

## Assess the oral cavity lesions among pan chewers of building construction workers

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### Abstract

**Introduction:** The use of pan masala has gone up in the past five years and was commonly found among youngsters. According to World Health Organization estimates, there are nearly 2.5 crore tobacco users in India, including both smoked and chewed forms and it is one of the most important risk factors for the development of oral mucosal lesions including oral pre-cancer and cancer.

**Aim:** The aim of the study was to assess the oral cavity lesions among pan chewers of building construction workers.

**Materials and methods:** Descriptive research design was used to conduct the study with 30 samples who met the inclusion criteria were selected by Purposive sampling technique. Collected socio demographic variables followed by oral examination done to assess the oral cavity lesions by using check list. Collected data were analyzed by using descriptive statistics.

**Result:** Regarding of oral cavity lesions among pan chewers 4(13%) had angular cheilitis, 9(30%) had leukoplakia, 8(27%) had gingivitis, 27(90%) had discolouration of teeth.

**Conclusion:** The study findings concluded that the number of pan chewers is increasing and simultaneously incidence of oral cancer also increasing. Health care personnel should take responsibility to create the awareness on magnitude of the ill effects of pan masala and educate them to quit the habit of taking pan masala.

**Keywords:** Pan masala, Pan chewers, oral cavity lesions, cheilitis, leukoplakia

### Introduction

World Health Organization defines health is a state of complete physical mental and social well-being and not merely an absence of disease or infirmity. A healthy person is an asset to the society. An unhealthy lifestyle and practices among an individual will lead to a disease. The most common hazardous and with low prognosis disease which is still remain as cause of concern to

medical and common society is the oral cancer. Despite of several measures of public awareness still the common man is unaware of its complication and economic burden leading to individual and health care system of country.

Stepping in to the 21<sup>st</sup> century, India has more challenging face, pan masala being a critical problem. The incidence of pan masala use has shoot up dramatically in the

adolescents and adulthood. The age group seems too vibrant that they are easily misled and finally end up in practicing bad habits. At first it is a matter of fun, joy but they never know these masalas have life threatening effects. The fate of majority pan users is lifelong addiction. Even then pan and pan masala products are easily being sold in the markets at a very low rate making it accessible to people of all classes.

Pan Masala is nothing other than the smokeless tobacco. Pan Masala chewing is a habit of social concerns. In recent decades it has become a major public health problem. Today it is practiced by 1/3 of the total population. Traditionally it was chewed after food as a mouth freshener but, in the nineteen seventies, pan masala with all the ingredients of betel quid except betel leaf, has hit the market in convenient sachets. They are well suited for the fashionable young Indian middle class and the aggressive marketing of these products has led to its popularity among adults.

Pan Masala is a balanced mixture of betel leaf, areca nut, clove, cardamom, mint, tobacco, essence and other ingredients. It is available in the forms of packs and pouches and this readymade form contains betel quid instead of betel leaf. Excessive use may have adverse effect. Mainly pan masalas are of two types plain pan masala and pan masala containing tobacco otherwise called gutkha. Now a day a wide variety of pan masalas are available in different names for example pan parag and hans.

Pan masala-containing tobacco, commonly known as Gutkha, was introduced in the Indian market during the 1970s. They come in attractive foil packs and sachets. The use of pan masala / gutkha is considered a benign and socially acceptable habit by most Indians. There is even an element of prestige associated with the habit. The addictive nature of tobacco compounds the problem, as quitting becomes difficult even for concerned users. This “socially accepted

addiction” is, in fact, proving more dangerous than other addictions. So the government should enact new law to regulate companies that promote the sale of pan masala.

The use of pan masala has gone up in the past five years and was commonly found among youngsters. According to WHO estimates, there are nearly 2.5crore tobacco users in India, including both smoked and chewed forms. In India, tobacco consumption is responsible for half of all cancers in men and a quarter of all cancers in women. Of the total amount of tobacco produced in the country, around 48% is in the form of chewing tobacco. Basically pan masala is a substitute of tobacco products. Users of tobacco products largely converted to use Pan Masala. Among chewed forms of tobacco, use of pan masala contributes to the highest rates of oral cancer in the India. Use of 'Gutka' and 'Pan Masala with Tobacco' is a common modality of tobacco use especially among the youth. It has been reported through large-scale representative surveys in Uttar Pradesh and Karnataka that 77.25 and 83.1% of users of gutka or pan masala-containing tobacco, respectively, from the two states, were below the age of 40 years. Adolescents are the most vulnerable population to initiate use of pan masala items. This use in children and adolescents is reaching pandemic levels. It is now well established that most of the adult users of tobacco products start using them in childhood or adolescence.

Pan chewing is one of the most important risk factors for the development of oral mucosal lesions including oral pre-cancer and cancer. In recent years, various commercial preparations known as pan masala and gutkha have become available in India and in many parts of Asia. Many brands of these products contain areca nut and tobacco, both of which have been implicated in occurrence of oral cancer. The investigators have also observed that

smoking and chewing of tobacco and betel quid act synergistically in oral carcinogenesis and that persons with mixed habits form a substantially high-risk population. The purpose of this study was to investigate the prevalence of oral mucosal changes in individuals with smoking, chewing, and mixed habits and to assess the relative risk of oral lesions resulting from the habits. A variety of oral mucosal lesions and conditions are associated with the habit of smoking and chewing tobacco, and many of these carry a potential risk for the development of cancer.

Study at Regional Cancer Center Trivandrum shows that ingredient used in pan masala and ghutka could cause genetic deformity among users. Apparently they seem harmless but they remain direct causes oral cancer, cancer of upper aero digestive tract and other diseases concerned with cardiac and respiratory system. Studies even say that pan masala are found to have water soluble mutagens causing chromosomal damages.

According to the National Institute of Nutrition, Hyderabad the use of pan masala and Ghutka if consumed for five to seven years leads to Oral sub mucous fibrosis. The study by the National Institute of Occupational Health, Ahmedabad, shows the presence of toxic metals such as lead, cadmium and nickel and pesticide residues in pan masala.

Vatsala Misra, Premala A Singh, (et al.) (2009) was conducted a study on Changing Pattern of Oral Cavity Lesions and Personal Habits Over a Decade (Allahabad). To do a prospective clinic-histological study of premalignant and malignant lesions of the oral cavity, and compare it with a 10-year retrospective data, especially in terms of incidence, age distribution, personal habits, and site and type of lesion. The result showed that Premalignant lesions included 78 cases of leukoplakia, 68 cases of oral

submucous fibrosis, and 76 cases of squamous papilloma.

The habit of using pan masala is increasing because of its legality, free availability and relatively cheap cost which is consuming by most of all kinds of people irrespective of age group and sex especially by heavy workers. However, studies have confirmed that smokeless tobacco is as harmful as smoked tobacco. Hence the investigator interested to assess the oral cavity lesions among the pan chewers of building construction workers.

### **Materials and methods**

After obtaining permission, the study was conducted at building construction area in Thandalam. The samples who met the inclusion criteria were selected by Purposive sampling technique. We introduced ourselves to the subject and developed good rapport with them. Explained the study in detail and obtained informed consent from the samples. Data were collected by interview method on one to one basis, collected socio demographic variables followed by oral examination done to assess the oral cavity lesions by using check list. Each sample took 15-20 minutes to complete the interview and oral examination. Confidentiality was maintained throughout the procedure. Collected data were analyzed by using descriptive statistics.

### **Results**

#### **Description of demographic variables**

The data presented in the Table I reveals that the habit of chewing pan masala is starts from the age group from 18 years to 46 years above of both male and female but comparatively it is common among male. Regarding educational status more than half of them 17(57%) were primary education status. Majority of them 29(97%) were residing in the rural area and 20(67%) of them were married.

**Table I: Frequency and percentage distribution of socio demographic variables among pan chewers. (n = 30 ).**

S. No	Socio demographic variables	Frequency(n)	Percentage
1	<b>Age</b>		
	A) 18 -25 years	9	30%
	B) 26 -35 years	7	23%
	C) 36 -45 years	9	30%
2	D) Above 46 years	5	17%
	<b>Sex</b>		
	A) Male	28	93%
	B) Female	2	7%
3	<b>Education</b>		
	A) Illiterate	9	30%
	B) Primary school	17	57%
	C) High school	3	10%
4	D) Degree and above	1	3%
	<b>MARITAL STATUS</b>		
	A) Unmarried	10	33%
	B) Married	20	67%
5	C) Divorce	-	-
	<b>RESIDENCE</b>		
	A) Rural	29	97%
	B) Semi urban	1	3%
6	C) Urban	-	-
	<b>Nativity</b>		
	A) Tamilnadu	5	17%
7	B) Other than Tamilnadu	25	83%
	<b>Diet pattern</b>		
8	A) Vegetarian	1	3%
	B) Non- vegetarian	29	97%
9	<b>Types of pan</b>		
	A) Pan parag	2	7%
	B) Gutkha	-	-
	C) Hans	28	93%
10	D) Any other	-	-
	<b>Frequency of chewing</b>		
	A) 2-3 times /day	15	50%
	B) 4-5 times/day	9	30%
11	C) 5-6 times/day	3	10%
	D) Above 6 times/day	3	10%
	<b>Duration</b>		
	A) 6 month -1 year	5	17%
12	B) 1- 5 years	10	33%
	C) 5-10 years	8	27%
	D) More than 10 years	7	23%
	<b>Place to keep the pan masala</b>		
13	A) Cheek	15	50%
	B) Lower lips	14	47%
	C) Chewing	1	3%
14	<b>Taking Oral treatment</b>		
	A) Yes	-	-
15	B) No	30	100%

**Table II: Frequency and percentage distribution of oral cavity lesions among pan chewers.**

S. No.	Oral Cavity Lesions	Frequency	Percentage
1	Angular cheilitis	4	13.3%
2	Glossitis	-	-
3	Hairy tongue	-	-
4	Leukoplakia	9	30%
5	Xerostomia	-	-
6	Mucositis	-	-
7	Mucocele	-	-
8	Gingivitis	8	27%
9	Candidiasis	-	-
10	Discolouration of teeth	27	90%
11	Erythroplasia	-	-

With regards to nativity 25(83%) were from other than Tamilnadu state. The type of pan masala commonly chewing was Han by 28(93%) samples. Around 15(50%) of them were chewing pan masala 2-3 times a day and 7(23%) were taking more than 10 years. Half of them were keeping the pan masala either in the cheek or lower lip and none of them were taking any kind of oral treatment.

#### **Description of Oral Cavity Lesions**

Table II shows that among 30 pan chewers, 4(13%), 9(30%), 8(27%) and 27(90%) of them had angular cheilitis, leukoplakia, gingivitis and discolouration of teeth respectively.

#### **Discussion**

The present study findings reported that among 30 pan chewers, 4(13%), 9(30%), 8(27%) and 27(90%) of them had angular cheilitis, leukoplakia, gingivitis and discolouration of teeth respectively. This finding is consistent with Rohit Mehrotra, Sanjay Kumar Nigam (2013) was conducted a study on Incidence of oral cavity lesions and their clinico-histopathological correlation. Oral cavity lesions affecting mainly age group of 20-40 yrs. In the study shows, most of the cases were diagnosed clinically as Submucous fibrosis (57.40%) followed by Leukoplakia (17.58%). This study was accordance with the present findings.

#### **Conclusion**

The study findings concluded that the number of pan chewers is increasing and simultaneously incidence of oral cancer also increasing. Health care personnel should take responsibility to create the awareness on magnitude of the ill effects of pan masala and educate them to quit the habit of taking pan masala. Oral examination to be done periodically to rule out the lesions in the early stage and also teach them regarding the oral self examination.

#### **Conflict of interest**

There is no conflict of interest found in the study

#### **References**

- Brunner and Siddarth's. 2014. Text book of Medical and Surgical Nursing, thirteenth ed. Wolters Kluwer, Philadelphia, pp. 1242-1245.
- Fareed M, Mohammad Afzal, Siddique YH 2011. Micronucleus investigation in buccal mucosal cells among pan masala/gutkha chewers and its relevance for oral cancer. *Biology and Medicine Journal* 3(2) :8-15.
- Khawaja MR, Mazahir, 2006. Chewing of betel, areca and tobacco: perception and knowledge regarding their role in head and neck cancers" in an urban squatter settlement in Pakistan. *Asian Pacific Journal of Cancer*. 7(1):95-100.

Luckmann's, 2011. Core Principles and Practice of Medical-Surgical Nursing, third ed. Elsevier, Philadelphia, pp. 1012-1016.

P.M Patil and B.R Yelikar, 2013. Cytological evaluation of oral mucosa in habitual Pan Masala eaters- A comparative study. US National library of medicine journal 6(2):120-127.

Rohit Mehrotra, Sanjay Kumar Nigam, 2013. Incidence of oral cavity lesions and their

**IJSAR, 3(9), 2016; 90-95**  
clinico- histopathological correlation. Journal of Evolution of Medical and Dental Sciences 2(43): 8223-8228.

Vatsala Misra, Premala A Singh, Nirupama Lal, Pooja Agarwal, Mamta Singh, 2009. Changing Pattern of Oral Cavity Lesions and Personal Habits Over a Decade: Hospital Based Record Analysis from Allahabad. Indian Journal of Community Medicine. 34 (4):37-40.