PREVALENCE OF PAN MASALA USE IN A COASTAL POPULATION OF KERALA

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Abstract

Background: Oral cancer remains the most common cancer reported in Indian males. Tobaco smoking, alcohol and pan masala use are considered as the major risk factors for oral cancer. Pan masala use has become a common culture in Indian community. Many studies have been conducted among fisher folks regarding the prevalence of pan masala use.

Objectives: To determine the prevalence of panmasala use among coastal population and factors related to it.

Methodology : A community based cross-sectional survey was carried out among 1076 randomly selected male fishermen aged 25 years and above in three randomly selected coastal villages of Thiruvananthapuram district. Chi-square test and standard deviation and percentage values were used as the statistical tool. p value less than 0.05 is considered as significant.

Result : The prevalence of pan masala use was 28.3%.panmasala use is highest among the men of age group of 45-50 years. The mean age of onset of pan masala use was 17.7(standard deviation [sd] 9.7).Only 40.4% of the study population had awareness about the fact that pan chewing can cause oral cancer . 87.2% subjects agreed that panmasala which they consume regularly contain tobacoo. The factors which favour pan masala use were($p<0.05$) low education, ageing and low awareness .

Conclusion: The present study has identified very high level of panmasala use among young fishermen and easily onset of these habits. It has also been noticed that reported oral morbidities are high among pan masala users. The study highlights the need of an extensive oral cancer screening and awareness programmes against pan masala use in the coastal areas for early detection and prevention of tobacco induced oral potentially malignant disorders and oral cancer.

Keywords: Oral cancer, pan chewing, morbidity

Introduction

Oral cancer is the most prevalent cancer in the Indian males. A number of risk factors have been identified and alcoholism, Spices, smoking and pan chewing are some of them [1,2]. Pan masala containing tobacoo was introduced in the Indian markets during the 1970s. Pan masala consists of areca nuts (betel nuts),catechu ,lime cardamom ,spices, and unspecified flavouring agents,etc with tobacoo; locally known as gutkha or without tobacoo (plain or sada),and consumed abundantly in India[1-5]. Available studies demonstrate that the habit of chewing pan

masala, gutkha or plain by students and adolescents are on the increase, which may lead to deterioration of oral health and other organ systems[2,6,7,8,9]. Tobacoo smoking has been studied extensively in many populations of the of the world and tobacoo cessation programmes have been started in many parts of the world. However the habitual chewing of pan masala has received less attention. Moreover most of the time the major content of pan masala which is available in local shops is tobacoo and rest of the content unknown and also the harmful effect of the contents were not studied properly. The fact that use of panmasala will not impose any public annoyance and easy availability of this in the local shops make its use as an alternative to smoking. Though the panmasala use has been widely reported, its use varies from region to region. For the best of our knowledge limited number of studies have been available which deals with the harmful effects of panmasala[3,4,5], as well as its prevalence of use[6,7]. Even though high rates of alcoholism an smoking has been reported from coastal belts of Kerala, panmasala use in the coastal belts of Kerala has not studied yet.

Fisher folks in Kerala are a marginal population with low socioeconomic status (fisheries sit) Fishermen population of Kerala is 11.36 lakh and Thiruvananthapuram is about 2 lakhs. The socio economic condition of fisher folks in kerala are one of the most backward in India[3] .Even though high rates of alcoholism and smoking are reported, pan masala use among fisher folks are not addressed properly.

The present study was undertaken with a view to study the prevalence of pan masala use among young fishermen. An effort has also been made to identify whether panmasala use is associated with self reported oral morbidities.

Materials and methods

The study was conducted in the Kadinamkulam panchayath of Kazhakuttom block, a part of Thiruvananthapuram district, Kerala,India. Three coastal villages were randomly selected. 1076 fishermen aged 25 and above were randomly selected for the study. A structured questionnaire was prepared to understand the pan masala habit including socio demographic profile. Awareness of participants about the panmasala use and risk of oral cancer were included in the questionnaire. Participants were informed about the purpose of data collection and informed consent was obtained.Data were collected by the dental and medical team of the health centre. The data was entered in Excel and analysed using SPSS 12 version. Mean, percentages and Chi-square were used for statistical analysis. p value less than 0.05% was considered as significant.

Results

The significance of difference between the groups of qualitative characteristics were tested with chi- square test. Socio demographic profile of the study population is shown in Table 1. Most of the study population belonged to low socio economic status.

Sociodemographic profile	Number	Percentage[%]
Age group In years		
25 – 44	712	66.1
45 – 60	225	20.9
Above 60	139	13
Education		
Illiterate	263	24.4
Primary	499	46.4
High school	273	25.4
10th and above	41	3.8
Occupation		
Fishing	1018	94.6
Others	58	05.4
Income		
Less than/= Rs.1000/-	915	85
More than Rs.1000/-	161	15

Table 1 : Sociodemographic profile of the study population [n=1076]

Age wise prevalence of pan masala use is given in table 2. The overall prevalence of pan masala use was 28.3%. The mean age of starting of pan masala use was 17.7 [sd 9.7]. Pan masala use was highest among the 45-60 yrs age group.

Age group	Pan masala users [%]
25 – 44	171 [24]
45 – 60	91 [40.4]
Above 60	43 [30.9]
Total	305 [28.3]

Table 2: Age specific prevalence of pan masala

Factor under study		Prevalence of pan masala use [%]	p Value
Age group	25 – 44	23.2	
	45 and above	36.8	0.02*
Education	Less than primary	40.9	
	More than primary	13.7	0.00*
Income	Less than Rs.1000/-	28	
	More than Rs.1000/-	30.4	0.29*
Awareness about 'pan chewing can cause cancer'	Aware	43.2	
	Not aware	13.1	0.00*

Table 3: Factors related to pan masala use

Awareness of oral cancer and pan masala use were assessed among the study population. 40.4% of the study population was aware of the fact that pan masala is a risk factor for oral cancer. The study also assessed the knowledge of participants about the content of pan masala which they regularly used. 87.2% of the study population agreed the fact that the pan masala which they regularly used contain tobacco, 10.3% had no idea about the content and 2.5% answered that pan masala they regularly used contain no tobacco.

Discussion

There is great variation in the consumption patterns of tobacco products in India, with multifactorial influence. The social acceptance and importance of pan increased during the mughal era and pan chewing became a widely prevalent form of smokeless tobacco use in India. Tobacco may be used in raw, processed mixtures and pyrolised forms. The raw forms are generally sun-cured or air-cured, consist of flakes of plain tobacco leaves mixed with other ingredients especially lime, areca nut and / or other condiments. The pyrolised forms (mishri, bajjar, etc.) are used as dentifrice. Oral use of snuff is also practiced in some specific areas. Smokeless toacco comprises of tobacco or tobacco-containing products which are chewed or sucked as a quid, or applied to gums, or inhaled such as Snuff, Dried tobacco leaves, Gutkha, Pan with tobacco, Pan masala, Mawa, Mishri, gudakhu and toothpastes, Plug tobacco, Twist tobacco and Dry snuff.[10,11,12,13]

Commercial freeze dried betel quid substitutes, such as pan masala, gutkha and mawa, conveniently packaged in portable sachets, have become increasingly popular because of their long shelf life and do not require preparation before use.These preparations contain more areca nut concentration than the conventional betel quid[10].

In this study, a great risk of oral cancer was found in fishermen using pan masala.The present study has shown high prevalence of pan masala use [28.4%] in the fishermen aged 25yrs and above. The prevalence his high compared to previous reported studies.[1] The factors like low education, low awareness and older age are positively related to the pan masala use. Only 40.4% of the study population identified pan chewing as a cause of oral cancer and this awareness level is very low compared to the previous studies[4] . As per the study report the mean age of pan masala use started at the age of 17.7 [sd 9.7] showed that proper awareness programme like school health programme may prevent adolescents being addicted to the oral substance.

Mortality experience in relation to tobacco Chewing and smoking habit from 10 year follow up study in Ernakulum district in Kerala found that 79% children became habitual to tobacco since 2-3 years in a study by Gupta et al [13].

Various surveys show that prevalence of both chewing tobacco/pan masala and smoking tobacco was significantly higher in rural, poorer, and uneducated populations compared to urban, wealthier and more educated populations both in men and women, though the differentials for chewing tobacco were smaller. The socioeconomic gradients (by household wealth as well as by education) were steeper for women than for men for both chewing tobacco/pan masala and smoking tobacco.

Comparing smoking with smokeless tobacco products, smokeless tobacco users were more risk to develop oral cancer, where direct contact of the carcinogens with oral epithelium occur.

Limitation of this study: Fishermen folks of three villages were only covered. Larger population of fishermen folks from other coastal areas need to be covered and need to compare the results of this present study.

Conclusion

Oral cancer continue to hold the higher position among the cancers in male population, mainly because of the negligence or unawareness of ill effects of the tobacco products commonly used. Even if cancer research have progressed and attained success in the molecular and therapeutic field, measures need to be strictly adopted to prevent or atleast decrease the use of tobacco products. Since pan masala use is a risk factor for oral cancer and early detection can cure the cancer, wide scale screening programme along with awareness programmes should be implemented in the coastal area in order to diagnose early cases and for prevention of oral cancer. Authorities need to continue mass public awareness programmes more effectively and hault the heavy commercialization of these carcinogenic products.

It is mandatory to impose a ban on oral tobacco products, strengthen enforcement of existing regulations, establish coordinating mechanisms at the national level and mobilize people to combat the problem. Taxes on tobacco products should be raised and the generated revenue could be spent for strengthening of the antitobacco programmes. Multipronged approaches should be undertaken for the cessation of use of tobacco. Under the Ministry of Health there is an active Anti-tobacco Cell which has been putting lot of efforts for tobacco control. Since other ministries do not have anti-tobacco cells, such cell should be started in other ministries also. Joint coordination steps between the government, public as well as Information and Broadcasting are required for sustainable and definitive results on the tobacco control . All dental schools need to include anti cancer propaganda in their community programmes and extend to the remote areas as well. India needs to adopt a more realistic, holistic and powerful approach to fight the problem of tobacco. We can only dream of a tomorrow, "free of tobacco products and no oral cancer".

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