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Research Article

Oral Health Related Quality of Life (OHRQOL) Amongst Head and Neck Cancer Patients Undergoing Chemotherapy and Radiotherapy at Sawi Mansingh Hospital Jaipur, India

Dr. Anindya Bhalla*[1], Dr. Anup N. [2], Dr. Amar pal Bhalla[3], Dr. Sukriti Bhalla Singh[4], Dr. Puneet Gupta[5], Dr. Sujata Bhalla[6]

[1]Department of Public Health Dentistry & Rajasthan Dental College, N. H.-8, Bagur Khurd, Ajmer Road, Near Toll Plaza Jaipur, Rajasthan, India
[2]Department of Public Health Dentistry & Jaipur Dental College, N. H.-11C, Jaipur, Rajasthan, India
[3]Department of Anesthesia, AIIMS Ansari Nagar East, Gautam Nagar, New Delhi, Delhi 110029, India
[4]Department of Cardiology, Sri Balaji Action Medical InstituteA-4, Paschim Vihar, New Delhi, Delhi 110063, India
[5]Department of Public Health Dentistry & Institute Of Dental Sciences Bareilly , Bichpuri Road, Navada Jogian, Opp. Suresh Sharma, NagarPilibhit Bypass Road, Bareilly, Uttar Pradesh, India
[6]Department of Oral Diagnosis & KG Chopra Dental Clinic, Jaipur,-302004, Rajasthan, India

***Corresponding author**
Dr. Anindya Bhalla
Email: anindya.bhalla@gmail.com

Abstract: There are over 110 million smokers in India. The estimated number of tobacco users in all forms in India is 275 million. While 21% use only smokeless tobacco 9% only smoke and 5% smoke as well as use smokeless tobacco. The prevalence of smoking habit is related to life-style, various methods were employed earlier to interpret and analyze. Among those OHIP-14 is one of the most excepted instruments to analysis. The Oral Health Impact Profile 14 (OHIP-14) is a disease-specific measure of people's perceptions of the social impact of oral disorders on their well-being. The objective of present study is to Assessment of OHRQOL in head and neck cancer patients using Oral Health Impact Profile-14. To find out to what extent does Head and Neck cancer compromise oral aspects of daily living during treatment among cancer patients. A descriptive cross-sectional study of 4 months involving patients undergoing various treatments of head and neck cancer at SMS Hospital, Jaipur city were considered in the present study. In the present study a total of 158 subjects with the age range from 30yrs to 70 yrs participated. About 53.16 % reported that they were totally unable to function because of problem with teeth, mouth & denture. About 45.57% felt that life in general was less satisfying because of problems with teeth, mouth or dentures. From the present observation the males with mean age of 55yrs had poor quality of life. The OHIP-14 performed well in assessing OHRQL among cancer patients. This study highlights a need for further more care for head and neck patients.
Keywords: smokers, Oral Health Impact Profile

INTRODUCTION

Quality of life (QoL) is an ambiguous concept, with usage across many disciplines from philosophy, geography, economics to the medical, dental and social sciences [1]. A plethora of definitions and concepts of quality of life have been put forward. The World Health Organization (WHO) defines quality of life as *"an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns"* (WHO, 1993) [2]. WHO suggests that health influences quality of life in multi-facetted and complex ways depending on the person's physical health, psychological state, level of independence and social relationships, and their relationships to salient features of their environment. Health is being *"a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity"* (WHO, 1948) [2, 10]. Despite widespread acceptance of WHO's health definition assessment and consideration of the physical, psychological (mental) and social dimensions in health needs assessments and assessing outcomes from health care interventions has received relatively little attention; particularly within dentistry prior to the past two decades [7-9].

The term health related quality of life (HQoL) and its concept was coined recently to describe how health influences quality of life as opposed to other influences on quality of life [1]. Despite the

disagreement in definitions of HQoL, there is a general consensus that:

(1) HQoL are assessments of subjective experience of health status. Thus, wherever possible individual assessments of HQoL rather than clinician's or other proxy assessments should be conducted.

(2) HQoL is multidimensional in nature encompassing multiple, overlapping, related domains of functioning though are often distinguishable but are not necessarily discrete or mutually exclusive. The dimensions of HQoL commonly included in current definitions are physical, emotional, psychological, and social functioning;

(3) HQoL is a dynamic concept because an individual's perceptions of HQoL can change over time particularly during cognitive development Thus, knowing an individual's rating of HQoL at one time may not necessarily or accurately predict the same individual's rating at another time. Therefore, there is no clear consensus as to what the term actually means [3,4,7]. However, HQoL is defined as an individual's assessment of how the following factors viz., experience of pain/discomfort, physical function, psychology (i.e. concerning the person's appearance and self-esteem), and social function (such as interactions with others), Figure-1 affect his or her well-being.

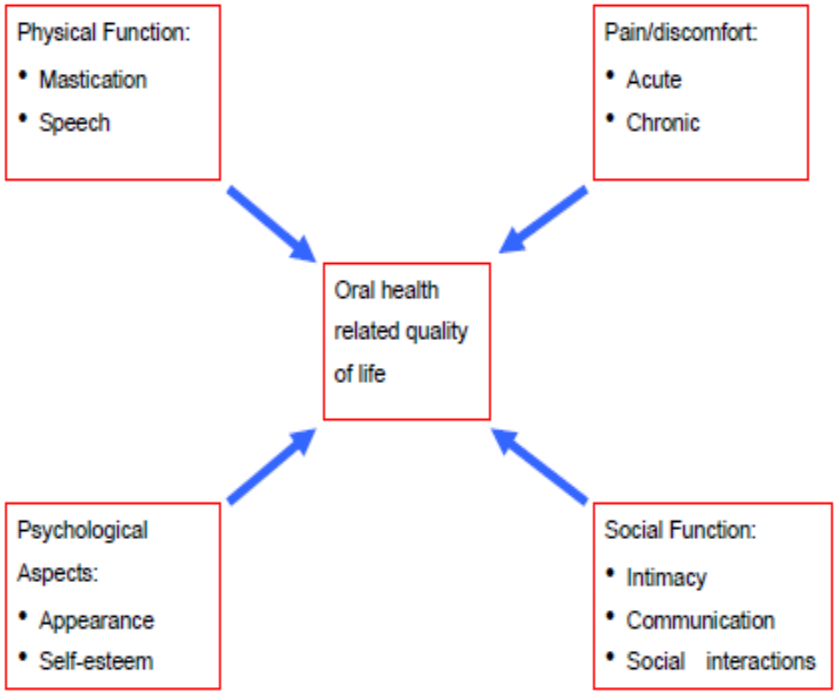

Fig-1: Factors involving in HQoL

This has further promoted the growing interest in assessing the influence of oral health on life quality over the past two decades particularly among adults. When these considerations (pain/discomfort, physical function, psychology and social function) center around oro-facial concerns, OHRQOL has been assessed [5,6,7,11].

The oral cavity is of central and major importance to most people as verbal as well as non-verbal communication and nutritional intake depends on a well-functioning oral cavity. More so, the anatomy of the oral cavity contributes to a person's appearance.

This is unfortunate, since many common diseases and medical treatments involving the oral cavity, give rise to oral symptoms and some oral diseases, compromise general health. Multidisciplinary approaches and an extended teamwork are of vital importance to provide the best care possible including the oral cavity. It is of interest to investigate how patients with diseases and/or treatments that comprise the oral cavity experience oral care and to investigate patient experiences of oral symptoms in relation to their quality of life. This article shows concern about oral health quality of life and oral health status among patients with head and neck cancer, undergoing radio- or chemotherapy.

Aims

- Assessment of oral heath quality of life in head and neck cancer patients undergoing chemotherapy and radiotherapy at hospital - Jaipur.

- To evaluate the effect of Head and Neck cancer treatment on the oral health related quality of life

Objectives

1) Assessment of oral heath quality of life in Head and Neck cancer patients using Oral Health Impact Profile (OHIP-14)
2) To find out to what extent does Head and Neck cancer compromises oral aspects of daily living after treatment among diagnosed cancer patients at, Jaipur city

MATERIAL AND METHODS

A cross- sectional, descriptive study at Jaipur hospital in Jaipur city was conducted to assess the oral health related – quality of life, oral health status and treatment need in Head and Neck Cancer patient

Study Area and Study Subjects

One hundred and fifty eight patients who visited the OPD, Dept. Of Radiology at SMS Medical College and Hospital, with duration of the study being 4 months from 10 December 2010 to 10 March 2011 were included.

Fig-2: Location of hospital in Jaipur city

Inclusion criteria

- Patient diagnosed with various stages of Head and Neck cancer (Squamous cell carcinoma) that were willing to participate voluntarily.
- All Subject were 18 years and above.
- Patients who can co-operate with administration of the questionnaire and recording of oral health status.

Exclusion criteria

- Those patients unwilling to participate and who did not sign the informed consent.
- Patient with partial or complete removal of maxilla and mandible were not included.
- Patient with metastasis were not considered.

Pilot Study

A Pilot study was conducted with the original English version Oral Health Impact Profile (OHIP-14) questionnaire for Head and Neck cancer Patient in Jaipur city. Study was done in Dept. of Public Health Dentistry in Jaipur Dental College. The English version of the questionnaire was applied on the patient. The data was recorded on total of 20 patients who willingly participated in the interview in the month of October 2010. The data recording was done by the investigator and recorder himself so that they got acclimatized to the situation and saw that the questionnaire was clearly understood by the volunteers. Comments were taken from the volunteers. Interviewed volunteers comprehended most questions well.

Training and Calibration

The Training and calibration was conducted by performing the modified WHO proforma and selected indices on a group of pre-selected 15 pre-cancerous patients visiting the OPD of Jaipur Dental College for training. Then another 10 subjects were examined by the examiner twice at a gap of 30 minutes between examinations. The same 15 pre-selected subjects were then calibrated against gold standard in order to determine the reliability and validity of the proforma. The final version was assessed on 158 head and neck cancer patients visiting the OPD of Dept. of Radiology at SMS Medical College and Hospital. Clinical examination was carried out by a single pre-trained and pre-calibrated examiner (the investigator) following 'universal precautions' under adequate illumination. The recording was carried out by a pre-trained recorder. Hospital OPD was visited by investigator many times, till all small details were taken care of. Following this the oral health status and treatment need was assessed.

Organizing the survey

Ethical clearance

The ethical clearance to conduct the survey was taken from the Ethical Committee of Jaipur Dental College.

Obtaining the approval from the authority /scheduling

Written permission to conduct the survey was obtained from SMS Medical College and Hospital, in

the OPD of Dept. of Radiology. The planned schedule of the investigator was either published in monthly bulletin or informed via pamphlets, notice or announcement to the members or the doctors of that department.

Examination area

The survey was conducted in OPD of Dept. Of Radiology by selecting an area providing the maximum efficiency and ease in conducting the survey. The subjects were examined under white light with help of LED torch seated in a chair with a high backrest and investigator stood either behind or in front of the chair. The person recording the data was positioned on the left side of the subject close to the examiner, so that the recorder was able to hear the examiner's instructions and codes, and the examiner was able to see that data was being documented correctly.

Implementation the survey

The survey was conducted for four months (10 December 2010- 10 March 2011). First, the interview-administered questionnaire was done.

METHODOLOGY

The survey was carried out using a proforma which consisted of questions on oral health related quality of life,

Questionnaire

The questionnaire composed of section, designed to collect general information in the survey which include personal data and socio–demographic profile consisting of his/her age, gender, occupation, place of residence followed by general health and dental treatment needs, use and need of prosthesis, patient recalled for treatment and with oral hygiene habits. A variety of question formats were used, with force-choice selection response and Likert Scale response.

Oral Health Impact Profile (OHIP-14) consisting of 14 –item instrument intended to evaluate four different aspects of oral health- related quality of life , including physical functioning , pain and discomfort and psychosocial functioning was conducted. Tenth and thirteenth question was asked in negative and positive ways respectively, to respondent acquiescence. There were five response categories for each question and score was assigned for each response category (0-never, 1- Hardly ever, 2-occassional, 3-very often and 4- fairly often). Scores from the positively worded question were reversed during data processing so that the directions of all response were the same. The OHIP-14 score was computed by adding up the scores of the response of the 14 question.

RESULTS

In the present study a total of 158 subjects participated, of which 142(89.46%) were males and 16 (10.08%) were females. The OHIP- 14 questionnaire is made up of 14 items which explore seven dimensions: functional limitation, physical pain, psychological discomfort, physical disability, social disability and handicap [12].

Demographic values:

Distribution of subjects according to age and gender

Out of the total 158 patients, there were only 16 (10.08%) females and 142 (89.46%) were males. A majority of patients i.e. 49 (31.01%) were in the age group 50-59, followed by 47 (29.57%) in the age group of 40-49yrs and 60+yrs respectively.

Percentage of patient's occupation

The distribution of the occupation of the patient and those who had undergone for radio/chemotherapy. Out of 158 patients, maximum 67 (42.21%) patients were engaged in elementary occupations. Followed by 29 (18.27%) patients were engaged in craft and related trades, 20 (12.60%) were in plant and machine operators and assemblers and 17 (10.71%) workers not classified under occupation.

Patient visiting the department of radiology in SMS Medical College and Hospital

Distribution of age for type of Treatment:

According to age of distribution for type of treatment received by the patient i.e. in the age group 40-49, 26(28.26%) received radiotherapy, 4(44.45%) chemotherapy and 17(29.82%) received both type of treatment. Out of 47 in 60+ age group 29 (31.52%) received radiotherapy, 1 (11.11%) chemotherapy and 17 (29.82%) received both type of treatment.

Percentage for type of treatment received according to the site

Among 71 out of 158 patients who were diagnosed with neck cancer, 41(57.75%) received radiotherapy, 3(4.22%) chemotherapy and 27(38.03%) received both type of treatment. While 51(58.62%) received radiotherapy, 6(6.90%) chemotherapy and 30(34.48%) received both type of treatment (Table 4, graph 3) out of remaining i.e. 87 who were diagnosed with head cancer.

Percentage for type of treatment received by both gender

Out of 142 males, 84(91.30%) received radiotherapy, 8 (8.89%) chemotherapy and 50 (87.72%) received both type of treatment. In total of 16 females 8 (8.70%) received radiotherapy, 1(11.11%) chemotherapy and 7 (12.28%) received both type of treatment.

Distribution of age according to site

Among the patient's visiting the radiology department in the age group 40-49, 17 (10.76%) were diagnosed with neck cancer and 30 (18.99%) with head cancer. While in 50 -59 age group, 23 (14.57 %) were

diagnosed with neck cancer and 26 (16.45%) with head cancers.

Oral-health related quality of life- Ohip-14

Functional Limitation (Table 1)

Q1) Have you had trouble pronouncing any words because of problems with your teeth, mouth or dentures?

On asking how the subject felt on the day of the treatment, 32.91% patients reported 'very' often that they were having trouble in pronouncing any word whereas 26.58% responded as 'occasionally'.

Q2)Have you felt that your sense of taste has worsened because of problems with your teeth, mouth or dentures?

On asking how the subject felt about the sense of taste while they were getting treatment, majority i.e. 37.97% of the patients reported that taste worsened 'very' often whereas 27.85% of respondents felt the worsening of taste 'fairly' often.

Physical pain (Table 1)

Q3) Have you had painful aching in your mouth?

On asking the subject have you had painful aching in mouth, majority i.e. 39.87% of the patients reported that 'very' often whereas 25.32% of respondents felt pain 'occasionally'.

Q4) Have you found it uncomfortable to eat any foods because of problems with your teeth, mouth or dentures?

On asking the subject, have you found it uncomfortable to eat any foods because of problems with your teeth, mouth or dentures, majority (40.51%) of the patients reported that 'very' often they felt uncomfortable while eating whereas 23.42% of respondents felt uncomfortable 'occasionally'.

Psychological Discomfort (Table 1)

Q5) Have you felt self conscious because of problems with your teeth, mouth or dentures?

On asking the subject have you felt self conscious because of problems with your teeth, mouth or dentures**,** majority i.e. 40.51% of the patients reported 'occasionally' and 22.78% felt 'very' often.

Q6) Have you felt tense because of problems with your teeth, mouth or dentures?

On asking the subjects have you felt tense because of problems with your teeth, mouth or dentures, the majority i.e. 34.18% of the patients reported 'occasionally' and 32.91% responding 'very' often

Physical Disability

Q7)Has your diet been unsatisfactory because of problems with your teeth, mouth or dentures? (Table 1)

On asking the subjects, 36.71% reported 'very' often that their diet had been unsatisfactory because of the problems with their teeth, mouth or dentures with almost equal number of 33.54% responding 'occasionally'.

Q8) Have you had to interrupt meals because of problems with your teeth, mouth or dentures? (Table 2)

On asking the subjects that have you had to interrupt meals because of the problems with your teeth, mouth or dentures, equal number of subjects, i.e.37.97% accepted as 'occasionally' and 'very' often.

Psychological Disability (Table 2)

Q9)Have you found it difficult to relax because of problems with your teeth, mouth or dentures?

On asking the subjects have you found it difficult to relax because of problems with your teeth, mouth or denture**s** the majority (32.91%) of the patients reported that 'very' often they found it difficult to relax and 26.58% felt so 'occasionally'.

Q10) Have you been a bit embarrassed because of problems with your teeth, mouth or dentures?

On asking the subjects have you been a bit embarrassed because of problems with your teeth, mouth or dentures, majority (35.44%) of the patients reported that occasionally they felt a bit embarrassed and 22.78% felt so 'very' often.

Social Disability (Table 2)

Q11) Have you been a bit irritable with other people because of problems with your teeth, mouth or denture?

On asking the subjects, 35.44% had been a bit irritable with other people because of problems with their teeth, mouth or denture with almost equal number (32.91%) responded to be irritable 'occasionally'.

Q12) Have you had difficulty doing your usual jobs because of problems with your teeth, mouth or dentures?

On asking the subjects have you had difficulty doing your usual jobs because of problems with your teeth, mouth or dentures the majority i.e. 34.18% of the patients reported that 'occasionally' while 29.75% 'very' often faced difficulty in performing usual jobs.

Handicap (Table 2)

Q13) Have you felt that life in general was less satisfying because of problems with your teeth, mouth or dentures?

On asking the subjects have you felt that life in general was less satisfying because of problems with your teeth, mouth or dentures, majority (45.57%) of the patients reported that life was less satisfying 'occasionally' and 25.32% responding that it was 'very often' less satisfying.

Q14) Have you been totally unable to function because of problems with your teeth, mouth or dentures?

On asking the subjects, 53.16 % have been totally unable to function because of problems with their teeth, mouth or dentures whereas 13.92%. of the patients 'never' had problem in functioning.

Table-1: Oral Health Impact Profile 14 (OHIP-14) , Questioner – Q1- Q7

Questioner	Q1) Have you had trouble pronouncing any words because of problems with your teeth, mouth or dentures?	Q2) Have you felt that your sense of taste has worsened because of problems with your teeth, mouth or dentures?	Q3) Have you had painful aching in your mouth?	Q4) Have you found it uncomfortable to eat any foods because of problems with your teeth, mouth or dentures?	Q5) Have you felt self conscious because of problems with your teeth, mouth or dentures?	Q6) Have you felt tense because of problems with your teeth, mouth or dentures?	Q7) Has your diet been unsatisfactory because of problems with your teeth, mouth or dentures?
	Percentage	**Percentage**	**Percentage**	**Percentage**	**Percentage**	**Percentage**	**Percentage**
Never	14.55	6.33	8.23	8.23	12.66	12.66	5.06
Hardly Never	12.66	6.96	13.92	12.03	21.52	15.19	11.39
Occasionally	26.58	22.15	25.32	23.42	40.51	34.18	33.54
Very often	32.91	37.97	39.87	40.51	22.78	32.91	36.71
Fairly often	13.29	27.85	12.66	15.82	2.53	5.06	13.29
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 2-Oral Health Impact Profile 14 (OHIP-14) , Questioner – Q8- Q14

Questioner	Q8)Have you had to interrupt meals because of problems with your teeth, mouth or dentures?	Q9)Have you found it difficult to relax because of problems with your teeth, mouth or dentures?	Q10)Have you been a bit embarrassed because of problems with your teeth, mouth or dentures?	Q11)Have you been a bit irritable with other people because of problems with your teeth, mouth or denture?	Q12)Have you had difficulty doing your usual jobs because of problems with your teeth, mouth or dentures?	Q13)Have you felt that life in general was less satisfying because of problems with your teeth, mouth or dentures?	Q14)Have you been totally unable to function because of problems with your teeth, mouth or dentures?
	Percentage	**Percentage**	**Percentage**	**Percentage**	**Percentage**	**Percentage**	**Percentage**
Never	6.33	12.66	15.19	17.72	11.39	7.59	13.92
Hardly Never	10.13	20.25	24.05	10.13	13.29	13.92	12.66
Occasionally	37.97	26.58	35.44	32.91	34.18	45.57	53.16
Very often	37.97	32.91	22.78	35.44	29.75	25.32	12.03
Fairly often	7.59	7.59	2.53	3.80	18.39	8.86	8.23
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

DISCUSSION

The present study utilized data collected in cross-sectional sample that included structured interview schedules and clinical oral examinations. Sample surveys were utilized firstly, to provide estimates of clinical- and secondly, subjective oral health characteristics of the study populations; Patient diagnosed with various stages of Head and Neck cancer (Squamous cell carcinoma) who participated voluntarily were 18 years and above, were considered.

The patients involved in our study were diagnosed with head and neck cancer and were undergoing radiotherapy and chemotherapy at SMS hospital. For data investigation we had fix tenure of 4 months (December 2010 to March 2011). During this period we had collected all the information of patients who visited for radio/chemotherapy.

In this duration of four months 158 patients visited for radio/chemotherapy, out of which 89.46% were males and 10.08% female's. The head and neck

cancer ratio in males to females was 9:1. This distribution is consistent with the fact that more males were diagnosed with head and neck cancer and sex based difference are quite apparent in patients undergoing treatment and this has been well described in a study conducted by Herenia P & Acharya in. 2008 [13, 14].

Quality of life has been defined as 'the degree to which a person enjoys the important possibilities of life 'oral disease can affect the quality of life.[1][,9] Oral health status can influence people physically and psychologically, as well as how they enjoy life, how they look, speak, chew and taste food and socialize. The self –esteem, self image and feeling of social well-being are also affected. Oral health status such as chewing, speaking, laughing and appearance can be impaired by loss of natural teeth. Social status, communication and aesthetics may be more important than biting and chewing, may be the main determinant of an individual's subjective need for replacement of the missing teeth [6-7].

Oral health related quality of life has been defined as a multidimensional assessment of the oral functioning and well being [7-9].

Distribution of subjects according to age and gender

The present study disclosed that amongst the head and neck cancer patients there were more males as compared to females. The reason for it would have Indian males have more of habitats compared to females. According to Slade GD [26], secondary analysis was conducted using data from an epidemiologic study of 1217 people aged 60+ years in South Australia, it was found that sex, ethnicity and age were associated with clinical presentation and patient-reported symptoms [15].

The low prevalence of female patients diagnosed with head and neck cancer in the present study may be due to their limited habitats and none reporting to hospital.

Percentage of patient's occupation:

In our study there were higher number of elementary workers as compared to other occupations, followed by those who were engaged in craft and related trades, plant and machine operators. Whereas Tevfik Pinar, et al.[16] stated that nasopharyngeal carcinoma was most frequently diagnosed in farmers in their study while oral cavity cancers were most frequently seen in farmers followed by workers in low-risk occupations and construction workers.

From our study it was observed that the occupation was an independent risk factor for the development of head and neck cancers. The most important feature of occupational diseases is that they are preventable. The most effective way to treat occupational cancer is to prevent it, and the most effective way of prevention is to remove carcinogenic agents from the work environment. Simple procedures, such as wearing a mask, may greatly reduce the morbidity and mortality due to occupational head and neck cancers [14, 16, 17].

Distribution of Age for Type of Treatment

In present study, patients in the age group of 40-49 years received more chemotherapy as compared to radiotherapy or received both type of treatment while 60+ age group patients received more of radiotherapy as compared to chemotherapy or receiving both type of treatment**.** This could be due to the fact that in younger age group the family is more supportive and they can afford the cost of treatment but in older patients they prefer palliative treatment because they can easily afford it [18-19].

Percentage for type of treatment received according to the cancer site

In the present study more of head cancer as compared to neck cancer was seen and most of them were receiving radiotherapy as choice of the treatment. This would be because of low-cost and affordability of the treatment.

A similar study was conducted by Weng Ng et al [20] in the management of head and neck cancer wherein it was observed that a multidisciplinary approach is required to optimize the balance between the goals of organ preservation and long-term cure. The role of chemotherapy in head and neck cancers has recently expanded as a result of increasing evidence in the induction and postoperative setting.

Percentage for Type of treatment received by both sexes

In present study there were more males as compared to females and the choice of treatment for them was radiotherapy .In some cases it was found that the mid – age population and mainly females getting both type of treatment. There was no similar study available for comparison.

Distribution of Age according to site

In present study it was that 55.06% patients were diagnosed with head cancer while 44.94% were diagnosed with neck cancer .This was mostly seen in older age group (>50yrs) . The reason for this could be the delay in receiving the treatment and total negligence both by the patient and their family . Similar study conducted by Boyle and colleagues [21] stated that oral cavity and pharynx combined to be the sixth commonest site of cancer in both sexes. In many countries the mortality rate is increasing among younger men born since 1910-1920. Mouth cancer is at the same time an important form of cancer for which practical prospects for prevention already exist [22, 23].

Oral-health related quality of life- OHIP-14

The present study was conducted with an objective of assessment of oral heath related quality of life in Head and Neck cancer patients using Oral Health Impact Profile (OHIP-14) and association of oral health related quality of life with their oral health status. The Questionnaire pattern had been adopted by different investigators in the field of Dentistry and the said pattern has proven useful in assessing the oral health related quality of life. Various scientists **[**24-27] examined methodological issues and stated that the growing recognition of quality of life, is an important outcome of dental care and has created a need for a range of instruments like the Oral Health Impact Profile (OHIP-49) (a 49-item questionnaire) - to measure oral health related quality of life (OHRQOL). This study was aimed to derive a subset of items that measures people's perceptions on the impact of oral conditions on their well-being. Other investigators in UK [28,29,15] compared (cross-sectional comparison) the validity of the short form of the Oral Health Impact Profile (OHIP-14) and Oral Impacts on Daily Performance (OIDP) as measures of oral health-related quality of life in patients with xerostomia. The findings suggest that the OHIP-14 measure has good reliability, validity and precision.

Certain observations were recorded during treatment because of problems with teeth, mouth or dentures of patients, like -

In the present study patients very often had difficulty in pronouncing any words than occasionally. On the other hand, patients very/fairly often felt worsened sense of taste. As observed in the present study, the most prevalently affected OHIP was "functional limitation" 51.1%. The GHQ-12 scores were also significantly correlated with the 'functional limitation' and 'psychological disability' domains of the OHIP-14 [30, 19, 31].

The findings of the study were consistent with the study by Hernia P [13], Shasdihar A [14], Navin Anand Ingle [33] where approximately 39.87% of patients experienced pain fairly often/ very often associated with teeth and mouth as in the duration of 4 months, 40.51% felt uncomfortable to eat , whereas 37.97% said they has unsatisfactory diet that interrupted meals(physical disability). 40.51% reported that they felt conscious or tense about their teeth which could be the psychological effect of their oral taste. Coincidently, physical pain and physical disability was the dimension of OHIP that contributed most to variation in the sex category distribution to subject impact between adults in U.K and Australia [32, 14, 33].

Psychological Disability

The present study showed that many of patients felt difficulty in relaxing because of problems with their teeth, mouth or denture**s** and had been a bit embarrassed. Hence, the results of this study showed that components of the OHRQOL, such as functional limitation and psychological disability, were correlated with GHQ- 12 scores. Those with missing teeth were found to have higher GHQ-12 scores than those without. It was also shown that there was an association between GHQ-12 scores and perception of oral pain, inability to relax and problems in inter-personal interactions. Psychological distress was found to be associated with a poor OHRQoL [31, 14].

Social Disability

In the present study patients had been a bit irritable and they had difficulty doing the usual jobs because of problems with their teeth and mouth. The reason for it could be the patient's inability to eat his or her diet without pain in their mouth.

Handicap:

In head and neck cancer patient's life in general was less satisfying and majority of the patients had been totally unable to function because of problems with their teeth, mouth or dentures. This could be due to the changes in the oral cavity while the patient underwent chemotherapy. This effect lasts for longer time and most of patients' complaint of burning sensation in their oral cavity [34, 14, 15].

Higher OHIP-14 scores were associated with higher dental anxiety. Females perceived a higher sense of 'social handicap' when compared to males. It was also found that patients with caries and missing teeth had higher GHQ-12 scores. The results of this study showed that caries status, psychological distress and dental anxiety had an important effect on the OHRQoL.

CONCLUSION

This study was a cross-sectional study conducted in the Department of Radiology at SMS hospital in Jaipur city. The study was carried out to see the Oral Health Related Quality of Life and Oral Health Status of head and neck cancer patients. Total of 158 patients visited the clinic during the duration of 4 months. In this study there were 144 males and 16 females. This shows that more male patients had certain habits, hence larger number of them suffered with different type of head and neck cancers.

This section of patients is usually neglected in the society and nobody bothers to take care of them, especially of their oral health. As the patient undergoes treatment, they suffer with lot of oral health problems during the course of treatment. They have white patches and complain a lot with problem in eating and speaking. Doctors who are treating them do not show much concern with their oral cavity, maybe, due to less awareness/knowledge of it. Today oral cavity is as important as the other part of the body, the patient who suffers from the oral cavity problem during the course of treatment goes under lot of stress and they usually have loss of appetite and nutritional deficiency is observed in their body.

The patients who visited the clinic were from lower section of society and belonged to middle age or older group. Mostly, all of them performed elementary work while females were house wives. The anticipated reason for this problem faced by them is the lack of education and awareness among the patient and their family

Oral health related quality of life, i.e. The OHIP -14 appears to have good reliability and acceptable validity. The instrument differentiates between groups of patients with varying functional limitations and healthy individuals. It is recommended for use in clinical and research use .OHIP-14 completed all the aspects of patient and problems he/she is facing [35-37].

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