

A descriptive study to assess the knowledge and practice regarding oral care among patients receiving radiation therapy at selected Hospitals, Bangalore

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Abstract

Background: Cancer from its initial diagnosis to the completion of its treatment is a period of great pressure and stress for not only the patients themselves but also to their families. Cancer can start almost anywhere in the human body, which is made up of trillions of cells. Good oral health is a state of being free from oral disease, pain or infection that limits an individual’s ability to eat, speak and socialize. Radiotherapy induced adverse events include oral mucositis, hypo salivation, loss of taste, dental caries all of which have an impact on patients’ quality of life. Therefore, it is necessary to implement oral management strategies prior to the initiation of radiotherapy in patients with cancer. The aim of the study is to assess knowledge and practice regarding oral care among patients receiving radiation therapy.

Material and methods: A descriptive study was employed to assess the knowledge and practice regarding oral care among patients receiving radiation

therapy at selected hospitals, Bangalore. Convenient sampling technique was used and 115 radiation therapy patients were selected. Structured knowledge questionnaire and modified WHO practice checklist were used to collect the data.

Result: Majority of subjects 74.8% had moderately adequate knowledge, 18.3% of the subjects had inadequate knowledge and only 7% of the subjects had adequate knowledge regarding oral care. Maximum number of subjects, 53% had good practice, 29.6% of the subjects had fair practice and 17.4% of the subjects had poor practice regarding oral care. It was observed that there was a moderate degree of positive correlation ($r = 0.531$, $p = 0.05$) between knowledge and practice regarding oral care. Knowledge regarding oral care showed association with educational qualification and family history of cancer. Whereas practice regarding oral care and gender and duration of hospitalization.

Conclusion: The study revealed that patients receiving radiation therapy had moderately adequate knowledge

with relatively good practice. The gap in knowledge and practices regarding oral care indicate the need to establish protocols and ensure availability of guidelines and the provision of training oncology nurses.

Keywords: radiation therapy, oral care, practice and knowledge.

Introduction

Cancer is the name given to a collection of related diseases. In all types of cancer, some of the body's cells begin to divide without stopping and spread into surrounding tissues. Cancer can start almost anywhere in the human body, which is made up of trillions of cells. Normally, human cells grow and divide to form new cells as the body needs them. When cells grow old or become damaged, they die, and new cells take their place. When cancer develops, however, this orderly process breaks down. As cells become more and more abnormal, old or damaged cells survive when they should die, and new cells form when they are not needed. These extra cells can divide without stopping and may form growths called tumors.[1] Radiotherapy ('radiation therapy' or 'irradiation') is defined as 'the use of high-energy radiation from X-rays, gamma rays, neutrons, protons, and other sources to kill cancer cells and shrink tumours. The dose of ionizing radiation administered often depends on factors such as the location of the malignancy and whether radiation is used as the sole treatment option.[2] . Oral health has been documented as equally important as general health. Moreover, knowledge about oral health has been cited as an important factor that determines overall health.[3] It affects physical and psychological and social well-being of a person. Most of people tend to ignore their impending dental problems, which later on multiply and affect the overall health. Failure of the

people to realize this fact has led millions of them to suffer intractable toothache, poor quality –of-life ultimately ending up with few teeth.[4] Acute adverse events associated with radiotherapy include oral mucositis, xerostomia and loss of taste. Radiation-induced oral mucositis is considerably unpleasant and is more pronounced in patients undergoing chemo- radiotherapy. In extreme cases, lesions are characterized by large and painful ulcers that have a significant impact on the patient's quality of life, and may considerably restrict activities such as eating, speaking and even swallowing saliva.[5] Therefore, it is necessary to implement oral management strategies prior to the initiation of radiotherapy in patients with head and neck cancer.

Materials & Method

Study Design: Non- experimental descriptive research design used for the study.

Variables

- **Study variable:** knowledge and practice regarding oral care.
- **Attribute variable:** Age, gender, marital status, educational qualification, occupation, total family income, health insurance, duration of hospitalization, family history of cancer, type of cancer, duration of diagnosis and number of cycles of radiation therapy.

Setting of the study

The study was carried out at selected hospitals, Bangalore.

Sample size: 115 patients receiving radiation therapy.

Sampling technique: Non probability convenient sampling technique was used to select the samples.

Inclusion and exclusion criteria: Inclusion criteria: Radiation therapy patients who –

- Undergone at least one cycle of radiation therapy.

- Willing to participate.
- Able to read and understand English and Kannada.
- Available at the time of data collection.

Exclusion criteria: Radiation therapy patients who are-

- Critically ill.
- Cannot read Kannada and English.
- Not willing to participate in the study.

Development of tool

After an extensive review of literature and discussion with experts, a structured knowledge questionnaire regarding oral care and modified WHO practice checklist regarding oral care was developed by the researcher. The questionnaire includes various items on diet, dental visit, oral complications and different measures to prevent oral complications. In addition, information regarding socio-demographic variables of subjects was collected.

Validity

Content validity of the tool was established by inviting suggestions from experts that include 7 experts 3 from medicine department, 3 from nursing department and 1 from oncology department. There was 100% agreement between the experts on relevance of items included on the tool.

Reliability

The tool was tested for reliability using internal consistency (split half method) ($r = 0.728$ and $r = 0.735$) respectively.

Ethical Clearance

The ethical clearance for this study was obtained from Ramaiah Medical College and Hospitals, Bangalore.

Pilot study

Pilot study was conducted at selected Hospitals, Bangalore. A total of 10 subjects who were receiving

radiation therapy were selected for the study, it was feasible to undertake the main study.

Data collection procedure

The data were collected in selected hospitals, Bangalore after obtaining formal permission from the concerned authorities. Patients receiving radiation therapy who met the inclusion criteria were selected. A total of 115 patients receiving.

Radiation therapy were selected for the study. Subjects were given detailed information about the study and informed consent was obtained from all the subjects. Data were obtained by using structured knowledge questionnaire and modified WHO practice checklist. The time taken by each subject was about 20-30 minutes. Approximately 5-10 subjects were assessed per day. The collected data were coded and entered in the master sheet.

Statistical method

The data analysis was done by using descriptive and inferential statistics SPSS (version 2.0) was used to analyze the data.

1. Frequency and percentage distribution were computed for socio-demographic characteristics.
2. Frequency and percentage distribution were computed for knowledge regarding oral care.
3. Frequency and percentage distribution were computed for practice regarding oral care.
4. Karl's Pearson correlation coefficient was used to determine the relationship between knowledge and practice regarding oral care.
5. Chi-square was used to find out the association between knowledge regarding oral care and selected socio-demographic variables.

6. Chi- square was used to find out the association between practice regarding oral care and selected socio-demographic variables.

Results

The collected data were analyzed according to the objectives of the study. The findings are presented below.

Socio-demographic characteristics of the subjects.

Frequency and percentage distribution were computed for socio-demographic characteristics of the subjects. Majority 28.7% of the subjects belong to the age group between (61-70) years. With regard to gender 57.4 % majority of the subjects were male. The majority of the subjects 62.6% were married. majority of subjects, 37.4% had primary education.

Whereas 45.2% of the subjects were private employees. With regards to monthly income of the family 47% of the subjects belonged to lower middle class family. All the subjects had health insurance 100%. Whereas the maximum duration of hospitalization was 48 hours that had been same in 47.8% of subjects. With regards 82% of the subjects had no family history of cancer. Majority of 27.8 % of the subjects were suffering from oral cancer. Whereas 33% of the subjects were diagnosed since 9-12 months. With regards to number of cycles of radiation therapy 27 % of the subjects had undergone 3 cycles of radiation therapy.

Frequency and percentage distribution of knowledge regarding oral care.

Majority of subjects 74.8% had moderately adequate knowledge, 18.3% of the subjects had inadequate knowledge and only 7% of the subjects had adequate knowledge regarding oral care.

Frequency and percentage distribution of practice regarding oral care.

Majority of subjects 53% had good practice, 29.6% of the subjects had fair practice and 17.4% of the subjects had poor practice regarding oral care.

Correlation between knowledge and practice regarding oral care.

It was observed that there was a moderate degree of positive correlation ($r = 0.531$, $p = 0.05$) between knowledge and practice regarding oral care among patients receiving radiation therapy.

Association between knowledge regarding oral care and selected socio-demographic variables.

Chi- square was used to find out the association between socio-demographic characteristics and knowledge of the patients receiving radiation therapy. It was observed that there was a significant association between knowledge regarding oral care and educational qualification ($p=0.04$) and family history of cancer ($p=0.01$). Other characteristics such as age, gender, marital status, occupation, total family income, health insurance, duration of hospitalization, duration of diagnosis, type of cancer and number of cycles of radiation therapy did not show any association with knowledge of patients receiving radiation therapy.

Association between practice regarding oral care and selected socio-demographic variables.

Chi- square was used to find out the association between socio-demographic characteristics and practice of the patients receiving radiation therapy. It was observed that there was a significant association between practice regarding oral care and gender ($p=0.01$) and duration of hospitalization ($p=0.02$). Other characteristics such as age, marital status, educational qualification, occupation, total family income, health insurance, family history of cancer, duration of diagnosis, type of cancer and number of

cycles of radiation therapy did not show any association with practice of patients receiving radiation therapy.

Discussion

Oral complications increases patients morbidity, mortality, quality of oral health and increase the length of hospital stay. Patients receiving radiation therapy has knowledge and practice gap and they need an utmost knowledge and practice regarding oral care to prevent from oral complications. This study aims to determine the patients receiving radiation therapy level of knowledge and practice regarding oral care. Based on the results of the present study, Majority of subjects (74.8%) had moderately adequate knowledge, (18.3%) of the subjects had inadequate knowledge and only (7%) of the subjects had adequate knowledge regarding oral care. The present study is supported by the study conducted by Acharya Radha in Kathmandu, Nepal, 2014. The result showed that only (60.7%) respondents had moderately adequate knowledge, (55.8%) of the respondents had adequate knowledge and (25.4%) of the respondents had inadequate knowledge on oral care.[6]

The present study results showed that majority of subjects (53%) had good practice, (29.6%) of the subjects had fair practice and (17.4%) of the subjects had poor practice regarding oral care. In contradiction, the present study result is inconsistent with the result reports by Nandini Sen (2017). The result of the study showed that (72%) of the subjects had fair practice regarding oral health, (67.4%) of the subjects had poor practice regarding oral health (52.4%) of the subjects had good practice of oral health.[7]

It was observed that there was moderate degree of positive correlation ($r = 0.531$, $p = 0.05$) between knowledge and practice regarding oral care among

patients receiving radiation therapy. The study result was contraindicated by a study conducted by Ayyappada et al (2015). The result showed that there was a high degree of positive correlation between overall knowledge and overall practice score ($r= 00.8$, $p=0.3$).

The present study revealed that there was a significant association between knowledge regarding oral care and selected socio- demographic variables that is educational qualification ($p=0.04$) and family history of cancer ($p=0.01$). The present study was supported by a study conducted by Murkute Ujjwala et al (2021). The study result showed that there was no significant association between knowledge and socio demographic variables such as age ($P=0.17$), gender ($P=0.59$), monthly income of family ($P=0.33$), type of treatment ($P=0.62$).[9]

The present study revealed that there was a significant association between practice regarding oral care and selected socio-demographic variables that is gender ($p=0.01$) and duration of hospitalization ($p=0.02$). The present study was contradicted by a study conducted by Barker, G.J. et al (2015). The study result showed that there was statistical association between practice and gender ($p=0.004$) and education qualification ($p=0.001$). Whereas there was no significant association with other socio-demographic variables such as training course, occupation.[10]

Limitations

- Authenticity of the information regarding socio-demographic variables is based on the response of the subjects.
- Limited sample size.

- Practice level was not supervised directly and relied solely on subjective assessment questionnaire.

Conclusion

The study revealed that most of the patients have moderately adequate knowledge with relatively good practice rate. Lack of knowledge and practice of the patients may lead to increase in oral complications. The gap in knowledge and practices regarding oral care indicate the need to establish protocols and ensure availability of guidelines and the provision of training oncology nurses.

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