

**A STUDY TO ASSESS THE IMPACT OF STRUCTURED TEACHING PROGRAM ON KNOWLEDGE REGARDING ORAL CANCER AMONG SELECTED GOVERNMENT SCHOOL TEACHERS**

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CHAPTER I**INTRODUCTION**

“STUDENTS DON’T CARE HOW MUCH YOU KNOW UNTIL THEY KNOW HOW MUCH YOU CARE.”

JOHN C. MAXWELL

Cancer is a group of disease characterized by uncontrolled and unregulated growth of cells. Although cancer is often considered a disease of aging, with the majority of cases diagnosed in those over age 55 years, it occurs in people of any ages. According to Indian Council of Medical Research estimates by 2020 there would be over 17.3 lakh new cases of cancer and over 8.8 lakh deaths attributed to cancers, with cancer of breast, lung and cervix topping the list. In females breast cancer is the commonest (10% of all cancers) followed by lung cancer and cervix cancer being third commonest.^[1]

In males most common cancer globally is prostate cancer, followed by oral cancer, tracheal, bronchus cancer and lung cancer.^[2]

The overall mortality rate for intra-oral cancer remains high at approximately 50 % even with modern medical services, probably due to the advanced stage of the existence of the disease. This outlines recent advances in the understanding of the roles and interactions of major risk factors for oral-cancer world wide, notably tobacco, alcohol and betel quid and the genetic polymorphisms determining their metabolism that may predispose patients to oral carcinoma.^[3]

Cancer of the oral cavity can occur in any part of the mouth (lips, tongue, floor of mouth most common) or throat is highly curable if discovered early. Although cancer is a major cause of morbidity and mortality worldwide, the World Health Organization (WHO) estimates that one-third of the overall incidence of cancer could be prevented if certain individual lifestyle choices, such as smoking, limited physical activity,

unbalanced diet, and alcohol consumption were improved.^[3]

Oral cancers, with its widely variable rate of occurrence, has one of the highest incidences in India constituting around 12% of all cancers in men and 8% of all cancers among women. It has been estimated that 83,000 new oral cancer cases occur here each year.^[4]

Schools are ideal site for the presentation of health-related information. They offer an efficient and effective way to reach over 1 billion children worldwide and, through them their families and community members.^[4]

In India, the extremely popular use of the smokeless tobacco product called gutkha, renders its population and especially its youth to a greater risk of developing oral submucous fibrosis, a premalignant disease resulting in increased incidence of oral cancer in younger patients. Childhood and adolescence are marked by an increasing involvement in health-risk behaviors, and if established, these behaviors can adversely influence health in the long term.^[5]

Children and adolescents can be easily accessed through schools, and schools are therefore a useful arena for improving their cognitions and behaviors regarding cancer prevention. The WHO identified schools as playing a central role in instilling health promotion and education activities.^[5] However, cancer education programs in schools generally either focus on only a single behavioral risk factor or are mainly designed to improve cancer awareness, although they include the comprehensive topic of risk factors for cancer.^[6]

BACKGROUND OF STUDY

The oral health is an important aspect of community health. Globally two distinct trends can be identified based on the information available from global data bank on oral health. One is improvement of oral health in most of the developed countries and another is deterioration

for most developing countries.^[3] Oral Cancer is an important public health cancer. Tobacco use is one of the chief preventable causes of death in the world.^[5] Childhood and adolescence are marked by an increasing involvement in health-risk behaviors, and if established, these behaviors can adversely influence health in the long term. Several studies have suggested that most children and adolescents have low levels of cancer knowledge and awareness, and infrequently engage in preventive behaviors.^[6]

One of the important components of the healthcare delivery system in any country is the school health program, and school teachers should be trained to provide oral-health education.^[7]

School teachers, with their educational experience and contact with students, can actively contribute to student's health promotion, provided that they receive enough training and support to do so.^[6]

School-based oral education is internationally recognized and plays an important role in increasing the knowledge regarding oral health among school teachers. Previous studies have shown that school teachers in developed countries have inaccurate knowledge regarding the methods for prevention of oral diseases, and have disappointingly poor knowledge of oral health and disease.^[7]

A study was undertaken on Effectiveness of Structured Teaching Programme on knowledge regarding Oral cancer among adolescent boys in selected schools at Kollam. A quantitative research approach was used with pre experimental one group pretest post test only control group design. Non probability Purposive sampling technique was used. Sample size was 60 adolescent boys. After conducting the pretest Structured Teaching Programme was introduced to the adolescent boys. Post test was conducted on the fifth day using the same research tool. The study suggests that Structured Teaching Programme is effective in increasing the knowledge regarding oral cancer among adolescent boys.^[8]

A cross sectional study was conducted on Knowledge about prevention of oral cancer and gum disease among school teachers in Dharwad, India. Objectives of the study were to assess the knowledge of primary school teachers in Dharwad, India, regarding the prevention of oral cancer and gum disease. Sample size was 184 school teachers. Self Administered questionnaire was used for data collection. The study concluded that 36.5% (n = 65) had poor knowledge, while 27.5% had good knowledge regarding the prevention of oral cancer and gum disease. School teachers with postgraduate qualification were better informed with regard to the prevention of oral diseases as compared to those with only a bachelor degree. Establishment of school based oral health promotion program in India is urgently required.^[7]

NEED FOR STUDY

Cancer is the second leading cause of death worldwide. Around one third of deaths from cancer are due to 5 leading behavioural and dietary risks, high body mass index, low fruits and vegetables intake, lack of physical activity, tobacco and alcohol use.^[2]

Tobacco is most important risk factor of cancer and is responsible for approximately 22% cancer deaths. According to WHO, statistics shows that in the year 2018, 9.6 million deaths are due to cancer in which most common lung cancer (2.09 million cases), breast cancer (2.09 million cases), colorectal cancer (1.80 million cases), prostate cancer (1.28 million cases), skin cancer (non-melanoma) (1.04 million cases), stomach (1.03 million cases). Oral Cancer is a major problem in India. Of the global three lakh cases detected annually, 86 per cent are reported from India, where it's the third most common cancer.^[9]

In India, according to the statistical report by Cancer India, estimated number of people living with disease are around 2.25 million. New cancer patients registered are over 11,57,294 lakh and cancer related deaths are 7,84,821. Considering the percentile, males are at 9.81% and females are at 9.24%. Total deaths due to cancer in 2018 were 7,84,821 which includes 4,13,519 men and 3,71,302 women.^[10]

Cancer of oral cavity and lungs accounts for 25% of cancer deaths in males and cancer of breast and oral cavity accounts for 25% cancers in females. India has one third of oral cancer cases in the world. Oral cancer accounts for around 30% of all cancers in India. Oral cancers in India estimated (Globocan, 2018): New cases: 1,19,992 Deaths: 72,616 In general, more men suffer and die from oral cancer than women.^[10]

Risk factors for oral cancers include smoking, alcohol use, smokeless tobacco products, and HPV (human papillomavirus) infections, with smoking and alcohol having synergistic effects. The contribution of each of these risk factors to the oral cancer burden varies across regions. Smokeless tobacco products and betel quid with or without tobacco are the major risk factors for oral cavity cancer in India and other neighboring countries.^[4]

Among the common oral diseases, oral cancer and gum diseases can be prevented if proper knowledge is provided at an early stage. Often, the high school years are the time that children pick up adverse habits such as tobacco or arecanut chewing, smoking, etc., These are habits that have a considerable effect on oral health and can lead to oral cancer and gum disease.^[5]

Knowledge of oral diseases and more importantly about the fact that most of these diseases are preventable to a large extent is a major vehicle for improving the oral health of the children. School teachers have traditionally

been considered as potentially important primary agents of socialization, with a capability of influencing the future, knowledge, attitude and behavior of school children.^[4]

School teachers have traditionally been considered as potentially important primary agents of socialization, with a capability of influencing the future, knowledge, attitude and behavior of school children.^[4]

Researcher selected this topic because schools as play a central role in instilling health promotion and education activities. As most of the health habits, behavioural and dietary risks are associated and seen furnishing at school age, school teachers plays a vital role in creating awareness among the pupils. So with a view of educating the teachers and broadly the scholars about oral cancer this study is being selected.

TITLE OF STUDY

“Impact of structured teaching program on knowledge regarding oral cancer among selected government school teachers.”

PROBLEM STATEMENT

“A study to assess the impact of structured teaching program on knowledge regarding oral cancer among selected government school teachers.”

OBJECTIVES

Primary Objective

1. To assess the impact of structured teaching program on knowledge regarding oral cancer among government school teachers.

Secondary Objective

1. To assess the pretest and posttest knowledge regarding oral cancer among government school teachers.
2. To compare between the pretest and posttest knowledge regarding oral cancer among government school teachers.
3. To find out correlation between pre-test and post-test knowledge score regarding oral cancer among government school teachers.
4. To find out association between pretest knowledge score on oral cancer with selected demographic variables.

OPERATIONAL DEFINITIONS

Assess

According to Compact Oxford English Dictionary, it is to calculate or estimate the value, importance, or quality of.^[11] With reference to present study assess means to calculate the level of knowledge regarding oral cancer among selected government school teachers before and after the structured teaching program.

Impact

According to Oxford Dictionary, it is a marked effect or

influence.^[12] In context to present study, it refers to the extent to which structured teaching program will have effect on knowledge of oral cancer among government school teachers that may have desired outcome evaluated in terms of knowledge.

Knowledge

According to Cambridge English Dictionary, Knowledge is the understanding of the information about a subject that you get by experience or study.^[14]

In context to present study, knowledge is the level of understanding of the school teachers regarding oral cancer as measured by the correct response to items of knowledge questionnaire.

Cancer

According to Cheever and Hinkle, cancer is a disease process whereby cells proliferate, abnormally, ignoring growth regulating signals in the environment surrounding the cells.^[15]

Oral Cancer

According to White L, Duncan G, Baumle W, Oral Cancer refers to cancer of lips, tongue, oral cavity and pharynx.^[16]

With reference to present study, Oral cancer deals with conditions associated mouth which includes cancer of lips, tongue, oral cavity, and pharynx in detail.

Teacher

According to Compact Oxford English Dictionary, teacher is a person who teaches in a school.^[17] With reference to this study, government school teacher are the teachers who are working in the selected primary and secondary schools run by or aided by the state government.

Structured Teaching Program

According to Oxford English Dictionary, structured teaching program refers to preparing a teaching program using standard material and method for giving systematic information, instruction or training to or about a particular topic.^[13]

In context to present study, Structured teaching program includes a teaching session for 45 minutes which encloses the topic oral cancer under following headings.

- ✓ Introduction
- ✓ Meaning of Oral Cancer
- ✓ Structure and functions of mouth
- ✓ Types of oral cancer
- ✓ Causes and Risk Factors of Oral Cancer
- ✓ Screening of Oral Cancer
- ✓ Diagnosis to confirm oral cancer
- ✓ Sign and Symptoms
- ✓ Management
- ✓ Possible Complications
- ✓ Prevention of oral cancer

Program

- **Group Teaching**

Method of Teaching: Lecture cum Discussion.

Teaching Aid: PPT, Flash Cards, Chart.

- **Group of Samples: Group:** School Teachers

Number of groups: 4

Number of samples in each group: 15

Duration: 45 minutes

Place: Meeting Hall of Selected Schools

SCOPE OF THE STUDY

The findings of the study can be the basis for planning school health program for teachers and students at various levels. This school health program could help to evaluate the health status of not only the students but also for the teachers working in respective schools.

Oral Cancer Screening would be included in the school health program and various educational interventions to improve the knowledge level of teachers and students would be undertaken.

The study findings will help to plan oral cancer awareness campaigns for school teachers and students. This campaign will be focusing on various aspects of oral cancer that is causes, risk factors and prevention of oral cancer. Similar awareness campaign can be planed and initiated for general community in different areas and settings.

The study findings will be utilized for planning the screening programs at various levels in the community.

The study will generate the future hypothesis to conduct the longitudinal study. The same study can be conducted on large scale. The number of schools and the participants included in the study can be increased and generalized.

HYPOTHESES

H₀: There will be no significant difference between pretest-posttest knowledge regarding oral cancer among government school teachers.

H₁: There will be significant difference between pre and post-test knowledge regarding oral cancer among government school teachers.

DELIMITATION OF THE STUDY.

The Delimitations of the study are.

1. The study was done only in the selected government schools.
2. The study was done with in a restricted time period of 4 weeks.
3. The data was collected from 60 samples, which is a small sample size.
4. The study samples were divided in groups for data collection.

ETHICAL ASPECTS

The study proposal was accepted by the ethical committee of the institution. Permission was obtained by the concerned authorities before conducting the study. Consent letter will be obtained by individual samples after explaining them the research process in their own language. Confidentiality regarding the samples information will be maintained by using code numbers by the investigator.

CONCEPTUAL FRAMEWORK**DEFINITION OF CONCEPTUAL FRAMEWORK**

According to Polit and Hungler (2000) – Conceptual framework represents a less formal attempt at organizing phenomena. It deals abstraction (concepts) that are assembled by virtue of their relevance to a common theme. The author also states that the conceptual framework is a cohesive supporting linkage of selected interrelated concepts.^[18]

Based on Imogene King's Theory of Goal Attainment**CONCEPTS**

The basic assumption of the theory is that nurses and clients communicate information, set goals mutually and then act to attain goals.^[19]

This study is focused on assessing the impact of structured teaching program on knowledge regarding oral cancer among government school teachers. Modified Imogene King's Goal Attainment Model (1981) adopted for the present study. As the present study has structured teaching program, it satisfies all the necessary reasons to adopt the King's Goal Attainment Model.

This theory represents an expansion of King's original ideas to incorporate the concept of the nurse and the patient mutually communicating information, establishing goals, and taking action to attain goals.^[19]

This theory represents a situation in which two people, usually strangers come together in a health care organization to help or be helped to maintain a state of health. The theory is based on the concepts of the interpersonal systems, including perception, judgment, interaction, communication, mutual goal setting, action, reaction, transaction.^[19]

1. Perception

Refers to each person's representation of reality. According to King, it includes the import and transformation of energy, and processing, storing and exporting information from the environment and transforms, processes and stores it.¹⁹ In this study, the researcher perceives that, schools as play a central role in instilling health promotion and education activities. As most of the health habits, behavioural and dietary risks are associated and seen furnishing at school age, school teachers plays a vital role in creating awareness among the pupils. School teachers should be

educated about oral cancer so they will educate their pupils about it.

2. Judgment

The researcher decides that structured teaching program on knowledge regarding oral cancer among school teachers should be conducted which will help to improve their knowledge.

3. Action

It refers to the measures taken by the researcher to achieve the goal.^[19]

In this study, the researcher firstly will assess the pretest knowledge of school teachers by providing semi structured knowledge questionnaires, and then will provide structured teaching program on oral cancer.

4. Communication

King defines communication as “a process whereby information is given from one person to another either directly or indirectly in face to meeting or indirectly through telephone, television or the written word”.^[19]

In this present study, the researcher will interact with the school teachers and will provide information about oral cancer with the help of structured teaching program and the teachers will show willingness to participate in the study.

5. Mutual Goal Setting

Two individuals mutually identify the goals and the means to achieve it. They have an agreement about how to attain these goals and then set about to realize them.^[19]

In this study, the researcher and the school teachers in study group will identify a common goal of improving knowledge regarding oral cancer.

6. Reaction

Reaction refers to the willingness of teachers to attain the structured teaching program.

7. Interaction

It refers to verbal and nonverbal behavior between an individual and the environment or between two or more individuals, it involves goal directed perception and communication.^[19]

In this study, the researcher will interact with teachers by creating learning environment for them. Researcher will try to clarify their doubt by asking questions.

8. Transaction

It refers to the interaction between a person and the environment for the purpose of goal attainment.^[19]

In this study, the researcher will perform posttest assessment of knowledge regarding oral cancer among school teachers by administering the same semi structured questionnaire and will evaluate gain in knowledge, hence goal will be attained.

9. Positive outcome

It refers to improvement in the knowledge regarding oral cancer among government school teachers after administration of structured teaching program.

10. Negative outcome

It refers to no significant improvement in the knowledge regarding oral cancer among government school teachers.

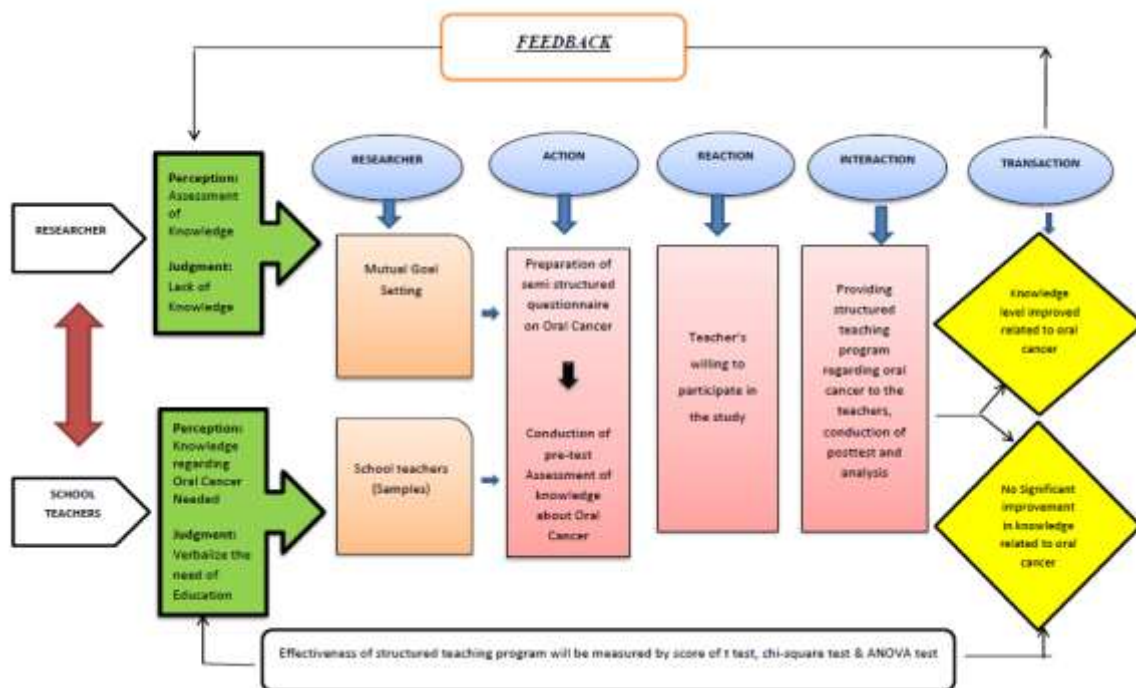


Fig 01: Theoretical Framework Based on Imogene King’s Goal Attainment Model (1981).

SUMMARY

This chapter dealt with the introduction, background of the study, need of the study, Title of the study, objectives, hypothesis, operational definitions, limitations, ethical aspects and conceptual framework is described in detail here and is further to lead the study.

CHAPTER II**REVIEW OF LITERATURE****INTRODUCTION**

Review of literature is one of the most important steps in the research process. The main purpose of literature review is to convey to the readers about the work already done and the knowledge and ideas that have been already established in a particular topic of research. Literature review is a laborious task, but it is essential if the research process is to be successful. Research studies are usually under taken within the context of an existing knowledge base because research cannot be conducted in an intellectual vacuum. One of the most satisfying aspects of the literature review is the contribution it makes to new knowledge, insight and general scholarship.^[20]

A review of literature is a description and analysis of the literature relevant to a particular field or topic. It provides an overview of what work already had been carried out who are the key researchers who did that work.

DEFINITION

Literature review is defined as broad, comprehensive, in depth, systematic critique and synthesis of scholarly publications, unpublished, print and online materials, audiovisual material and personal communications.^[20]

The literature reviewed related to the present study is organized and presented under the following.

1. Review of literature related to knowledge of oral cancer.
2. Review of literature related to knowledge of oral cancer among school teachers.

1. Review of literature related to knowledge of oral cancer.

K. Mageswari Mohanram, (2020), conducted study on Effectiveness of Structured Teaching Programme on prevention of oral cancers among the adults of Mylai Balaji Nagar, Pallikaranai, Chennai. This study aims to assess the level of knowledge of adults on prevention of oral cancer after giving the structured teaching programme. Quantitative Pre-experimental one group pretest-posttest design was selected. The study was conducted at Mylai Balaji Nagar, Pallikaranai, Chennai. The investigator selected 50 adults with non- probability convenient sampling technique. The study concluded that structured teaching programme was very effective in improving the knowledge of adults on prevention of oral cancers.^[21]

Yuniardini S. Warnakulasuriya WS, Gus P, Anandina S, Soegyanto SA, Patoni PN, (2019), conducted a study on Public awareness of oral cancer among adults in Jakarta, Indonesia, The aim of the present study was to investigate the awareness of oral cancer among adults in Jakarta, Indonesia, and explore the factors influencing it. samples were 1000 adult. Only 30% of patients had been asked about their tobacco and alcohol habits, and had been informed about the hazards of these by their dentists. All of the smokers knew that tobacco increased the risk for oral cancer. However, only a few participants considered alcohol, betel quid chewing, UV light exposure, poor diet, and genetics to play role in the development of oral cancer. Health warnings were the main source of information about oral cancer; the role of health professionals is still quite low and needs to be emphasized. this study finding was consistent with other studies conducted in Asia. Educational material suited to particular communities is warranted.^[22]

Ravoori S, Shaik PS, Yaddanapalli SC, M. Pavani NP, Jasti D, Bomireddy VS, (2019) conducted a descriptive, cross-sectional study study on Awareness and knowledge on oral cancer in a population of urban slum area in Guntur city. A questionnaire was designed to collect personal information and assess participants knowledge about oral cancer, etiology, and risk factors after informing the importance of the study, and informed consent was taken before the start of the study. Results showed that the Majority of individuals irrespective of age have gained information on oral cancer from television, while almost all the participants with their respective socioeconomic status have responded that they do not know the signs of oral cancer which is statistically significant ($P \leq 0.001$, $r = 0.030$). The findings of the present study showed that there was lack of awareness and knowledge on oral cancer in a slum population in Guntur city.^[23]

Antony A, Jose D, Kuriakose JR, Thomas L, John M, (2019), conducted a study on Knowledge of Adolescents regarding Cancer Prevention and Factors Contributing to Cancer. The study aimed to assess the knowledge of adolescence regarding the factors contributing to cancer and prevention. The descriptive study was conducted among 130 samples from selected schools. Non-experimental random sampling technique was used and a structured questionnaire was used to assess the knowledge. The collected data were tabulated and analyzed using descriptive and inferential statistics. The mean score knowledge was 9.038 there was a significant association of knowledge with gender. The study concluded that majority of samples had an average knowledge about the factors contributing to cancer and prevention of cancer.^[24]

Shimpi N, Jethwani M, Bharatkumar A, Chyou PH, Glurich I, Acharya A, et al(2018), a cross-sectional study conducted to assess current knowledge, awareness,

and behaviors of patients in rural communities surrounding Oral Care risk. Odds ratios surrounding health literacy on OC risk factors were obtained using unconditional univariate logistic regression analysis. 504 dental and 306 medical patients completing the survey, 62.2% were female, Caucasian/White (92%) with 41% having a \leq high school diploma/equivalent. Tobacco cessation was reported by 20% of responders. Patients who were alcohol consumers exhibited higher knowledge ability surrounding increased OC risk with alcohol and tobacco exposures compared to alcohol abstainers ($p = 0.06$). Researcher concluded that patients recognized links between tobacco and OC risk but demonstrated lower knowledge of other causal factors. Strategic patient education by providers could increase awareness of OC risk.^[25]

Sabnis R, Sahu K, Thakur D, Surana S, Mazhar H, Pandey S, (2018), a cross-sectional study was conducted on Urban and rural disparity in tobacco use and knowledge about oral cancer among adolescents. A 1000 children samples were selected to be a part of the study and were interviewed face-to-face using a detailed pretested, close-ended questionnaire. Prevalence of tobacco consumption was 48.8%. Males were involved predominantly in consuming tobacco. The knowledge and attitude was better in the school children of urban areas than the school children of rural areas; more of the urban school children were involved in smoking cigarette. Rural children outnumbered urban children in the smokeless tobacco consumption. Prevalence of tobacco consumption among school children remains high with a wide disparity among urban and rural children. There is an urgent need to have a rural orientation in the National Tobacco Control Program that is currently being developed by the Government of India and giving relevance to the youth.^[26]

Kumar S, Kumari P, Gupta R, Singh SK, Sinha S, Mehta P, Chourasia SK, (2018), a cross-sectional study was conducted on Knowledge and awareness of oral cancer and impact of pictorial warnings on the willingness to quit tobacco in young tobacco consumers in India, sample was included 250 young tobacco consumers from Ranchi, Jharkhand. Educational status was significantly associated with a good knowledge of awareness of oral cancer and its associated risk factors (p -Value < 0.05). Media was identified as the main source for spreading oral cancer awareness (69.1%). The majority of the people were aware of the pictorial warnings on tobacco products (96.1%). Alternative strategies need to be employed by the government to motivate people to quit tobacco consumption. Dental health education should be provided and educational pamphlets should be distributed to create awareness about the harmful effects of tobacco consumption.^[27]

Ayers K, Li Z, Quintana Y, Aubrey Villalobos VK, and Krasin M, (2018), conducted The St. Jude Cancer Education for Children Program Pilot Study:

Determining the Knowledge Acquisition and Retention of 4-Grade Students, In 2006, St. Jude Children's Research Hospital began developing a school-based outreach program known as the St. Jude Cancer Education for Children Program (SJCECP). The program aimed to teach children about cancer and healthy habits that can prevent the formation of cancers into adulthood. Seven local schools and 481 students from the Memphis area participated in the program evaluation. The results of this study show that 4-grade students are able to acquire gains in knowledge related to cells, cancer, and healthy living after receiving the SJCECP intervention.^[28]

Bhattacharjee T, Gangopadhyay S, (2018), carried out a study on Oral cancer awareness and attitude toward its screening: A study among people with different occupations. This study aimed to assess the awareness of oral cancer and attitude toward screening and the prevalence of related habits and habit-related oral lesions among people with different occupations. Distribution of occupation in the study population was categorized as per the International Standard Classification of Occupations-08 structure and all the study samples were clinically examined to diagnose any habit-related oral changes. The study concluded that a statistically significant difference ($P = 0.0001$) in general awareness of oral cancer was seen among various occupational groups. The attitude toward oral cancer screening was assessed and found no statistically significant results, which signifies that significant motivation for oral cancer screening is required in different occupational workplaces.^[29]

Padmini DB, Thangaraj S, Ranganath TS, Ambiger N, (2018), conducted a cross sectional study to assess the oral health knowledge, attitude and practice among school children in rural field practice area of Bangalore Medical College and Research Institute, Bengaluru. The objective of the study was to assess the oral health knowledge, attitude and practice among school children in rural field practice area of Bangalore Medical College and Research Institute (BMCRI), Bengaluru. A cross sectional study was conducted among 140 middle school children chosen randomly from government schools of Nelamangala, Rural field practice area of BMCRI. In the present study, researcher concluded that there is a gap in the oral health knowledge and practice among school children, which needs to be filled up by regular oral health education to children, parents and teachers as well.^[30]

Ayers K, Li Z, Quintana Y, Aubrey Villalobos VK & James L. Klosky1 (2017), conducted St. Jude Cancer Education for Children Program: The Impact of a Teacher-Led Intervention on Student Knowledge Gains. The aim of this program is to teach Memphis-area children about cells, cancer, and healthy habits that can prevent the development of cancer in adulthood. Eighteen teachers and 426 students from 10 local schools

in the greater Memphis area participated in the program evaluation. This study used a single-group, pre-test/post-test design to determine the impact of the SJCECP intervention on changes in knowledge scores among fourth-grade students. Preliminary evidence suggests that the SJCECP2 intervention is a useful tool for teachers to improve student knowledge of knowledge of cells, cancer, and healthy living concepts at the fourth-grade level.^[31]

Singh K, Sharma D, Kaur M, Gauba K, Thakur JS, and Kumar R, (2017), conducted a Quasi-experimental trial on Effect of health education on awareness about oral cancer and oral self-examination in an urban resettlement colony of Chandigarh, India. The aim of study was to evaluate the effect of health education on awareness about oral cancer and oral self-examination. Study participants were interviewed about their awareness on oral cancer and oral self-examination before- and after-health education using a pretested interview schedule. Awareness items were scored, and mean change in awareness score was computed. The study concluded that out of the 77 study participants who performed oral self-examination, nine were able to detect lesions, and one was found to have sub mucous fibrosis. Health education intervention was able to initiate a favorable behavior change in the community. Hence, oral self-examination programs should be promoted.^[32]

Bajracharya D, Gupta S, Sapkota M, Bhatta S, (2017), conducted a cross-sectional study on Oral Cancer Knowledge and Awareness in Patients Visiting Kantipur Dental College. The present study was carried out to evaluate the awareness of oral cancer among patients visiting Kantipur Dental College, Kathmandu, Nepal. 471 patients from 15-85 years were selected. Researcher concluded that this study done in dental patients showed lack of knowledge and awareness in general public about oral cancer. There seem to be a need for more planned awareness programs through newspapers, radio, television and health campaigns regarding the association of habits in the development of oral cancer and benefits of detecting oral cancer at early stage for better prognosis.^[33]

Al-Maweri SA, Al-Soneidar WA, Dhaifullah E, Halboub ES, Tarakji B, (2017), a study was conducted on Oral Cancer: Awareness and Knowledge Among Dental Patients in Riyadh. The aim of the present study was to assess the levels of awareness and knowledge about signs and risk factors of oral cancer among dental patients in Saudi Arabia. A self-administered questionnaire was used to collect information from 1410 randomly selected patients attending dental departments within public hospitals in Riyadh, Saudi Arabia. Researcher concluded that the Participants with lower than university education were significantly less aware, and had much less knowledge, of the signs and risk factors of oral cancer. The knowledge regarding oral cancer among Saudi dental patients is alarmingly

Interventions to improve public knowledge about oral cancer and attitudes towards early diagnosis and treatment are urgently indicated.^[34]

Jnaneswar A, Goutham BS, Pathi J, Jha K, Suresan V, Kumar G, (2017), conducted a Cross-sectional Survey Assessing Knowledge, Attitude, and Practice Regarding Oral Cancer among Private Medical and Dental Practitioners in Bhubaneswar City. This study aimed to assess the knowledge, attitude, and practices (KAPs) regarding oral cancer among private medical practitioners (MPs) and private dental practitioners (DPs). A cross-sectional, questionnaire-based study was conducted among 334 MPs and 201 DPs in Bhubaneswar. A self-designed, close-ended questionnaire containing 28 items was delivered to the practitioners in their clinics. Correlation between KAP among MPs and DPs was done by Karl Pearson's correlation coefficient test. Student's *t*-test was used to compare the KAP among the practitioners. The study puts forward the need of further training for both MPs and DPs to increase awareness and to strengthen their abilities to diagnose potentially cancerous intra-oral lesions.^[35]

Arbabi-Kalati F, Kari-Payhan S, Mokhtar A, (2017), conducted a study cross sectional study on effect of Education on Promoting Oral Cancers Knowledge of High School Students in Zahedan. The present study was undertaken to evaluate the effect of educational pamphlets on promoting the awareness of high school students in relation to oral cancers. In the present study, 400 male and 400 female high school students were evaluated. Three months after the distribution of the pamphlets, the same questionnaire was filled out by the same subjects. Three months after the distribution of pamphlets, the knowledge scores of males and females had increased, with statistically significant differences. In the present study, despite the fact that the educational pamphlet was useful, it had low efficacy, which might be attributed to the more interesting nature of other more active educational methods, such as lectures or workshops for this age group.^[36]

Bhagya Seela S, ShanmugaRaju P, (2017), conducted a study on Effectiveness of Structured Teaching Programme on Knowledge Regarding Preventive Measures of Oral Cancer among Late Adolescents in Selected Junior College, Karminagar, Telangana. The aim of the study was to find the effectiveness of structured teaching program on knowledge of oral cancer among late adolescents. An evaluative research approach with pre experimental one group pretest and post test design is used. Non probability simple random sampling technique is used to select 30 samples of late adolescents and data collection was done. Data analyzed by using descriptive and inferential statistics. The comparison of pre and post test knowledge score showed that there was a significant gain in knowledge score of late adolescents after structured teaching programme.

Researcher concluded that the findings revealed that structured teaching programme is highly effective in improving knowledge of late adolescents regarding preventive measures of oral cancer.^[37]

Keten HS, Isik O, Guvenc N, Ersoy O, Celik M, (2017), conducted a study on Evaluation of the Level of Knowledge of Oral Cancer Among High School Students, The present study samples were included students from 20 high schools located in the city center of Kahramanmaraş. The samples were informed prior to the study and 2759 students who gave written consent were included in the study. The questionnaire included 25 questions that were prepared using literature in order to establish the knowledge level of the students about oral cancer, and it was evaluated scoring one point to each question. The knowledge score of the female and male participants was similar ($p = 0.605$). The study found that high school students had insufficient levels of knowledge about oral cancer.^[38]

Sankeshwari R, Ankola A, Hebbal M, Muttagi S, Rawal N, (2016), conducted a study on Awareness regarding oral cancer and oral precancerous lesions among rural population of Belgaum district, India, This study aimed to investigate the rural population's awareness of oral cancer, precancerous lesions and their risk factors. Approximately 90% of the participants had never noticed statutory warnings on tobacco and alcohol products. Awareness was especially poor in people of lower socio-economic status. This study highlights a need for education concerning the risk factors for oral cancer, its clinical manifestations and the impact of adverse habits on long term health. Health education campaigns emphasizing oral cancer need to be integrated with broader public health messages.^[39]

Sundresh NJ, Aswathy G, John J, Gupta S. (2016) conducted a study on assessment of the effectiveness of planned teaching programme on awareness and knowledge of oral cancer among factory workers in Pune. The aim of the study was to assess the existing knowledge regarding oral cancer among factory workers, to develop a planned teaching programme on awareness and knowledge of oral cancer, and to assess the effectiveness of planned teaching programme. A total of 40 samples using a semi-structured questionnaire. The study concluded that this survey highlights the general lack of awareness and knowledge on oral cancer among factory workers. Structured awareness program is warranted for this population.^[40]

F Dost, L Do, CS Farah, (2016), conducted a study on knowledge of oral cancer risk factors amongst high-risk Australians: findings from the Lesions programme. This study aimed to identify the level of awareness of oral cancer risk factors in a high risk Australian population. Participants were recruited from the Lesions programme between April 2012 and April 2014. The study concluded that a significant portion of participants also

held a number of inaccurate beliefs in relation to oral cancer risk. These findings can benefit both clinicians and public health policy makers in targeting oral cancer education.^[41]

Al-Maweri SA, Tarakji B, Alsalhani AB, Al-Shamiri HM, Alaizari NA, Altamimi MS, Darwish S, (2015), conducted a study on Oral Cancer Awareness of the General Public in Saudi Arabia. The aim of this study was to assess the level of awareness and knowledge about signs and risk factors of oral cancer in the general population in Saudi Arabia. A self-administered questionnaire was used to collect information from Saudi adults aged 15 years and older. A total of 679 persons participated in the survey. This study concluded that this survey demonstrates a general lack of awareness among the public about oral cancer and a lack of knowledge about its signs and risk factors. There is a clear need to inform and educate the public in matters relating to the known risk factors associated with oral cancer. A media campaign informing the public about oral cancer is clearly required.^[42]

Stolzell F, Seidel N, Uhmans S, Baumann M, Berth H, Hoyer J and Ehninger G, (2014), conducted a study on Be smart against cancer! A school-based program covering cancer-related risk behavior. This study examines the effectiveness of the „Be smart against cancer“ (BSAC) program in promoting cancer awareness and intentions to engage in health-promoting behavior. Researcher used 235 seventh-grade students were randomized to either the intervention ($N = 152$) or the wait- control group ($N = 83$). The intervention included the modules: “What is cancer?” “Sun protection,” “Non smoking,” and “Physical activity, Healthy nutrition, and Limited alcohol consumption.” The researchers concluded that the BSAC is an effective school-based program for raising awareness of cancer, associated risk factors and intentions to engage in cancer-preventive behavior.^[43]

Dumitrescu, A.L., Ibric, S. & Ibric-Cioranu, V, (2014), conducted a study on Assessing Oral Cancer Knowledge in Romanian Undergraduate Dental Students, The aim of this study is to investigate the level of Romanian dental students' knowledge regarding the oral cancer risk and non-risk factors as well as oral cancer signs, symptoms, and diagnostic signs. A total of 192 first-to sixth-year undergraduate dental students were included in study. A significant association was found between the year of study in the dental school, age, and knowledge of the oral cancer knowledge scores. Although students' knowledge increased with academic year, there is a clear need to enhance the dental curricula in oral cancer clinical training in oral cancer prevention and examination for dental students.^[44]

Quadri FA, Saleh SM, Alsanosy R, Abdelwahab SI, Tobaigy FM, Maryoud M, Hebshi NA, (2014), conducted a study on Effectiveness of an Intervention

Program on Knowledge of Oral Cancer among the Youth of Jazan, Saudi Arabia. The study is the first of its kind to be conducted in Saudi Arabia (KSA), aiming to analyze the effectiveness of an intervention program in improving the knowledge of oral cancer among the youth. A total of 1,051 young Saudis (57% males and 43% females with a mean age of 20.4 ± 1.98) were selected using multi-stage cluster sampling. The researchers concluded that the study gives a direction for further public health initiatives in this oral cancer prone region.^[45]

Shyamala S, (2014), conducted a study to assess the effectiveness of structured teaching programme on knowledge and attitude regarding prevention of oral cancer among drivers in Dhanalakshmi Srinivasan group of Institution, At Perambalur. The research design used was "Quasi experimental design" (One group pre test and post test design). The study was conducted among drivers residing at Dhanalakshmi Srinivasan Group of Institutions, Perambalur. The Population of the study was 50 drivers and Structured Questionnaire schedule was used to collect data. Non probability, convenience sampling technique was used. The research was concluded with improved knowledge and attitude regarding prevention of oral cancer among drivers of Dhanalakshmi Srinivasan Group of Institutions.^[46]

Al-Maweri SA, Addas A, Tarakji B, Abbas A, Al-Shamiri HM, Alaizari NA, Shugaa-Addin B, (2014), a cross-sectional survey Public Awareness and Knowledge of Oral Cancer in Yemen, The aim of this study was to assess the level of awareness and knowledge of oral cancer in the general population in Yemen samples were 543 persons aged group ≥ 15 . for data collection self-administered questionnaire were used. Only 24.1% and 21.4%, respectively, were able to correctly identify red and white lesions as early signs of oral cancer. Knowledge of oral cancer was significantly associated with age ($p < 0.01$), gender ($p < 0.05$) and education level ($p < 0.001$). The findings suggest that the knowledge regarding oral cancer in this population is low. Therefore, educational programs are highly needed to improve such knowledge.^[47]

Kyle R, Nicoll A, Forbat L, Hubbard G, (2013), conducted a study on adolescents awareness of cancer risk factors and association with health related behaviour, This study assessed adolescents' cancer awareness and the effectiveness of an existing cancer specific school-based intervention delivered by Teenage Cancer Trust. Intervention effect was greater among females. The researcher concluded that this educational intervention is an effective way to raise adolescents' awareness of cancer risk factors. However, further cross-sectional and experimental studies are required to definitively assess adolescents' awareness of cancer risk factors and the effectiveness of this educational intervention.^[48]

Tadbir AA, Ebrahimi H, Pourshahidi S, Zeraatkar M, (2013), conducted a study on Evaluation of Levels of Knowledge about Etiology and Symptoms of Oral Cancer in Southern Iran. The aim of this study was to survey adult knowledge about risk factors and signs of oral cancer in Shiraz Dental University. In this descriptive cross-sectional study using an investigator-made questionnaire, 783 adults who were referred to Shiraz Dental University participated. The mean knowledge about the risk factors and signs of oral cancer were 1.94 from 5 with 1.14 standard deviation and 0.96 from 3 with 0.93 standard deviation. Study concluded that observed low level of knowledge of people regarding both risk factors and signs of oral cancer emphasizes the need for more efforts to be made about the above mentioned issues by the media.^[49]

Siddique, Mitchell DA (2013), conducted a study on the impact of a community-based health education programme on oral cancer risk factor awareness among a Gujarati community. In present study the respondents completed a confidential, bilingual questionnaire in English and Gujarati regarding alcohol, tobacco, paan, sopari, paan masala and gutka use before and after a community-based health education programme on oral cancer risk factors. The study concluded that there is a significant differences in oral cancer risk factor awareness and practices among first and second generation Gujarati muslims and that a local community-based health education programme was effective in raising awareness.^[50]

Nabillah Ghani WM, Doss JG, Jamaluddin M, Kamaruzaman D, Zain RB, (2013), conducted a study on Oral Cancer Awareness and its Determinants among a Selected Malaysian Population. Aim of the study was to assess oral cancer awareness, its associated factors and related sources of information among a selected group of Malaysians. A cross-sectional survey was conducted on all Malaysian ethnic groups aged ≥ 15 years old at eight strategically chosen shopping malls within a two week time period. The study concluded that there was a general lack of awareness regarding the risk habits, early signs and symptoms, and the benefits of detecting this disease at an early stage. Mass media and health campaigns were the main sources of information about oral cancer.^[51]

Reddy S, Doshi D, Reddy MP, Kulkarni S, Gaffar A, Reddy VR, (2012), Oral cancer awareness and knowledge among dental patients in South India. To assess the levels of awareness and knowledge about risk factors and early signs of oral cancer among dental patients visiting dental hospital in Hyderabad city, South India and to correlate the knowledge levels according to age, gender and education levels. Samples were 2045 participants. Knowledge towards risk factors of oral cancer was taken into consideration along with variables, significant differences were seen only in gender with female having better knowledge ($p = 0.02$).

No significant difference was noted among the age group and varying education levels. However, knowledge about early signs of oral cancer revealed a highly significant difference with the level of education ($p = 0.000$). The awareness levels and knowledge about risk factors and early signs of oral cancer in this cross section of Indian dental patients were satisfactory.^[52]

Agrawal M, Pandey S, Jain S, Maitin S, (2012), conducted a study on Oral Cancer Awareness of the General Public in Gorakhpur City, India, Global cancer statistical data show that India has one of the highest incidence rates of oral cancer worldwide. A total of 2,093 persons participated in the survey. It was also intended to educate the same population for early detection by increasing their ability to recognize signs and risk factors. Overall, the awareness of oral cancer in the high-risk population of Gorakhpur was not satisfactory, pointing to a need for further dissemination of information on this issue and its associated risks. This is especially important for the youngsters, as this may possibly help them keep away from the deleterious habit of tobacco indulgence in any form. If necessary risk factor cessation counselling should be provided.^[53]

Sami Abdo Radman Al Dubail, Ganasegeran K, Alabsi AM, Alshagga MA, Ali RS, (2012), a cross sectional study was conducted on Awareness and Knowledge of Oral Cancer among University Students in Malaysia, samples were collected 200 university students. A self administered questionnaire was used to collect data. A satisfactory knowledge was observed on the following risk factors; smoking (95.5%), poor oral hygiene (90.5%), family history (90.0%), alcohol (84.5%) and poor fitting dentures (83.0%). However, unsatisfactory knowledge was observed about hot/spicy food (46.5%), obesity (36.0%), old age (31.5%), dietary factor (29.0%) and smokeless tobacco (25.5%). Knowledge of oral cancer was associated significantly with age ($p < 0.01$), year of study ($p < 0.01$) and course of study ($p < 0.01$). Instead of satisfactory awareness and knowledge of oral cancer and its clinical presentations, inadequate knowledge was observed about its risk factors. There is a need to introduce oral cancer education among university students.^[54]

2. Review of literature related to knowledge of oral cancer among schoolteachers.

Charmesh KA, Patel BM, Patel BS, Patel DD, Patel DS, Hun V, (2018), conducted a study on impact of video assisted teaching on knowledge regarding health effect of alcohol and tobacco use among non-teaching staffs of SVU, Non probability convenient sampling technique was used. The sample size was 50 non-teaching staff. Approach & pre experimental-one group pre-test and post-test design was adopted to determine the impact of Video Assisted Teaching programme on knowledge regarding the health effect of alcohol and tobacco use among the non-teaching staff of Sumandeep Vidyapeeth University. Data was collected through

structured knowledge questionnaire. Video Assisted Teaching was conducted after the pre test as intervention. The result of this study represents that there is a great need for the non teaching staff of SVU to gain more knowledge regarding health effect of alcohol and tobacco use to prevent its harmful effects on their health.^[55]

Al Rasheed NM, Shetty AC, (2017), conducted a study on Oral health knowledge among female primary school teachers in Riyadh city, Kingdom of Saudi Arabia. Present study aimed to investigate the oral health knowledge and the contributing factors among primary school teachers in Riyadh city, Kingdom of Saudi Arabia. A cross-sectional survey of primary school teachers in Riyadh city, Kingdom of Saudi Arabia was carried out using stratified random sampling technique. The researcher concluded that the oral health knowledge of the primary school teachers was satisfactory with private primary school teachers having a better knowledge than government school teachers.^[56]

Al-Mutairi NT, Almukhalifi HS, Alqahtani HM. (2017), conducted a cross-sectional study on oral health knowledge and attitudes of primary school teachers in Al-Kharj – Saudi Arabia. This study was conducted to assess the knowledge, attitude and practice regarding oral health among the Rural Government Primary school teachers in Al-Kharj, Kingdom Saudi Arabia. Study was conducted on 108 primary - school teachers who were randomly selected from the 5 zones of Al Kharj – Saudi Arabia: data were collected through a self administered questionnaire oral health knowledge score were calculated, for statistical analysis using SPSS version 17. Researchers concluded that the study on oral health knowledge was lacking among the primary school teachers of AL-KHARJ, although practices were satisfactory.^[57]

Mota A, Oswal KC, Sajnani DA, Sajnani AK (2016), conducted a descriptive cross-sectional study on Oral Health Knowledge, Attitude, and Approaches of Pre-Primary and Primary School Teachers in Mumbai, India. The objectives of this study were to determine the oral health related knowledge, attitudes, and approaches of pre-primary and primary school teachers in the city of Mumbai. The study was conducted in the suburban regions of Mumbai using a self-administered questionnaire and involved 511 teachers. Researchers concluded that the studied school teachers demonstrated incomplete oral health knowledge, inappropriate oral practices, and unfavourable approaches to children's oral health. There is a definite and immediate need for organized training of school teachers on basic oral health knowledge.^[58]

Ahmad MS, (2015), conducted a study on Oral Health Knowledge and Attitude among Primary School Teachers of Madinah, Saudi Arabia. Effect of oral health knowledge and attitude has direct effect on school children so aim of this study is to know the oral health

knowledge and attitude among primary school teachers. Four males and three females schools were selected using a convenience sampling method. Among them, three were private and the rest was government schools. One hundred twenty self-administered questionnaires in Arabic language were distributed among the primary school teachers. Researcher concluded that Primary school teachers had acceptable knowledge and attitudes regarding their oral health. Further studies are needed to evaluate and compare their oral health status to their knowledge and attitudes and to determine whether they offer oral health education to the school children.^[59]

CC Azodo and AO Umoh, (2015), conducted a cross sectional study on Periodontal Disease Awareness and Knowledge among Nigerian Primary School Teachers. The aim was to determine periodontal disease awareness and knowledge among Nigerian primary school teachers. This study was conducted among primary school teachers in Edo State, Nigeria. A self-administered questionnaire which elicited information on demography, awareness of the periodontal disease and source of information, knowledge of etiology, and symptoms of the periodontal disease, was the data collection tool. Researcher concluded that a significant proportion of the participants heard about periodontal disease from non dental clinic sources. There existed a poor awareness of etiology, age and gender predispositions, manifestation, complications, and the preventable nature of periodontal disease among the participants. However, the majority of them indicated interest in learning about periodontal disease which should be utilized in optimizing their knowledge.^[60]

Mary AV, Ebenezar AV, R. Kesavan, Preetha EC, Chandrasekhara RV, Ingle N, (2015), conducted a study on Oral Health Perception And Practices Among School Teachers In A South Indian City, Cluster sampling methodology was used to select the samples. The final sample consisted of 1059 school teachers who were examined from various zones of Chennai. dentists or nurse (45.1%) but 29.1% had never visited a dentist. Less than three-fourth, i.e. 69.3%, 70.9% and 65.3% were aware about the relationship between general and oral health, oral cancer and tobacco chewing and sugar consumption and dental caries The knowledge, attitude and practices of teachers towards oral health need to be improved.^[61]

Ahuja N, Pramila M, Krishnamurthy A, Umashankar GK, Ranganath, Sharma N, (2014), a cross sectional study was conducted on Knowledge and attitude towards preventive dental care among dental faculties in Bangalore city, Preventive approach in dental practice has been cited as a reason for the decline in oral diseases and as a predominant part of the service mix of dental practices in the future. Thus, this study was conducted to assess knowledge and attitudes toward preventive dental care among dental faculties and their relation to demographic and professional for samples

characteristics. simple random sampling techniques used. 17 dental colleges, 4 were selected A total of 218 dental faculties was individually asked to complete a pretested questionnaire. Dental faculty seems to have differing levels of knowledge regarding oral diseases with positive attitudes seen regarding preventive dentistry. Continuing education activities and placing emphasis on prevention related research are recommended.^[62]

Haloi R, Ingle NA, Kaur N, Gupta R, (2014), conducted a cross sectional study on Comparing the Oral Health Promoting Role and Knowledge of Government and Private Primary School Teachers in Mathura City. The study aim at doing assessment and compare the oral health promoting role and knowledge of Government and Private primary school teachers in Mathura city. This study was conducted upon 650 primary school teachers who were randomly selected from the 5 zones of Mathura city. Data was collected through a self-administered questionnaire. Researchers concluded that the study that oral health knowledge of government and private school teachers were found to be fair and good respectively. The school teachers wanted to become involved in oral health education. Training of the teachers should aim at improving their level of knowledge on oral health.^[63]

Sekhar V, Sivsankar P, Easwaran M.A, Subitha L, Bharath N, Rajeswary K, Jeyalakshmi S, (2014), conducted a study on Knowledge, Attitude and Practice of School Teachers Towards Oral Health in Pondicherry. The study was undertaken with the objective of assessing the knowledge, attitude and practice of school teachers towards oral health. Cross-sectional survey was conducted among school teachers of the city of Pondicherry. A structured questionnaire was used and 212 teachers were assessed on their knowledge on oral health, attitude and practice regarding their personal oral health, attitude regarding oral health of children and status of oral health education at the schools. Oral Health education must be imparted to preschool and primary school teachers as a part of National Oral Health care Program on a regular basis and further studies must be done to assess their awareness levels and make the necessary changes in further education modules.^[64]

Sukhabogi JR, Chandra Shekar BR, Hameed IA (2014), conducted a comparative study on Knowledge, attitude and practices related to oral health among English and Telugu medium school teachers in two districts of Andhra Pradesh, India: A comparative study. Objective of the study was to assess and compare the oral health knowledge among English and Telugu medium primary school teachers in Hyderabad and Ranga Reddy districts of Andhra Pradesh. A cross-sectional questionnaire study was conducted among 300 primary school teachers selected from two districts of Andhra Pradesh. A combination of cluster and systematic random sampling technique was employed for the selection of study participants. The data on oral health

knowledge, attitude and practices (KAP) were collected by two investigators using a structured questionnaire. The study found English medium teachers to be having better oral hygiene practices, more frequent dental visits, and better awareness about first aid in dentistry. However, the lack of preventive attitude, lack of motivation to be role models for children in oral health maintenance, reflect that there is a tremendous need to improve the oral health KAP among school teachers.^[65]

Lawal FB, Bankole OO, (2014), conducted a cross sectional study on Oral health awareness and practices of primary school teachers in Ibadan, Nigeria. Aim of the present study was to investigate the oral health awareness and practices of primary school teachers in Ibadan, Nigeria. A cross sectional study of randomly selected public primary school teachers in Ibadan was performed. The researcher concluded that poor oral health awareness and practices still exists among the teachers. There is a need for urgent intervention to promote oral health amongst them.^[66]

S Fernando, R D F C Kanthi, N W Johnson, (2013), conducted a study on Preschool teachers as agents of oral health promotion an intervention study in Sri Lanka. An intervention study was conducted among preschool teachers in the District of Colombo, Sri Lanka, to assess their influence on oral health promotion in the school environment. All the available 52 preschools and all 72 teachers registered under a local government authority were involved in the study. Pre- and post-assessments were conducted with a 6 month interval. Results showed that After 6 months, the median oral health knowledge score of the intervention group improved from 55 to 72 ($p = 0.005$) and the mean score for oral health related practices from 32 to 35 ($p = 0.032$). The variables: oral-health-friendly preschool environment ($p = 0.02$), availability of brushing facilities ($p = 0.005$) and availability of information, education and communication materials related to oral health ($p = 0.004$) were significantly different between the two groups after 6 months.^[67]

Amith HV, Audrey Madonna D'Cruz, Ravi V Shirahatti, (2013), conducted a study on Knowledge, attitude and practice regarding oral health among the rural government primary schoolteachers of Mangalore, India. This study was conducted to assess the knowledge, attitude and practice regarding oral health among the Rural Government Primary school teachers of Mangalore, Karnataka, India. Out of 165 primary school teachers to whom the questionnaires were sent, 153 responded, yielding a 92.7% response rate. The study concluded that oral health knowledge was lacking among the primary schoolteachers of rural Mangalore, although practices were satisfactory. Oral health education program targeting only the teachers is of utmost importance in the light of the present study results.^[68]

Shodan M, Prasad KV, Javali SB, (2012), a cross-sectional study was conducted School teachers' knowledge of oral disease prevention: a survey from Dharwad, India, to assess knowledge and the associated factors among Indian school teachers towards oral disease. sample size 215 school teachers design was employed using a self-administered questionnaire. Knowledge of dental caries was highest, as opposed to oral cancer, which was lowest. School teachers aged >50 years and those with postgraduate degrees had greater knowledge The study revealed that school teachers, in particular younger teachers and those with only basic educational qualifications, need to be further motivated to improve their awareness and knowledge about oral diseases. Therefore, the establishment of school-based oral health promotion programs in India with immediate effects is essential.^[69]

Raj SM, Dr. Prasad K VV, Dr. Javali S B, (2011), a cross sectional study conducted on Factors Affecting The Knowledge On Prevention Of Oral Diseases Among School Teachers Of Dharwad City, A Survey From India, The total sample size was 215 school teachers of Dharwad city arrived at by stratified systematic sampling. The questionnaire was close ended with 26 items and distributed to the subjects. The results showed that school dental health services must compulsorily hold demonstrations or lectures on prevention of oral diseases, in order to involve the teachers in oral health promotion of the child.^[70]

SUMMARY

This chapter has dealt with the review of research literature related to the present study. The review indicated that few studies have been conducted in India to assess the knowledge of school teachers regarding oral cancer.

Thus, the review has enabled the researchers to establish the need for the study, develop the conceptual work, adopt the research design, develop the research tool and provide information to government school teacher. Select a data collecting technique and to decide upon plan of statistical analysis.

CHAPTER III

RESEARCH METHODOLOGY

INTRODUCTION

Research methodology are the techniques researchers use to structure a study to gather and analyze information relevant to gather and analyze information relevant to research question. The two alternatives paradigm correspond to different methods for developing evidence. A key methodology distinction is between quantitative research, which is closely allied with positivism, and qualitative research, which is associated with constructive inquiry.^[71]

This chapter deals with the description of methodology and different steps which were undertaken for gathering

and organizing data for assessing knowledge of government school teachers regarding oral cancer. It includes research design, population, study setting, variable, sample size, development and description of tool, pilot study, data collection method and statistical method to analyze the data.

RESEARCH APPROACH

Research approach involves the mental processes of logical reasoning concerning the existence and properties of phenomena about which more information and new knowledge are sought through a systematically planned investigation. The approach refers to the way in which the researcher plans and constructs in research process.^[72]

In view of the nature of problem selected for the study and the objectives to accomplished a quantitative approach was used for the present study. This approach was considered to be the most suitable one to conduct the study because it would help the researcher to use one group and observe the difference in the knowledge scores before and after administrating structured teaching program and evaluate the impact of structured teaching

program on knowledge regarding oral cancer among selected government school teachers.

RESEARCH DESIGN

Research design is the master plan specifying the methods and procedures for collection and analyzing the needed information in a research study.^[20]

In view of the nature of the problem and to accomplish the objectives of the study, a Pre-experimental one group pretest-posttest design was used to evaluate the impact of structured teaching program on knowledge regarding oral cancer among selected government school teachers.

The study design shows that on first day (day 1), pretest was given to assess the knowledge regarding oral cancer among selected government school teachers. The structured teaching program was also administered on the same day. On the seventh day (day 7) post-test was conducted to assess the gain in knowledge using the semi structured knowledge questionnaire.

The study design systematically represented as follows.

Table No 1: A pre- experimental one group pre-test post-test research design.

SAMPLES	PRE-TEST	INTERVENTION	POST-TEST
Government School Teachers	Administration of semi structured knowledge questionnaire on day 1	Administration structured teaching program on day 1	Administration of semi structured knowledge questionnaire on day 7
	0₁	X	0₂

KEY

01- Administration of semi structured knowledge questionnaire to assess pretest knowledge regarding oral cancer on day 1.

X- Intervention includes administrating structured teaching program to government school teachers on day 1.

02- Administration of semi structured knowledge questionnaire to assess the posttest knowledge regarding oral cancer on day 7.

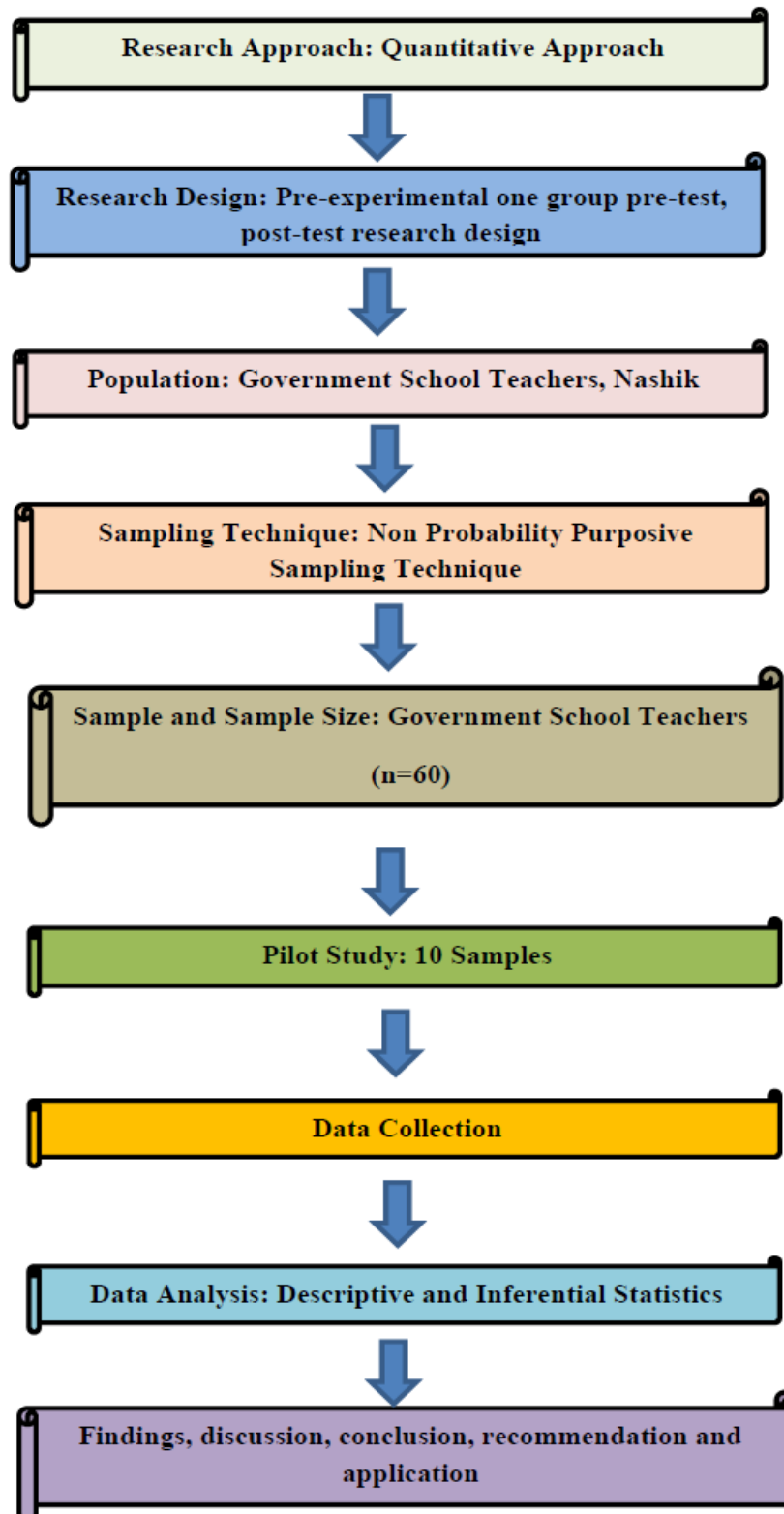


Figure No 2: Schematic Presentation of Research Methodology.

SETTING OF STUDY

The study setting is the location in which the research is conducted – it could be natural, partially controlled or highly controlled, or highly controlled. Natural or field setting is an uncontrolled real life situation. In a partially controlled situation, environment is partially modified to control extraneous variables, while in highly controlled situation study environment is fully controlled to combat the effect of extraneous variable.^[20]

The study was conducted at selected government schools in the city.

VARIABLE OF STUDY

Attributes or characteristics that can have more than one value, such as height or weight. In others words, variables are qualities, quantities, properties or characteristic of people, things or situations that change or vary.^[20]

Variables used in this study are

Independent Variables

Variables that are purposively manipulated or changed by researcher is called as independent variables.^[20]

In this study independent variable is Structured Teaching Program on oral cancer.

Dependent Variables

Variables that changes as the independent variable is manipulated by the researcher is called as dependent variable^[20] With respect to present study, Knowledge of government school teachers regarding oral cancer is dependent variable.

Demographic Variables

Extraneous variable are the factors that are not the part of the study but may affect the measurement of the study variables, they commonly known as extraneous variables.⁹ Extraneous variable for present study are.

1. Age
2. Gender
3. Educational Qualification
4. Teaching Experience
5. Information about Oral Cancer
6. Source of information
7. Coming across a cases of Oral Cancer

POPLATION OF STUDY

Population

Population is the aggregation of all the units in which a researcher is interested. In other words population is the set of people or entities to which the result of a research are to be generalized.^[20]

In the context to present study, the population consisted of the government school teachers of city.

Target Population

A target population consist of the total number of people or objects which are meeting the designated set of criteria. In other words, it is aggregate of all the cases with certain phenomenon about which the researcher would like to make generalization.^[20]

In the context to present study, the target population will be the teachers working in selected government schools of the city.

Accessible Population

The Accessible population refers to the aggregate of cases that conform to designated criteria and are also accessible as subjects a study. i.e that aggregate must meet the criteria for inclusion in the study and that is available to the researcher.^[20]

In the present context of study, the accessible population was teachers working in selected government school, available at the time of data collection who were meeting inclusion and exclusion criteria listed by researcher.

SAMPLING

Sample

“A sample is a subset of population selected to participate in a research study”.^[73] Sample selected for present study comprised of government school teachers, who will fulfill the sampling criteria.

Sampling Technique

Sampling techniques is defined as the process of selecting a portion of a population to represent the entire population for study in a research.^[73]

In the present study, sampling technique used was non probability purposive sampling technique. This technique is found appropriate for this study because it helps the researcher for selecting the samples with a specific purpose in mind to be met for.

SAMPLE SIZE

Sample size refers to the number of people who participate in a study.^[71]

The sample size selected for this study was 60 samples who fulfilled the sampling criteria and who were willing to participate in the study.

SAMPLE SELECTION CRITERIA

Inclusion Criteria

1. Teachers who are working in selected government schools.
2. Teachers who are willing to participate in the study.

Exclusion Criteria

1. Teachers who are not willing to participate in the study.
2. Teachers who are not available at the time of study.

TOOL AND TECHNIQUE

TOOLS: A research tool or instrument is a device used to measure the concept of interest in a research project that a researcher uses to collect the data.^[20]

With reference to present study, Semi Structured Questionnaires was used to assess the knowledge regarding oral cancer among government school teachers.

TECHNIQUES: The means of gathering the data with the use of specific tools used in a given methods are known as techniques of data collection.^[20]

With reference to this study, technique used was Questioning (Self - Reported Questioning Technique).

DESCRIPTION OF THE TOOL

Semi Structured Questionnaire: A questionnaire is a structured self – report paper and pencil instrument that a research subject is asked to complete.^[20]

With reference to present study, the semi structured questionnaire was used to assess the knowledge of school teachers. The tools were prepared after reviewing the related literature, books, journals, articles, reports, published and unpublished research and in consultation with experts and the research guide.

Based on the objectives, the tool selected for the study, were divided in following sections.

Section-A: It consists of 08 items regarding demographic variables of teachers that are developed to collect the background information of teachers.

- Age.
- Gender.
- Educational Qualification.
- Teaching Experience.
- Working as.
- Do you know about oral cancer.
- Source of information about oral cancer.
- Have you come across a case of oral cancer.

Section-B: It consists of 30 items to assess the knowledge about oral cancer Use of semi structured knowledge questionnaire on Oral Cancer.

Researcher will provide 30 knowledge questionnaire to government school teachers regarding Oral Cancer, which includes questions based on.

Section I: Knowledge regarding Meaning, General Aspects, Structure and functions of mouth.

Section II: Knowledge regarding Risk Factors, Causes and Types of Oral Cancer Section III: Knowledge regarding Screening and diagnosis to confirm Oral Cancer Section IV: Knowledge regarding Sign, Symptoms and Management.

Section V: Knowledge regarding Possible Complications

and Prevention of Oral Cancer.

SCORING

The structure of the questionnaire was developed into only one section to assess the knowledge of government school teachers regarding oral cancer. Section B of the questionnaire dealt with objective type (multiple type questions) items. The scores of the Section B were based on worth of correct answers. The correct responses were given „1“ and the incorrect response „0“. Knowledge was graded from poor knowledge to excellent knowledge. In the self-structured questionnaire for each question, four options were given out of which 3 were distracters and with only one correct response. For each correct answer, the score given was 1 and for the wrong answer the score was given 0. The highest score was 30.

Grading for knowledge score.

SCORE	REMARK
0-10	Poor
11-20	Good
21-30	Excellent

DEVELOPMENT OF STRUCTURED TEACHING PROGRAM

The Structured Teaching Program was developed based on the review of literature and experts opinion. The structured teaching program consisted Information on Introduction to Oral Cancer, Definition of Oral Cancer, Anatomy and physiology of mouth, Types, Causes and Risk Factors, Screening, Diagnostic Studies, Sign and Symptoms, Management, Complications and Prevention of oral cancer.

Structured teaching program was developed keeping in mind the objectives, literature reviewed and the opinion of the experts. The main factor that were kept in mind while preparing structured teaching program were; the level of understanding of non-medical people (samples), simplicity of the language, relevance of pictures.

FEASIBILITY OF THE STUDY

Suitability of a study, determined by examining the time and money commitment, the researcher's expertise, availability of subjects, facility and equipment, cooperation of others and study's ethical consideration.^[73]

The study was feasible by considering various aspects of the study such as methodology, sampling technique, sample selection criteria, time, facilities and ethical consideration.

CONTENT VALIDITY

Validity of the tool refers to degree to which an instrument measures what it is intended to measure. Content validity is concerned with scope of coverage of the content area to be measured.^[73]

To ensure the content validity, the tool was distributed to

10 experts including medical surgical nursing experts, physician, statistician.

The experts includes

10 – Medical Surgical Nursing Speciality1 – Oncologist Doctor
1 – Statistician

All the necessary changes were done considering the experts suggestions after discussing with the guide.

RELIABILITY

Reliability is the degree of consistency and accuracy with which an instrument measures the attribute for which it is designed to measure.^[73]

In this study the reliability of the tool was determined by administering the semi structured questionnaire to 10 samples. The Cronbach's Alpha (α) method was used to test the reliability of tool. The semi structured questionnaire was said to be reliable if value of (α) is more than 0.6. The value of (α) for the semi structured questionnaire was 0.614. Hence the tool was found to be reliable.

PILOT STUDY

It is a small scale version, or trial run, done in preparation for a major study.^[73]

In context to present study, pilot study was conducted on 10 samples. This was undertaken in order to ensure feasibility and predictability of research methodology and tool. Samples were selected as per selection criteria and this samples were not been included in main study.

Researcher gave self introduction and explained the study objectives to the samples. Researcher had obtained written consent from the participants of study. Researcher gave semi structured questionnaire to the samples for pretest to assess the knowledge about oral cancer. On the same day Structured Teaching Program on Oral Cancer was administered and then after post test was administered after 7 days.

The collected data was analyzed by using descriptive and inferential statistics. After conducting the pilot study, it was found that the study was feasible and effective, the concerned authority and the samples were found to be co-operative, the questionnaire and structured teaching program was relevant and the time and cost of the study was within the limit. The significant difference between pre-test and post- test was found by using paired, "t" test. The difference found very highly significant ($t= 7.60$, $p<0.05$)

DATA COLLECTION PROCESS

Step 1: The study was conducted after obtaining permission from Institutional Ethical Committee.

Step 2: The researcher have obtained permission from competent authority (Principal) of the selected government school and consent was taken from

participant to conduct the study.

Step 3: Researcher firstly given self introduction.

Step 4: Researcher explained objectives of the study to teachers also cleared their doubts about the study.

Step 5: Researcher selected the teachers those who fulfilled the inclusion criteria of the study.

Steps 6: Researcher obtained written consent from participants of the study (government school teachers).

Step 7: Pretest was conducted to assess the knowledge of teachers regarding oral cancer using knowledge questionnaire on day „0“ as per following sessions and groups.

Step 8: On the same day structured teaching program had been administered to teachers regarding oral cancer on day „0“

Step 9: Posttest was conducted on the same sample using the same knowledge questionnaire on 7 day of administering the structured teaching program.

PLAN FOR DATA ANALYSIS

Descriptive statistics are useful for summarizing empirical information; inferential statistics which are based on laws of probability provide a means of drawing conclusion about the population from which data was obtained for the sample.^[73]

- In this study data was entered into excel sheet and master chart was prepared.
- Description of the samples with respect to demographic variables was presented using frequency and percentage.
- Data was presented in tables, graphs, and diagrams. The level of knowledge was grouped from poor to excellent.
- Mean and Standard deviation was used to evaluate the impact of structured teaching program on oral cancer.
- Further statistical significance of the impact of structured teaching program by using paired, "t" test.
- Pearsons correlation technique was used in this study to denote the correlation between pretest and post test knowledge score.
- To find out association of pre-test knowledge score with selected demographic variables chi square technique was used.

SUMMARY

This chapter of methodology dealt with research approach, research design, identification of target population, accessible population, sampling technique, sampling size, inclusion and exclusion criteria of subject, tool preparation, feasibility of study, validity and reliability of research tool, pilot study, data collection process and plan for data analysis which helps the researcher in a better way to collect data from subjects so as to makes the study effective.

CHAPTER IV

ANALYSIS AND INTERPRETATION

INTRODUCTION

Analysis and interpretation of data is the most important phase of the research process, which involves the computation of the certain measures along with searching for patterns of relationship that exists among data groups. Data collection is followed by the analysis and interpretation of data, where collected data are analysed and interpreted in accordance with study objectives. Analysis and interpretation of data includes compilation, editing, coding, classification and presentation of data.

Analysis is the process of organizing and synthesizing the data so as to answer research questions and test hypothesis.

The analysis of data collected data done with the help of descriptive and inferential statistics. The data was first coded and entered into computer. Frequency, percentage, mean, standard deviation, paired „t“ test, pearson correlation and chi- square were used to fulfill the objectives of the study.

PROBLEM STATEMENT

“A study to assess the impact of structured teaching program on knowledge regarding oral cancer among selected government school teachers.”

OBJECTIVES

1. To assess the pretest and posttest knowledge regarding oral cancer among government school teachers.
2. To compare between the pretest and posttest knowledge regarding oral cancer among government school teachers.
3. To find out correlation between pre-test and post-test knowledge score regarding oral cancer among government school teachers.
4. To find out association between pretest knowledge score on oral cancer with selected demographic variables.

HYPOTHESES

H₀: There will be no significant difference between pretest-posttest knowledge regarding oral cancer among government school teachers.

H₁: There will be significant difference between pre and post-test knowledge regarding oral cancer among government school teachers.

ORGANIZATION OF STUDY FINDINGS

The data collected by the researcher during the data collection from 60 government school teachers was analysed as per the objectives of the study and was organized as per following setting.

Section I: Description on demographic data of the government school teachers in terms of frequency and percentage.

Section II: Description on pretest and posttest knowledge score of government school teachers regarding oral cancer.

- Part: A- Description on pretest knowledge score of government school teachers regarding oral cancer.
- Part: B- Description on posttest knowledge score of government school teachers regarding oral cancer.

Section III: Description on impact of structured teaching program on knowledge of government school teachers regarding oral cancer.

Section IV: Description on section wise analysis of Pretest and posttest knowledge of government school teachers regarding oral cancer.

Section V: Description on correlation between pre-test and post-test knowledge score regarding oral cancer among government school teachers.

Section VI: Description on association between Pretest knowledge score on oral cancer with selected demographic variable.

Section I

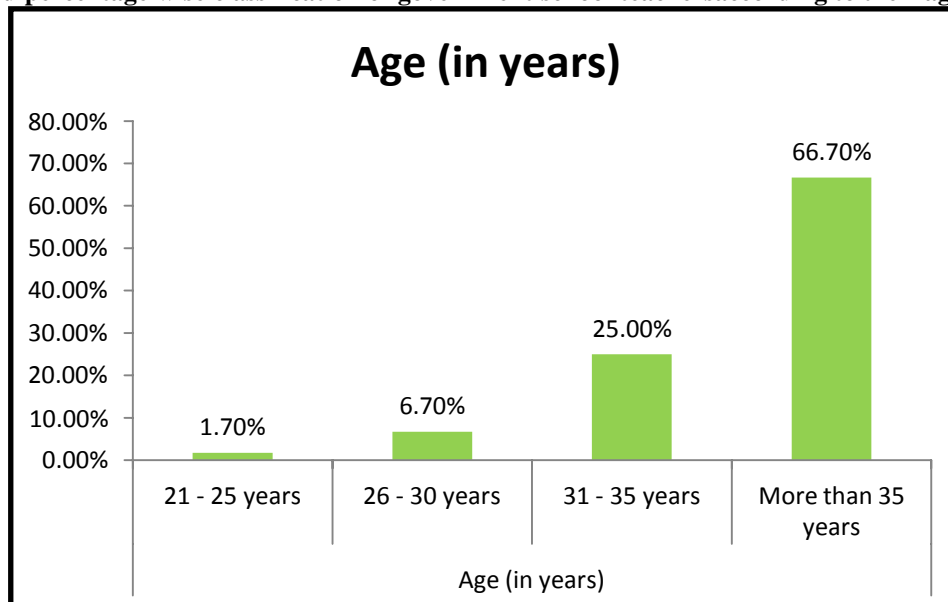
Description on demographic data of the government schoolteachers in terms of frequency and percentage

This section deals with distribution of government school teachers in selected schools according to demographic characteristics. 60 participants were drawn from the study population, who were taken from selected government schools of the city. The data obtained to describe the sample characteristic including age, gender, educational qualification, teaching experience, working status, know about oral cancer, source of information about oral cancer, came across a case of oral cancer.

Table No (2): Frequency and Percentage wise classification of government school teachers according to their demographic characteristics.

Variables	Specifications	Frequency	Percentage
Age (in years)	21 - 25 years	1	1.7%
	26 - 30 years	4	6.7%
	31 - 35 years	15	25.0%
	More than 35 years	40	66.7%
Gender	Male	35	58.3%
	Female	25	41.7%
Educational Qualification	D. Ed.	10	16.7%
	B. Ed.	24	40.0%
	M. Ed.	26	43.3%
	Ph. D.	0	0.0%
Teaching Experience	Less than 2 years	2	3.3%
	2 - 5 years	27	45.0%
	5 - 10 years	21	35.0%
	10 - 15 years	10	16.7%
	More than 15 years	0	0.0%
WorkingStatus	Primary School Teacher	6	10.0%
	Secondary School Teacher	33	55.0%
	Primary & Secondary School Teacher	21	35.0%
Know about Oral Cancer	Yes	33	55.0%
	No	27	45.0%
Source of Information about Oral Cancer	Books and Magazines	10	16.7%
	Newspaper	29	48.3%
	Health Care Providers	7	11.7%
	Social Media	14	23.3%
Came across a cases of Oral Cancer	Yes	19	31.7%
	No	41	68.3%

n=60

Frequency and percentage wise classification of government school teachers according to their age.**Figure No (3): Age wise classification of Government School Teachers.**

The above graph depicts that 66.7% of government school teachers are more than 35 years, 25.0% are between the age group 31 - 35 years, 6.7% are between the age group 26 - 30 years and only 1.7% government school teachers are in between the age group 21 - 25 years.

Frequency and percentage wise classification of government school teachers according to their gender.

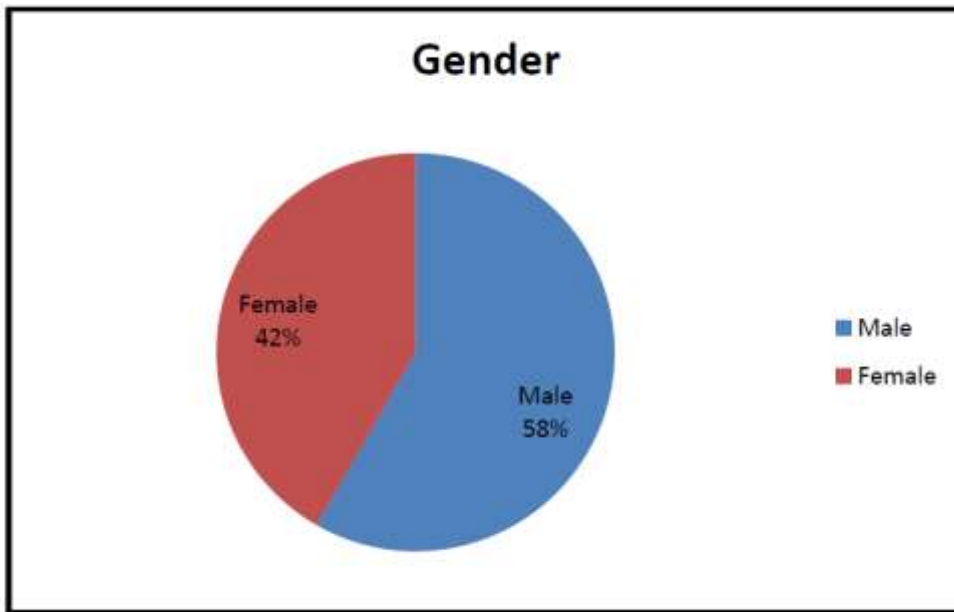


Figure No (4): Gender wise classification of Government School Teachers.

The above graph shows that most of the government school teachers, 58.3% were males and remaining 41.7% were females.

Frequency and percentage wise classification of government school teachers according to their educational qualification.

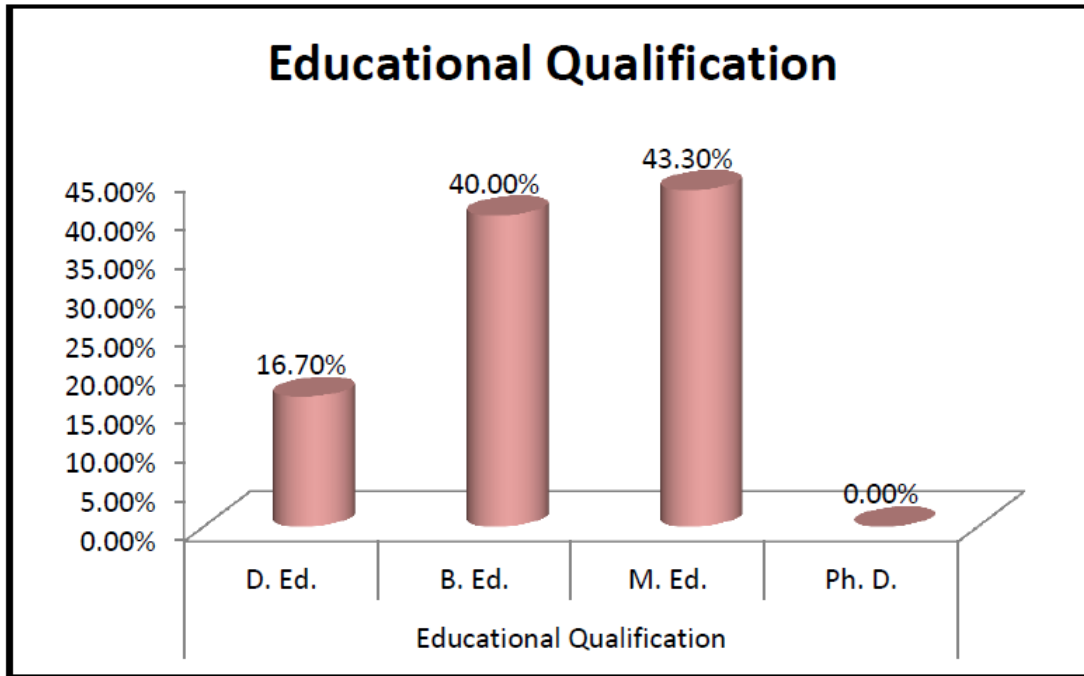


Figure No (5): Educational Qualification wise classification of Government School Teachers.

The above table shows that 43.3% of government school teachers were having educational qualification of M. Ed. 40.0% were having qualification of B. Ed. and only 16.7% government school teachers were having D. Ed. as their educational qualification.

Frequency and percentage wise classification of government school teachers according to their teaching experience.

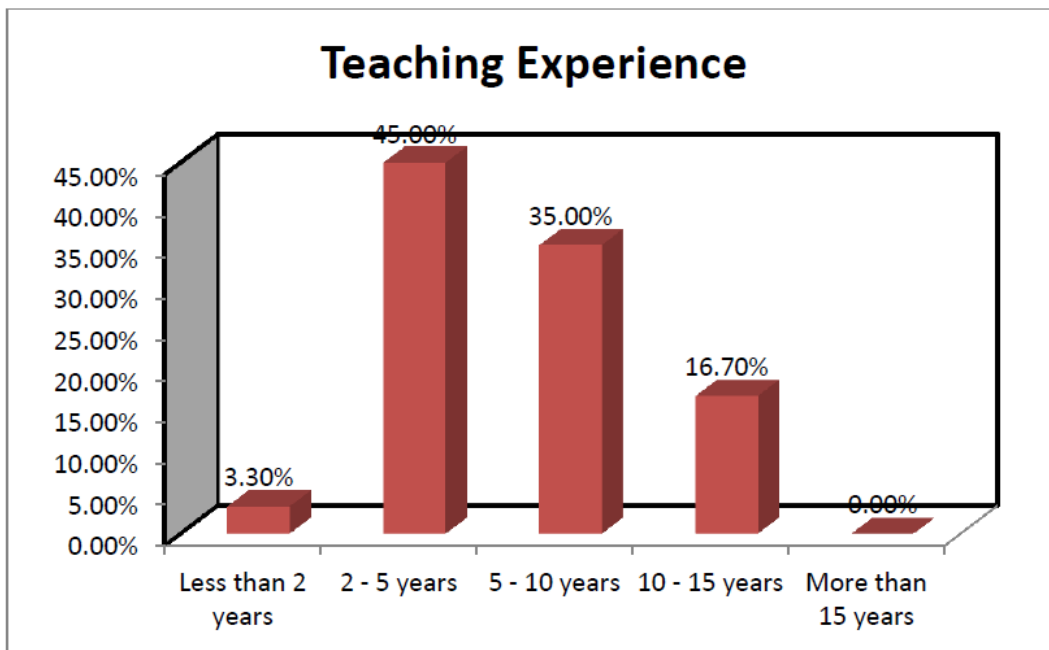


Figure No (6): Teaching Experience wise classification of Government School Teachers.

The above graph shows that 45.0% government school teachers were having 5 - 10 years of teaching experience, 35.0% teachers had 10 - 15 years of teaching experience.

16.7% government school teachers were having teaching experience of more than 15 years and only 3.3% were having experience of 2 - 5 years.

Frequency and percentage wise classification of government school teachers according to their working status.

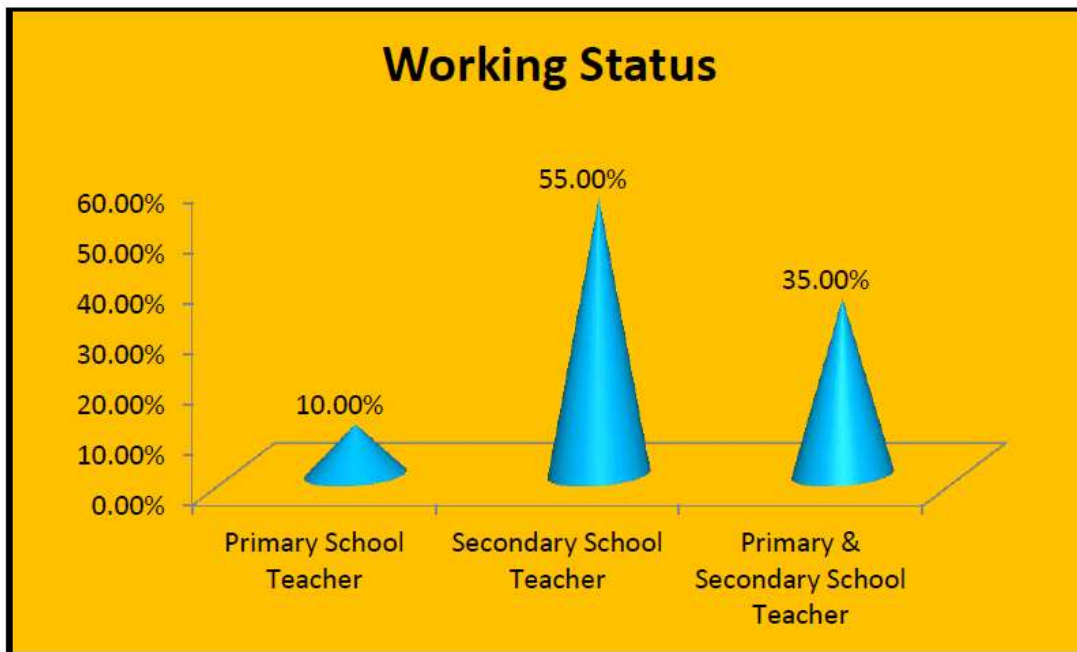


Figure No (7): Working Status wise classification of Government School Teachers.

The above graph shows that most of the government school teachers 55.0% were working as Secondary School Teacher, 35.0% were working as Primary & Secondary School Teacher and 10.0% were working as

Primary School Teacher in the schools.

Frequency and percentage wise classification of government school teachers according to know about oral cancer.

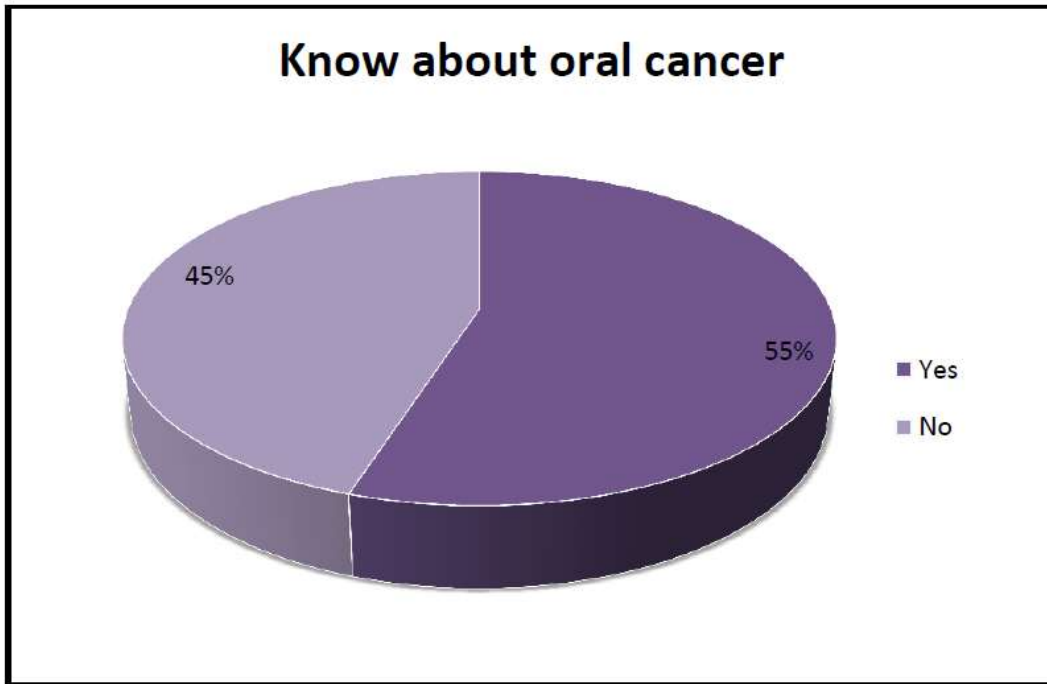


Figure No (8): Knowing about oral cancer wise classification of Government School Teachers.

The above graph shows that 55.0% of government school teachers were known about oral cancer whereas, 45.0% teachers were unknown about oral cancer.

Frequency and percentage wise classification of government school teachers according to their source of information about oral cancer.

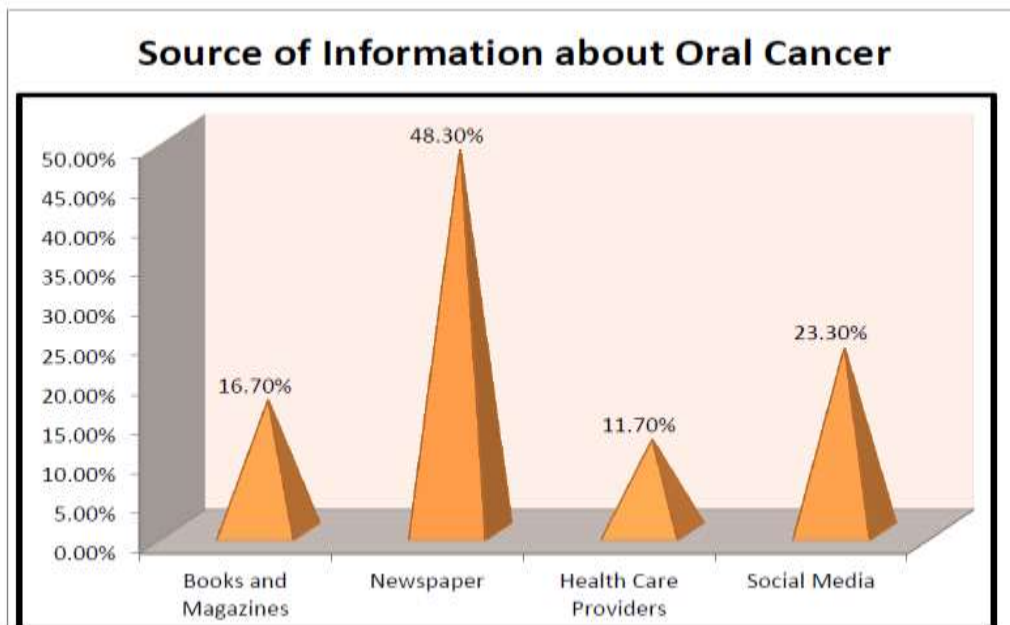


Figure No (9): Classification of Government School Teachers according to source of information about oral cancer.

The above graph shows that 48.3% of teachers were having newspaper as the source of information about oral cancer, 23.3% teachers gained information from social media, 16.7% from books and magazines and 11.7% from Health care providers.

Frequency and percentage wise classification of government school teachers according to their came across a case of oral cancer.

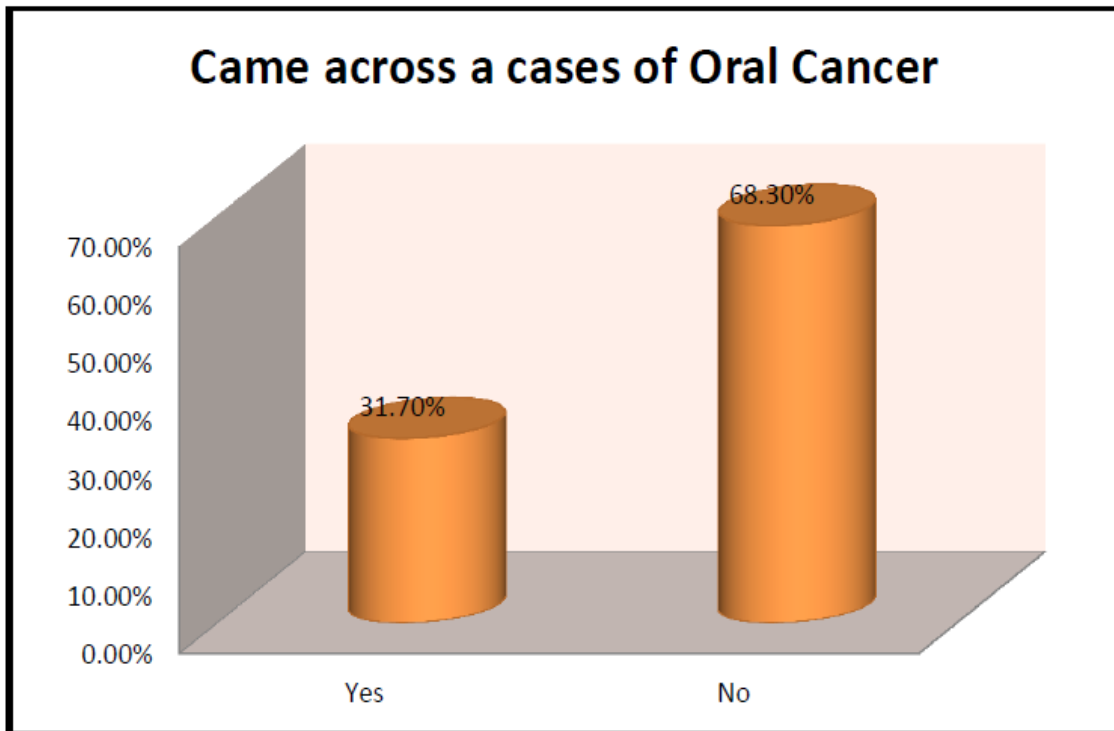


Figure No (10): Classification of Government School Teachers according to coming across a case of oral cancer.

The above graph shows that most of the government school teachers 68.3% had not come across any case of oral cancer whereas 31.7% teachers have come across a case of oral cancer.

Section II

Description on pretest and posttest knowledge score of governmentschool teachers regarding oral cancer

This section deals with the analysis and interpretation of the data in order to evaluate the impact of structured teaching program regarding oral cancer on knowledge of government school teachers in terms of gain in knowledge scores.

PART A-PRE-TEST KNOWLEDGE

Table No (3): Part: A- Description on pretest knowledge score of governmentschool teachers regarding oral cancer.

Level of knowledge	Pretest score		Mean	SD
	Frequency	Percentage (%)		
0 - 10 (Poor)	20	33.3%	12.32	3.05
11 - 20 (Good)	40	66.7%		
21 - 30 (Excellent)	0	0.0%		
Total	60	100.0%		

n=60

Description on pretest knowledge score of government school teachers regarding oral cancer.

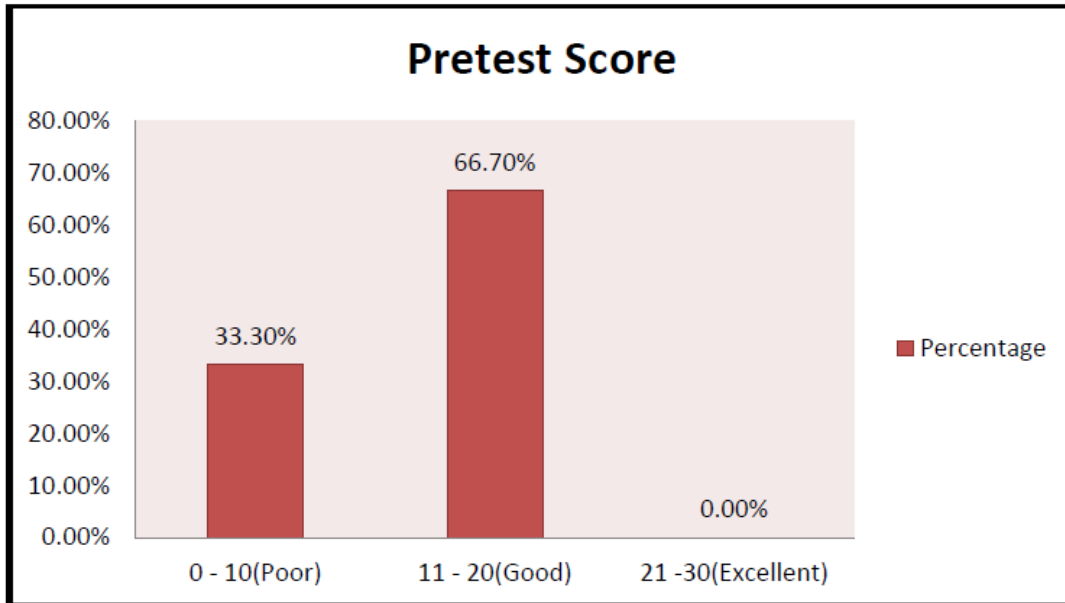


Figure No (11): Distribution of pretest knowledge score of government schoolteachers regarding oral cancer.

In pretest 33.3% of government school teachers had poor level of knowledge regarding oral cancer. 66.7% of teachers had good knowledge level about oral cancer. The mean score for pre test was 12.32.

PART B -POST-TEST KNOWLEDGE

Table No (4): Part: A- Description on posttest knowledge score of government school teachers regarding oral cancer.

Level of knowledge	Posttest score		Mean	SD
	Frequency	Percentage (%)		
0 - 10 (Poor)	0	0.0%	22.22	3.45
11 - 20 (Good)	19	31.7%		
21 - 30 (Excellent)	41	68.3%		
Total	60	100.0%		

n=60

Description on posttest knowledge score of government school teachers regarding oral cancer

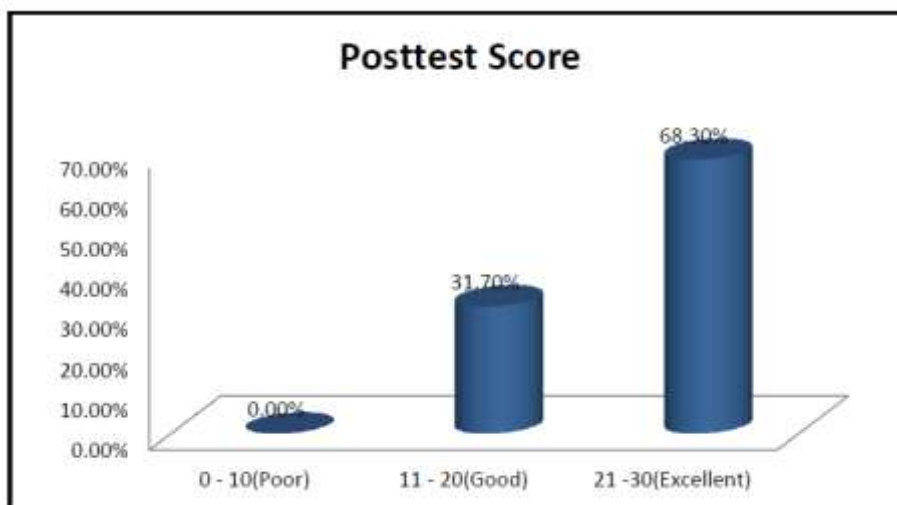


Figure No (12): Distribution of posttest knowledge score of government schoolteachers regarding oral cancer.

The above graph shows that 31.7% of government school teachers had good knowledge level regarding oral cancer. 68.3% of the teachers had excellent knowledge level regarding oral cancer. The mean score for the post test was 22.22.

Section III

Description on impact of structured teaching program on knowledge of government school teachers regarding oral cancer

This section deals with significance of Structured Teaching Program. Paired „t“ test was applied to evaluate the Impact of Structured Teaching Program on knowledge of government school teachers regarding oral cancer. Before interpreting data researcher stated H₀ & H₁.

H₀: There will be no significant difference between pretest-posttest knowledge regarding oral cancer among government school teachers.

H₁: There will be significant difference between pre and post-test knowledge regarding oral cancer among government school teachers.

Paired „t“ test formula.

$$t = \frac{\sum d}{\sqrt{n (\sum d^2) - (\sum d)^2 / n - 1}}$$

Where,

$\sum d$ = sum of differences n = number of sample.

Table No. (5): Description on Impact of Structured Teaching Program on knowledge of government school teachers regarding oral cancer.

Knowledge	Mean	S.D.	„t“ statistics	Degree of freedom	P Value	S/NS
Pre Test Score	12.32	3.05	22.632	59	0.001*	Significant(p<0.05)
Post Test Score	22.22	3.45				

n=60

*- significant, ** - not significant (t (59) =22.632, table value t (59) =1.66,p<0.05).

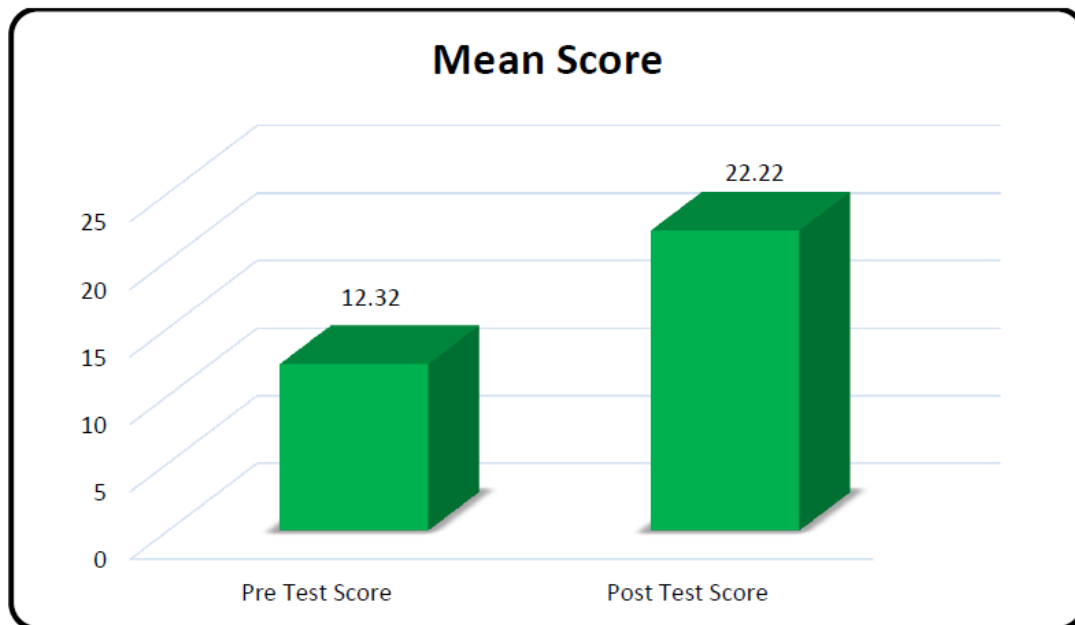


Figure No (13): Comparison of pretest and posttest knowledge score.

- The table reveals that the impact of structured teaching program on knowledge of government school teachers regarding oral cancer.
- The pretest mean was 12.32 and the post-test mean was 22.22.
- The calculated t value that is 22.632 at 59 degree of freedom was much higher than the tabulated value at 5% level of significance that is 1.66. Hence it was statistically interpreted that H₀ is rejected and H₁ is accepted which states there is significant difference

in pretest-posttest knowledge among government school teachers. So researcher accepted H₁ hypothesis.

- **H₁:** There is a significant difference between pre and post-test knowledge regarding oral cancer among government school teachers.
- Hence it was inferred that the structured teaching program on knowledge regarding oral cancer was effective in increasing the knowledge of government school teachers.

Section IV

Description on section wise analysis of Pretest and posttest knowledge of government school teachers regarding oral cancer.

Table No (6): Description on Section wise analysis of Pretest and posttest knowledge of government school teachers regarding oral cancer.

SR.NO.	SECTIONS	MEAN PERCENTAGE	
		Pretest	Posttest
1	Meaning, General Aspects, Structure and functions of mouth	52%	82%
2	Risk Factors, Causes and Types of Oral Cancer	39%	71%
3	Screening and diagnosis to confirm Oral Cancer	38%	71%
4	Sign, Symptoms and Management	38%	59%
5	Possible Complications and Prevention of Oral Cancer	30%	82%

- The above table shows mean percentage of pretest and posttest knowledge score of government school teachers regarding oral cancer.
- Knowledge about Meaning, General Aspects, Structure and functions of mouth in pretest was 52% whereas, in posttest the knowledge level improved to 82% after administration of structured teaching program.
- In pretest knowledge about Risk Factors, Causes and Types of Oral Cancer was 39% and level increased in post test upto 71%
- Knowledge about Screening and diagnosis to confirm Oral Cancer in pretest was 38% whereas, in posttest the knowledge level improved to 71%.
- In pretest knowledge about Sign, Symptoms and Management was 38% and level increased in post test upto 59%
- Knowledge about Possible Complications and Prevention of Oral Cancer in pretest was 30%, which in posttest improved to 82% after administration of structured teaching program.

Section V

Description on correlation between pre-test and post-test knowledge score regarding oral cancer among government school teachers.

Table No. (7): Description on Correlation between pre-test and post-test knowledge score regarding oral cancer among government school teachers.

		Pre Test	Post Test
Pre Test	Pearson Correlation	1	0.462 **
	Sig. (2-tailed)	-	0.001
	N	60	60
Post Test	Pearson Correlation	0.462 **	1
	Sig. (2-tailed)	0.001	-
	N	60	60

** - indicates significant correlation at 0.01 level of significance

n=60

Description on Correlation between pre-test and post-test knowledge score regarding oral cancer among government school teachers.

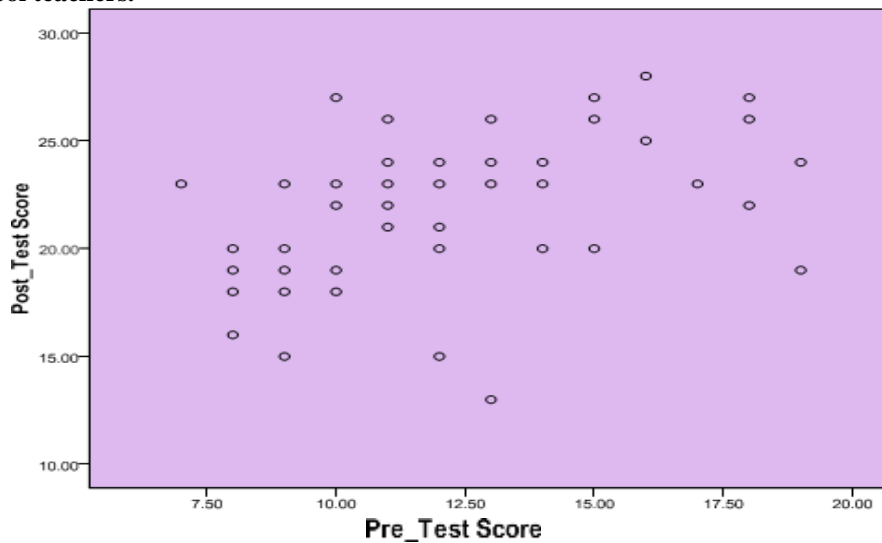


Figure No (14): Correlation between pre-test and post-test knowledge score regarding oral cancer among government school teachers.

- The above table shows that there is significant correlation between pre-test and post-test knowledge score regarding oral cancer among government school teachers.
- This indicates that there is positive correlation between pretest and posttest knowledge score (correlation coefficient = 0.462) at 0.01 level of significance.

Section VI

Description on association between Pretest knowledge score on oral cancer with selected demographic variable

This section deals with the association between Pretest knowledge score on oral cancer with selected demographic variable.

Chi-square was used to find out an association using formula.

$$\chi^2 = \frac{\sum (O-E)^2}{E}$$

Where O = Observed value, E = Expected value

Table No (8): Description on Association between Pretest knowledge score on oral cancer with selected demographic variable.

Variable	Groups	Pretest Knowledge		Chi-Square	d.f.	P value	Significance
		Frequency (Poor + Good)	Percentage (Poor + Good)				
Age (in years)	21 - 25 years	1	1.7%	4.613	3	0.202	Not Significant
	26 - 30 years	4	6.7%				
	31 - 35 years	15	25.0%				
	More than 35 years	40	66.7%				
Gender	Male	35	58.3%	6.720	1	0.010	Significant
	Female	25	41.7%				
Educational Qualification	D. Ed.	10	16.7%	1.514	2	0.469	Not Significant
	B. Ed.	24	40.0%				
	M. Ed.	26	43.3%				
	Ph. D.	0	0.0%				
Teaching Experience	Less than 2 years	2	3.3%	6.324	3	0.097	Not Significant
	2 - 5 years	27	45.0%				
	5 - 10 years	21	35.0%				
	10 - 15 years	10	16.7%				
	More than 15 years	0	0.0%				
WorkingStatus	Primary School Teacher	6	10.0%	0.964	2	0.617	Not Significant
	Secondary School Teacher	33	55.0%				

	Primary & Secondary School Teacher	21	35.0%				
Know about Oral Cancer	Yes	33	55.0%	4.848	1	0.028	Significant
	No	27	45.0%				
Source of Information about Oral Cancer	Books and Magazines	10	16.7%	2.996	3	0.392	Not Significant
	Newspaper	29	48.3%				
	Health Care Providers	7	11.7%				
	Social Media	14	23.3%				
Came across a cases of Oral Cancer	Yes	19	31.7%	0.963	1	0.326	Not Significant
	No	41	68.3%				

n=60

The Chi Square test was conducted to test the association between the pretest knowledge score with selected demographic variables.

1. Age

The chi square test statistics value of the association between age with pretest knowledge was 4.613. The p value of the test with 3 degree of freedom was 0.202. Here the p value of the test was more than 0.05, shows no significant association of age with pretest knowledge score of teachers from selected government schools of Nashik.

2. Gender

The chi square test statistics value of the association between gender with pretest knowledge was 6.720. The p value of the test with 1 degree of freedom was 0.010. Here the p value of the test was less than 0.05, shows significant association of gender with pretest knowledge score of teachers from selected government schools of Nashik.

3. Educational Qualification:

The chi square test statistics value of the association between educational qualification with pretest knowledge was 1.514. The p value of the test with 2 degree of freedom was 0.469. Here the p value of the test was more than 0.05, shows no significant association of educational qualification with pretest knowledge score of teachers from selected government schools of Nashik.

4. Teaching Experience

The chi square test statistics value of the association between teaching experience with pretest knowledge was 6.324. The p value of the test with 3 degree of freedom was 0.097. Here the p value of the test was more than 0.05, shows no significant association of teaching experience with pretest knowledge score of teachers from selected government schools of Nashik.

5. Working Status

The chi square test statistics value of the association between working status with pretest knowledge was 0.964. The p value of the test with 2 degree of freedom was 0.617. Here the p value of the test was more than 0.05, shows no significant association of working status with pretest knowledge score of teachers from selected

government schools of Nashik.

6. Know about Oral Cancer

The chi square test statistics value of the association between know about oral cancer with pretest knowledge was 4.848. The p value of the test with 1 degree of freedom was 0.028. Here the p value of the test was less than 0.05, shows significant association of know about oral cancer with pretest knowledge score of teachers from selected government schools of Nashik.

7. Source of information about Oral Cancer

The chi square test statistics value of the association between source of information about oral cancer with pretest knowledge was 2.996. The p value of the test with 3 degree of freedom was 0.392. Here the p value of the test was more than 0.05, shows no significant association of source of information about oral cancer with pretest knowledge score of teachers from selected government schoolsof Nashik.

8. Came across a case of Oral Cancer

The chi square test statistics value of the association between came across a case of oral cancer with pretest knowledge was 0.963. The p value of the test with 1 degree of freedom was 0.326. Here the p value of the test was more than 0.05, shows no significant association of came across a case of oral cancer with pretest knowledge score of teachers from selected government schools of Nashik.

SUMMARY

This chapter dealt with analysis and interpretation of the data collected for the study. The analysis presents that structured teaching program was significantly effective in improving Knowledge of government school teachers regarding oral cancer. There was significant association between selected demographic variable such as gender and knowing of oral cancer with pretest knowledge score.

CHAPTER V

FINDING, DISCUSSION, SUMMARY, CONCLUSION, LIMITATIONS, IMPLICATIONS AND RECOMMENDATIONS

This chapter deals with the major findings of the study and reviews of them in relation to the findings of the study. The aim of this study was to improve the knowledge of government school teachers regarding oral cancer. The impact of Structured Teaching Program was evaluated by assessing the knowledge of government school teachers before and after score.

PROBLEM STATEMENT

“A study to assess the impact of structured teaching program on knowledge regarding oral cancer among selected government school teachers.”

OBJECTIVES

1. To assess the pretest and posttest knowledge regarding oral cancer among government school teachers
2. To compare between the pretest and posttest knowledge regarding oral cancer among government school teachers
3. To find out correlation between pre-test and post-test knowledge score regarding oral cancer among government school teachers
4. To find out association between pretest knowledge score on oral cancer with selected demographic variables.

MAJOR FINDINGS OF THE STUDY:**Section I: Description on demographic data of the government school teachers in terms of frequency and percentage.**

- Majority of government school teachers i.e 66.7% were more than 35 years of age
- Majority of government school teachers i.e 58.3% were males and remaining i.e 41.7% were females
- Majority of government school teachers i.e 43.3% were having educational qualification as M.Ed and most of them i.e 40.0% were B. Ed qualified
- 45.0% of government school teachers were having teaching experience of 5 – 10 years and 35.0% of them had 10 – 15 years experience
- Majority of government school teachers 55.0% were working as Secondary school Teachers and about 35.0% were working as Primary and Secondary School Teachers
- Majority of government school teachers 55.0% were knowing about oral cancer and remaining 45% were unaware about it
- 48.3% of government school teachers was having newspaper as the source of information and 23.3% had social media as a source of information. 16.7% teachers responded to books and magazines as their

source of information about oral cancer

- Majority of government school teachers 68.3% had not came across a case of oral cancer where as 31.7% teachers had seen a case of oral cancer.

Section II: Description on pretest and posttest knowledge score of government school teachers regarding oral cancer.

- In pretest 33.3% of government school teachers had poor level of knowledge regarding oral cancer. 66.7% of teachers had good knowledge level about oral cancer. The mean score for pre test was 12.32.
- In posttest 31.7% of government school teachers had good knowledge level regarding oral cancer. 68.3% of the teachers had excellent. The mean score for the post test was 22.22.

Section III: Description on impact of structured teaching program on knowledge of government school teachers regarding oral cancer

- The pretest mean was 12.32 and the post-test mean was 22.22
- The calculated t value that is 22.632 at 59 degree of freedom was much higher than the tabulated value at 5% level of significance that is 1.66. Hence it was statistically interpreted that H_0 is rejected and H_1 is accepted which states there is significant difference in pretest-posttest knowledge among government school teachers. So researcher accepted H_1 hypothesis
- H_1 : There is a significant difference between pre and post-test knowledge regarding oral cancer among government school teachers.
- Hence it was inferred that the structured teaching program on knowledge regarding oral cancer was effective in increasing the knowledge of government school teachers.

Section IV: Description on section wise analysis of Pretest and posttest knowledge of government school teachers regarding oral cancer

- Knowledge about Meaning, General Aspects, Structure and functions of mouth in pretest was 52% whereas, in posttest the knowledge level improved to 82% after administration of structured teaching program.
- In pretest knowledge about Risk Factors, Causes and Types of Oral Cancer was 39% and level increased in post test upto 71%
- Knowledge about Screening and diagnosis to confirm Oral Cancer in pretest was 38% whereas, in posttest the knowledge level improved to 71%.
- In pretest knowledge about Sign, Symptoms and Management was 38% and level increased in post test upto 59%
- Knowledge about Possible Complications and Prevention of Oral Cancer in pretest was 30%,

which in posttest improved to 82% after administration of structured teaching program.

Section V: Description on correlation between pre-test and post-test knowledge score regarding oral cancer among government school teachers

- There is significant correlation between pre-test and post-test knowledge score regarding oral cancer among government school teachers.
- This indicates that there is positive correlation between pretest and posttest knowledge score (correlation coefficient = 0.462) at 0.01 level of significance

Section VI: Description on association between Pretest knowledge score on oral cancer with selected demographic variable

- The chi square test statistics value of the association between gender with pretest knowledge was 6.720. The p value of the test with 1 degree of freedom was 0.010. Here the p value of the test was less than 0.05, shows significant association of gender with pretest knowledge score of teachers from selected government schools of the city.
- The chi square test statistics value of the association between know about oral cancer with pretest knowledge was 4.848. The p value of the test with 1 degree of freedom was 0.028. Here the p value of the test was less than 0.05, shows significant association of know about oral cancer with pretest knowledge score of teachers from selected government schools of city.

DISCUSSION

A cross-sectional study was conducted School teachers' knowledge of oral disease prevention: a survey from Dharwad, India, to assess knowledge and the associated factors among Indian school teachers towards oral disease. sample size 215 school teachers design was employed using a self-administered questionnaire. Knowledge of dental caries was highest, as opposed to oral cancer, which was lowest. School teachers aged >50 years and those with postgraduate degrees had greater knowledge The study revealed that school teachers, in particular younger teachers and those with only basic educational qualifications, need to be further motivated to improve their awareness and knowledge about oral diseases. Therefore, the establishment of school-based oral health promotion programs in India with immediate effects is essential.

In the present study, researcher thought to give structured teaching program on knowledge of oral cancer. A pre-experimental one group pre-test post-test research design was used. Total 60 government school teachers were selected by non probability purposive sampling technique as per the inclusion criteria. Semi Structured Knowledge Questionnaires was used as an instrument which consisted of two sections. Consisted of 08 items

regarding demographic variable and Consisted of questionnaires related to Meaning, General Aspects, Structure and functions of mouth, Risk Factors, Causes and Types of Oral Cancer, Screening and diagnosis to confirm Oral Cancer, Sign, Symptoms and Management and Possible Complications and Prevention of Oral Cancer.

Prior to the collection of data researcher had obtained permission from competent authority (Principal) of the selected schools and informed consent was taken from all the participants. Pretest was conducted to assess the knowledge of government school teachers regarding oral cancer using semi structured knowledge questionnaire on day „0“. On the same day Structured Teaching Program was also administered to government school teachers regarding Oral Cancer as per schedule and convenience. On 7th day Posttest was conducted to assess the gain in knowledge using the same semi structured knowledge questionnaire on the same sample.

The findings of the study highlighted that 66.7% of government school teachers were more than 35 years of age, 58.3% were males and 41.7% were females, 43.3% were qualified as M. Ed whereas 40.0%. Majority of government schoolteachers 45.0% were having teaching experience of 5 – 10 years. 55.0% were working as secondary school teachers and 35.0% were working as primary school teachers. Most of them 55.0% were known about oral cancer. Majority of teachers 48.3% were having newspaper as the source of information whereas 23.3% had social media and 16.7% responded to books and magazines as their source of information. Also most of the government school teachers 68.3% had not come across a case of oral cancer.

In present study, findings shows that pre-test knowledge mean was 12.32 and posttest mean was 22.22. The data presented shows that 't' value calculated between mean pretest and posttest was statistically highly significant [calculated „t“ value = 22.632, table value „t“ = 1.66, P < 0.05]. Hence the null hypothesis (H_0) was rejected and (H_1) was accepted. There was significant positive correlation between pre test and post test knowledge score (correlation coefficient = 0.462) at 0.01 level of significance.

Present study highlighted that in pretest overall knowledge about various aspects of oral cancer was minimum. After administration of structured teaching program on oral cancer the post test knowledge score was significantly improved.

This study interpreted that there was significant association of pre test knowledge score with selected demographic that is gender and know about oral cancer. There was no significant association of pre- test knowledge scores with demographic variables, that is Age (in years), educational qualification, teaching experience, working status, source of information about

oral cancer and come across aoral cancer.

SUMMARY OF THE STUDY

The purpose of the present study was to assess the impact of structured teaching program on knowledge regarding oral cancer among government school teachers.

The pre-experimental one group pre-test, post-test research design was used for the study, which consisted of 60 samples that were selected on the basis of the non probability purposive sampling technique. The content validity and reliability of the tool was done, which suggested that tool was reliable. The pilot study was conducted on 10 samples and the feasibility of the study was established. It was found that the tool had no major flaws and was used for the final study with the changes as per the experts based on the objectives and the assumptions as per guides permission. The collected data was analyzed using descriptive and inferential statistics. Analysis of data was done in accordance with the objectives. The data analysis was done by calculating mean, frequency and its % and „p“ value. The study found that majority of government school teachers had poor knowledge which was improved after administration of structured teaching program on knowledge regarding oral cancer.

This chapter has brought out the various implication of this study and also has provided suggestions for the future studies. Studies of this kind should be ongoing process to make awareness among school teachers regarding knowledge about oral cancer.

CONCLUSION

From the study findings it is concluded that the Structured Teaching Program was effective in improving the knowledge of government school teachers regarding oral cancer.

IMPLICATIONS:

The findings of this study had implication for, nursing education, nursing practices, nursing administration, and nursing research.

Nursing Education

The nursing curriculum should consist of knowledge related health information on oral cancer using different methods of teaching. Nursing students should be made aware of their role in health promotion and disease prevention in present and future year, which may help in achieving goal of health for all.

Nursing students should be made aware of the importance of educating the public regarding Oral Cancer.

Nursing at Post-Graduate level have to develop their skill in preparing health teaching materials according to the community's level of understanding. Improved and

newer techniques have to be used for motivating public.

Nursing Practice

Nursing is a dynamic process, which involves quality based on scientific body of knowledge and dissemination of research knowledge into practice. Nursing professionals find the health promotion very relevant because it applies across the span and is useful in variety of settings. Several implication can be drawn from the present study for nursing practice. School teachers are unaware about oral cancer, developing educational program about oral cancer for increasing the awareness in community.

The extended and expanded roles of professional nurses emphasize more about the preventing and promotive aspects of the health.

Health information about various aspects of oral cancer and its prevention can be important through various methods like Structured Teaching Program, Information Booklet, Lecture, Mass media, Pamphlet etc. Nurses have to position themselves in all areas of community. Hence, nurses should take keen interest in preparing different teaching strategies suitable for the community.

Nursing Administration

The nurse administrators should take active and pivotal role in developing teaching modules, cost effective educational materials and policies for initiation of oral health services as well as guidance and counselling clinics to the people about oral cancer and oral cancer screening.

The nurse as an administrator should plan and organize educational programs for nursing personnel and motivating them in conducting oral cancer related teaching programs for beneficial to the community.

Nursing Research

More qualitative and quantitative research studies can be undertaken in the area of school teachers. In the field of research the present study helps to utilize the findings and disseminate the knowledge in the field of work. Research studies can be done among school teachers working in government sector, private sector as well as comparison can be done among government and private sectors.

LIMITATIONS

Limitations are the boundaries that are set by researcher in order to control the range of a study.

1. The finding of the study was restricted to the respondents under study, only from selected government school
2. The data was collected from 60 samples to find out the knowledge. It could be done on more samples for the larger generalization
3. The study considers only one type of cancer (Oral Cancer), generalization can be done with respect to other cancers and associated risk factors
4. The study was done with in a restricted time period of 4 weeks.

RECOMMENDATIONS

The present study findings revealed that the Structured Teaching Program was effective in improving the knowledge of government school regarding oral cancer. So the following recommendations were framed for future study:

- A similar study can be done using self-instructional module, information booklet and awareness campaign.
- This study can be replicated on larger sample to generalize the findings.
- A study can be conducted to compare the knowledge level among government and private school teachers.
- A similar study can be conducted on various school students to improve knowledge about oral cancer.

SUMMARY

This chapter dealt with problem statement, objectives, major findings of the study, discussion, summary of the study, conclusion, implications of the study, limitations and recommendations.

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