ORIGINAL ARTICLE

Role of Tobacco in Oral Health of Factory Workers

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ABSTRACT

Background: Oral health is considered most important part of the general health and one of the valuable assets of all individuals. Use of tobacco and its relation with oral illnesses is a leading contributor to burden of global oral disease because it is linked with almost half of all kinds of periodontal disease.
Aim: To assess the role of tobacco in oral health of factory workers and various factors affecting the oral health with tobacco use among workers.
Method: This was a cross-sectional descriptive study performed during February, 2017 among 220 factory workers of Colony Textile Mills Ismailabad, Sher Shah Road, Multan. Data was collected through questionnaire, which was entered in to computer software SPSS version 20.0.
Results: Out of 220 workers, 45.9% were 31-40 years old and 60% were illiterate. Among the workers, cigarette was used by 62.3% workers, pan 33.2%, betel quid 7.7%, Gutka 12.3% and Hooka by 17.3% workers. There were 88.2% workers who had smell in the mouth, 29.1% bleeding gums, 98.6% staining on teeth, 82.3% brown pigmentation and 95% had dryness of mouth. Among these factory workers, only 0.5% had good oral status, 77.7% average and 21.8% had poor hygiene.
Conclusion: Study concluded that most of the workers were cigarette smokers and brushed their teeth daily. Majority had bleeding gums, smell from mouth, brown pigmentation, staining on teeth and dryness of mouth while a few of them had calculus deposits and gingivitis. Majority had average/good health.
Keywords: Oral health, Periodontal disease, Stomatitis nicotina, Periodontitis, Oral leukoplakia,

INTRODUCTION

Oral health is a condition of being free from persistent facial and mouth pain, throat and oral carcinoma, oral lesions and birth defects for example cleft lip and palate, tooth decay, tooth loss, periodontal disease and several other illnesses and complaints that affect oral cavity. Risk factors regarding oral diseases comprise tobacco use, alcohol use, unhealthy diet and poor oral cleanliness. Oral health maintenance plays a considerable role in boosting quality of life. Numerous agents have great impact on oral health including occupational and environmental factors[1].

Use of tobacco is directly held responsible for various oral complications like stomatitis nicotina, periodontitis, oral leukoplakia, changes in soft tissues, oral carcinoma and gingival recession[2].

Tobacco is utilized in types either made for smoking and nonsmoking routes[3]. The use of tobacco can be made through cigars, pipes, cigarettes while the smokeless tobacco could be utilized like snuff or like chew tobacco which is considered more frequent type. Snuff is inhaled via nose or taken dry through mouth; although, most of the users place humid snuff against their cheek in vestibule of mouth in the same way like chew tobacco is consumed[4].

The endemic of tobacco use is a big threat for world health today. Among adult population of the world, roughly one-third consume tobacco in several forms and half of them will die in their early life. As per current estimate of WHO, 4.9 million individuals died globally due to nicotine addiction. This massive death toll is rapidly increasing particularly among countries with low and middle incomes where majority (1.2 billion) of world's tobacco consumers live[5].

Oral diseases more significantly contribute to global burden of disease. Worldwide, oral carcinoma is the 11th most frequent carcinoma while tobacco use is responsible for almost 41% of pharyngeal/oral carcinoma cases among males and 11% among females. Acute periodontitis that can cause tooth loss is observed among 10 to 15% adult populations globally. Studies demonstrated that number of smoking years is linked with increased numbers of missing teeth[6].

Worldwide, Pakistan is one of fifteen countries with great burden of tobacco-associated ill health. According to WHO 2013 standardized estimation about smoking prevalence, 31.8% male and 5.8% females while 19.1% adult population of Pakistan currently consume tobacco in one or another form[7].

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Among world countries, Pakistan has increased prevalence of oral carcinoma. With age-standardized prevalence rate of 9.8/100,000, oral carcinoma has become most prevalent carcinoma in males and second most frequent carcinoma in both genders in the country[8]. In Pakistan, the most leading cause of oral carcinoma is tobacco use, which is consumed in various forms ranging from cigarettes smoking or *bidis* to chewing *quid* / *betelnut* or *paan* / *chhalia* and snuff or *nawwar*[9].

The impact of tobacco use on the oral health is significant and must be considered seriously. Use of tobacco and its relation with oral illnesses is a leading contributor to burden of global oral disease because it is linked with almost half of all kinds of periodontal disease among adults. Relationship between use of tobacco and prevalence and periodontal disease severity is recognized in several studies. Due to harmful effects, use of tobacco must be discouraged for the prevention several oral diseases[10].

Oral health is considered most important part of the general health and one of the valuable assets of all individuals. Oral diseases are most frequent non-infectious diseases affecting different populations.[11] Tobacco is one of the consumer products that only legally accessible which kills persons when utilized completely as intended. Therefore, tobacco is a single most significant cause of non-infectious disease and is likely to produce a global epidemic.[12] Keeping in mind the injurious effect of tobacco, current study was carried out to assess the role of tobacco in oral health among factory workers.

MATERIAL AND METHODS

This was a cross-sectional descriptive study performed among 220 factory workers of Colony Textile Mills Ismailabad, Sher Shah Road, Multan. Simple random sampling method was used for the selection of workers. The clinical examination was carried out among all workers to assess the oral health. Data was collected through questionnaire, which was entered in SPSS version 20.0. Frequencies and percentages were calculated and data was presented in tables and graphs. Confidentiality of the data was ensured and proper consent was taken before collection of data.

RESULTS

Table 1 exhibits that out of 220 workers, 73(33.2%) were upto 30 years old and 101(45.9%) were 31-40 years old while 46(20.9%) workers were more than 40 years old. Among the workers, 63(28.6%) were illiterate, most of them 132(60%) were under matric and 25(11.4%) workers were matric and above. Likewise 53(24.1%) workers had family monthly income upto 15,000 rupees and 167(75.9%) were earning above 15,000 rupees.

Table 2 asserts that among 220 workers, 197(89.5) regularly brushed their teeth. While 211(95.9%) workers brushed once daily and 9(4.1%) workers brushed twice daily. Among workers, 109(49.6%) used tooth paste, 39(17.7%) manjan and 72(32.7%) used miswak for the cleaning of teeth.

Table 3 identifies that out of 220 workers, 137(62.3%) used cigarettes, 73(33.2%) pan, 17(7.7%) betel quid, 27(12.3%) Gutka and 38(17.3%) used hookah.

Table 4 demonstrates that duration of smoking for 71(32.3%) was $\leq$ 5 years while for 149(67.7%) workers > 5 years.

Table 5 depicts that during oral health examination, 194(88.2%) workers had smell from mouth, 9(4.1%) gingivitis, 64(29.1%) bleeding gums, 217 (98.6%) staining on teeth, 121(55%) ulcerated lesions, 181(82.3%) brown pigmentation, 91(41.4%) plaque, 22(10%) calculus deposits and 209(95%) workers had dryness of mouth.

Table 6 confirms that among factory workers, only 1(0.5%) had good oral health status, 171(77.7%) had average and 48(21.8%) had poor oral health status.

Table 1: Socio-demographic characteristics

Variable	Frequency	%age
Age		
Upto 30 years	73	33.2
31-40 years	101	45.9
Above 40 years	46	20.9
Educational status		
Illiterate	63	28.6
Under matric	132	60.0
Matric and above	25	11.4
Family monthly income		
Upto Rs.15,000	53	24.1
Above Rs.15000	167	75.9

Table 2: Oral hygiene practices

	Frequency	%age
Regular brushing practice		
Yes	197	89.5
No	23	10.5
Brushing number of times a day		
Once	211	95.9
Twice	9	4.1
Methods used to clean their teeth		
Tooth paste	109	49.6
Manjan	39	17.7
Miswak	72	32.7

Table 3: Kinds of tobacco use

	Yes	No
Cigarette	137 (62.3%)	83 (37.7%)
Pan	73 (33.2%)	147 (66.8%)
Betel quid	17 (7.7%)	203 (92.3%)
Gutka	27 (12.3%)	193 (87.7%)
Hookah	38 (17.3%)	182 (82.7%)

Table-4: Duration of tobacco use

	Frequency	%age
Upto 5 years	71	32.3
More than 5 years	149	67.7
Total	220	100.0

Table-5: Oral health examination

	Yes	No
Smell from mouth	194 (88.2%)	26(11.8%)
Gingivitis	9 (4.1%)	211 (95.9%)
Bleeding gums	64 (29.1%)	156(70.9%)
Staining on teeth	217 (98.6%)	3(1.4%)
Ulcerated lesions	121 (55%)	99(45%)
Brown pigmentation	181 (82.3%)	39(17.7%)
Plaque	91 (41.4%)	129(58.6%)
Calculus deposits	22 (10%)	198(90%)
Dryness of mouth	209 (95%)	11(5%)

Table 6: Oral health status

	Frequency	%age
Good	1	0.5
Average	171	77.7
Poor	48	21.8

DISCUSSION

The present study was conducted regarding role of tobacco in oral health among workers of Colony Textile Mills Ismailabad, Sher Shah Road, Multan. Study revealed that 33.2% workers were ≤ 30 years old while 66.8% were above 30 years old. The findings of our study are comparable with the study performed by Sharma and teammates (2014) who also asserted that 32.2% workers were ≤ 30 years old and 67.8% were above 30 years old[1].

Education is most important factor that helps people in maintaining personal as well as oral hygiene. Study disclosed that among the workers, 28.6% were illiterate, 60.0% under matric and 11.4% studied upto matric or above. The results of the study done by Pimple and colleagues (2012) are better than our study results who confirmed that significant majority (91.1%) studied upto matric or above while 7.5% workers were under matric and merely 2.4% were illiterate[13].

Study showed very encouraging results that large numbers of workers brushed their teeth daily. There are several techniques exist for teeth cleaning in which preferred method is toothpaste with brush. The results of our study also confirmed that majority (49.6%) used tooth paste, 32.7% Miswak and 17.7% used manjan for teeth cleaning. Sharma and teammates (2014) pointed out in their study that major proportion (86.7%) of workers used toothpaste while 5.6% utilized manjan and 7.7% other indigenous technique for teeth cleaning[1].

Smoking is not good for health, despite knowing its hazards people do not quit smoking. In our study majority was smoking for more than five years. It is appalling to note that 62.3% workers were cigarette smokers while the findings of a study undertaken by Kaur (2006) are better than our results who confirmed that 33.7% workers were accustomed of cigarette smoking[14]. Similarly in our study 33.2% and 7.7% workers used pan and betel quid, respectively. The study done by Kaur (2006) indicated that 31.3% and 30% factory workers used pan and betel quid, respectively[14].

During study workers of Colony Textile Mills were examined to know the oral health status. Study identified that significant majority had smell from mouth, staining of teeth, brown pigmentation and dryness of mouth. Other problems like ulcerated lesion and plaque were observed among almost half of the workers while some of them had bleeding gums and calculus deposits. Study highlighted that 4.1% workers had gingivitis. The findings of our study exhibited better scenario than the study conducted by Nwhator and associates (2007) who reported 6.4% gingivitis prevalence among factory workers[15].

Study found that 77.7% workers had average health status and 0.5% had good health status while 21.8% workers had poor oral health status. But the study performed by Sharma and teammates (2014) confirmed that major proportion (60%) of workers had poor health while 37.8% had average and 2.2% had good oral health status[1].

CONCLUSION

Study concluded that most of the workers were cigarette smokers and brushed their teeth daily. Bleeding gums, smell from mouth, brown pigmentation, staining on teeth and dryness of mouth were prevalent among factory workers Majority had average/good health. Health education programs are needed to improve their oral health status. Further studies are required on large scale to assess oral health status among factory workers..

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