

Oral hygiene habits and status of oral health among the pharmaceutical mill workers in Nagpur district - A cross sectional study.

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Citation of this Article:Sneha Indrajit Bhujade, Dr. Pratima Shenoi, Dr. Kushal Fuladi, "Oral hygiene habits and status of oral health among the pharmaceutical mill workers in Nagpur district - A cross sectional study", IJDSIR- December - 2022, Vol. – 5, Issue - 6, P. No.90– 95.

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Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Introduction: There are many deleterious habits prevalent in industrial workers and lack of knowledge regarding oral hygiene maintenance affects their quality of life. The aim of this study was determination of the oral hygiene habits and status of oral health among the pharmaceutical mill workers in Nagpur district.

Materials and Methods: 915 pharmaceutical mill workers in Nagpur district participated in this study. Data on hygiene practices, self-noticed dental problems, causative habits, sugar consumption, past dental visits were recorded. Oral health status was examined using the validated questionnaire.

Result: Female participants reported lesser deleterious habits when compared to males in the present study. Majority of the participants lacked awareness regarding importance of oral hygiene procedures and often dismiss routine dental visits.

Conclusion: The oral hygiene habits and the status of oral health among the pharmaceutical mill workers were poor. There is a serious need of spreading awareness regarding the oral hygiene habits and the maintenance of oral health among the pharmaceutical mill workers to improve their quality of life.

Keywords: oral health status, oral hygiene habits, pharmaceutical mill workers.

Introduction

India is the third-largest pharmaceutical producer in the world by volume and the fourteenth-largest by value. Currently, there is a sizable and valuable population of workers in India amongst which pharmaceutical sector currently employs between 5.5 and 5.7 lakh peoples.

In 2007, the world's labour force will be roughly equal to the size of the planet's population.

Around the world, 60%-70% of men and less than 50% of women are formally registered as workers.

Working environments are frequently regarded as significant risk factors for oral health issues, and given the well-established negative impact of oral health issues on people's quality of life, poor working environments create a vicious cycle where the stakeholders' quality of life gradually degrades over period of time.

A satisfying quality of life overall depends on oral health. Oral health is the condition of being free from oral and facial pain, oral infections and sores, and disorders that restrict an individual's capacity for biting, chewing, smiling, and psychological well-being, according to the World Health Organisation (2012). In addition to helping you preserve your teeth as you age, regular oral and dental hygiene can help prevent bad breath, tooth decay, and gum illness. It has been demonstrated that developing healthy teeth for eating and dental hygiene practices is crucial for reaching and sustaining long-term physical and mental well-being.

In workers' group so many causative habits are present, that directly or indirectly affects their oral health as well as physical health. With this background and given the reputation of pharmaceutical mill industry in Nagpur district of Maharashtra, the aim of this study was to determine knowledge and awareness of the oral health status, oral hygiene procedure and frequency

of utilization of oral health care services among the pharmaceutical mill workers in Nagpur district.

Objectives

- To determine the awareness of oral hygiene in pharmaceutical mill workers.
- To determine the oral health status and knowledge regarding the oral health by mill workers.
- To determine the cleaning protocol and oral health care services among the pharmaceutical mill workers.

Materials and Methods

This cross-sectional study was conducted among pharmaceutical mill workers in Nagpur district, Maharashtra. The study included 915 pharmaceutical mill workers and the study purpose was explained to all the workers, informed consent was obtained prior to the collection of data.

The study was based on a questionnaire consisting of 19 original questions in local language of workers. Data recorded on age, gender, oral hygiene practices, tobacco and alcohol habits, sugar consumption, self-noticed dental problems, past dental visit and knowledge regarding oral hygiene maintenance. The data from the anonymous polls was gathered, protected, and placed into an Excel 2013 spreadsheet. The statistical tool R, version 3.4.3, was used to analyse the data using the non-parametric chi-square test with Yate's correction and the Fisher's exact test; a p-value < 0.05 was deemed significant.

Results

915 mill workers had participated in this study, 818 (89.4%) were male and 97 (10.6%) were female. Most of the participant 448 (49%) belonged to age group of 31-45 years, some participant 349 (38.1%) belonged to age group of 18-30 years and remaining 118 (12.9%) belonged to age group of > 45 years.

Descriptive statistics of the background characteristics of the study population are mentioned present in table 1.

Most of the mill workers, 813 (88.9%) reported using a toothbrush and toothpaste. Less than 50% i.e 358(39.1%) of the participant cleaned their teeth twice a day, only 304 (33.2%) of the participant reported cleaning their teeth for three minutes. Only 27.2% of participant used the medium type of brush for teeth cleaning. Less than 50% of participant reported changing of their toothbrush in three months. More than 50% of the participant clean their tongue daily and rinse their mouth after eating. Only 12.3% of participant uses mouthwash. 17.3% of people reported using tobacco, 2.4% study participant reported using cigarettes or biddi, and exclusively men reported using it. Whereas 5.6% of the male workers have the habit of alcohol consumption.

The deleterious habits of the study participant are presented in table 3 and figure 1. 21.7% of participant reported consumption of sugar once day, while 39.1% of participant reported consumption of sugar twice a day, 18.1% of workers reported consumption of sugar more than two times a day and 21% study participant reported consumption of sugar occasionally. The sugar consumption frequency is presented in figure 2. Nearly 15.5% of the study population have experienced a bad breath, 17.4% of the study subjects have tooth pain, 7.7% of the study participant noticed bleeding gums while brushing the teeth. About 18.9% of the workers have dental caries, and nearly 5.2% of the people reported that they have loose teeth. Dental problems experienced by participant presented in table 4 and figure 3. The proportion of individuals reporting the prior dental cleaning visits was the same for both male and female participant. Only 0.4% of participant visit for teeth cleaning in three months. The past dental visits for teeth

cleaning presented in figure 4. Greater than 50% of study participant reported that they visit the dentist after getting tired of dental problems.

The main barriers to receiving oral health care were the high expense of dental care, lack of knowledge about dental issues, and the belief that dental pain eventually fades even if left untreated and tried the various home remedies for the dental problem. The reasons for the dental visits present in figure 5.

Discussion

This study showed that the majority of the study participants (88.9%) used the paste and brush, 5% used powder and brush, 3% used finger and paste, 3% used powder and finger, and 0.2% used NEEM stick for teeth cleaning. Hence the percentage of using toothbrush and toothpaste were reported to be more as comparatively other aids. Because of lack of awareness regarding oral health and seriousness of dental problems, majority of participant (61.3%) visit the dentist after they getting tired of dental problem, and 23.5% of participant visits the dentist after the dental problems affecting their quality of life, because they cannot afford the expenses of dental treatment. There is a lack of information regarding the importance of teeth cleaning in the pharmaceutical mill workers. The overall study showed that the deleterious habits are only present in male workers. Only some workers noticed the dental related problems like bad breath in 15.5%, dental caries in 18.9%, tooth mobility in 5.2%, tooth pain in 17.4%, bleeding gums in 7.7%. Overall, the oral hygiene habits and oral hygiene status of pharmaceutical mill worker is not good. There is lack of awareness, knowledge regarding the oral hygiene maintenance among the mill workers. There is need to improve their awareness regarding oral health maintenance and oral health related problems.

Table 1: Descriptive statistics of the background characteristics of study population.

Variable	Category	Number	Percentage
Gender	Male	818	89.4%
	Female	97	10.6%
Age group	18-30 years	349	38.1%
	31-45 years	448	49%
	>45 years	118	12.9%

Table 2: Oral hygiene cleaning protocol of study population.

Variable	Category	Number	Percentage
Cleaning aids	paste and brush	813	88.9%
	Powder and brush	46	5%
	Paste and finger	27	3%
	Powder and finger	27	3%
	Other	2	0.2%
Frequency of	once a day	543	59.3%
Cleaning teeth	twice a day	358	39.1%
	Thrice a day	12	1.3%
	Four times a day	2	0.2%
Duration of	one minute	40	4.4%
	two minutes	122	13.3%
	three minutes	304	33.2%
	>three minute	449	49.1%
	Hard	41	4.8%
	Soft	573	66.7%
	Medium	234	27.2%
	Don't know	11	1.3%
Frequency of	three months	449	48.8%
	six months	110	12.8%
	one and half month	230	26.7%
	use till it wear off	100	11.7%
Cleaning tongue	Yes	799	87.3%
	No	116	12.7%
Mouth rinse after	Yes	758	82.8%
Eating	No	157	17.2%
Use of	Yes	113	12.3%
Mouthwash	No	802	87.8%

Table 3: The deleterious habits of study population.

Variable	Category	Number	Percentage
Tobacco	Yes	158	17.3%
	No	757	82.7%
Cigarettes	Yes	22	2.4%

	No	867	97.6%
Alcohol	Yes	51	5.6%
	No	864	94.4%

Table 4: the various dental problems experienced by workers

	Yes n (%)	No n (%)	Chi square test	P value, Significance
Bad breath/ Halitosis	142 (15.5%)	773 (84.5%)	Chi = 1103.3	$p < 0.001^{**}$
Tooth pain	159 (17.4%)	754 (82.6%)	Chi = 1033.1	$p < 0.001^{**}$
Bleeding while brushing	70 (7.7%)	845 (92.3%)	Chi = 1431.0	$p < 0.001^{**}$
Tooth caries	173 (18.9%)	742 (81.1%)	Chi = 687.71	$p < 0.001^{**}$
Tooth mobility	48 (5.2%)	867 (94.8%)	Chi = 1473.3	$p < 0.001^{**}$

$^{**}p < 0.001$ – highly statistically significant difference in opinion

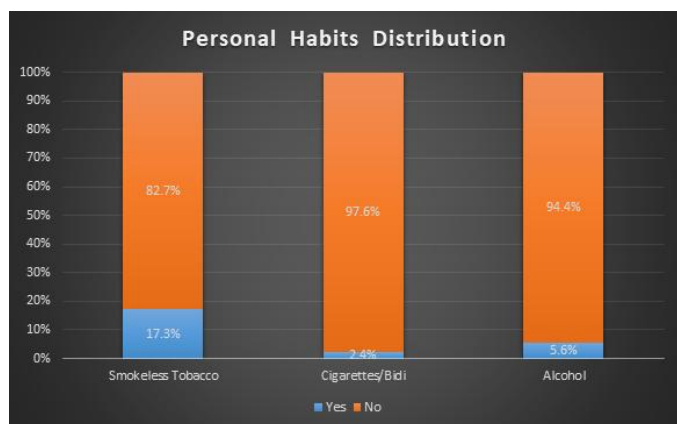


Figure 1: The deleterious habits of the study participant.

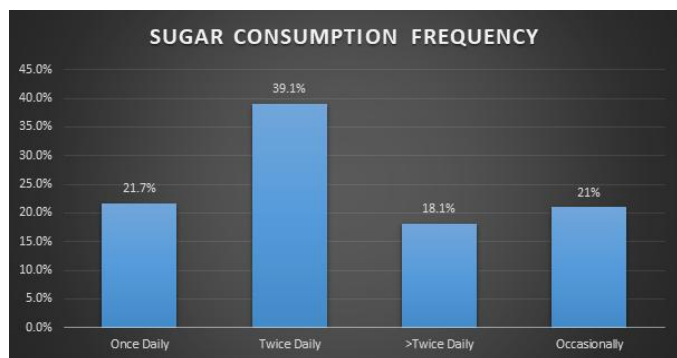


Figure 2: The sugar consumption frequency of the study participant.

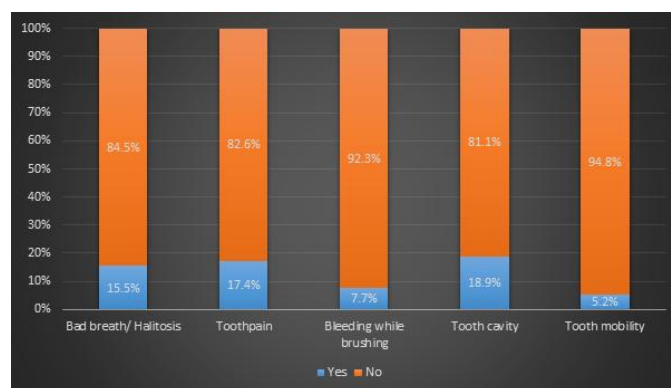


Figure 3: Dental problems reported by participant.

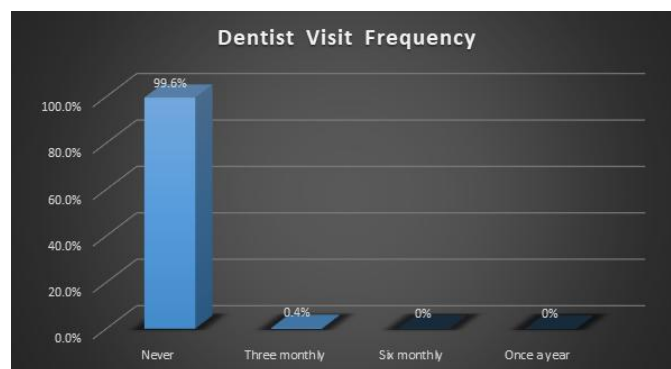


Figure 4. The past dental visits for teeth cleaning.

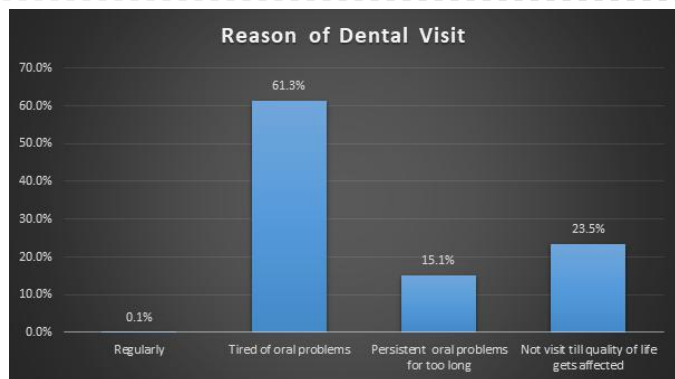


Figure 5: The reasons for the dental visits of the study participant.

Conclusion

Majority of workers had lack of awareness regarding oral health and indicate need for its improvement. To increase workers dental awareness, it is advisable to spread preventive and instructional initiatives. It can thus be concluded that provision of basic dental healthcare facilities amongst mill workers is necessitated for enhancing awareness, and facilitate oral health needs of these participants. It is important to provide the information of oral health to the workers so that they know the poor oral health is directly affects their physical health and quality of life of workers.

Abbreviations

There are many deleterious habits prevalent in industrial workers and lack of knowledge regarding oral hygiene maintenance affects their quality of life. The aim of this study was determination of the oral hygiene habits and status of oral health among the pharmaceutical mill workers in Nagpur district.

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