

# Awareness Survey on Oral Submucous Fibrosis (OSMF) among Practicing Dentists

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**Abstract:** ***Background:** Oral submucous fibrosis (OSMF) is one of the common oral precancerous conditions among population of Maharashtra. Knowledge of initial clinical features, staging system and treatment modalities plays an important role in management. Scant awareness about these factors is creating a dilemma to the clinicians. **Aim and objectives:** The aim of the study was to assess the awareness among dental students about the significance of Oral Submucous Fibrosis and its management. **Methodology:** The questionnaire based study was conducted among 78 participants. A self-administered questionnaire was used. The questionnaire based study was conducted through an online forum, google form software. The questions were formed to observe knowledge, attitude, and practical approach of dental practicers towards treating OSMF patients attending private dental hospitals. The data collected were stored and results were analysed by SPSS software. Out of 78 participants, majority of participants were aware that betel quid were the most common habits and blanching mucosa were the common features associated with OSMF. **Conclusion:** Within the limits of the present study, students and practicing dentists showed good knowledge on the various clinical and diagnosis aspects of Oral submucous fibrosis, however the knowledge on the management aspect of oral submucous fibrosis was moderate. A better knowledge of OSMF will endure safer health care services for the population.*

**Keywords:** Betel quid, blanching mucosa, malignancy, oral submucous fibrosis

## 1. Introduction

Oral Submucous Fibrosis (OSMF) is a potentially malignant disorder which was described by Schwartz in 1952 as "Atropicaidiopathica mucosae oris" and later by Jens J. Pindborg in 1966 as "an insidious, chronic disease that affects any part of the oral cavity and sometimes the pharynx. Although occasionally preceded by, or associated with, the formation of vesicles, it is always associated with a juxtaepithelial inflammatory reaction followed by fibroelastic change of the lamina propria and epithelial atrophy that leads to stiffness of the oral mucosa and causes trismus and an inability to eat" [1]. (Pindborg and Sirsat, 1966) OSMF is a potentially malignant condition of the oral cavity which is always associated with juxta-epithelial inflammatory reaction followed by fibroelastic changes in the lamina propria, with epithelial atrophy leading to stiffness of the oral mucosa causing trismus and difficulty in eating. (Yadav et al., 2014). The prevalence in India had increased in recent years to 6.42% with a higher predominance in the southern parts of the subcontinent. OSMF is seen commonly in males between 20 and 40 years of age. The common sites involved are buccal mucosa, labial mucosa, retromolar pads, soft palate and floor of the mouth. (Hazarey et al., 2006) [5]

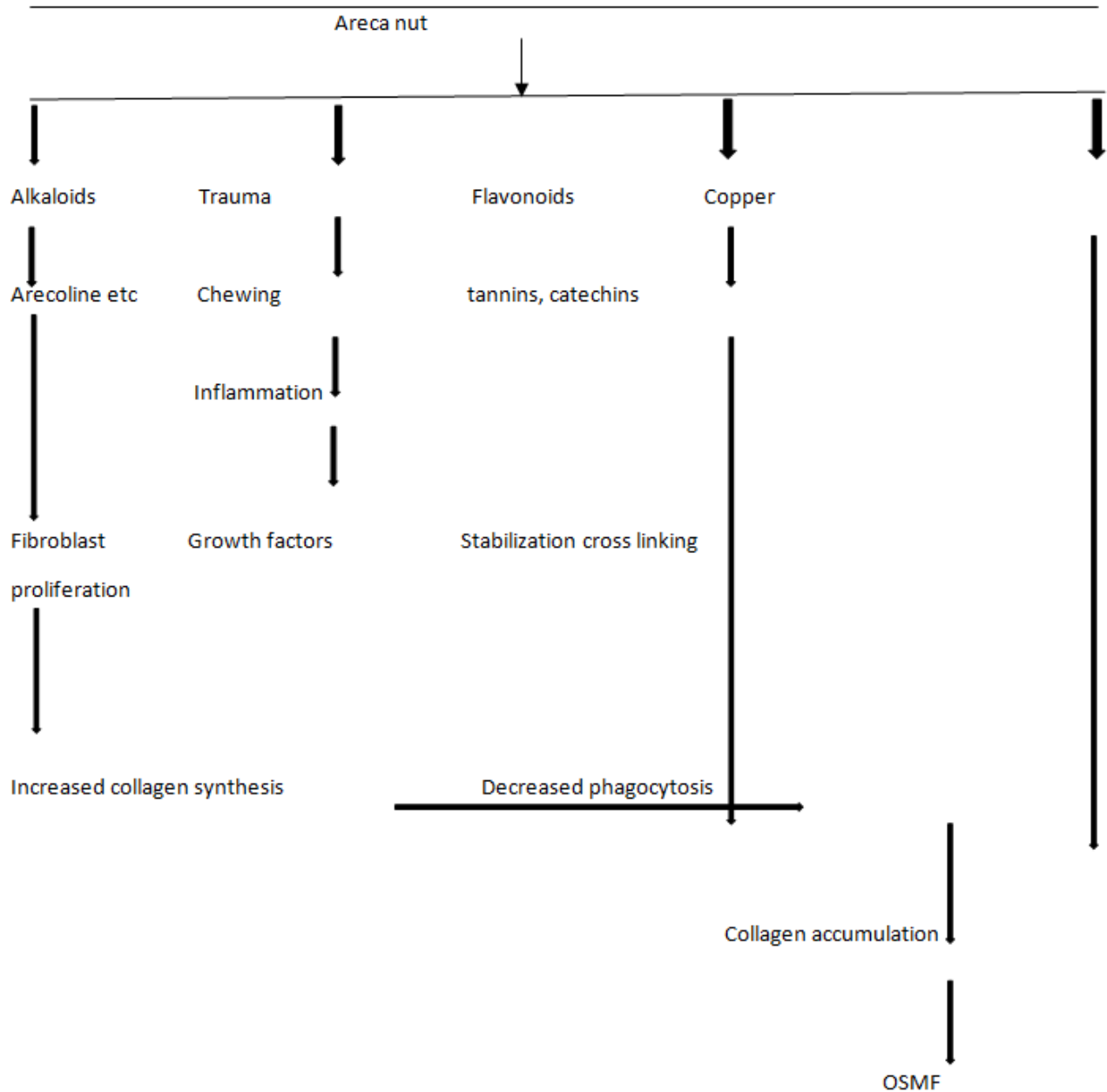
Burning sensation, hypersalivation or xerostomia and blanching of mucosa with marble-like appearance are the early clinical features of OSMF. Following these features development of palpable fibrous bands which later results in restricted mouth opening. Eventually, it leads to restriction of tongue movements, difficulty in swallowing, speech. (Rajendran and Sukumaran, 2013) Oral potentially malignant disorders (OPMDs) are considered as the early tissue changes that happen due to various habits such as smoking tobacco, chewing tobacco or stress. (Venugopal and Maheswari, 2016) (Maheswari et al., 2018) [5].

The etiopathogenesis of OSMF is complex and it is a potentially malignant disorder attributed to areca nut (betel nut) chewing. The etiological factors include excessive chilli

consumption, vitamins, iron deficiency, autoimmunity, genetic and environmental factors. (Nigam et al., 2014) Areca nut consists of alkaloids like arecoline, arecaidine, guvacine and guvacoline apart from flavonoids, tannins, catechin and copper. The alkaloids stimulate the fibroblasts to produce more collagen, while its structure is stabilized by catechin and tannins. (Trivedy et al., 1997) Apart from areca nuts, commercial products like gutkha, mawa and pan masala have been shown to cause Oral submucous fibrosis rapidly due to larger amounts of areca nut in these processed products and/or the synergistic action of nicotine over arecoline (Karemore and Karemore, 2011). Gutka products contain both SLT and areca nuts. (Warnakulasuriya and Muthukrishnan, 2018) [5].

The goals of therapy of this potentially malignant disorder such as OSMF, include not only improvement in the symptoms (burning sensation, restriction of mouth opening), but also stoppage of further disease progression and malignant transformation. Complete regression of this oral mucosal condition had not been achieved in any of the case studies reported till date hence an attempt at finding a permanent cure is still going on. (Tilakarathne et al., 2006) Potentially malignant disorders (PMD) have a high risk of malignant transformation (Misra et al., 2015). Various treatment modalities including drug, surgical therapy and physiotherapy have been proposed till date for the management of OSMF. Various drugs with antifibrotic, anti-inflammatory, and antioxidant activity (Chaitanya et al., 2018) have been used in the management of OSMF but with unpredictable results and incomplete remission. Not even a single drug has been reported to be effective in treatment of OSMF. Hence, a combination of drugs has been used in the treatment of OSMF (Daga et al., 2017) [5]

The aim of the study was to assess the knowledge and awareness among practicing dentists about Oral Submucous Fibrosis and its management.



Flow Chart 1: Role of areca nut in oral submucous fibrosis (Ghom& Mhaske, 2008)

## 2. Materials and Methods

The questionnaire - based study was conducted among 78 participants via simple random sampling. A self - administered question was used. This study is a survey - based study conducted through an online forum, European Journal of Molecular & Clinical Medicine ISSN 2515 - 8260 Volume 07, Issue 01, 2020 1223 Google form software. The questions were formed to observe the knowledge, attitude, practical approach of dentists towards treating OSMF patients attending private dental hospitals. The questionnaire consisted of 8 questions. The study protocol was approved by the Institutional Scientific Review board and ethical approval was obtained. Collected data was recorded in the Microsoft Excel 2016 and later exported to the Statistical package of Social Science for Windows (Version 20.0, SPSS Inc., Chicago, Illinois, USA). The results were analysed and the responses were tabulated in the form of a bar chart. Descriptive statistics for frequency and Chi square test was

used to determine the correlation between the variables where P value < 0.05 is considered statistically significant.

## 3. Results and Discussion

From the results we observed that 100% of participants were aware about the initial clinical features of OSMF (Figure 1)

Majority of the participants (89.7%) responded that they are confident about the diagnosis of OSMF. (Figure 2) This result shows that, practising dentists are aware of the clinical features of OSMF.

90.8% of participants responded about seeing OSMF cases often in their routine practice (Figure 3), this response shows the high prevalence of OSMF making it the most commonly found potentially malignant disorder of oral cavity.

100% of participants were aware about the causative factor of OSMF, (Figure 4) awareness about causative factor of any

disease makes the diagnosis and further treatment plan easy, on basis of this response it can be stated that more detail knowledge about OSMF will definitely help to control it through initial screening.

90.9% of participants were confident about the treatment plan of OSMF (Figure 5), knowledge of available treatment modalities makes it possible to restrict the progression of disease.

89.7% responses showed the knowledge of staging system of OSMF (Figure 6), to know the progression of the disease and exact treatment plan on basis of the current stage of the OSMF is important.

Only 29.9% of participants claimed that they practice intralesional injections for treatment of OSMF (Figure 7), this percentage of response regarding performing the intralesional injections for treatment of OSMF shows that general dentists are not enough confident in performing it, it also explains the need of more awareness and training programs which will enhance the treatment schemes.

Majority of participants (93.4%) claimed that they are aware of the fact that OSMF has an impact on oral health related quality of life, (Figure 8) OSMF affects the different aspects of oral health related quality of life so the treatment modalities should cover consideration of all these aspects which will help patients in overall improvement of the state.

OSMF is an insidious, chronic disease with multifactorial etiology. Various treatment modalities had been proposed for OSMF but with unpredictable results. General dental practitioners have a basic knowledge about oral submucous fibrosis as they come across oral problems associated with OSMF in their practice. Generally patients visit a dental clinic with a chief complaint associated with teeth pain or bleeding gums. Most of the time, practitioners give importance to the area of complaint and tend to miss out the asymptomatic mucosal lesions. If left unchecked, it can affect the quality of life and actually shorten life expectancy. This means that practitioners must play a more active role in educating their patients about the role Oral submucous fibrosis and its malignant transformation and their overall health. An important component of health and overall quality of life is oral health. It can have an impact on overall quality of life and dental diseases are increasing more and more in the world. (Subashri and Uma Maheshwari, 2016)

#### 4. Limitation

The limitation of the study includes limited sample size, single centred study and this study does not represent ethnic groups or population.

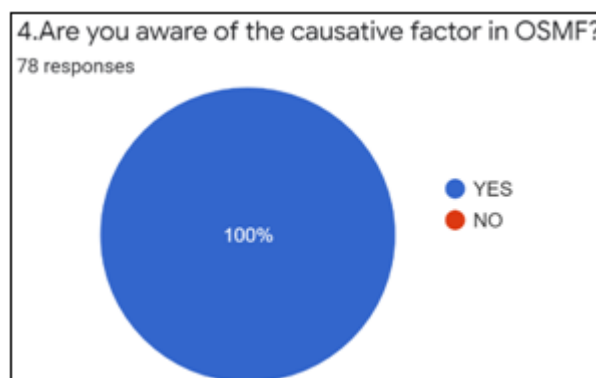
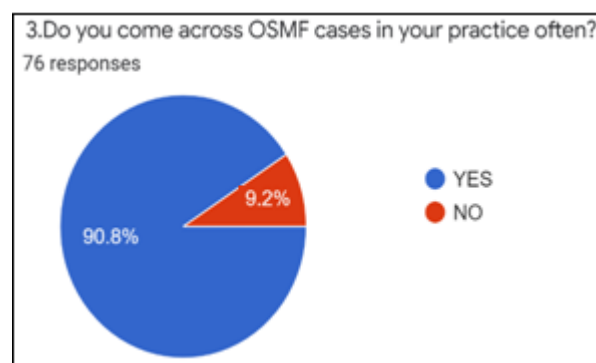
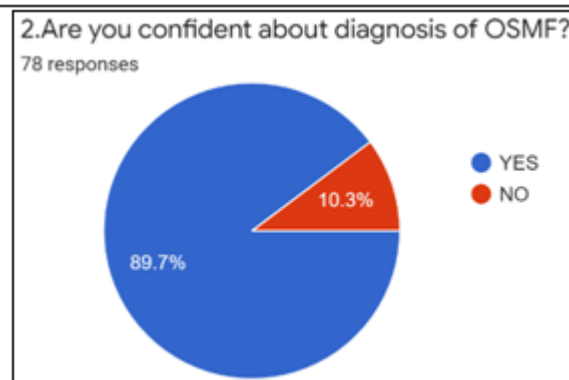
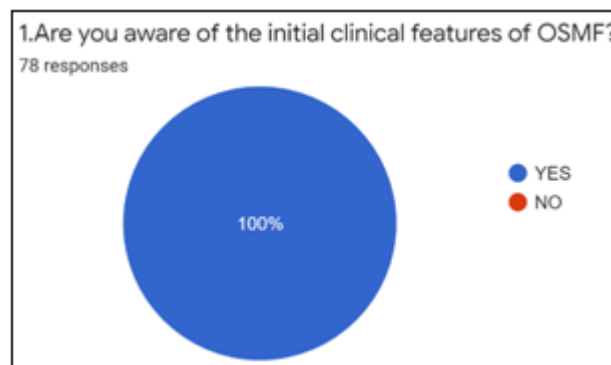
#### 5. Future Scope

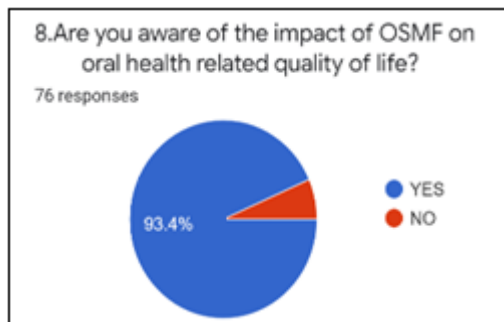
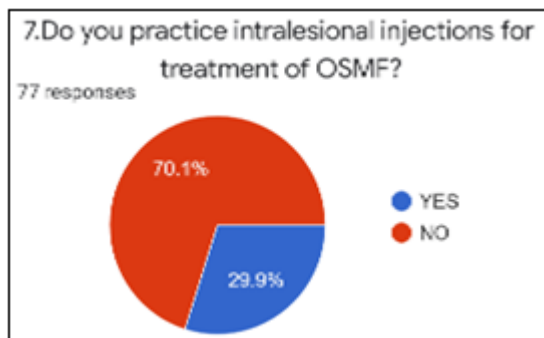
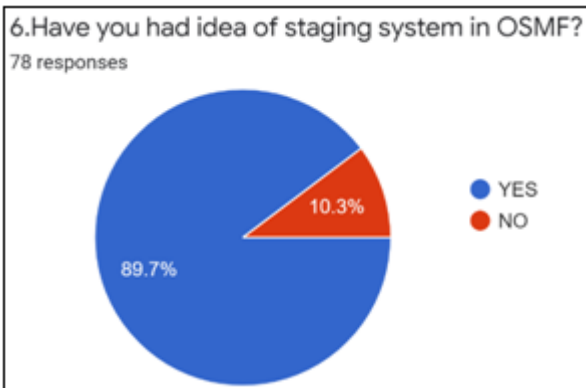
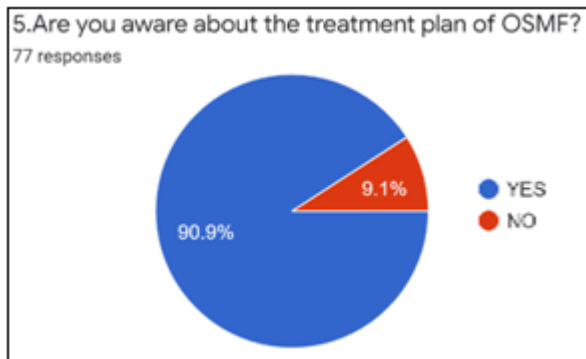
The study could be done in a larger population. Need of dental education programs and hands on education among dentists should be essential regarding treatment modalities of OSMF.

#### 6. Conclusion

Present study shows that, dentists have good knowledge on the clinical features and diagnosis aspect of Oral Submucous Fibrosis; however on the management aspect the knowledge is moderate.

Thorough knowledge of OSMF will insure better health care services. Dental education programs on OSMF will be helpful in improving the quality of treatment and it will be favourable to the patients.





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