

Knowledge, Attitude and Practice on Management of Oral Submucous Fibrosis among General Dentists - Survey

Research Article

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Abstract

It is a precancerous condition, progressive fibrosis leads to rigidity and causing inability to open the mouth. There are various treatments involved, dexamethasone hyaluronidase, mouth opening exercises, etc. To evaluate the awareness, knowledge on Oral Submucous Fibrosis management among general dentists for betterment of treatment. In this cross-sectional study 112 dentists filled out self-administered questionnaires assessing dentist's awareness on the management of OSMF. More than 50% of the patients understand the basic treatment for OSMF, and less than 50% of patients had lack of knowledge in the combination treatment involved for OSMF and advanced treatment options of OSMF. In this study, 84% of the population had the knowledge on the basic treatment modalities to cure and prevent further spread for OSMF, among which 73% answered discontinuation of the habit. 92% of the dentists had general knowledge on the basic diagnosis of OSMF, such as; mouth opening. When asked about the combination therapy and more advanced treatment options, such as; biogenic stimulators, only 50% of the dentists answered correctly. Overall, most of the dentists had good knowledge on the basic treatment administered to treat and cure OSMF but had lack of knowledge in the combination and more advanced treatments necessary to cure the more advanced stage of OSMF.

Keywords: OSMF; Combination Treatment; Betel Nuts.

Introduction

Oral submucous fibrosis is a chronic progressive and irreversible condition affecting the oral, oropharyngeal, and sometimes esophageal mucosa. The characteristic features of OSMF are loss of pigmentation of oral mucosa, blanching and leathery texture of oral mucosa, depapillation and reduced movement of tongue, progressive reduction of mouth opening and sunken cheeks [1]. The disease is seen in those from Indian subcontinent and south-east Asia such as Taiwan in 1952.

Initially in 1952, shwartz discovered a disease in 5 Indian patients. He called the disease 'atrophia idiopathica mucosae orris'. The same disease was described by Pindborg as an insidious, chronic disease affecting any part of mouth and pharynx. In 1953, Joshi described this condition as 'submucous fibrosis' [2, 3].

It causes significant morbidity (loss of mouth function as tissues become rigid and mouth opening becomes difficult) and mortality (transformation into squamous cell carcinoma occurs). The introduction of chewing tobacco containing areca nuts into the market has been associated with a sharp increase in frequency of OSMF. The various treatments are initially cessation of the habit of chewing betel quid, areca nut. Various steroid forms used as injections are trypsin, collagenous, hyaluronidase, oral zinc and pentoxifylline [4-6].

Previously our team had conducted numerous clinical trials [7-11] and lab animal studies [12-18] and *in-vitro* students [19-21] over the past 5 years. Now we are focussing on epidemiological surveys. The idea for this survey stemmed from the current interest in our community. The aim of this study is to evaluate the

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awareness, knowledge on Oral Submucous Fibrosis management among general dentists for betterment of treatment.

Materials and Methods

A cross sectional survey was conducted among the dentists of Saveetha Dental college and hospitals and other dentists based in Chennai. A self-administered questionnaire was prepared to assess the awareness on management of OSMF. The nature of this study was explained to the subjects and informed consent was obtained. The questionnaire was administered through an online survey planet link. The survey had 10 questions on the management of OSMF. All the collected data were cross verified and compiled together in an excel sheet. Compiled data were statistically analysed with help of SPSS software.

Results and Discussion

In the present study, when questioned about the various modalities of treatment in fig.1 of OSMF, 84% of the population said all of the above. For the question ‘what is the normal mouth opening?’ 92% gave the correct answer of 35-70mm from fig.2. 64% of the population answered fibrotomy for the typical surgery of OSMF from fig.3. The first step to treat OSMF is discontinuation of the habit was given by 73% of the patients in fig.4. ‘all of the above’ was mentioned by 52% of the population for nutritional support for OSMF in fig.5.

When questioned about what acts as a biogenic stimulation to help increase blood circulation, physiological action and absorption, ‘placental extract’ was answered by 50% in fig.6 of dentists. The best combination of medication is hyaluronidase and hydrocortisone acetate, given correctly by 67% of dentists in fig.7. The total number of clinical stages was correctly answered by 42% as 5 stages in fig.8. From grade IV the surgery is done for OSMF, 82% have answered this correctly in fig.9.

The 3 basic treatment modalities are surgery, iron supplement, injection of hyaluronidase was answered by 59% in fig.10.

In the present study, more than 50% of dentists knew about the treatment for OSMF. Less than 50% of dentists knew about the clinical staging and combination treatment for OSMF. Various classifications have been proposed depending on the clinical fea-

Figure 1. Pie chart shows the results for the questionnaire on the various treatment modalities for OSMF. The red colour shows ‘Non-surgical therapy’ with 4%. The blue colour shows ‘all of the above’ with 84%. The green colour shows ‘oral physiotherapy’ with 3%. The orange colour shows ‘Restriction of habit’ with 6%. The yellow colour shows ‘surgical therapy’ with 3%.

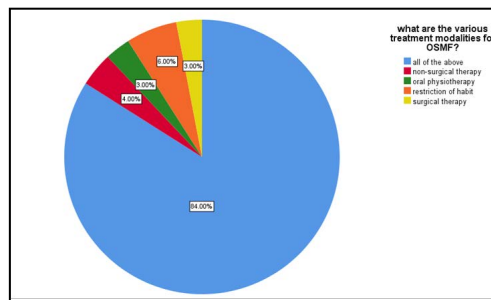


Figure 2. Pie chart shows the results for the questionnaire on the normal mouth opening. The red colour shows ‘35-70mm’ with 92%. The blue colour shows ‘20-40mm’ with 5%. The green colour shows ‘45-90mm’ with 3%.

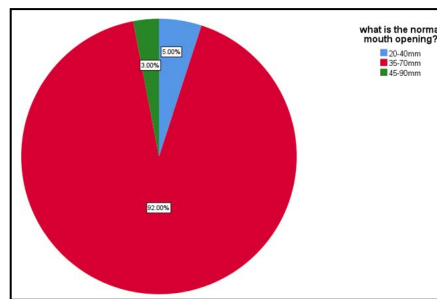


Figure 3. Pie chart represents the results for the questionnaire on the typical name for surgery treatment for OSMF. The red colour shows ‘Laser’ with 19%. The blue colour shows ‘Fibrotomy’ with 64%. The green colour shows ‘vestibulectomy’ with 17%.

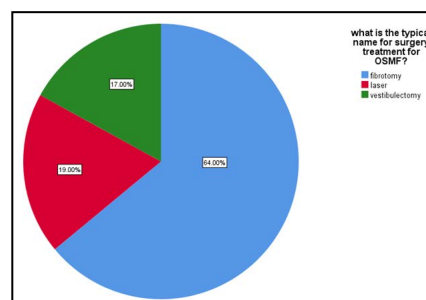


Figure 4. Pie chart represents the results for the questionnaire on the first step to treat OSMF. The red colour shows 'Restriction of habit' with 73%. The blue colour shows 'physiotherapy' with 11%. The green colour shows 'surgery' with 16%.

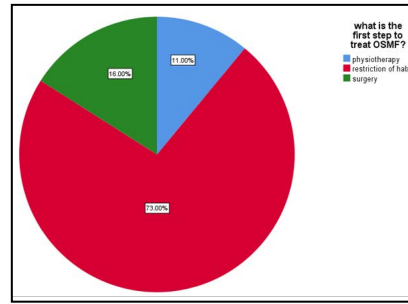


Figure 5. Pie chart represents the results for the questionnaire on the different Nutritional supports for OSMF. The red colour shows 'iron' with 32%. The blue colour shows 'all of the above' with 52%. The green colour shows 'vitamin A,B' with 16%.

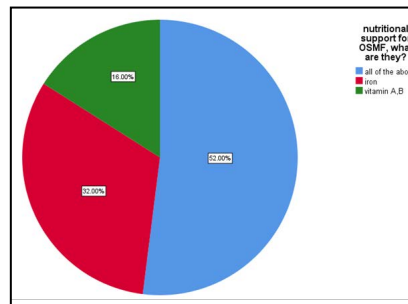


Figure 6. Pie chart represents the results for the questionnaire on the different products that acts as a biogenic stimulator to help increase blood circulation, physiological action and absorption of exudates. The red colour shows 'heat wave' with 23%. The blue colour shows 'alpha lipoic acid' with 50%. The green colour shows 'placental extract' with 27%.

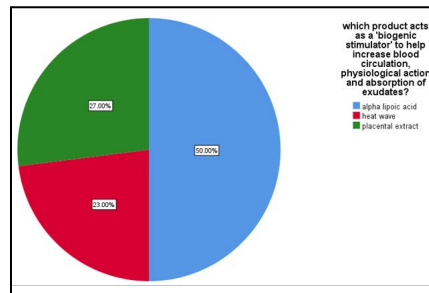
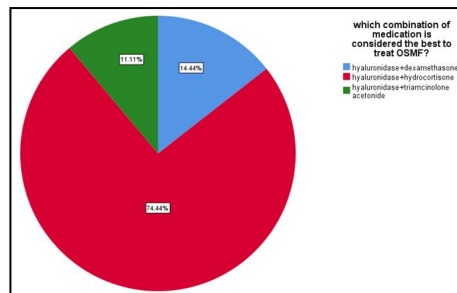


Figure 7. Pie chart represents the results for the different combinations of medication to treat OSME. The red colour shows 'hyaluronidase+hydrocortisone' with 74.44%. The blue colour shows 'dexamethasone+hyaluronidase' with 14.44%. The green colour shows 'hyaluronidase+triamcinolone acetonide' with 11.11%.



tures by Wahi et Al. who classified OSMF based on clinical features, severity, and extent of involvement by Pindborg classified the histology into 4 stages [22-24].

Stomatitis is the first symptom and significant feature in the initial stage of OSMF. Stomatitis includes erythematous mucosa, vesicles, mucosal ulcers and mucosal petechiae. The epithelial atrophy of oral mucosa can easily be irritated. The patient complains of burning sensation on eating hot and spicy food. Burning sensation is the initial symptom, followed by either hyper salivation or

dryness of mouth. The fibrous bands gradually become palpable in the buccal mucosa [25, 26]. Involvement of the soft palate is marked by fibrotic change and a clear delineation of the soft palate from the hard palate as if a 'heavy curtain' is hanging from the hard palate. Uvula may be shrunken, and in extreme cases it becomes 'bud like' or 'hockey stick like'.

OSMF is considered among the high risk PMD that progress into cancer. An atrophic mucosa is more likely to undergo malignant transformation and the rate of OSMF converting into malignancy

Figure 8. Pie chart represents the results for the questionnaire on the clinical stages present for OSMF according to Gupta DCS. The red colour shows 'Stage 5' with 42%. The blue colour shows 'Stage 3' with 24%. The green colour shows 'stage 6' with 34%.

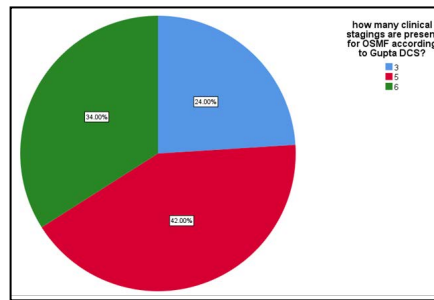


Figure 9. Pie chart represents the results for the questionnaire to identify the correct clinical stage of OSMF to undergo surgery as a treatment. The red colour shows 'Grade IV' with 82%. The blue colour shows 'Grade III' with 5%. The green colour shows 'Grade V' with 13%.

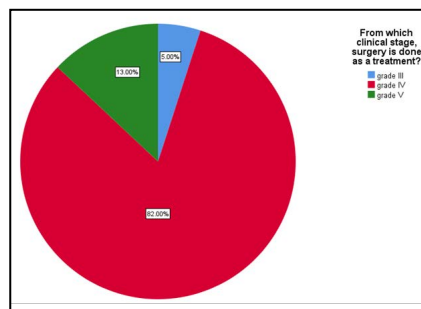


Figure 10. Pie chart represents the results for the questionnaire on the basic treatment modalities done for any clinical staging in OSMF. The red colour shows 'Iron, inj. dexamethasone, lycopene' with 65.56%. The blue colour shows 'antioxidants, vitamins, iron, lycopene' with 7.78%. The green colour shows 'surgery, iron, hyaluronidase' with 28.67%.

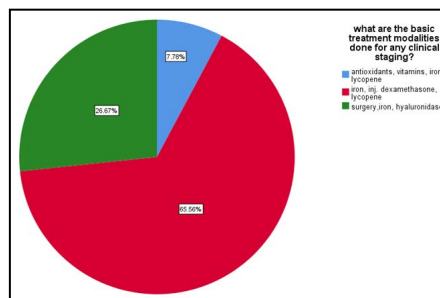
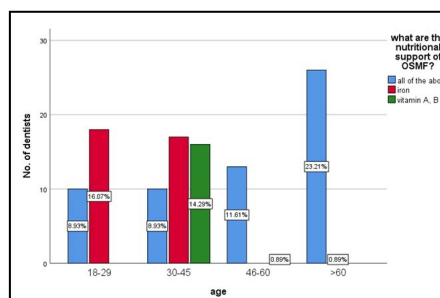


Figure 11. The graph represents the association between age and the percentage of dentists answered about the nutritional support for OSMF. X-axis represents age and Y-axis represents the percentage of dentists answered about the nutritional support for OSMF. Chi square test was analysed, P value is 0.32 ($p > 0.05$) which is statistically not significant. Majority of the respondents (23.21%) answered the correct answer 'all of the above', from age group above 60 years (blue bar).



is 4.5–7.6% [27].

Kakar et Al reported that patients treated with hyaluronidase showed quicker improvement in symptoms, but a combination of corticosteroids gave better long-term results.

Hyaluronidase degrades fibrous matrix promoting the lysis of fibrin coagulum. Relieving the symptoms and softening the fibrous

tissue. Other methods include injection of placental extract, use of trypsin, collagenase, hyaluronidase, and elastase.

A study from India used the general health questionnaire -28 to assess the psychological morbidity in OSMF. Assessing the quality of life of OSMF patients is complex, considering the large number of variables which impact the patient's self-perception [28, 29].

Figure 12. The graph represents the association between age and the percentage of dentists answered about the biological stimulator used to treat OSMF. X-axis represents age and Y-axis represents the percentage of dentists answered about the biological stimulator for OSMF. Chi square test was analysed, P value is 0.416 ($p>0.05$) which is statistically not significant. Majority of the respondents answered the correct answer 'placental extract', above 60 years with 23.21% represented by the purple bar.

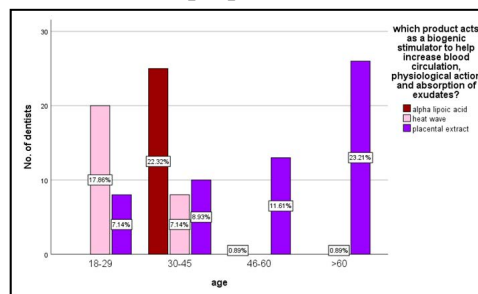
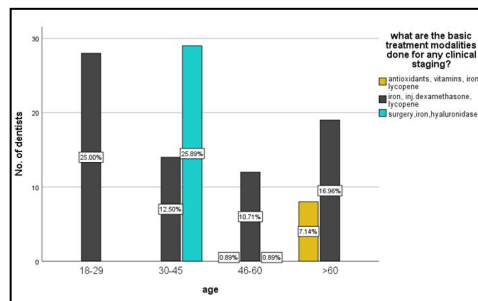


Figure 13. The graph represents the association between age and the percentage of dentists answered about the treatment modalities for OSMF. X-axis represents age and Y-axis represents the percentage of dentists answered about the treatment modalities for OSMF. Chi square test was analysed, P value is 0.236 ($p>0.05$) which is statistically not significant. Majority of the respondents (25.89%) answered the correct answer 'surgery, iron, hyaluronidase', from the age group 30-45 years (blue bar).



Conclusion

OSMF is a widely occurring condition with significant morbidity and mortality associated with it. This study showed that dentists are aware of the various basic treatment modalities to cure and prevent OSMF, but there was lack of knowledge on the more advanced treatment options. The advanced options such as combination therapy and biogenic stimulators need to be more familiarised among the dentists, as it is proved to provide better prognosis and quality of life for patients.

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