



Oral Submucous Fibrosis Association with Sociodemographic and Personal Habits of Dental Patients Visiting Tertiary Care Hospital in Hyderabad

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ABSTRACT

Introduction: Sociodemographic and personal habits are variable among patients with oral submucous fibrosis and are important to know to see the pattern of these factors in oral submucous fibrosis in local population.

Aims & Objectives: The present study aims to examine and associate the sociodemographic and personal habits of patients with oral submucous fibrosis.

Place and Duration of Study: The Isra dental college, Isra University, Pakistan, from 1st July 2023 to 1st February 2024.

Materials & Methods: A cross-sectional study was conducted on 148 patients with clinically confirmed oral submucous fibrosis (OSF) of any age or gender, after taking written informed consent using convenience sampling. Clinical examination was done to palpate fibrous bands and a vernier caliper was used to measure the mouth opening. A standardized questionnaire with information on socio-demographics and personal habits was utilized to gather the data. SPSS version-22 was used to analyze the data.

Results: More than half of the patients with oral submucous fibrosis were males 60.1% followed by 39.9% females. About 36.5 % of the patients had no formal education, while 32.4% had primary education, 22.3% were matric and 9% were intermediate and above education. 55 patients (37.2%) had no work followed by 45 patients (30.4%) having private job, 36 patients (24.3%) were laborers, and 12 patients (8%) were having government job and own businesses. OSF was seen more in illiterate people which was associated with betel nut and gutka chewing habits (P -value was <0.001) and 11 patients were having more than one habits.

Conclusion: This study indicates that among various sociodemographic and personal habits of patients with oral submucous fibrosis, illiteracy came to be significant factor associated with betel nut and gutka consumption.

Keywords: Betel nut, Educational level, Gutka, Oral Submucous Fibrosis

INTRODUCTION

The World Health Organization classifies oral submucous fibrosis as a precancerous lesion with a high probability of developing into oral squamous cell carcinoma.¹ The oral epithelium is accompanied by tissue fibrosis that restricts the opening of the mouth and also becomes atrophic. The problem becomes significantly worse when the restriction reaches the point of being unable to chew or swallow food because of soft palate fibrosis.²

Only a small number of cases have been confirmed in the United States and Europe, and those cases have also been a result of Asian migration.² The disease is more common in South East Asia. Pakistan, Taiwan, Sri Lanka, and India have the greatest rates of illness.³ Clear data from studies conducted in Pakistan & India indicates that the rise in OSF cases over the past 20 years has been linked to an increase in the prevalence of oral cancer. The incidence of oral cancer increased by more than 30 times between 1985 and 2010. Research has shown that in both rural and urban populations, men are most typically affected between the ages of 25 and 35.^{3,4} Research carried out across Southeast Asia has determined that the main risk factor for OSF is betel nut, also known as areca nut. There have been reports of OSF caused by betel nut chewing, either directly or in the form of pan, gutka, or mawa.⁵ Areca nut was assessed as a carcinogenic substance by the WHO's International Agency for Research on Cancer.⁶ OSF is correlated with how often it is used as well as how long it is held in the mouth. Despite being aware of the dangers of betel nut consumption, people were unwilling to give up the

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habit, according to a survey done in various socioeconomic groups to gauge public awareness of the nut's negative consequences.⁴ Young people are particularly vulnerable to the billion-dollar gutka industry, which is characterized by easy access, low prices resulting in increased frequency of OSF. These factors pose a serious threat to public health.³ Even though limited literature is available, there haven't been many research done to determine whether education level can lessen substance misuse habits and eventually lower oral submucous fibrosis. This study will add more knowledge to this domain regarding educational level of people consuming gutka. The rationale of this research was to examine the sociodemographic and personal habits of patients with oral submucous fibrosis and ascertain the frequency of the condition in patients visiting the outpatient department of Isra dental college, Isra University.

MATERIALS AND METHODS

148 patients with clinically diagnosed oral submucous fibrosis (OSF) who visited Isra dental college at Isra University between July 1, 2023 and February 1, 2024, were recruited for our observational cross-sectional study. Patients come from both urban and rural areas because Hyderabad is a small city and the surrounding cities lack tertiary care hospitals. Prior to the study, the ethical approval for this study was obtained from the ethical review board of the institute (IU/DN(FD)/IDC/RD/2023/010) and written informed consent was obtained from the patients. The consent forms were prepared in Sindhi, Urdu and English languages. The forms were filled on behalf of the patients, who were uneducated or didn't understand how to fill. This non-probability convenience sampling included all patients with clinically confirmed oral submucous fibrosis (OSF). All patients who presented with OSF were included in the research study, regardless of their age or gender. Clinical examination was done to palpate fibrous bands, and a vernier caliper was used to measure the mouth opening. A standardized questionnaire with information on sociodemographics, habit traits, and educational level was utilized to gather the data. No pilot study was done prior to this research. Patients were only admitted if they agreed to give up these habits. Participants in this study who had co-morbidities/medical illnesses along with OSF were not included. After compilation, each item of data was examined, and the findings were collated. AI tools were not used in this research writing.

Statistical Analysis: The research data was analyzed by using SPSS version 22.0 (IBM, Corporation). Data analysis included descriptive statistics like chi-square, frequency distribution, and percentage. A significance level of less than 0.05% was set.

RESULTS

Patients with Oral Submucous Fibrosis who had been clinically diagnosed by a qualified clinician were the study participants of the current observational and cross-sectional hospital-based study. Table 1 displays the age distribution of the research participants by gender.

Table 1: Age Distribution in association with gender(N=148)

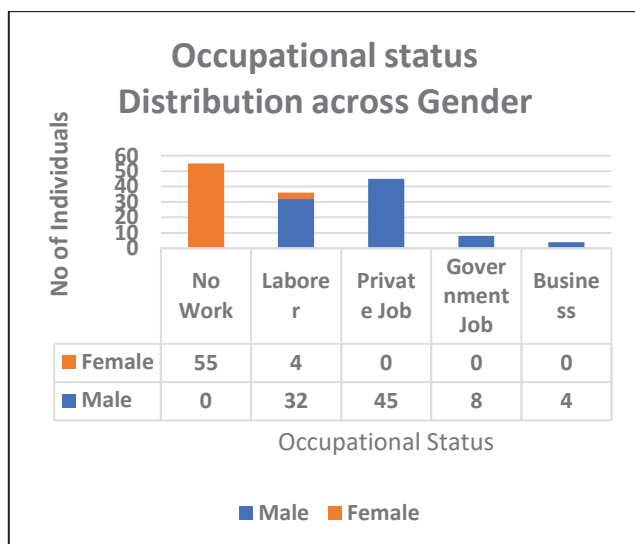
Age of Patient	Male	Female	Total	χ^2	P-value
Below 29	20	6	26	14.69	<0.001
30-49	66	40	106		
Above 50	3	13	16		
Total	89	59	148		

More than half of the patients with oral submucous fibrosis were males (n=89) 60.1% followed by 39.9% females (Table 1). About 54 (36.5 %) of the patients were having no education while 48 (32.4%) had primary education and 33 (22.3%) were graduated till matric. Around 13 (9%) only were intermediate and above education as shown in Table 2. 55 patients (37.2%) had no work. This is because all of them were females and were housewives, followed by 45 patients (30.4%) having private job, 36 patients (24,3%) were laborers and 12 patients (8%) were having government job and own business respectively as shown in Table 3.

Table 2: Educational Status in association with gender (N=148)

Educational Status	Male	Female	Total	χ^2	P-value
Illiterate	38	16	54	6.95	.032
Under Matric/Matric	41	40	81		
Above matric	10	3	13		
Total	89	59	148		

Table 3: Occupational Status across gender (N=148)



The *p* –value was significant for the association of personal habits with educational status and gender, shown in Table 4 and 5.

Table 4: Association of Personal Habits with Educational Status (N=148)

Educational Status	Frequency of Personal Habits					Total	χ^2	<i>P</i> -value
	Gutka	Pan	Betel Nut	Smoking	More than one Habit			
Illiterate	15	6	13	8	12	54	13.2051	0.01
literate	7	12	37	10	28	94		
Total	22	18	50	18	40	148		

Table 5: Association of Personal Habits with gender (N=148)

Gender	Frequency of Personal Habits (Pan, Gutka, Betal nut, smoking)		Total	χ^2	<i>P</i> -value
	Any one habit	More than one Habit			
Male	55	34	89	14.1368	<0.001
Female	53	6	59		
Total	108	40	148		

DISCUSSION

The current study, which is unique to the local population, evaluated the sociodemographic and personal habits of patients with oral submucous fibrosis and ascertained the frequency of the condition in patients visiting the outpatient department of Isra dental college, Isra University.

In our study majority of the patients having Oral submucous fibrosis were betel nut users, either alone or with smoking. This is consistent with a study done by Berniyanti T and Huang et al where betel nut was consumed more.^{7,8} Gutka which is made up of slime and betel quid, was the second most consumed item by the patients having oral submucous fibrosis.^{4,9} This is consistent with various studies where Gutka was used by patients having oral submucous fibrosis. As per the statistics of Pakistan Medical Association, Gutka and betel nut are the main reason behind 1.5 million oral cancers in people.⁵ In our research study, betel nut use was seen more in females than males, this is inconsistent with different studies where males were seen consuming more.^{4,7,8} However our results are consistent with various studies where females were seen using more.^{10,11} Gutka was consumed in males in our study which is consistent with various studies where males were seen using more gutka as compared to females.^{4,7} In an Indian study the prevalence of betel nut, gutka, pan, and smoking behaviors was higher among those without formal education than among secondary and college students.¹² However, various researches show that, when compared to educated people, the usage of gutka and betel nut is more common among laborers which include masonry workers, plumbers, carpenters, tea sellers etc.^{3,4} In our study almost 38% people using substances were having private and govt jobs or their own business; they also used this habit as a way to replace diet and to remain focused owing to tough schedules. The main cause of using gutka and betel nut is the demand for alertness and decreased appetite, which these products are known to give along with their calming benefits. In low-income countries, this is a huge compromise as it replaces healthy diet with low-cost substance addiction.¹³ However, as prior research has shown; the high betel nut usage among women is closely tied to the family history of consumption.¹⁰⁻¹²

There is a lack of evidence linking habits with education, but it is evident that school and college awareness efforts are necessary to lessen the threat among the educated class. Additionally, we advise providing affordable, wholesome food to skilled

workers and daily wage earners so they won't have to satisfy their hunger and turn to abusing narcotics. Furthermore, the government must take strong action to prohibit the substance from being sold, along with ongoing oversight and investigation. Because of our constraints and the fact that this study was done in one hospital, it is not possible to apply the findings to the total Hyderabad population. Another limitation is rehabilitation centers; patients who tend to drop these habits need proper counseling which is not present in the city. Government should focus on this issue as substance abuse is on the raise.

CONCLUSION

In conclusion, the study indicates that majority of the patients consuming betel nut and gutka were having no education or minimal education. There are concerns regarding the high frequency of betel nut consumption among housewives and gutka among workers. Even those with higher education are not as prone to substance misuse as others, despite the fact that our literacy rate is extremely low.

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