

Insights of primary health care providers regarding opportunistic screening of oral cancer/precancers in Patna, Bihar

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ABSTRACT

Background: Clinical opportunistic screening can be valuable for diagnosis of oral cancer/precancer prior to development of symptoms. Thus, the aim of the present study is to assess the knowledge, perceptions, and present practices of primary health care providers regarding oral cancer screening. **Material and Methods:** This cross-sectional questionnaire study was carried out on doctors working in primary health centres of Patna district, Bihar. A total of 10 questions in true/false or multiple choice format assessed the knowledge on oral cancer screening. Attitude and practices were evaluated by seven questions each on a 5-point Likert scale. Unpaired *t*-test and one-way ANOVA followed by *post hoc* test was applied to determine the significance difference between the mean scores of knowledge and demographic variables. The significance level was set at below 0.05. **Results:** The total mean knowledge scores were 6.5 ± 2.17 . Response analysis showed that regarding opinion on only 28% health care providers agreed or strongly agreed that they have adequate knowledge regarding detection of oral cancer. It was found that 44.7% never/rarely examined the oral cavity of the patient. Only 14% and 16% doctors aid with the cessation of habits and advised dietary changes in patients with precancerous lesions/conditions, respectively. **Conclusion:** Capacity building of primary care physicians is very crucial for a successful screening program. The present study reveals that the training activities of healthcare providers in oral screening need to be reinforced.

Keywords: Oral cavity examination, oral malignancies, primary health centres

Introduction

Non-communicable diseases are a modern epidemic which have plagued India's health care system owing to its huge fiscal and

social burden. The poor accessibility and affordability of health care among the sufferers from rural region make them severely deprived of the services.^[1] The majority of oral malignancy cases are attributable to modifiable risk factors like alcohol and tobacco consumption.^[2] India ranks as the third largest manufacturer and consumer of tobacco in the world. The Indian tobacco industry leads in the production of numerous smoke and smokeless form products, especially to rural markets in the subcontinent.^[3] Chewing or smoking tobacco are linked to approximately 90%

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oral malignancies in Southeast Asia and remains a leading cause of death.^[4] The prevalence of tobacco consumption in India among men and women was reported as 44.5% and 6.8%, respectively, by the National Family Health Survey (NFHS 4, 2015–2016).^[5]

The occurrence of oral cancers primarily at sites that are easily accessible and visible through a non-invasive examination and often preceded by a visible precancerous lesion/condition (oral leukoplakia, oral submucous fibrosis (OSMF), and oral erythroplakia) makes them amenable to early recognition and treatment.^[6,7] The malignant transformation of premalignant lesion/conditions can be avoided if these conditions are treated with primary prevention.^[8]

The visit of the patient to a healthcare facility provides an opportunity to find the patients with tobacco dependence and screen for these risk factors and eventually link them for deaddiction services.^[9] Increasing incidence of oral cancer/precancerous lesions in younger patient groups makes its essential that detection of these diseases in asymptomatic phases in screening programs should be planned not merely for the elder patients who were traditionally known to be at higher risk.^[10,11] Therefore, clinical opportunistic screening can be valuable for diagnosis of oral cancer/precancer prior to the development of symptoms. Opportunistic screening of pathologies in regular practice is a reasonably inexpensive alternative or adjunct to population screening.^[12]

According to the National Health Mission guidelines, screening for three most common cancers (breast, cervical, and oral) should be performed as a part of comprehensive primary healthcare (PHC) and can be executed at the PHC level and also at certain subcenters.^[13] However, implementation of the program remains miserable on account of poor infrastructure along with unavailability of specialists.^[14] In the existing scenario, it is extremely pertinent to develop realistic and maintainable oral screening infrastructure in primary health care.^[15] Thus it is important to assess the knowledge, perceptions, and present practices of these workers regarding oral cancer screening so that further training programme can be built based on existing knowledge levels. In view of the aforementioned information, this study sought to assess the insights regarding oral cancer/precancer screening in doctors working in primary health centres.

Material and Methods

This cross-sectional questionnaire study was conducted from 1st August 2019 to 15th November 2019. Ethical clearance was acquired from the Ethical Committee of the Institute on 15 May 2019. Data was collected from the primary health care providers in Patna district, Bihar regarding knowledge, attitudes, and practices of oral precancers/cancer screening.

Patna district has a total of 23 Block Primary Health Centre (BPHC) and 60 additional primary health centres (APHC)

with a mixture of MBBS, AYUSH and Specialist doctors posted.^[16] Using a lottery method, 10 blocks were selected. All the doctors posted in the BPHCs and APHCs of these blocks were approached by a single investigator. The healthcare providers who were present during that visit were explained about the purpose of the study and those who willingly provided informed consent participated in the study. A total of 102 questionnaires were received back out of 112 distributed questionnaires. Among these 102 questionnaires, 6 were found incompletely filled and consequently were excluded and therefore a total of 96 primary health care providers were the study population.

The survey form was self administered and closed ended, encompassed of informed consent, demographics information, and questionnaire. For the item generation of questionnaire theory, observation, expert opinion, and previous researches were utilized.^[17-20] Knowledge for oral cancer screening was assessed by 10 items in true or false or multiple choice questions format like acquaintance of the risk factors, identification of clinical signs, and point of referral. For each correct answer, a score of 1 was given and a wrong answer was scored as 0. Thus, the range for knowledge varied from 0–10.

There were seven items for attitude like opinion on the self-sufficiency of knowledge in recognition, management, prevention, and complications of oral cancer and need for additional training. Practices were also measured using seven questions like practice of examining the oral mucosa routinely, taking tobacco and alcohol use history from patient, educating patients concerning adverse effects of such habits, and assisting them in cessation etc., Responses for both attitude and practices were on a 5-point Likert scale ranging from strongly agree to strongly disagree and always to never, respectively, scoring from 5 to 1 and the total score ranged from 7 to 35.

Prior to the main survey, the questionnaire was assessed on 20 participants for calculating the reliability and validity. The results and participants of the pilot study were not included in the actual survey. The subsequent changes were made to the questions for the enhanced understanding of subjects. The Cronbach's alpha and split-half reliability values of the final most version of the questionnaire were 0.78 and 0.74 for knowledge; 0.82 and 0.86 for attitude; and 0.82 and 0.80 for behavior, respectively.

The data was transferred into the MS Excel (MS Office version 2007 developed by Microsoft, Redmond, WA) and then subjected to analysis using statistical software SPSS Version 20. Descriptive statistics were carried out by calculating the frequencies and mean and standard deviations (SD). Unpaired *t* test and one-way ANOVA were used to test for the significance of associations with demographics where relevant. The significance level was set at below 0.05.

Results

A total of 96 doctors participated in the study, maximum of them were males ($n = 74$) and belonging to the age group of 31–40 years ($n = 32$). [Table 1]

The total mean knowledge scores of were 6.5 ± 2.17 . One-way ANOVA test showed statistically significant differences for age ($P < 0.05$) with higher scores in participants belonging to ≤ 30 years of age and lower scores in practitioners of >50 years. Post-hoc analysis revealed significant difference between ≤ 30 years and 41–50 and >50 years group. Statistically insignificant differences were found in between scores of gender as well as medical fraternity ($P > 0.05$) when compared by unpaired 't' test. [Table 2].

Response analysis showed that regarding opinion only 28% health care providers agreed or strongly agreed that they have adequate knowledge regarding detection of oral cancer. Likewise, self-sufficiency regarding educating patients for prevention, treatment, and complications of oral cancer was also not reported by most doctors. The timely detection of oral cancer add to the survival of the patient was strongly disagreed/disagreed by 15% of the participants. And 26% of doctors disagreed/strongly disagreed for the necessity of further training for oral cancer. [Table 3]

When asked about practices of oral cancer screening, it was found that 44.7% never/rarely examined the oral cavity of the patient. The tobacco or alcohol intake history and advice about ill-effects of such habits were never practiced 29% and 38.5%, respectively. Only 14% and 16% doctors aid with the cessation of habits and advised dietary changes in patients with precancerous lesions/conditions, respectively. [Table 4]

Discussion

In India, delayed diagnosis of oral cancer can be attributed to multiple barriers like lack of acquaintance about initial signs and symptoms, deficit regular screening, the limited and poor access to trained knowledge providers and insufficient health services.^[21] The oral cavity can be easily checked and oral cancers/precancers can be spotted early during routine assessment/screening by doctors/dentist/health workers or by self-inspection. Thus, the present study was conducted to explore the knowledge, attitude, and practices of health care providers working at primary health centres in Patna, Bihar.

It was found that knowledge regarding the screening of oral cancer was low in the study population. This was in accord to the results of the study conducted on Ayurveda and Homeopathy practitioners in Davangere^[19] and another study which was conducted on medical practitioners.^[22] The relatively less awareness pertaining to risk factors and clinical assessment techniques was also reported in primary care clinicians in England.^[23]

Table 1: Demographic distribution of the study population

| Demographic variables | | n | Percentage |
|-----------------------|-----------|----|------------|
| Gender | Male | 74 | 77.08 |
| | Female | 22 | 22.92 |
| Age (in years) | <30 | 26 | 27.08 |
| | 31-40 | 32 | 33.33 |
| | 41-50 | 21 | 21.88 |
| | >50 | 17 | 17.71 |
| Medicine Fraternity | Allopathy | 54 | 56.25 |
| | AYUSH | 42 | 43.75 |
| Total | | 96 | 100 |

Table 2: Comparison of knowledge of study participants based on demographic variables

| Demographic variables | | Mean | SD | P |
|-----------------------|-----------|------|------|-------|
| Gender | Male | 6.74 | 2.41 | 0.729 |
| | Female | 6.27 | 1.93 | |
| Age (in years) | <30 | 7.03 | 2.23 | 0.03* |
| | 31-40 | 6.72 | 1.97 | |
| | 41-50 | 6.43 | 1.89 | |
| Medicine Fraternity | >50 | 5.84 | 2.61 | 0.641 |
| | Allopathy | 6.89 | 2.13 | |
| | AYUSH | 6.12 | 2.21 | |
| Total | | 6.5 | 2.17 | - |

*p < 0.05; significant

In our study, 30% doctors disagreed when enquired about self-sufficiency regarding knowledge of oral cancer. Fotedar V, *et al.*^[20] also reported 66.6% medical students disagreed/strongly disagreed that their knowledge concerning the prevention and recognition of oral cancer is adequate. Lack of confidence about treating oral cancer was observed in doctors of Davangere district as well.^[19]

It was found that only a few health care providers practice regular oral cavity check-up or taking tobacco history. This was consistent with the findings of Fotedar V, *et al.*^[20] They explained the reason for such findings that little importance is given to oral mucosa assessment in the general physical check-up and medical students lack the understanding of tobacco and alcohol in the etiology of oral cancers and thus recommended reinforcing the role of these factors in the medical curriculum.^[20] Prioritization of screening in populations with this behavior including younger people should be inculcated by healthcare providers.^[18] The opportunistic screening, especially to the patients with habit history, could play a vital part in the early identification of oral cancer as persons at utmost risk for oral malignancy seldom visit a dental practitioner, though they seek advice from general medical practitioners.^[24]

Early screening can be regarded as a suitable public health strategy in the rural settings due to the difficulty in ensuring primordial

Table 3: Response analysis for attitude by study participants

| Do you think | Strongly disagree/Disagree | Neutral | Strongly agree/Agree |
|--|----------------------------|------------|----------------------|
| Sufficiency of knowledge in detection of oral cancer/precancerous lesions | 30 (31.25) | 39 (40.63) | 27 (28.13) |
| Sufficiency in educating patients regarding treatment of oral cancer/precancer | 31 (32.29) | 42 (43.75) | 22 (22.92) |
| Sufficiency in educating patients regarding prevention of oral cancer/precancer | 23 (23.96) | 45 (46.88) | 28 (29.17) |
| Sufficiency in educating patients regarding complications of oral cancer/precancer | 18 (18.75) | 47 (48.96) | 31 (32.29) |
| Patients' with suspected oral cancer lesions should be referred to a specialist | 11 (11.46) | 34 (35.42) | 51 (53.13) |
| Early detection improves five-year survival rates from oral cancer | 15 (15.63) | 38 (39.58) | 43 (44.79) |
| Do you feel that there is need for additional training/information regarding oral cancer | 25 (26.04) | 37 (38.54) | 34 (35.42) |

Table 4: Response analysis for practices by study participants

| How often in the patients you | Never/Rarely | Often/Very Often | Always |
|---|--------------|------------------|------------|
| Examine the oral mucosa | 43 (44.79) | 33 (34.38) | 20 (20.83) |
| take history about alcohol and tobacco use | 28 (29.17) | 49 (51.04) | 19 (19.79) |
| educate on the adverse effects of alcohol and tobacco | 37 (38.54) | 41 (42.71) | 18 (18.75) |
| assist in cessation of alcohol and tobacco | 54 (56.25) | 28 (29.17) | 14 (14.58) |
| advise dietary changes in patients with precancerous lesions/conditions | 51 (53.13) | 29 (30.21) | 16 (16.67) |
| Read articles/research about recent advancement in oral cancer prevention | 46 (47.92) | 32 (33.33) | 18 (18.75) |
| Attend educational programs about oral cancer | 43 (44.79) | 36 (37.50) | 17 (17.71) |

and primary prevention. Besides sufficing secondary prevention, opportunistic screening can also be expediently employed for health promotion activities. Opportunistic screening is extremely cost-effective and less systematic than population screening.^[15]

Conclusion

Capacity building of primary care physicians is very crucial for a successful screening program. The present study reveals that training activities of healthcare providers in oral screening need to be reinforced throughout the operationalization of the cancer screening guidelines in India. There is requirement for the additional advancement of strategies, policies, and practices in this matter across the country.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the forms, the patients have given their consent for their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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