



## **To Assess the Knowledge and Practice of Private Dental Practitioners Regarding the Diagnosis and Management of Oral Potentially Malignant and Malignant Lesions: A Survey.**

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### **ABSTRACT**

*An early and timely diagnosis followed by a prompt treatment of potentially malignant and malignant lesions can reduce the overall rate of morbidity and mortality due to oral cancer. This study evaluated the knowledge and practice of private dental practitioners regarding the diagnosis and management of oral potentially malignant and malignant lesions. 112 dental practitioners with private practice were selected with random sampling. Demographic data along with the no. of years practiced were asked. 19 questions were asked to assess their knowledge and practice regarding the diagnosis and management of oral potentially malignant and malignant lesions. For every correct answer, a score of one was allocated while a zero for every wrong or un-attempted answer. Finally, each participant was allotted a score between 0 to 19. Statistically significant result seen when respondents were asked about usage of adjunctive diagnostic aids ( $p=0.04$ ). This study concludes that a lot of lacunae exist in the knowledge and practice of dental practitioners regarding the diagnosis and management of oral potentially malignant and malignant lesions which calls for urgent and effective steps to ensure regular history taking, cancer screening, diagnosis and management of oral potentially malignant and malignant lesions in private practice.*

**Keywords:** dental practitioner, pre cancer, biopsy, cancer screening, vital staining

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### **INTRODUCTION**

Cancer is one of the emerging diseases with a very high incidence and mortality rate. According to a report, almost five percent of all cancers are diagnosed in the head and neck region out of which almost fifty percent are oral cancers. A large number of cancers can be prevented by an early diagnosis of the precancerous lesions [1].

According to WHO, a pre malignant lesion is 'a morphologically altered tissue in which oral cancer is more likely to occur than in its apparently normal counterpart' [3]. Amongst the many pre malignant lesions including leukoplakia, erythroplakia, lichen planus, OSMF etc leukoplakia is one of the most common pre malignant disorder with high risk of malignant transformation.

The exact etiology of the pre-cancerous lesion is not known Vlková B, Stanko P, 2012 but a lot of risk factors are considered like consuming different forms of tobacco and alcohol. Smokeless tobacco, is one of the most common causes of oral cancer in India consumed in the form of betel quid, oral snuff, and betel quid substitutes, locally called gutha, nass, naswar, khaini, mawa, mishri, and gudakhu which when kept in vestibule leach out carcinogens, which act on the mucosa causing dysplastic changes and thus precancerous lesions. Consumption of alcohol along with the tobacco increases the risk of multiple oral pre malignant lesions by many folds as it increases the permeability of the oral mucous membrane [2].

Early detection of pre-malignant lesions, which carries high probability to being converted into malignancy can greatly improve outcomes and prognosis of the disease. Early diagnosis of pre malignancies saves patients from ill effects of therapeutic chemo and radiotherapy, thereby giving patient a quality life [3].

Compared with most sites, the oral cavity is readily accessible to examination and thus a dental surgeon can be the first one to diagnose but unfortunately, these lesions often take a back seat during dental treatments which are most of the times tooth centric.

It has been found through various studies and surveys conducted that the practice of taking a complete

and thorough history of the patient including personal history habits etc followed by a thorough oral Examination of the soft tissues along with teeth is unfortunately lacking at most of the practices. Further the practice of taking smears, vital staining and using optical technologies like spectroscopy, fluorescence spectroscopy etc also is very rarely practiced in routine private dental clinics [4].

Patients are generally un aware of the signs and symptom so for al cancer.The diseaseis usually painless and asymptomatic in its early stages, thus contributing to its late diagnosis [5] .

This study assessed the awareness and practice of dental practitioners in the Delhi NCR region of India regarding oral pre cancer ous lesions.

## MATERIAL AND METHODS

### Participants

This cross-section al study was conducted in Delhi NCR. Both Dental graduates and post graduates who're practicingwereincluded.Total112 people participated in the study. The purpose of the study was clearly communicated to the participants.

### Ethics

Ethical clearance was taken from Ethical Board of University.

### Questionnaire

As elf-administered pretested question are was made which included closed response it equations. Section A elicits information on demographic attributes of respondents (Gender, age, qualification, specialty of post graduation and no. of years of practice). Section Included 19 questions, concerning awareness and attitude of private dental practitioners towards diagnosing premalignant lesions.

### Study Protocol

A Google form questionnaire was made and a link was generated which was sent to the participants. Adequate time was given to the participants and they were asked it fill it without consulting any one. For every correct answer, as core of one was allocated while a zero for every wrong or un-attempted answer. Finally, each participant was allotted a score between 0 to 19.

### Statistics

There results were analyzed using the SPSS software. The level of significance was set at 0.05.

## RESULTS

The questionnaire was distributed among 230 dental practitioners selected via random sampling, and 134 were received back. Out of which 38 (28.4%) were males and96(71.6%)were females in the study. 61.2% people were BDS and 38.8% people were MDS (Table 1).Out of which 83.3% people had high to moderate confidence and 18.7% people had low or lack of confidence in diagnosing/managing or allusions.24.6% people took case history only if they think it is required. 79.1% people said performing a complete oral examination is time consuming and only 1.5% people thought it is necessary and performed it. When asked about the most potentially malignant oral lesion, the subjects did not have a clear knowledge and 16.4 % said leukoplakia, 22.4% said erythroplakia,24.6% said OSMF and 39.6% said all of the above. 14.2% people said they do not examine a suspicious lesion whereas 65.7% people only relied to visual examination, 20.1% people relied on visual examination and palpation and no one used chemiluminescence and to luidine blue which is statistically significant (0.04).

When asked about signs that has more chances of malignant transformation, 23.9% people said pain,45.5% said numbness,9.7% aid decreased mobility and 20.9% people said all of the above.(Table2)

Response of dental practitioners if they observe as suspicious lesion in the patient's mouth while oral examination was 81.3% BDS and 73.1% MDS graduates opted for informing the patient and continuing with dental treatment, 7.3% BDS and 17.3% MDS proceeded with the biopsy, 1.2% BDS graduates referred them to a specialist and 9.8% and 9.6% BDS and MDS respectively don't inform the patient (Graph-1)..

**Table1**–Demographicdetails of dental practitioners (n=134)

Variable		N (%)
Gender	Male	38 (28.4)
	Female	96 (71.6)
Age	≤35Years	113 (84.3)
	>35Years	21 (15.7)
Qualification	BDS	82 (61.2)
	MDS	52 (38.8)
Years of Practice	Less than 5	101 (75.4)
	5-10	16(11.9)
	More than10	17 (12.7)

**Table2: Awareness and Attitude towards diagnosing premalignant lesions among private Dental Practitioners based on qualification (n=134)**

Question	Options	Qualification		Total	P value
		BDS	MDS		
How often do you take a complete case history?	Always	58 (70.7)	39 (75)	97 (72.4)	0.30
	If required	21 (25.6)	12 (23.1)	33 (24.6)	
	If patient informs	0	1 (1.9)	1 (0.7)	
	Never	3 (3.7)	0	3 (2.2)	
Do you think asking about the patient's	Yes	80 (97.6)	51 (98.1)	131 (97.8)	0.84
	No	2 (2.4)	1 (1.9)	3 (2.2)	

Addictive habits is required?					
Do you think emotional stress could be a risk factor for potentially malignant / malignant lesions?	Yes	72 (87.8)	50 (96.2)	122 (91)	0.09
	No	10 (12.2)	2 (3.8)	12 (9)	
Do you think performing a complete oral examination is	Time consuming	63 (76.8)	43 (82.7)	106 (79.1)	0.34
	Not required in every case	14 (17.1)	9 (17.3)	23 (17.2)	
	Irritates the patient	3 (3.7)	0	3 (2.2)	
	Mandatory	2 (2.4)	0	2 (1.5)	
If the patient comes with a complaint of white patch / red patch /ulcer /burning sensation /difficulty in opening mouth etc.	Take history, Examine mucosa and proceed with biopsy	6 (7.3)	6 (11.5)	12 (9)	0.19
	Refer to specialist	7 (8.5)	6 (11.5)	13 (9.7)	

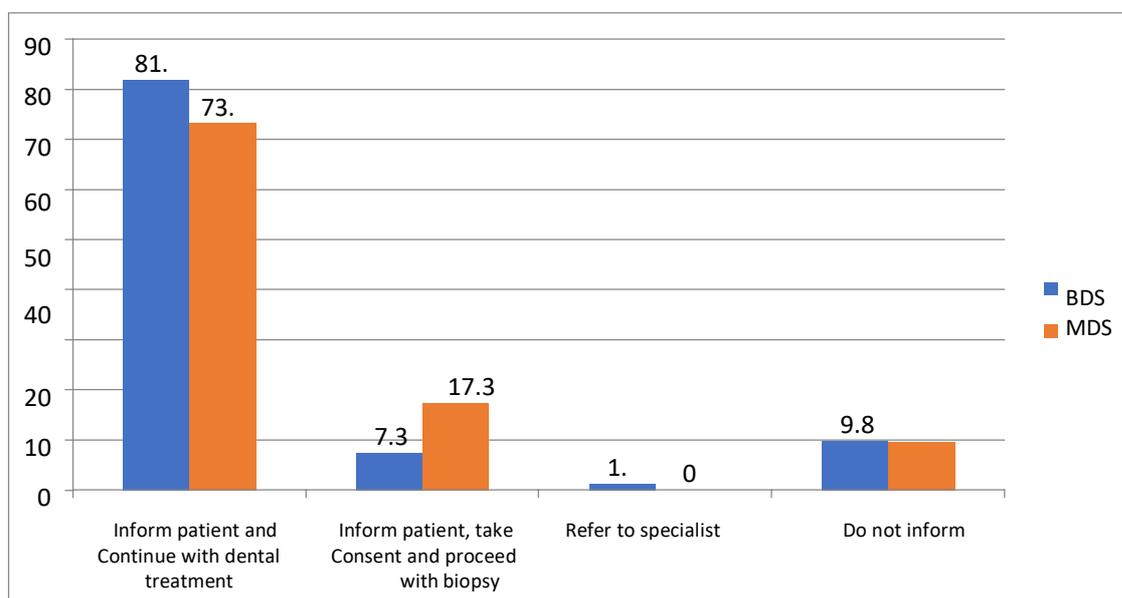
What do you do?	Clearly inform patient that you treat only teeth	6 (7.3)	0	6 (4.5)	
	Call a consultant	63 (76.8)	40 (76.9)	103 (76.9)	
If you observe a suspicious lesion in the patient's mouth while oral examination, what do you do?	Inform patient and continue with dental treatment	67 (81.7)	38 (73.1)	105 (78.4)	0.28
	Inform patient, take consent and proceed with biopsy	6 (7.3)	9 (17.3)	15 (11.2)	
	Refer to specialist	1 (1.2)	0	1 (0.7)	
	Do not inform patient	8 (9.8)	5 (9.6)	13 (9.7)	
Which is your preferable method of examination of malignant and potentially malignant oral lesions?	Doesn't examine	12 (14.6)	7 (13.5)	19 (14.2)	0.04*
	Visual examination	59 (72)	29 (55.8)	88 (65.7)	
	Visual examination and palpation	11 (13.4)	16 (30.8)	27 (20.1)	
	Chemiluminescence	0	0	0	

	Toluidineblue	0	0	0	
How often do you see patients with lesions in the oral mucosa?	Everyday	4 (4.9)	3 (5.8)	7 (5.2)	0.15
	In a week	57 (69.5)	44 (84.6)	101 (75.4)	
	15 days to 1 month	17 (20.7)	4 (7.7)	21 (15.7)	
	More than a month	4 (4.9)	1 (1.9)	5 (3.7)	
Which one of the following is a potentially malignant lesion?	Leukoplakia	13 (15.9)	9 (17.3)	22 (16.4)	0.21
	Erythroplakia	23 (28)	7 (13.5)	30 (22.4)	
	OSMF	20 (24.4)	13 (25)	33 (24.6)	
	All of the above	26 (31.7)	23 (44.2)	49 (36.6)	
Which one of the following has more	Leukoplakia	11 (13.4)	8 (15.4)	19 (14.2)	

Chances of getting converted into malignancy?	Speckled Leukoplakia	7 (8.5)	3 (5.8)	10 (7.5)	0.66
	Candidiasis	7 (8.5)	2 (3.8)	9 (6.7)	
	Tobacco pouchkeratosis	57 (69.5)	39 (75)	96 (71.6)	
What are the signs in an existing lesion, which suggest an increase in the chance of its malignant transformation?	Pain	23 (28)	9 (17.3)	32 (23.9)	0.17
	Numbness	32 (39)	29 (55.8)	61 (45.5)	
	Decreased Mobility	7 (8.5)	6 (11.5)	13 (9.7)	
	All of the above	20 (24.4)	8 (15.4)	28 (20.9)	
If the patient complains of burning sensation, reduced mouth opening, stiffness of mucosa, inability to blow air, he is most likely to have	Leukoplakia	4 (4.9)	4 (7.7)	8 (6)	0.52
	Candidiasis	12 (14.6)	5 (9.6)	17 (12.7)	
	OSMF	9 (11)	3 (5.8)	12 (9)	
	Lichen Planus	57 (69.5)	40 (76.9)	97 (72.4)	
Which of the following is the most likely diagnosis in case of multiple scrapable white lesions with burning sensation?	Leukoplakia	5 (6.1)	2 (3.8)	7 (5.2)	0.35
	Lichen Planus	3 (3.7)	0	3 (2.2)	
	Candidiasis	73 (89)	48 (92.3)	121 (90.3)	
	Oral Hairy Leukoplakia	1 (1.2)	2 (3.8)	3 (2.2)	
If a biopsy is performed at your clinic, where do you send the tissue for the diagnostic	Diagnostic and Pathology Lab	67 (81.7)	41 (78.8)	108 (80.5)	0.3

report?					
	Dental College	15 (18.3)	11 (21.2)	26 (19.4)	
	Do not store	9 (11)	3 (5.8)	12 (9)	
How do you store the tissue which has to be sent for diagnosis?	In saline	11 (13.4)	6 (11.5)	17 (12.7)	0.32
	In Cotton/gauze	3 (3.7)	0	3 (2.2)	
	In Formalin	59 (72)	43 (82.7)	102 (76.1)	
How do you rate your level of confidence in diagnosing/ managing oral lesions?	High	13 (15.9)	13 (25)	26 (19.4)	0.42
	Moderate	53 (64.6)	30 (57.7)	83 (61.9)	
	Low	16 (19.5)	9 (17.3)	25 (18.7)	
Do you think dental surgeon could counsel a patient to with draw addictive habits?	Yes	79 (96.3)	50 (96.2)	129 (96.3)	0.9
	No	3 (3.7)	2 (3.8)	5 (3.7)	
Do you prescribe any medications for oral lesions?	Yes	67 (81.7)	46 (88.5)	113 (84.3)	0.29
	No	15 (18.3)	6 (11.5)	21 (15.7)	

Chi square test;\*P≤0.05(significant).



**Graph 1: Response of percentage of dental practitioners if they observe a suspicious lesion in the patient's mouth while oral examination**

## DISCUSSION

Almost one-fifth of all oral cancer cases and one-fourth of all oral cancer deaths occur in India.<sup>6</sup> One good thing about oral cancer is, that before entering in a full blown malignant state, it has primitive stages and appears as premalignant lesions in the oral cavity [7]. It has been seen that if pre malignant lesions are detected in early stages it ensures maximal prognosis [8]. The present study aimed to assess the knowledge, awareness and early management of private dental practitioners regarding the pre malignant lesions. Almost all the respondents agreed that a dental surgeon plays an important role in early screening of oral cancers but 79.1% people think it's time consuming to perform a complete oral examination and only 1.5% people found it necessary. A thorough case history and a proper head and

neck examination may expose many chronic diseases along with pre malignant lesions and metastasis. Also, mouth is the mirror of the whole body so a lot of diseases presents itself in the oral cavity before their systemic presentation. Findings such enlarged, tender, fixed, hard or matted lymph nodes explain a lot. Fixed lymph nodes are suspicious for malignancies [9]. The four cardinal presentation of oral cancer is leucoplakia, erythroplakia, erythroleucoplakia and ulceration.

And it has been that most of the oral cancers starts with ulceration. They can also present with painless ulcers. In the present study, only 20.9% people were aware of all the signs of the oral cancers. The result of this study is a of great concern to the profession due to gap between attitudes towards dental knowledge and diagnostic procedures. None of the respondent used toluidine blue or chemiluminescent methods to know for presence of dysplastic lesions. The principal test for confirmation of premalignant lesions is only histo-pathological examination via biopsy [10].

When asked about the level of confidence regarding knowledge of premalignant lesions, only 15.9% people among BDS and 25% people among MDS were highly confident.

Moreover 19.5% among BDS and 17.3% among MDS had low or lack of confidence regarding the same.

## CONCLUSION

We found that the knowledge of oral cancer prevention and detection was not upto date and insufficient. This study suggests that knowledge of etiological factors, clinical manifestations, and especially the practice of taking a complete case history, performing a thorough oral examination and using the latest screening methods should be reinforced in undergraduate dental courses through occasional workshops and additional training programs. Further, more such studies should be carried out in future on a bigger population size of dental surgeons so that the lacunae in the training part (theory/clinical) may be specifically identified and addressed.

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