Original

Tobacco Utilisation and It's Effects on Oral Health – A Study Amongst Migrant Labourers in Kancheepuram District of Tamil Nadu

Dr. Catherine S. Chandran[1], Dr. N. Vivek[2], Dr. Saravanan Chandran[3], Dr. K.R. John[4]

[1] PG Student,
[2] Professor & HOD, Dean,
[3] Professor
Dept of Oral and Maxillofacial Surgery, SRM Kattankulathur Dental College, Potheri, Chennai
[4] Professor & HOD,
Dept of Community Medicine, Apollo Institute of Medical Sciences & Research, Chittoor.

Abstract

Introduction: The Indian nation is currently reaping the fruits of the economic liberalisation policies of the nineties and the subsequent information technology boom. Across the country, cities are witnessing large scale construction projects as India heads into the future. Caught in all this maelstrom is the migrant labourer. Amongst this population, tobacco use is rampant not just as part of culture, it also happens to be the answer to their other frequent companions – boredom, loneliness and worry. **Method**: A random sampling amongst fifteen workers threw up surprising numbers with regard to tobacco habits and precancerous lesions. The significant figures persuaded us to attempt a larger study within this population. 252 migrant workers underwent oral screening at various camp sites in one of the sub – urban zones of Chennai City. **Results**: Within the study population, the prevalence of tobacco habit was 57%. 21% of the whole sample had some form of oral pre – cancerous lesion. An eighteen year old girl had oral sub mucous fibrosis. Tobacco is a leading harbinger of death to a greater proportion of those hailing from low socio – economic back grounds. Poor access to medical facilities for early diagnosis and care fuelled by illiteracy tends to fan the trend. **Conclusion**: These migrant labourers are changing the face of the Indian nation but what about themselves? Are they being forgotten by the nation? This study is a small effort towards understanding and highlighting one of the ways in which India is being ravaged by tobacco.

Key Words: Migrant Labourers, Tobacco, Oral pre – Cancerous Lesions, Leukoplakia, India.

Introduction

The Indian sub – continent is home to the largest democracy. India is reaping the fruits of the economic liberalisation of the nineties and the subsequent information technology boom. Across the nation, cities are witnessing multiple - large scale construction projects as India heads into the future. When one pauses and looks a little bit deeper, there appears to be more to the scene – it's not all boom.

Caught in this maelstrom is a crowd that have gone un noticed as they neither fall in the rural or urban geography owing to their highly mobile nature of employment – The Migrant Labourer. Regardless of the duration of their stay, labour migrants face myriad challenges at their destinations in a country that is dizzying in its diversity of languages and cultures. Among the challenges: restricted access to basic needs such as identity documentation, social entitlements, housing, financial services and emotional needs as they are far from home and hearth. Most tend to resort to tobacco for solace. Tobacco happens to be the answer to their frequent companions - boredom, loneliness and worry.

The use of tobacco and areca nut in various forms is very popular and is deeply ingrained in many Indian socio-cultural and religious activities. However, tobacco is a leading harbinger of death to a greater proportion of those hailing from low socio – economic back grounds. Poor access to medical facilities for early diagnosis and care fuelled by illiteracy tends to fan the trend. Tobacco is also one of India's most pressing challenges.

Aim

The aim of the study was to document the prevalence of tobacco use amongst migrant labourers and to assess the effect of tobacco habits on their oral health. The study was undertaken considering the recent surge in migrant population within India. There is also lack of literature on the use of tobacco in the aforementioned population. No literature is available on the prevalence of oral pre – cancerous lesion in this people group. The study also aims to make recommendations on the establishment of protocols for creating awareness, prevention, early diagnosis and treatment within this subset of the population.

Methodology

The study was carried out from the Department of Oral & Maxillofacial Surgery at SRM Kattankulathur Dental College in liaison with the Department of Community and Preventive Medicine, SRM University. It was a cross – sectional study carried out between April – June 2015.

Face to face interview with individual migrant labourers was followed up with a brief oral screening at migrant worker camp sites. The information gathered was documented on a prepared proforma. The total sample size was 252. Those willing for follow up were followed up at the parent institution or referred elsewhere. All of them were counselled on the adverse effects associated with the use of tobacco.

Results

The number of females in this study group was less than 1/5th of the total sample size. The greatest

proportion (63%) of workers belonged to the third decade of life. The mean age was 30.52 years. The greatest percentage of workers hailed from the eastern state of West Bengal. Illiteracy amongst the workers was rampant at 40.48%. Surprisingly however, 45% of them were skilled labourers.

57% of those studied practised some form of tobacco habit (Fig. 1 & 2). Amongst those less than 20 years of age, there was almost an equal proportion of tobacco and non – tobacco users unlike other age groups (Fig. 3). A greater proportion of tobacco users used smokeless tobacco ie. 59% (Fig. 4). The various types of smokeless tobacco used included paan, khaini, tambakku and gutkha (Fig. 5).

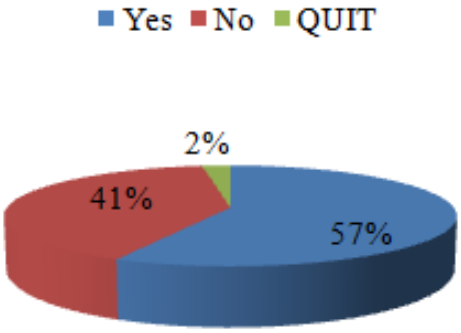


Fig. 1

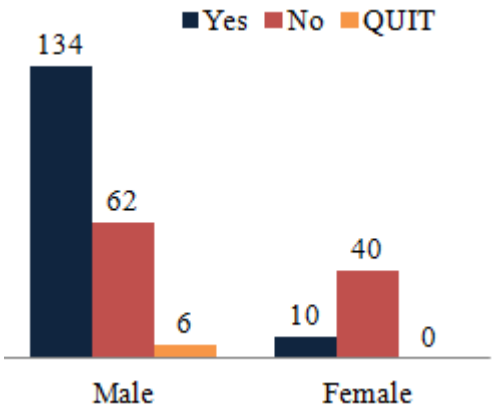
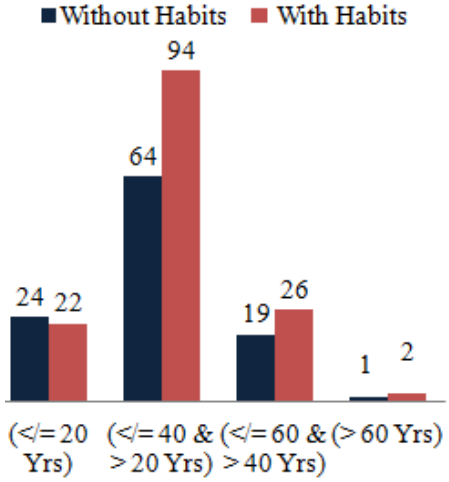


Fig. 2



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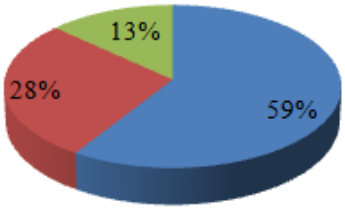


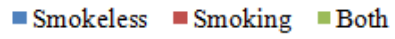
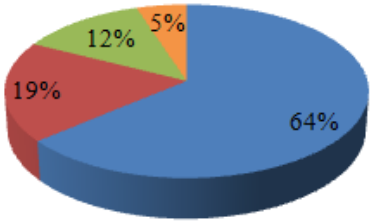


Fig. 4



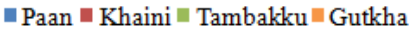


Fig. 5

52 individuals of the total sample size of 252 exhibited some form of precancerous lesion or condition. 4 of them had more than one kind of lesion. Leukoplakia was the most common lesion that was noted. Others included tobacco pouch keratosis, oral sub mucous fibrosis, smoker's palate, speckled leukoplakia etc (Fig. 6). (Fig. 7) depicts graphically the relationship between age and the presence of precancerous lesion in the studied population.

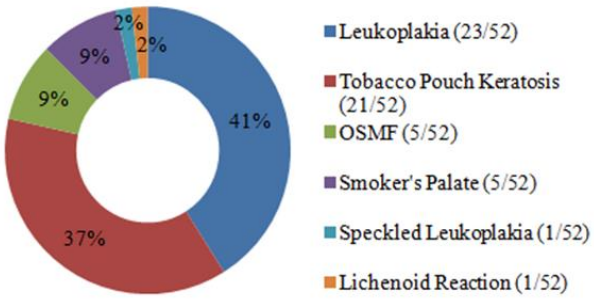


Fig. 6

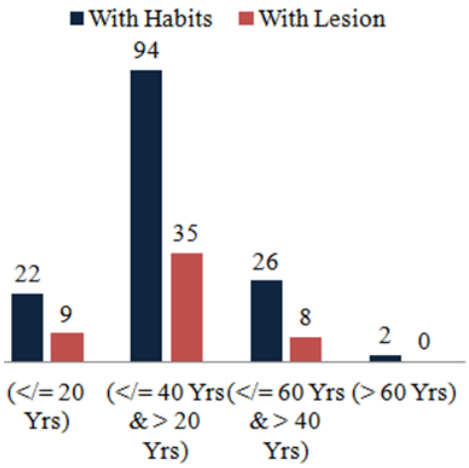


Fig. 7

For 232 out of 252 members, it was their first meeting with a dentist. However, 70.24% of them had no evidence of any dental caries. Oral hygiene was excellent in 18% of them and very poor in 21% of them.

Discussion

Tobacco is a legal drug that ultimately results in adding owe to its user. The World Health Organisation attributes 6 million global deaths each year to tobacco[1]. Studies reveal that rates of smoking have levelled off or are declining in the developed world[2,3]. The scenario is different in developing economies where a study carried out in 2002[4] reported smoking to be on the rise at 3.4% a year. Yet another burden borne by these developing nations is the higher percentage of use of smokeless forms of tobacco. In South and South East Asia, one third of the tobacco is consumed in the smokeless form[5,6]. Smokeless tobacco contains over 30 carcinogens including tobacco – specific nitrosamines, arsenic, beryllium, cadmium, nickel, chromium, nitrites, nitrates etc[7]. Tobacco use is deadly in any form or disguise.

India ranks 2nd in total tobacco consumption across the globe and is also the 3rd largest tobacco producer[8]. Smoked forms of tobacco in India range from the humble beedi and chutta to cigarettes, cigars, chillum (tobacco in a clay pipe), hookah etc. Smokeless forms include khaini, gutkha, paan masala, mawa, mishri, gudakhu etc. Tobacco is deeply ingrained in various facets of Indian society. Tobacco in its various forms is often part of most religious and socio cultural rituals. In the North Eastern part of the country, guests are customarily welcomed with some form of smokeless tobacco. Failure to do so is considered to be disrespectful. Traditional teachings handed down over the ages and followed by many women tend to suggest tobacco to be of medicinal value. Mishri is a roasted form of tobacco that is used as toothpowder by some communities. Gudakhu (tobacco & sugar molasses) preparations are directly applied to gums as part of addiction.

The report of Tobacco control published by the Indian health ministry in 2004 attributed 8 – 9 lakh deaths each year in the country to tobacco. Oral cancer ranks among the top three types of cancer in the country[9]. Beedi smoking has been indicted to have a 42% higher incidence of oral cancer as compared to cigarettes[10]. Apart from this smoking tobacco can result in lung cancer, cardiovascular and respiratory diseases to name but a few. The use of smokeless forms of tobacco has been associated with cancers of the lip, oral cavity, pharynx, digestive, respiratory and intrathoracic organs. 50% of oral cancer in India can be attributed to the use of smokeless tobacco[11].

Migrant workers largely hail from poor socio – economic backgrounds and tend to migrate to urban regions in search of higher pay. Most of them are illiterate or are limited with only a primary level of education. Metropolitan cities across the nation are enjoying growth and therefore provide a lot of opportunities to this subset of the population. However, most of the workers are part of large scale constructions; in addition a limited number of them are also involved in jobs such as housekeeping and other menial jobs. Many of them end up being exploited.

Legislations such as the Interstate Migrant Workmen Act (1979) are in place to empower and support the migrant worker. However, awareness regarding this is limited both within the general public and the migrant population. Many migrants—especially those who relocate to a place where the local language and culture is different from that of their region of origin—also face harassment and political exclusion; some of the many reasons that they turn to tobacco for solace.
A few studies on tobacco habits have been carried out in this subset of the population[12, 13, 14, 15]. However, in the South of the country, there was no study that was available. South India hosts some of the major metropolitan cities of the country such as Chennai, Bangalore, Kochi etc. Large scale construction projects, meagre jobs and cheap labour is supported by the migrant population. This study was carried out in Kacheepuram district a suburban zone of the Chennai Metropolis.

With regard to age distribution, the findings of this study were in concordance with the Payal et al[14] study carried out in Mumbai. No literature was available for comparison in the local vicinity. There were very few females when compared to males – this gender bias can probably be attributed to the nature of the profession and the socio cultural limitations. Iliteracy in the present study stood at 41% much higher than that depicted in existing literature. The payal et al[14] study in Mumbai revealed 32.8% of illiteracy whereas the Chintul Shah et al8 study in Ahmedabad suggested a further lower figure of 20%.

However, when it came to the crux of the matter – the overall prevalence level of tobacco usage (57%) was lesser compared to national levels. The study carried out in Ahmedabad8 reported the prevalence level of habits in their population to be as high as 70%, whereas the study in Mumbai14 revealed a prevalence rate of 68%. The greater proportion (60%) of tobacco users fell within 20 – 49 years of age. An almost equal (58%) fell within 40 – 60 years of age. In the study[14] amongst construction workers in Mumbai, greater percentage of tobacco usage was noted in those above 40 years of age. The greatest proportion of smokeless

tobacco was in the form of paan (64%) where as in the Ahmedabad15 study khaini (50%) took precedence.

Oral pre cancerous lesions were identified in 21% of those surveyed in our study. A cross – sectional study conducted amongst sub – urban population of Chennai in 2006[16], revealed only 4.1% of the study subjects to have some form of oral pre cancerous lesion. However, Similar to the present study, leukoplakia was the most frequently encountered. An article published in 2011, on oral pre cancerous lesions in a northern Indian city suggested prevalence of only 2.7%[17]. Yet another study[18] carried out in rural India, in Belgaum reported prevalence rates of tobacco habits of around 28%, much lesser than amongst the migrant population. The prevalence of oral lesion was only 12.4%. This comparison with rural and urban trends reveal the increased susceptibility of the migrant population to the adverse effects of tobacco. The Gupta study[19] carried out in the 1980's suggested malignant transformation rate of leukoplakia to be around 7%. However, recent studies[20,21] from the Far East point toward a higher rate of around 17%.

To add a note on their general oral health, even though for 92% of those examined it was their first dental examination, caries was evident in only in 30% of them. This is in contrast with the urban population of India. A study[22] carried out in Gwalior revealed 60% prevalence of dental caries in the population. However, in general poor periodontal health was rampant amongst the tobacco users in the cohort.

Access to good health care is sadly lacking for this subset of the population. They are limited by illiteracy and other socio cultural barriers such as language etc. Illiteracy and ignorance fuel fear of the unknown and most of them avoid hospitals. Many of those surveyed realised they had a lesion in their mouth only during the screening. Surprisingly, we noted that the response to counselling was good. They were receptive and were willing to make an effort to quit the habit.

Sadly, most of them reach the doctor at advanced stages of malignancy leading to loss of life as cure is impossible. Expensive treatment in terminal stages exhausts the resources of the family. In addition, families end up losing the principal bread winner of the family.

Data from Cancer Aid Society reveals that there are 1.3 billion tobacco users across the globe; 84% of these belong to developing countries and transitional economies like India. The salient point to highlight from our cohort include:-

- Prevalence of habit: 57%
- Prevalence of Pre – cancerous lesion: 21%
- 41% of those less than 20 years of age with habits have lesions
- 18 year old girl had oral sub mucous fibrosis

Tobacco is a consumer product that kills. Tobacco control in India took a step backwards in 2015 when the introduction of health warnings of over 85% on tobacco packs – up from the existing 40% was withheld. A study was jointly commissioned by India's Ministry of Health and the World Health Organisation on the economic burden of tobacco in India in the year 2011. It revealed that the economic burden amounted to 1.16% of India's Gross Domestic Product and 12 % more than India's combined state and central government spending on health care[23].

Intervention programs to create awareness amongst those especially of low socio – economic status is essential. Regular health education sessions, screening camps, counselling sessions on habit awareness can aid stem the rampage of tobacco in India. Employers of the migrant workers can be brought into the loop and they can aid by playing active roles in encouraging tobacco cessation. The need of the hour is a comprehensive health model that caters to the specific health needs of this forgotten sub set of our population. A creative supportive environment that helps increase their risk perception is essential.

With over a billion inhabitants, the burden of oral cancer in India is tremendous. This study revealed an increased predisposition of the young to pre oral pre cancerous lesions. This work is a small effort towards understanding the way tobacco is ravaging the Indian nation. The onus is on the scientific community to highlight the effects of the tobacco plague, so that further harm to the nation and its population can be restricted. The migrant workers are changing the face of India – but what about themselves? The greatest medicine of all is to teach people how not to need it.

Limitations

The gender ratio is skewed understandably due to socio – cultural issues. Data on alcohol consumption would have provided a more comprehensive report taking into consideration the literature on symbiosis of alcohol and tobacco in initiation of oral pre cancerous lesions. A more thorough follow up may have increased the benefit to the cohort. Further in depth studies are the need of the hour.

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