INTRODUCTION: The consumption of tobacco and related products is on the rise and promotes various medical/oral conditions that leads to increased morbidity/mortality in people.

AIM: To assess the prevalence of Oral Submucous Fibrosis (OSMF) among biscuit factory workers in Delhi NCR region, India

MATERIALS AND METHOD: A total of 496 biscuit factory workers in Delhi NCR region, were interviewed and examined for OSMF and associated lesions with the help of a preformed, pre-tested questionnaire. The population was divided into four stratas according to age (≤34 years, 35-44 years, 45-60 years and >60 years). Data was entered into Microsoft Excel. Descriptive statistics were applied and statistics (t-test) was done using SPSS 19.0.

RESULTS: OSMF was observed in 173 (34.9%) [males 116 (23.4%), females 57 (11.5%)] and the difference was statistically significant (p=0.02). The majority of subjects having OSMF (48, 27.8%) were seen in the age group of ≤34 years. Male: Female predilection was observed as 2.03

CONCLUSION: Efforts and strategies need to be directed to reduce the overall consumption of tobacco and related products in both urban and rural areas.

KEYWORDS: Prevalence, Oral Submucous Fibrosis, Areecanut, Tobacco
preformed, pretested questionnaire that enquired their habits and their sign and symptoms associated with OSMF. They were further divided according to four age strata, that were, ≤34 years, 35-44 years, 45-60 years and > 60 years. Workers giving a history of any systemic disease were excluded from the study. An informed, written consent in hindi was obtained from the workers after explaining them about the aims and objectives of the study. Efforts were made to include a homogeneous, convenient sample of biscuit factory workers from Delhi and adjoining states that comprise of the National Capital Region (NCR), India. The examinations were carried out by three examiners with four recording clerks who entered the data in the questionnaire. The examiners and the instruments were standardized and calibrated according to the current norms. The examinations were conducted according to ADA type III examination under natural light.

A diagnosis of OSMF was made when the subject showed tell-tale signs of OSMF, with those being blanching and stiffness of the oral mucosa, any presence of palpable bands in buccal and/or labial mucosa, and having discomfort in mouth opening and tongue protrusion. The armamentarium used for this were sterile mouth mirrors, explorers, tweezers, kidney trays, instrument pouches, disposable latex gloves, disposable mouth masks and questionnaires, which were duly sterilized and placed in sealable pouches one day prior to every examination. Statistical analysis (t-test) was done using SPSS version 19.0.9

RESULTS
The total study population comprised of 496 individuals, out of which 63.1% (313) were males and 36.9% (183) were females. OSMF was observed in 173 workers (34.9%), and out of them, a total of 116 were males (23.4%) and 57 were females (11.5%). A statistically significant difference (p=0.02) was found between workers affected with OSMF and those without OSMF (non-tobacco users) [Table 1].

Table 2. depicts the distribution of OSMF among different age groups. Alaramingly, the highest percentage of OSMF was seen in people belonging to ≤34 years (48, 27.8%), closely followed by >60 years (47, 27.2%). The least OSMF was seen among the remaining two groups 39, (22.5%), and the differences between the age groups was non-significant.

DISCUSSION
In the present study, the prevalence of OSMF among biscuit factory workers in Delhi NCR region, India was 34.9% which is in agreement with Agrawal A et al. (34.1%)10, but in disagreement to Neufled et al.(16.2%)20, Patwardhan N et al. (8.9%)21, Jain M et al. (1.04%)23. One reason for this high prevalence could be that workers in the biscuit factory find their work to be dull and repetitive, and therefore, consume tobacco to divert their mind. Secondly, the presence of peer motivation, i.e. seeing the other using tobacco products could have led others to also start consuming tobacco products. Thirdly, difference in individual perceptions and differences in geographical variation could have also attributed to such a high percentage of this condition.

In the present study, it was found that OSMF was common in ≤34 years (48, 27.8%) old workers followed by >60 year old workers (47, 27.2%). These findings are in agreement to Patwardhan N et al. [25-34 years (36.04%)]24, and Sharma R et al. [42.2% in 15-24 year olds]25. These results also draw our attention to the fact that the incidence of this condition is on the rise with Singh P et al. documenting that OSMF prevalence was 2.9% in children aged 8-17 years in Nagpur, Maharashtra.6

The male:female predilection for OSMF in the present study was 2.03, which is higher in comparison to Singla R et al.(6:1)2 and Hazarey VK et al. (4.9:1)5, but in comparison to Wahab NU et al. (1.5:1).6

CONCLUSION
The sale of tobacco products and its use which leads to various medical and dental conditions is still a major public health challenge in India.7 Therefore, a need arises to educate the people to quit this habit and dental and medical professionals, government and NGOs’ should carry nationwide screening and education programs with timely re-enforcement and subsequent motivation so as the burden of this disease is reduced.

REFERENCES
2. Singla C, Khanna R. OSMF and its Prevalence
LEGENDS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Males (n,%)</th>
<th>Females (n,%)</th>
<th>Total (n,%)</th>
<th>t-test (With OSMF*Without OSMF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>313 (63.1)</td>
<td>183 (36.9)</td>
<td>496 (100)</td>
<td>p=0.02*</td>
</tr>
<tr>
<td>With OSMF</td>
<td>116 (23.4)</td>
<td>57 (11.5)</td>
<td>173 (34.9)</td>
<td></td>
</tr>
<tr>
<td>Without OSMF</td>
<td>197 (39.7)</td>
<td>126 (25.4)</td>
<td>323 (65.1)</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 1.** Distribution of the Biscuit Factory Workers (Percentages Rounded off to Nearest Decimal).

<table>
<thead>
<tr>
<th>Age</th>
<th>Males (n,%)</th>
<th>Females (n,%)</th>
<th>Total</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤34 years</td>
<td>33, 68.7</td>
<td>15, 31.2</td>
<td>48, 27.8</td>
<td></td>
</tr>
<tr>
<td>35-44 year</td>
<td>15, 38.5</td>
<td>24, 61.5</td>
<td>39, 22.5</td>
<td>p=1.51</td>
</tr>
<tr>
<td>45-60 years</td>
<td>35, 89.7</td>
<td>4, 10.3</td>
<td>39, 22.5</td>
<td></td>
</tr>
<tr>
<td>&gt; 60 years</td>
<td>33, 70.2</td>
<td>14, 29.8</td>
<td>47, 27.2</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>116, 67.1</td>
<td>57, 32.9</td>
<td>173, 100</td>
<td></td>
</tr>
</tbody>
</table>

**Table 2.** Distribution of OSMF among Different Age Groups.