

Effectiveness of Awareness Programme on Knowledge on Oral Cancer and its Prevention among Adolescents in Selected Intermediate School of Moradabad, UP

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Abstract

Oral cancer, preventable if a person is aware of which risk factor is responsible of causing oral cancer and which risk factors a person can control or eliminate. A cross sectional study in Lucknow district (UP) found that out of 508 cases, a majority of the samples in the age group 18 - 75 years were involved. Documented cases of oral cancer in males were higher as compared to females, with poor level of knowledge. From 2012 to 2016 a retrospective study was performed in Moradabad hospital, UP. Results of 200 oral biopsies were reviewed, 130 biopsies were pre-malignant, 40 were malignant and remaining 30 were others. Pre-malignant and malignant oral lesions were infectious in the patients attending the hospital in Moradabad district. A quantitative research approach was used to conduct this study using pre-experimental one group pre-test and post-test research design on 80 participants. The conceptual framework of this study was health belief model. Non-probability purposive sampling techniques was used to select the participants, self-structured questionnaire on knowledge concerning oral cancer and prevention of oral cancer was used to collect data. There was less awareness among adolescents, as they had reported lack of knowledge on oral cancer and its prevention, risk factors, sign & symptoms and early detection or diagnostic concepts, no matter which background they were from. Out of total, 84.3 percent participants reported poor knowledge and 12.0 percent participants reported average knowledge in pre-test, in post-test, 26.5 percent of participants showed average knowledge and 69.9 percent showed excellent knowledge. Findings also showed that mean post-test level of knowledge ($2.72 \pm .449$) was more than mean pre-test knowledge score ($1.12 \pm .332$), with mean difference of 1.6, which specifies that awareness programme was effective in increasing level of knowledge on oral cancer and prevention of oral cancer. With the help of intervention there was an improvement in post-test score of knowledge about oral cancer and its prevention among adolescent. Present study concluded that awareness programme on oral cancer was effective as majority of participants improved their knowledge level from inadequate to excellent level of awareness regarding oral cancer and its prevention.

The prevalence of chewing betel quid, smoking and alcohol is rising day by the day. Tobacco, which leads to oral cancer recorded as chief risk factor. Second place is given to alcohol abuse. Human papillomavirus is the extending factor that also contributes to its role in causing oral cancer. According to WHO, some cancers can be cured by surgeries, radiotherapy and chemotherapy, if diagnosed early. WHO documented that the fundamental reason for the

massive incidence of oral cancer is the use of a smokeless form of tobacco. Globally, India has one of the elevated percentages for oral cancer. In India, a statistical data of 2010 showed that 2,500 individuals expire every day due to tobacco (National Oral Cancer Registry Programme & Oral Scanner Foundation). To reduce oral cancer incidence, one of the best ways is timely detection and requesting suspected patients to undergo screening or oral cancer examination to confirm or rule out oral cancer. This is lack of knowledge and communication about oral cancer and its hazards.

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Objectives

1. To assess the knowledge of adolescents regarding prevention of oral cancer.

2. To determine the effectiveness of awareness programme on knowledge regarding oral cancer and its prevention.
3. To find out association between pre-test level of knowledge of adolescents with their selected demographic variables among adolescents.

Review of Literature

Shimpi et al (2018) carried out a cross-sectional study in rural communities to assess knowledge, awareness and behaviours of suspected 504 dental patients. Out of total, 60 percent of participants had no knowledge about increased oral cancer risk and 79 percent of participants were unaware that oral cancer is also caused by human papilloma virus.

Musa et al (2018) assessed the awareness and knowledge on oral cancer on 275 non-medical background students, Malaysia. The result showed that 46.2 percent were smokers and were less aware of oral cancer. About half of total participants were unaware of the benefits of early detection.

Jain et al (2018) conducted a study to assess oral cancer awareness among 100 BDS and 100 MBBS students of Karad. It was found that BDS students were more aware and had more knowledge regarding oral cancer as compared to MBBS students.

Babiker et al (2017) in a cross-sectional study, assessed awareness about oral cancer among 500 participants in Omdurman, Sudan; 51 percent reported unawareness of oral cancer and its prevention and also showed poor knowledge of its risk factors.

Sundresh et al (2016) carried out a descriptive study to assess knowledge and awareness on oral cancer of 40 participants in Pune. The post-test showed improved and effective outcome as a result of intervention. Out of total, 47.5 percent of participants report outstanding level of knowledge and 50 percent of participants had moderate level of knowledge where only 2.5 percent showed very poor level of knowledge about oral cancer.

Kinikar K et al (2016) carried a survey on 1,125 participants. Result showed that only 48.9 percent of participants had responsiveness of oral cancer. Also, out of total, 56.8 percent had inappropriate awareness on oral cancer.

Maweri et al (2015) conducted a cross-sectional study on 697 general city people in Saudi Arab. Result revealed that out of 697 i.e. 46.4 percent of participants were unaware of oral cancer.

Thilak et al (2015) carried a descriptive study on randomly selected 267 rural people of Karna-

taka, to assess awareness and knowledge on oral cancer. 13.1 percent were unaware of the term "oral cancer". The report shows, 34.8 percent participants think oral cancer is curable, whereas 20.2 percent did not think that oral cancer is curable. But 44.5 percent responded that they have no idea about oral cancer is curable or not curable.

Shyamala et al (2014) in a quasi-experimental research design (one group pre-test and post-test design) study on 50 participants of Dhanalakshmi Srinivasan Group of Institution, Perambalur found that 70 percent responders had inadequate knowledge, 30 percent had moderate knowledge and 0 percent had adequate knowledge in their pre-test.

Adebola et al (2013) in a descriptive and cross-sectional design study on 21 participants of NW Nigeria assessed awareness of oral cancer. Results showed that 66.7 percent were unaware of oral cancer. The result likewise reveals that no one had ever heard about oral cancer examination.

Methodology

A quantitative research method was used to assess the effectiveness of awareness programme on knowledge on oral cancer and its prevention. A pre-experimental one group pre-test and post-test was accepted for this study. The conceptual framework of this survey was health belief modal. The research setting for the study was Government Inter College at Moradabad, UP. The target population of this study was all the adolescents of Government Inter College, Moradabad, UP. Sample consists of adolescents. Non-probability purposive sampling techniques was used to select the participants. Data collection technique was self-structured questionnaire on knowledge based on oral cancer and prevention of oral cancer.

Sampling criteria: Adolescents available at the time of study, who were ready to take part in the study, irrespective of their gender and the adolescents in age group 16-19 years were included.

Adolescents who were absent, not prepared to take part in the study, and who were sick at the time of study were excluded.

Description of Tool

Tools included three sections.

- Section A - Socio-Demographic variables, it comprised of 10 items i.e. age in year, gender, personnel bad habits, educational intermediate stream of the participant, father's education, father's occupation, type of family, residence, attended any previous programme on oral cancer

Tool for Data Collection

Section-A: Demographic Variables

Instruction: Please read following items carefully and put a tick next to correct option-

1. Age
 - a) 16 years
 - b) 17 years
 - c) 18 years
 - d) 19 years
2. Gender
 - a) Male
 - b) Female
3. Personal bad habits
 - a) Smoking
 - b) Alcohol abuse
 - c) Tobacco/ pan chewing
 - d) Don't have
4. Educational intermediate stream
 - a) Science
 - b) Art
 - c) Commerce
 - d) Other specify
5. Education of Father
 - a) Illiterate
 - b) Literate
 - c) Primary
 - d) Secondary
 - e) Degree and above
6. Occupation of father
 - a) Government
 - b) Private
 - c) Self
 - d) Any other (specify)
7. Type of family
 - a) Nuclear
 - b) Joint
 - c) Extended
8. Residence
 - a) Rural
 - b) Urban
 - c) Semi-urban
9. Have you gone any programme regarding oral cancer?
 - a) yes
 - b) no

If yes specify
10. Family history of cancer
 - a) Yes
 - b) No

If yes, specify which type of cancer

Section-B: Self-Structured Questionnaires Based on Knowledge Regarding Oral Cancer

1. Following is a part of the oral cavity
 - a) Ear
 - b) Eye
 - c) Tongue
 - d) Oesophagus
2. Cancer is a
 - a) Uncontrolled cell growth
 - b) Entry of virus into cells
 - c) Entry of bacteria into cells
 - d) Cell death

3. One of the following groups is at high risk of developing oral cancer
 - a) Pregnant women
 - b) Chain smokers
 - c) Tea drinkers
 - d) Person under nutrition
4. Early sign & symptom of oral cancer
 - a) White and red patches in the mouth
 - b) Breathing problem
 - c) Weight loss
 - d) Pain in the abdomen
5. One among which age group has most cases are prompt to oral cancer
 - a) Under 20 years
 - b) Between 20-30
 - c) Between 30-40
 - d) Over 40 years
6. Beside from tobacco chewing, which of the following is a major risk factor of oral cancer?
 - a) Weakened immunity
 - b) Smoking
 - c) Sun exposure
 - d) HPV
7. The harmful effect of tobacco use is
 - a) Aggressive behaviour
 - b) Memory problem
 - c) Pain and swelling in the gums
 - d) Headache
8. Oral cancer are diagnosed and treated by
 - a) Dentist
 - b) Otolaryngologist /ENT doctor
 - c) Dermatologist
 - d) Ophthalmologist
9. One of the following months is considered as an oral cancer awareness month
 - a) February
 - b) March
 - c) April
 - d) May
10. Non-modified risk factor of oral cancer is
 - a) Tobacco and alcohol
 - b) Poor diet
 - c) Genetic defect
 - d) Poor oral hygiene

Section-C: Self-Structured Questionnaires Based on Prevention of Oral Cancer

11. Intake of high in diet, can reduce oral cancer risk.
 - a) Vitamin and mineral
 - b) Salt
 - c) Fat and starch
 - d) Sugar
12. Oral cancer which is caused by human papilloma virus can be prevented by
 - a) Hepatitis b vaccine
 - b) Hepatitis A vaccine
 - c) HPV vaccine

- d) Influenza vaccine
13. Self-reduction of oral cancer risk is reduced by
 - a) Primordial prevention
 - b) Primary prevention
 - c) Secondary prevention
 - d) Tertiary prevention
14. Secondary level prevention aim is
 - a) Reduction of risk factors
 - b) Diagnostic evaluation
 - c) Treatment
 - d) Removal of risk factors
15. One among the options which can be restrict to avoid the occurrence of oral cancer
 - a) Cold drinks
 - b) Heavy Alcoholic drinks
 - c) Coffee
 - d) Soft drinks
16. An effective method to prevent oral cancer is
 - a) Get immunized against influenza
 - b) Avoid sunlight
 - c) Practice good oral hygiene and regular check-ups
 - d) Less intake of alcohol
17. When to do oral hygiene practice
 - a) Once a day
 - b) Twice a day
 - c) Thrice a day
 - d) Before and After each meal
18. One of the following foods that can keep your mouth healthy
 - a) Full fat dairy products
 - b) Oily food
 - c) Red meat
 - d) Green and yellow vegetables
19. Damage to the oral cavity can be reduce by avoiding
 - a) Low fat dairy products
 - b) Whole gain
 - c) Smoky food
 - d) Cheese
20. What will you do if you notice any unusual sign in or around your mouth.
 - a) Seek doctor's advice
 - b) Use mouthwash
 - c) Brush your teeth
 - d) Avoid fast food
21. Early detection of oral cancer can
 - a) Result in difficult treatment
 - b) Decrease the chances for cure
 - c) Saves the lives
 - d) Worsen the quality of life
22. Oral problems can be reduced effectively by using
 - a) Baking soda
 - b) Herbal tooth paste
 - c) Fluoride toothpaste
 - d) Activated charcoal
23. Unusual sign of oral cancer in the oral cavity can be detected early by
 - a) Biopsy
 - b) Mouth self-examination

c) X ray d) MRI 24. Mouth cancer can be identified early by a) Blood test b) X ray c) Oral cancer screening d) Biopsy 25. How often should one get oral cancer screening (a) In every 3 months (b) In every 5 months (c) In every 6 months (d) In every 7 months 26. Oral screening examination is an examination performed by	a) Self b) Doctor c) Family d) Social worker 27. Nicotine replacement therapy can a) Help in the healing mouth ulcer b) Help to reduce craving symptoms of tobacco c) Increase the risk of smoking d) Be regard as unsafe for smokers 28. Dental check-ups includes a) Visual examination of oral cavity b) Chemotherapy c) Surgery	d) Relaxation therapy 29. Lips are effectively protected from U.V radiation by a) Use sunglasses b) Limit exposure c) Protected clothing d) Cap 30. After oral cancer diagnosis, which of the following is the benefit of quitting tobacco use: a) Better quality of life b) Lesser survival c) Difficulty in breathing d) Lesions will reoccur
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and family history of cancer.

- Section B - Self-structured questionnaires based on knowledge regarding oral cancer, it consisted of 10 items formed on basic topics about oral cancer i.e. anatomy of oral cavity, definition of oral malignance, risk aspects of oral cancer and its sign and indications, harmful effects, diagnostic concept and awareness month of oral cancer, otolaryngologist or ENT doctor.

- Section C - Self-structured questionnaires based on prevention of oral cancer, it had 20 items formed on preventive measures and awareness of oral cancer, that were based on diet/ food, HPV vaccine, primordial/ primary/ secondary/ tertiary prevention, avoidance of alcohol drinks, oral hygiene, unusual sign, early detection, oral cancer screening/ mouth self-examination, nicotine replacement therapy, dental check-ups, benefits of quitting tobacco.

Criteria of level of knowledge was scored as – Poor knowledge for score ranging from 1 to 10, Average knowledge for score ranging from 11 to 20, Excellent knowledge for score ranging from 21 to 30.

Table 1: - Assessment of pre-test score of knowledge regarding oral cancer and its prevention among adolescents (N=80)

S.No.	Level of knowledge	Range of score	Pre- test		Post-test	
			frequency	Percentage	Frequency	Percentage
1	Poor	1-10	70	84.3	-	-
2	Average	11-20	10	12.0	22	26.5%
3	Excellent	21-30	-	-	58	69.9%

Table 2. Comparison between the pre-test and post-test knowledge score regarding oral cancer and its prevention among adolescents (N = 80)

Group	Mean	Std. deviation	Mean difference	Df	t-value	p-value p<0.05	Interpretation
Pre-test	1.12	0.332	1.6	79	26.40	.0	Significant
Post-test	2.72	0.449					

$df(79) = 1.66; t = 1.70$

Discussion

Interpretation: Out of 80 participants, 63.75 percent majority of adolescent were 17 years of age. 17.5 percent of participants reported of having habit of smoking, 8.75 percent were reported as tobacco/pan chewers. Majority of participants i.e. 91.25 percent of participants respond that they have never attended any kind of health programme regarding oral cancer whereas only 8.75 percent of participants have attended programme regarding oral cancer. Finding also shows, 40 percent of them belonged to joint family, 25 percent of them fit in nuclear family and 35 percent of them fit in extended families. On asking of having cancer history in their respected families, 96.25 percent of adolescent replied no while 3.75 percent of adolescent replied yes.

Description of knowledge of adolescents regarding oral cancer and its prevention

Table 1 reveals that in pre-test: 84.3 percent participants were having poor knowledge and 12.0 percent participants were having average knowledge, and in post-test: 26.5 percent participants were having average knowledge and 69.9 percent participants were having excellent knowledge. The result of post-test is comparatively more effective than pre-test result in gaining the knowledge through awareness programme on oral cancer and its prevention.

Effectiveness of awareness programme on knowledge regarding oral cancer and its prevention.

- Table 2 reveals that mean post-test level of knowledge (2.72 ± 0.449) was more than mean pre-test knowledge score (1.12 ± 0.332), with

mean difference of 1.6 which indicates that awareness programme is effective for improving level of knowledge on oral cancer and prevention of oral cancer among adolescents.

- The calculated t-value (26.40) was greater than the table value ($t_{79} = 1.66$) at 0.05 level of significance. The statistical analysis shows significant differences in between mean pre-test and mean post-test score. Hence, the H1 is accepted.

Association between the pre-test knowledge level with demographic characteristics

There is statistically significant association between pre-test level of knowledge about oral cancer among adolescents with educational intermediate stream ($p < 0.05$). For rest of the variables pre-test level of knowledge does not have significant association on ($p > 0.05$). No significant association was found between pre-test level of knowledge regarding oral cancer among adolescents with age, gender, bad habits, father's education, father's occupation, family type, family history of cancer, residence participants were asked whether they had undergone any programme regarding oral cancer. Some participants reported of having bad habits like smoking and pan chewing.

Discussion

This study was conducted in a Government Inter College in Moradabad, UP. This study gives beneficial data about participants, knowledge of oral cancer and its risk factors, and preventive measures. The study findings were based on self-structured questionnaire.

In this study, among 80 adolescents, about 63.75 percent adolescents were age 17 years old. Majority of this age attended the study and gained useful information to prevent oral cancer.

Two types of bad habits were reported by participants, out of total, 17.5 percent were smokers and 8.75 percent were tobacco/pan chewers. The awareness programme about prevention of oral cancer helps adolescents to avoid and reduce the intake of risk substances as they have accepted the hazards of consuming tobacco and were ready to quit. But this is not enough, there should be a continuous educational training or awareness programme to increase health literacy, and to reduce oral cancer prevalence, especially among those people who needs more awareness about risk factors and early detection. Such education not only prevents oral cancer, but also promotes oral health status as people gain knowledge about early symptoms, risk factors, nutritional diet, preventive measures, benefits of tobacco cessation and limiting alcoholic drinks, oral self-examination, and practicing good oral hygiene.

Adolescent is an age range in which an individual can easily adapt bad habits, and have poor knowledge regarding health, such people may also encourage, even force others to practice risky behaviours. Awareness programme on oral cancer prevention not only helped in reducing active smoking but also helped in reducing passive smoking.

About 91.25 percent of adolescents reported that they have never attended any kind of health programme earlier, this being their first participation in health awareness programme which helped them to increase their knowledge to maintain good and healthy practice and not to include any risk factor in their lives. Only few students belonged to nuclear type family. About 40 percent and 35 percent of participants were from joint and extended families, respectively. What they had learnt in awareness programme, they can further spread the useful information to their family members, which awares others also in taking preventive measures.

Globally, there are rare cases of oral cancer which are inherited. Result of present study also indicates the same. Only 3.75 percent of adolescents have cancer history in their families. The present study mainly revealed that before intervention in pre-test, there was a less awareness among adolescents, as they had reported lack of knowledge on oral cancer and its prevention, risk factors, Signs and symptoms and early detection or diagnostic concepts, no matter what the background.

Out of total, 84.3 percent participants reported poor knowledge and 12.0 percent reported average knowledge in pre-test while in post-test, 26.5 percent of participants showed average knowledge and 69.9 percent of participants showed excellent knowledge.

Mean post-test level of knowledge (2.72 ± 0.449) more than mean pre-test knowledge score (1.12 ± 0.332), with mean difference of 1.6 specifies that awareness programme was effective on increasing the level of knowledge on oral cancer and prevention of oral cancer. Thus with the help of intervention there's an improvement in post-test score of knowledge about oral cancer and its prevention among adolescents.

Recommendations

1. More studies can be carried out on different samples as to educate subjects about oral cancer.
2. Open-ended questions should be avoided as participants will be more unlikely to complete study with too many open-ended questions.

3. Try to use national/ local language according to the sample.

Implications

Nursing Practice

School health nurse can (a) provide knowledge and skills in performing mouth care to students; (b) demonstrate month self-examination, and can provide awareness of early diagnosis of oral cancer in younger population; (c) make students aware by organising mime, role play, drama on oral cancer especially its risk factors and prevention in school children; (d) provide awareness about prevalence of oral cancer in school children.

Nursing Education

1. Nursing professionals can (a) provide information and knowledge about cancer especially oral cancer to nursing students and (b) organise educational training programme for nursing students to spread awareness in community, school etc.
2. Nursing tutors can teach nursing students about consequences of oral carcinogens.

Nursing Administration

Nursing administrator can (a) establish and encourage varieties of skills for early detection or perform mouth self-screening in nurses so that they can pass on the practice to clients; (b) manage events with the help of nursing organizations and mass media as per need of patients; (c) give training to nurses regarding the awareness of oral cancer and its prevention.

Nursing Research

Nurse researcher can (a) work on such studies in large scale; (b) conduct study about the prevalence of oral cancer in younger or general population; (c) conduct case-control retrospective studies regarding oral cancer and its prevention among adolescents.

Conclusion

This study concluded that awareness programme on oral cancer was effective as majority of participants have improved their knowledge level from inadequate to excellent level of awareness regarding oral cancer and its prevention. Pre-test score was comparatively less than post-test score providing the effectiveness of intervention. Continuing awareness programme on oral cancer and its prevention, should be conducted to reduce oral cancer incidences, especially in places where incidence is recorded high. As absence of information on oral cancer, and its risk aspects and warning sign and how it can be prevented, is a major issue. By avoiding tobacco and alcoholic

drinks in excess can prevent most oral cancer cases. It is most important to seek doctor's help, immediately, if a person has any unusual symptoms in mouth. Early diagnosis is a key to raise the survival rate for oral cancer.

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