



Knowledge and Awareness regarding Oral cancer amongst Youth Population

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ABSTRACT:

Introduction: Oral cancer (OC) is a major public health problem worldwide and is one amongst the sixth most common cancers in the world. Smoking, alcohol use, smokeless tobacco products, and HPV infections are the major risk factors of OC. Earlier diagnosis greatly increases patient's chances of survival as the mouth is very accessible for a clinical or self-examination and upon timely detection, OC is relatively curable. Typical signs and symptoms of oral cancer include white and red patches on the oral mucosa, unhealed oral ulcers, swellings of the mouth, etc. Oral cancer is becoming a major health concern because of the recent rise in its incidence especially in underdeveloped countries and is now crossing over into younger generations as opposed to it being an old man's disease. Thus, imparting knowledge to the younger generation is most important.

Aim: The aim of the present study is to evaluate knowledge and awareness regarding oral cancer amongst youth population.

Materials & Methods: A cross-sectional study was conducted amongst 200 youth population in the age group of 15-29 yrs using a validated questionnaire. The questionnaire included 20 questions that focused on oral cancer risk factors, signs and symptoms, epidemiology, and treatment. The data was analysed according to socio-demographic, geographic and habits. For comparison of categorical variables between groups, the Chi-square test was used.

Results: The research consisted of 48%(96) males and 52%(104) females. According to the analysis, 76%(152) individuals had heard about oral cancer whereas 51%(102) individuals believed that OC is a preventable disease. A satisfactory knowledge was observed on the risk factors like smoking - 89%(178) individuals, poor oral hygiene - 61%(122) & alcohol - 52%(104) individuals. However, unsatisfactory knowledge was observed

about others risk factors like family history - 33.50%(67) individuals; hot/spicy food - 19%(38) individuals, etc. When awareness regarding various treatments of oral cancer was assessed it was found that 38%(76) individuals were aware. There was a positive attitude of 86.50%(173) individuals about the need for additional training/information regarding oral cancer.

Conclusion: Overall, our data supports that youth population is generally aware of the OC risk associated with tobacco, but knowledge of other risk factors is more limited. Although the level of knowledge and awareness is found to be fairly good, keen efforts targeting the high risk population are required from various government and non-government organizations to carry out intensive public health education program for recognition of risk factors and early warning signs and symptoms that would facilitate early detection of oral cancer.

KEYWORDS: Oral cancer, Knowledge, Awareness, Youth population

I. INTRODUCTION

Oral cancer (OC) is a major public health problem worldwide ^[1]. Oral and pharyngeal cancers grouped together are the sixth most common cancers in the world. Almost 90% of oral cancers are squamous cell carcinomas ^[2]. Smoking, alcohol use, smokeless tobacco products and HPV infections are the major risk factors with an attributable risk of oral cancer due to both tobacco and alcohol being 80% ^[3]. Despite recent advances in the detection and treatment of cancer, visual accessibility of the oral mucosa, and the scientific knowledge on cancer risk factors, oral cancer carries a low survival rate (near 50%) ^[4]. Earlier diagnosis greatly increases patient's chances of survival as the mouth is very accessible for a clinical or self-examination ^[5].



Upon timely detection, OC is relatively curable. Notably, the rates of poor prognosis are markedly associated with patient's delay in health care-seeking behaviors [6-8]. It has been shown that 40% of patients do not present until progression to an advanced stage (stage 3 or 4) has occurred [9]. Late-stage presentation is associated with metastasis to local lymph nodes, requires aggressive treatment, and is often unsuccessful [7,9]. A gap in knowledge and health literacy regarding OC, specifically related to risk factors and symptomology, is posited to be among the key modifiable factors contributing to high morbidity and mortality [9].

Typical signs and symptoms of oral cancer include white and red patches on the oral mucosa, unhealed oral ulcers, swellings of the mouth, loosening of one or more teeth without obvious reason, jaw pain and stiffness, difficulty or pain in swallowing, speech difficulties, reduced mobility of the tongue, numbness of the tongue or teeth or lips, bleeding of unknown origin, neck swelling, fetor oris, altered dental occlusion, sore throat,

III. MATERIALS AND METHODS

o **Ethical considerations:**

The research study was approved by Institutional Ethics Committee of VSPM Dental College, Nagpur. Participation was voluntary, and participants were informed that their responses would be anonymous and confidential.

o **Study design:**

The present study was conducted to assess the awareness and knowledge of oral cancer amongst youth population. Subjects were asked to complete a validated questionnaire, without time restriction using Google forms. The questionnaire included 20 questions that focused on oral cancer risk factors, signs and symptoms, and treatment.

painful tongue, hoarse voice and persistent neck pain [9].

Oral cancer is becoming a major health concern because of the recent rise in its incidence especially in underdeveloped countries.

What was once considered an old man's disease is now crossing over into younger and younger generations. The young generations are usually seen to be more vulnerable to potentially harmful exposures and it is a challenge for them to be able to withstand the hostile environment. Thus, imparting knowledge about oral cancer is very important as majority of the public and especially the youth still remains unaware of basic knowledge about oral cancer.

To achieve the same objective and assess the knowledge we had conducted this study.

II. AIM

The aim of the present study is to evaluate knowledge and awareness regarding oral cancer amongst youth population. The study group included 200 individuals in the age group of 15-29 yrs.

The data was analysed according to socio-demographic, geographic and habits. For comparison of categorical variables between groups, the Chi-square test was used.

o **Questions and Variables:**

The socio-demographic data was assessed by the questions regarding age, sex, occupation and residence.

Sex of the individual was recorded assessing the response options: (1) Male (2) Female.

Occupation was recorded assessing the response options: (1) Student (2) Employed (3) Unemployed (4) Professional (5) Others

Residence was recorded assessing the response options: (1) Rural (2) Urban

The questionnaire that was used is as follows:

| | |
|---|---|
| 1 | Have you heard of oral cancer? |
| 2 | Is oral cancer a preventable disease? |
| 3 | Do you think burning sensation is a sign of oral cancer? |
| 4 | Do you think difficulty in chewing or swallowing is a sign of oral cancer? |
| 5 | Do you think sore/ulcer in the mouth that does not heal is a sign of oral cancer? |
| 6 | Do you think white/red patch in the oral cavity is a sign of oral cancer? |



| | |
|----|---|
| 7 | Do you think smokeless tobacco (Toombak) or smoking cigarette is a risk factor? |
| 8 | Do you think alcohol is a risk factor? |
| 9 | Do you think family history of oral cancer is a risk factor? |
| 10 | Do you think chronic trauma is a risk factor? |
| 11 | Do you think poor oral hygiene is a risk factor? |
| 12 | Do you think hot and spicy food is a risk factor? |
| 13 | Do you think exposure to sunlight is a risk factor for oral cancer? |
| 14 | Do you think lack of proper nutrition is a risk factor? |
| 15 | Do you think mental stress is a risk factor for oral cancer? |
| 16 | Do you think obesity is a risk factor? |
| 17 | Do you think any kind of infection (direct, Human Papilloma Virus) is a risk factor? |
| 18 | Do you think sedentary life style is a risk factor? |
| 19 | Are you aware about the various treatments available for the management of oral cancer? |
| 20 | Do you think there is need for additional training/information regarding oral cancer? |

IV. RESULTS

The research consisted of 48% males and 52% females. The percentage and frequencies of

demographic characteristics of the study population can be seen in the table below :

Table 1 : Percentage and frequencies of demographic characteristics of the study population.

| Sex | Demographic Characteristics | Nos. | Percentage (%) |
|-----------|-----------------------------|--------|----------------|
| | Male | 96 | 48.00% |
| Female | 104 | 52.00% | |
| Residence | Urban | 144 | 72.00% |
| | Rural | 56 | 28.00% |
| | Age | | |
| | 15<=Age<=19 | 49 | 24.50% |
| | 20<=Age<=24 | 86 | 43.00% |
| | 25<=Age<=29 | 65 | 32.50% |



| | | | |
|------------|--------------|-----|--------|
| Occupation | | | |
| | Student | 123 | 61.50% |
| | Employed | 42 | 21.00% |
| | Unemployed | 4 | 2.00% |
| | Professional | 19 | 9.50% |
| | Others | 12 | 6.00% |

According to the analysis, 76%(152) individuals had heard about oral cancer, 20.50%(41) individuals had not even heard about oral cancer and 3.50%(7) individuals weren't sure about their response.

51%(102) individuals believed that OC is a preventable disease, 7.50%(15) didn't believe about it being preventable and 41.50%(83) individuals weren't sure about their response.

On analysis about knowledge of individual signs and symptoms amongst youth, burning sensation was identified as a sign by 27.50%(55) individuals, 49%(98) individuals identified difficulty in chewing and swallowing as a symptom, whereas 50%(100) individuals thought that sores or ulcers that didn't heal were a sign of OC and 39.50%(79) individuals believed that white/red patches in the oral cavity were the signs of OC.

Table 2 : Percentage and frequencies of recognised signs and symptoms

| Question | Yes | No | Don't Know |
|--------------------------------------|--------------|-------------|--------------|
| Burning sensation | 27.50% (55) | 17.50% (35) | 55.00% (110) |
| Difficulty in chewing and swallowing | 49.00% (98) | 13.00% (26) | 38.00% (76) |
| Sores or ulcers that do not heal | 50.00% (100) | 10.00% (20) | 40.00% (80) |
| White or red patches in oral cavity | 39.50% (79) | 13.00% (26) | 47.50% (95) |

When the knowledge regarding risk factors of oral cancer was assessed in the youth population, it was found that 89%(178) individuals identified smokeless tobacco (Toombak) or smoking cigarette was a risk factor, 52%(104) individuals identified alcohol was a risk factor, 33.50%(67) believed that family history of oral cancer might be a risk factor, 24.50%(49) individuals believed chronic trauma can be a risk factor, 61%(122) believed that poor oral hygiene as a risk factor, 19%(38) individuals believed that

hot and spicy food can be a risk factor, 7%(14) individuals identified exposure to sunlight as a risk factor, 50.50%(101) individuals believed that lack of proper nutrition might be a risk factor, 19%(38) believed that mental stress can lead to oral cancer, 20.50%(41) individuals believed that obesity may be a risk factor, 35%(70) identified any kind of infection(direct, HPV) can lead to oral cancer and 36%(72) individuals believed that sedentary lifestyle is a risk factor.

Table 3: Percentage and frequencies of risk factors

| Risk Factors | Yes | No | Don't know |
|--|--------------|--------------|--------------|
| Smokeless tobacco (Toombak) or smoking | 89.00% (178) | 2.50% (5) | 8.50% (17) |
| Alcohol | 52.00% (104) | 25.00% (50) | 23.00% (46) |
| Family history of OC | 33.50% (67) | 33.50% (67) | 33.00% (66) |
| Chronic Trauma | 24.50% (49) | 19.50% (39) | 56.00% (112) |
| Poor Oral Hygiene | 61.00% (122) | 13.00% (26) | 26.00% (52) |
| Hot & Spicy Food | 19.00% (38) | 47.00% (94) | 34.00% (68) |
| Exposure to sunlight | 7.00% (14) | 54.50% (109) | 38.50% (77) |



| | | | |
|-----------------------------|--------------|-------------|--------------|
| Lack of Proper Nutrition | 50.50% (101) | 20.50% (41) | 29.00% (58) |
| Mental Stress | 19.00% (38) | 43.00% (86) | 38.00% (76) |
| Obesity | 20.50% (41) | 35.00% (70) | 44.50% (89) |
| Any Infection (direct, HPV) | 35.00% (70) | 12.50% (25) | 52.50% (105) |
| Sedentary Lifestyle | 36.00% (72) | 20.00% (42) | 44.00% (88) |

When awareness regarding oral cancer was assessed it was found that 38%(76) individuals were aware about the various treatments regarding oral cancer.

When attitude of the youth towards need of additional training/ information regarding oral

cancer was assessed it was noted that 86.50% (173) individuals were affirmative about the need for additional training/information regarding oral cancer.

Table 4 : Percentage and frequencies of awareness and attitude

| Question | Yes | No | Don't know |
|--|--------------|-------------|-------------|
| Awareness regarding various treatments available | 38.00% (76) | 35.00% (70) | 27.00% (54) |
| Need for additional training/ information | 86.50% (173) | 1.00% (2) | 12.50% (25) |

Table 5 : Percentage of responses of males and females to each question

| Question | | Male | | | Female | | |
|----------|---|------|------|------------|--------|------|------------|
| | | Yes | No | Don't Know | Yes | No | Don't Know |
| 1 | Have you heard of oral cancer? | 34.5 | 12.5 | 1 | 41.5 | 8 | 2.5 |
| 2 | Is oral cancer a preventable disease? | 27 | 2 | 19 | 24 | 5.5 | 22.5 |
| 3 | Do you think burning sensation is a sign of oral cancer? | 10 | 8 | 30 | 17.5 | 9.5 | 25 |
| 4 | Do you think difficulty in chewing or swallowing is a sign of oral cancer? | 22 | 6 | 20 | 27 | 7 | 18 |
| 5 | Do you think sore/ulcer in the mouth that does not heal is a sign of oral cancer? | 21 | 5 | 22 | 29 | 5 | 18 |
| 6 | Do you think white/red patch in the oral cavity is a sign of oral cancer ? | 14 | 7 | 27 | 25.5 | 6 | 20.5 |
| 7 | Do you think smokeless tobacco (Toombak) or smoking cigarette is a risk factor? | 41.5 | 1.5 | 5 | 47.5 | 1 | 3.5 |
| 8 | Do you think alcohol is a risk factor? | 23 | 14 | 11 | 29 | 11 | 12 |
| 9 | Do you think family history of oral cancer is a risk factor? | 14 | 16.5 | 17.5 | 19.5 | 17 | 15.5 |
| 10 | Do you think chronic trauma is a risk factor? | 9 | 9 | 30 | 15.5 | 10.5 | 26 |



| | | | | | | | |
|----|---|------|------|------|------|------|------|
| 11 | Do you think poor oral hygiene is a risk factor? | 26 | 7.5 | 14.5 | 35 | 5.5 | 11.5 |
| 12 | Do you think hot and spicy food is a risk factor? | 8.5 | 23 | 16.5 | 10.5 | 24 | 17.5 |
| 13 | Do you think exposure to sunlight is a risk factor for oral cancer? | 2 | 27 | 19 | 5 | 27.5 | 19.5 |
| 14 | Do you think lack of proper nutrition is a risk factor ? | 24.5 | 10 | 13.5 | 26 | 10.5 | 15.5 |
| 15 | Do you think mental stress is a risk factor for oral cancer? | 7 | 21.5 | 19.5 | 12 | 21.5 | 18.5 |
| 16 | Do you think obesity is a risk factor? | 10.5 | 16.5 | 21 | 10 | 18.5 | 23.5 |
| 17 | Do you think any kind of infection (direct, Human Papilloma Virus) is a risk factor? | 9.5 | 8 | 30.5 | 25.5 | 4.5 | 22 |
| 18 | Do you think sedentary life style is a risk factor? | 13 | 9 | 26 | 23 | 11 | 18 |
| 19 | Are you aware about the various treatments available for the management of oral cancer? | 15 | 19 | 14 | 23 | 16 | 13 |
| 20 | Do you think there is need for additional training/information regarding oral cancer? | 41.5 | 0.5 | 6 | 45 | 0.5 | 6.5 |

V. RESULTS

Oral cancer in most of the cases is a preventable disease and mass public education and information may result in reducing the oral cancer burden on the society. It is quite understandable that knowledge of oral cancer in a given population is directly related to the prognosis of the cases identified therein. This is because that the enhanced awareness on oral cancer in general and specifically in relation to its symptoms and risk factors can possibly lead to early clinical presentation.

The study was conducted amongst the youth population in Maharashtra. The study provided valuable information about the awareness amongst youth regarding signs and symptoms and risk factors.

A significant difference was observed between the urban and the rural population with the former scoring significantly better for most dimension of general awareness. No such distinction of knowledge scores was observed for identification of signs and risk factors.

Awareness of tobacco use (smoked and Toombak) as a risk factor for oral cancer scored high. This might have been because of continuous

anti-tobacco focus strategies such as advertisements regarding its hazards, increase the prices and taxes and restriction areas for its use, which play a role in achieving behavioural change. Our results are in accordance with the study conducted in the city of Volango, Portugal by Luís Silva Monteiro et al, (2012).

However, alcohol was identified to a lesser degree as a risk factor. Same trend was also reported by others like S. Warnakulasuriya et al, yr. 1999.

The presence of a non-healing wound and oral lumps was identified as one of the first signs of oral cancer by half of the individuals, the presence of white or red persistent plaques was not associated with oral cancer by almost half of the individuals. This is in accordance with the study of A. Pakfetrat et al, 2010.

According to this study almost half of the participants believed that oral cancer is a preventable disease whereas the knowledge that oral cancer is treatable was found to be sparse. Increased awareness of the younger age group can also be attributed to the wide media exposure and different anti-tobacco campaigns in recent years.



This study revealed about the positive attitude of the individuals regarding additional training or information which emphasizes the need for providing more details and facts regarding the same. Also it leads us to believe that the youth is optimistic to acquire knowledge regarding OC. A recent population-based survey of adults in the UK has shown that a combination of public education of symptoms and empowerment to seek medical advice, as well as support at the primary care level, could enhance early presentation and improve cancer outcomes.

VI. CONCLUSION

The study provided valuable information about the awareness amongst youth regarding signs, symptoms and risk factors. Although the level of knowledge and awareness was found to be fairly good, keen efforts targeting the high risk population are required from various government and non-government organizations to carry out intensive public health education program for recognition of risk factors and early warning signs and symptoms that would facilitate early detection of oral cancer. Overall, our data supports that patients were generally aware of the OC risk associated with tobacco, but knowledge of other risk factors was more limited. In addition, efforts are required to inculcate a positive attitude towards oral health care and motivate the habitués to quit deleterious habits. These proposed strategies constitute the need of the hour and can have a major impact on reducing mortality associated with this disease and resultantly benefit the society in general.

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