/Pakistan.htm down-loaded on 30.11.02
22. Maziak W. Smoking in Syria; profile of a developing Arab country. *Int. J Tuberc Lung Disease* 2002; 6(3): 183-91
23. Skodova Z, Cifkova R, Adamkova V, Duskova A, Ilauerova G, Hejl Z, et al. Development of smoking habits in the population of the Czech Republic from 1985 to 1997/98 (Abstract). *CasLekCesk* 2000; 139(5); 143-7
24. Centre for disease control and prevention. Cigarette smoking- attributable mortality and years of potential life lost-United States, 1990. *MMWR* 1993; 42: 645-9
25. Balabanova D, Bobak M, McKee M. Patterns of smoking in Bulgaria. *Tobacco Control* 1998 Winter; 7(4); 383-5

