AWARENESS LEVEL ABOUT EARLY IDENTIFICATION AND DETECTION OF ORAL CANCER IN DENTAL PATIENTS

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ABSTRACT

BACKGROUND: Oral cancer is one of the most common cause of morbidity and mortality today. It is increased by tobacco and alcohol use. Oral cancer is a preventable disease due to its association with well-known risk factors and easy detectability. There is a significant deficiency in the awareness of oral cancer and its risk factors among the public. Raising public awareness could effectively contribute to achieving a significant reduction in the incidence of oral cancer.

AIM: To study the awareness level about early detection and prevention of oral cancer among dental patients.

MATERIALS AND METHODS: A questionnaire based survey was done about the awareness and knowledge of risk factors, signs, symptoms, prevention and treatment including 50 dental patients. Sociodemographic information of the patients was obtained.

RESULTS: In total 96% of participants have heard of oral cancer. 80% are aware of the risk factors , 65% are aware of the signs and 88% are aware of the prevention and treatment.

CONCLUSION: There is lack in depth of knowledge of oral cancer. Mass media and health campaigns were the main sources of information. Regular oral cancer screenings should be implemented in chennai.

INTRODUCTION

The incidence of oral cancer is very high in many parts of the world (1, 2). Oral and oropharyngeal cancer is the sixth most common cancer in men and ninth most common cancer in women (3). It is more common than Hodgkin’s disease, carcinoma of the brain, liver, thyroid gland, cancer of stomach (4). The major risk factors for oral cancer include tobacco, alcohol, betal nut chewing (5,6,7). About 70-75% of oral cancer is due to prevalence of consumption of tobacco and alcohol (8,9). Besides these habitual habits, other factors include human papilloma virus (HPV) infection (10), diet (11), and genetic susceptibility (12). Oral cancer is a preventable disease and cessation of these habits can reduce the risk of cancer within 5-10 years (13). Although there is recent advances in detection and treatment, it is still diagnosed only in advanced stages (14). Earlier detection of oral cancer provides early treatment, long term survival and improves the prognosis (15). In previous studies it has been reported that lack of public awareness is the most significant factor for delaying the treatment for oral cancer (16,17). Oral cancer awareness is lesser when compared to other types of cancers (18,19,20). The potentially malignant disorders such as leukoplakia, erythroplakia, oral submucous fibrosis, non healing ulcers have been failed to recognise by the patients which are the early signs and symptoms of oral cancer (21,22,23). Though the oral mucosa is visually accessible, it’s not diagnosed early (24). There is lack of scientific knowledge on risk factors, signs and symptoms among people which carries a low survival rate (25). Early diagnosis greatly increases the patient’s chances of survival as the oral cavity is easily accessible for examination(18). Previous studies conducted in different places showed that awareness on signs, risk factors associated with oral malignancy is generally poor (17,22). The purpose of this study is to evaluate the awareness of oral cancer, its associated risk factors, signs and symptoms and to determine the knowledge about prevention and treatment among dental patients.

MATERIALS AND METHODS

This study included 50 out patients (21 females, 29 males) aged 17 years and above from Saveetha dental college, Chennai. A questionnaire based survey was created to assess public awareness and knowledge about risk factors, signs and symptoms, prevention and treatment associated with oral cancer. The survey contained 16 questions divided into four parts: sociodemographic information (3 questions), awareness and knowledge of oral cancer (3 questions), risk factors of the disease (4 questions), early signs and symptoms of the diasease (4 questions) and prevention and treatment (5 questions).

The response “definitely increases” was defined as correct for the risk factors questions. A “risk factor knowledge score” was given summing the number of correct responses to the four items and the results were evaluated into four categories: 0,1,2, 3 and above. The response “definitely yes and probably yes” was defined as correct for all the early signs questions. An “early signs knowledge score” was given by summing the number of correct responses to the four symptoms and the results were evaluated into four categories: 0, 1, 2, 3 and above. The response “yes” was defined as correct for the prevention and treatment. A “prevention and treatment knowledge score” was given summing the number of correct responses to the five items and the results were evaluated into four categories: 0,1,2,3 and above. Point of risk factors (PRF), point of early signs (PES) and point of prevention and treatment (PPT) were obtained for each patient (26).

RESULTS

The study included 50 out patients among them 21(42%) were females and 29(58%) were males. The age of the participants was from 17 to 60 years the mean age being 38. There were 29 participants ageing from 17 to 39 (58%) and 21 participants ageing from 40 to 60 years (42%). The education level of the participants included 23 from high school education (46%), 26 from university education (52%) and 1 from elementary school (2%).

Out of 50 participants (Table 1), 48 participants (96%) have heard of oral cancer and 2 participants (4%) have not heard of oral cancer. Most of the patients have heard about oral cancer through TV, radio, newspaper 48 participants (96%). Very few have got information through internet 2 participants (4%). 41 participants (82%) have not undergone screening for oral cancer and 9 participants (18%) are not aware if they have undergone screening.

Table 2 shows distribution and analysis of PRF, PES, PPT in age groups, older patients have better knowledge on risk factors (85.7%) than younger age groups (75.8%). Prevention and treatment of oral cancer was answered maximum by the younger age groups (100%) and by 95.2% by the older age groups.

Considering the distribution and analysis fro gender (Table 3), there is no significant difference in response between males (87.3%) and females (88.8%). Males have better knowledge on risk factors (86.2%) than females (76.1%). Questions on signs and symptoms were answered better by females (95.2%) than males (82.7%). Table 4 shows groups classified based on education level. Participants with university qualification (89.7%) have answered slightly better than high school qualification (86.9%).

**QUESTIONNAIRE**

SOCIODEMOGRAPHIC INFORMATION

Age: Gender: Female/Male

Education level: Elementary school/High school/University

AWARENESS AND KNOWLEDGE OF ORAL CANCER

1. Have you heard of oral cancer?
2. Yes b) No
3. Where did you know about it?
4. a)Awareness program in TV, Radio, Newspaper
5. Friends
6. Internet
7. Dentist
8. Have you undergone screening for oral cancer?
9. Yes b) No c) I don’t know

RISK FACTORS OF ORAL CANCER

1. Could chewing paan, increase the risk of oral cancer?
2. Increases the risk
3. Does not increase risk
4. I don’t know
5. Could smoking have additive effect in alcohol consuming people in increasing the risk of oral cancer?
6. Increases the risk
7. Does not increase risk
8. I don’t know
9. Could eating hot, spicy foods increase the risk of oral cancer?
10. Increases the risk
11. Does not increase risk
12. I don’t know
13. Could long term trauma due to sharp tooth increase the risk of oral cancer?
14. Increases the risk
15. Does not increase risk
16. I don’t know

EARLY SIGNS OF ORAL CANCER

1. Could painless white patch be an early sign of oral cancer?
2. Definitely no
3. Probably no
4. Probably yes
5. Definitely yes
6. Could painless red patch be an early sign of oral cancer?
7. Definitely no
8. Probably no
9. Probably yes
10. Definitely yes
11. Could sore and bleeding gums be an early sign of oral cancer?
12. Definitely no
13. Probably no
14. Probably yes
15. Definitely yes
16. Could a wound which does not heal for a long period of time be an early sign of oral cancer?
17. Definitely no
18. Probably no
19. Probably yes
20. Definitely yes

PREVENTION AND TREATMENT OF ORAL CANCER

1. Do you think oral cancer is preventable?
2. Yes b) No
3. Do you think going to a dentist can identify oral cancer at an early stage?
4. Yes b) No
5. Do you think oral cancer is treatable at an early stage?
6. Yes b) No
7. Do you think oral cancer has better prognosis if treated?
8. Yes b). No
9. Do you think there is any advanced modalities to detect oral cancer?
10. Yes b) No

Among the risk factors, smoking was identified correctly by maximum number of participants (44 participants 88%) followed by paan chewing (23 participants 46%), long term trauma due to sharp tooth( 4 participants 8%) and eating hot and spicy foods (1 participant 2%). In the sign and symptoms, a wound which does not heal for long time was answered by maximum number of participants (41 participants 82%), then sore and bleeding gums (40 participants 80%), followed by red patch (24 participants 48%) and white patch (22 participants 46%). When questioned about prevention and treatment, 44 participants (88%) answered that oral cancer is preventable,39 participants (78%) answered that cancer is treatable at an early stage , 30 participants (60%) answered that going to a dentist at an early stage can identify oral cancer and 27 participants (54%) answered that there is advanced modalities to detect oral cancer.

Table 1. Percentages of awareness and knowledge about oral cancer.

|  |  |  |  |
| --- | --- | --- | --- |
| Items |  | N (Number) | Percent (%) |
| Have you ever heard of oral cancer? | YES | 48 | 96 |
| NO | 2 | 4 |
| Where did you know about it? | Awareness program in TV, Radio & Newspaper | 48 | 96 |
| Friends | 0 | 0 |
| Internet | 2 | 4 |
| Dentist | 0 | 0 |
| Have you undergone screening for oral cancer? | YES | 0 | 0 |
| NO | 41 | 82 |
| I DON’T KNOW | 9 | 18 |

Table 2. Distribution and analysis of PRF, PES and PPT for age groups.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variables | Points | Age groups | | Total  N |
| 16 – 39 yrs | 40+ yrs |
| PRF | PRF = 0 | 7 (70) | 3 (30) | 10 |
| PRF = 1 | 10 (45.4) | 12 (54.5) | 22 |
| PRF = 2 | 11 (64.7) | 6 (35.2) | 17 |
| PRF = 3 & above | 1 (100) | 0 (0) | 1 |
| PES | PES = 0 | 3 (50) | 3 (50) | 6 |
| PES = 1 | 4 (44.4) | 5 (55.5) | 9 |
| PES = 2 | 10 (62.5) | 6 (37.5) | 16 |
| PES = 3 & above | 12 (63.1) | 7 (36.8) | 19 |
| PPT | PPT=0 | 0 (0) | 1 (100) | 1 |
| PPT=1 | 6(54.5) | 5 (45.4) | 11 |
| PPT=2 | 9(60) | 6 (40) | 15 |
| PPT=3 & above | 14(60.8) | 9 (39.1) | 23 |

0 = Poor knowledge

1 = Low knowledge

2 = Medium knowledge

3 & above = High knowledge

Table 3. Distribution and analysis of PRF & PES for gender groups.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variables | Points | Gender | | Total |
| Female | Male |
| PRF | PRF = 0 | 5 (55.5) | 4 (44.4) | 9 |
| PRF = 1 | 7 (30.4) | 16 (69.5) | 23 |
| PRF = 2 | 9 (52.9) | 8 (47) | 17 |
| PRF = 3 & above | 0 (0) | 1 (100) | 1 |
| PES | PES=0 | 1 (16.6) | 5 (83.3) | 6 |
| PES=1 | 5 (55.5) | 4 (44.4) | 9 |
| PES=2 | 5 (31.2) | 11 (68.7) | 16 |
| PES=3 & above | 10 (52.6) | 9 (47.3) | 19 |
| PPT | PPT=0 | 1 (33.3) | 2 (66.6) | 3 |
| PPT=1 | 4 (66.6) | 2 (33.3) | 6 |
| PPT=2 | 2 (12.5) | 14 (87.5) | 16 |
| PPT=3 & above | 14 (56) | 11 (44) | 25 |

0 = Poor knowledge

1 = Low knowledge

2 = Medium knowledge

3 & above = High knowledge

Table 4. Distribution and analysis of PRF & PES for educational level groups.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variables | Points | Elementary  school | High  school | University | Total |
| PRF | PRF = 0 | 1 (10) | 4 (40) | 5 (50) | 10 |
| PRF = 1 | 0 (0) | 10 (47.6) | 11 (52.3) | 21 |
| PRF = 2 | 0 (0) | 9 (50) | 9 (50) | 18 |
| PRF = 3 & above | 0 (0) | 0 (0) | 1 (100) | 1 |
| PES | PES=0 | 0 (0) | 4 (66.6) | 2 (33.3) | 6 |
| PES=1 | 1 (10) | 6 (60) | 3 (30) | 10 |
| PES=2 | 0 (0) | 6 (40) | 9 (60) | 15 |
| PES=3 & above | 0 (0) | 7 (36.8) | 12 (63.1) | 19 |
| PPT | PPT=0 | 1 (33.3) | 1 (33.3) | 1 (33.3) | 3 |
| PPT=1 | 0 (0) | 4 (80) | 1 (20) | 5 |
| PPT=2 | 0 (0) | 10 (55.6) | 8 (44.4) | 18 |
| PPT=3 & above | 0 (0) | 8 (33.3) | 16 (66.7) | 24 |

0 = Poor knowledge

1 = Low knowledge

2 = Medium knowledge

3 & above = High knowledge

DISCUSSION

Oral cancer is reported as having one of the highest mortality ratios amongst all malignancies(27). Cohort studies show that oral cancer has risen in all age groups throughout the world in the last ten decades. The prevalence of oral cancer in india is up to four times higher than other countries (28). Oral cancer has a vast potential for prevention. It could be prevented by habits cessation and early detection by visual examination which could lead to reduction in mortality (29).

Studies on public awareness about detection and prevention of oral cancer have been conducted in several countries like Northern Germany(30), Florida(31),Sri Lanka(32), and in India it is was done in Gorakhpur city(33), Kerala (34). Although each country showed different results, the overall awareness level was insufficient (18,22,27). This study includes the knowledge and awareness of the patients about risk factors, signs and symptoms, prevention and treatment of oral cancer.

Most of the participants in this study were of younger age group and with high education level. More than 90% of the participants have heard of oral cancer which is better when compared with previous studies (18,35). 80% of the patients have not undergone screening for oral cancer. This a drawback in our health system which needs to be improved. Considering the risk factors, smoking was answered to a maximum level (84%) by the participants followed by paan chewing (46%). This may be due to general health campaigns which promote tobacco cessation. This is also because most of the oral cancer patients were described with habits of smoking (36). Paan chewing was answered next to smoking as it is very common in south India and it was related to social and cultural practices among rural people. Studies conducted in Newyork state and Newjersey area have shown that knowledge concerning risk factors was found as 76% for smoking and tobacco use. In Another study conducted in turkey, knowledge related to these risk factors was 57.6% (26). In India, Kerala showed 77% for smoking and 79% for paan chewing (34). The results of the current study regarding the knowledge of risk factors was relatively high than the previous studies. In southasian population, most of the squamous cell carcinoma have preceding precancerous conditions arising due to smoking and betel nut chewing whereas in other European countries most of the carcinomas arise de novo (37).

Regarding signs and symptoms, non healing wounds was answered to maximum level of 82% by the participants followed by sore and bleeding gums which is 80%. In the previous studies, 57-66.5% have answered for sore and bleeding gums (22,31). Painless white patch and red patch were answered to a relatively low level. The signs and symptoms were answered at a lesser level among the older age group. This could be due to fact that elderly persons perceived changes in oral mucosa as a part of ageing. In questions related to prevention and treatment oral cancer was answered as preventable by more than 80% of the participants. It was reported that higher education level and age increases the awareness and knowledge of oral cancer (31).

The sociodemographic level could affect the awareness level about oral cancer. Among the gender, female participants have better awareness about signs and symptoms than the male participants. There were similar results seen in previous studies(38). This is because women are generally more concerned about their health and well being and are aware about any physical changes occurring in the body. In age groups, the younger age group (16-39) have answered correctly than the older age group (40-60). People with higher qualification and younger age had better knowledge and awareness (39). The younger age group have better knowledge about the risk factors, signs and symptoms. Mass media and health campaigns were the main sources of information for oral cancer (40). Among the educational level, people with university level of qualification have better knowledge about oral cancer. Education plays an important role in knowing about oral cancer.

The prevention of oral cancer depends on its early detection. Most of the oral cancers are preceded with a precancerous lesion. The American Dental Association has stated that Identifying white and red the spots that show dysplasia and removing them before they become cancer has proved to be one of the most effective methods for reducing the incidence and mortality of cancer (41).

Overall there is lack in depth of knowledge about oral cancer in this study. Though the general awareness of the people is good, focus should be done on conducting various oral health education programs for the recognition of risk factors, signs and symptoms, prevention and treatment. This could be done through oral cancer prevention campaigns based on media advertising such as radio, TV , newspaper articles (26).

CONCLUSION

The results of this study was better when compared to previous studies done in different populations. This study was first one of its kind to be conducted in Chennai population. Education level and age were significant factors associated with awareness of early signs, risk factors, prevention and treatment of oral cancer. More screening programs should be conducted for early identification of oral cancer.

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