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RESEARCH ARTICLE

QUALITY OF LIFE (QOL) AMONG THE PATIENTS WITH ORAL CANCER IN SELECTED HOSPITALS OF GUWAHATI, ASSAM

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ABSTRACT

Globally cancers account for 5.1 % of total disease burden and 12.5% of all deaths. Oral cancer is a major problem in the Indian subcontinent where it ranks among the top three types of cancer in the country.The north east region especially Assam and Meghalaya is turning to be the stock house of oral cancer due to many reasons like the tradition of chewing betel nut and addiction to other sources of tobacco. An increasingly important issue in oncology is to evaluate the quality of life in cancer patients.

Objectives of the study: To assess the Quality of Life among patients with oral cancer and to find out the association between Quality of Life with selected demographic variables.

Materials and Methods: The research design adopted for the study was descriptive survey design.The study was conducted at Dr. B. Baroooah Cancer Institute, Guwahati. Purposive sampling technique was used to select the samples. Sixty samples were selected for the study. After obtaining the signature in the consent form, data was collected by using structured interview schedule to know about demographic variables and UW-QOLversion 4 was used to measure QOL.

Results: The findings of the study showed majority (38.30%) of patients were under the age group of 50-61 years, most of the patients (88.30%) had the habit ofchewing betelnut and the most common site of oral cancer was buccal mucosa accounting for 38%.QOL of physical function was found to be worst at 55.6% as compared to socio-emotional function of 70.6%.This study reveals a significant association between saliva with personal habits 160.24 and treatment received 72.79 tested at p ≤0.05by chi-square test.

Conclusion: The study findings concluded that the majority of the patients were under the age group of 50-61 years had the habit of chewing betel nut, the most common site of oral cancer was buccal mucosa, andQOL of Physical function was found to be worst as compared to Socio-emotional function. Present study also proves that the worst QOL that is saliva is statically significant with personal habits and treatment received.

INTRODUCTION

Oral cancer is a major problem in the Indian subcontinent where it ranks among the top three types of cancer in the country. Age- adjusted rates of oral cancer in India is high, that is 20 per 100,000 population and accounts for over 30% of all cancers in the country[1].Globally cancers accounts for 5.1 % of total disease burden and 12.5% of all deaths. In India, they account for 3.3% of disease burden and 9.9% of all deaths.Tobacco chewing apart from smoking in India has a huge burden of oral and oral precancerous condition[2].The incidence of cancer in Assam and the North Eastern Region is significantly higher than the rest of the country as per Population Based Cancer Registry. Cancer of esophagus, hypopharynx, tongue, mouth, gall bladder, prostate, ovary, stomach, nasopharynx and lung are very high in the North Eastern Region. The North Eastern States has the highest tobacco consumption in India. NE accounts for some of the highest burden of tobacco related illness in the entire country[3].North Eastern Region is showing an ever increasing cancer burden which is evident from the Hospital records of Dr. B. Borooah Cancer Institute which is catering to the need of entire North Eastern Region. The Annual report of BBCI shows that the number of new patients reported in the year 2001-2002 was 5404 which increased to 8708 in the year 2011-12. Similarly, the number of OPD consultations also increased from 32694 (2001-02) to 54081(2011-12)[4]. This picture reveals very clearly how cancer burden is increasing in this region.In the University of Washington Quality of Life questionnaire

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(UW-QOL) the best-scoring domain was mood, whereas the lowest scores were for chewing and saliva. In the Oral Health Impact Profile (OHIP-14) the lowest-scoring domain was social disability, followed by handicap, and psychological disability (Glaser, 2014) Hence, theassessment of the QOL is considered as an essential component of an oral cancer patient, as well as of the survival, morbidity and the years which are free of disease.Therefore, it is in interest of researchto conduct a study to evaluate the Quality of Life (QOL) of patients among oral cancer.

Objectives

- To assess the Quality of Life among patients with oral cancer.
- To find out the association between Quality of Life with selected demographic variables.

MATERIALS AND METHODS

The research design and approach adopted for this study was descriptive design & survey approach. The study was conducted among patients admitted and attending OPD with oral cancers at Dr. B. Borooah Cancer Institute, Guwahati, Assam. The sample size was 60 oral cancers patients. Purposive sampling technique was used to select the sample. Samples include patients who were willing to participate in the study in the age group from 30 years to 80 years and with oral cancer of all stages. Patients who were admitted in ICU after surgery and those who were unwilling to be the part of the study were excluded.

Tools for data collection

The following instruments were used for data collection:

Tool –IA

Structured Interview Schedule on demographic characteristics included were Age, Sex, Education, Marital status, Monthly income, Place of residence, Personal habits, Oral and dental hygiene, Nutritional status, Diagnosis.

Tool I-B

Medical record analysis which included Site of tumor, Stages of cancer and Treatment.

Tool II

Standardized tool, University of Washington Quality of Life Questionnaire (UW-QOL v4) was used to assess the Quality of Life of oral cancer patients undergoing treatment. The current version 4 of the UW-QOL questionnaire consists of 12 single question domains, these having between 3 and 6 response options that were scaled evenly from 0 (worst) to 100 (best) according to the hierarchy of response. The domains were pain, appearance, activity, recreation, swallowing, chewing, speech, shoulder, taste, saliva, mood and anxiety. Patients were asked to choose up to three of these domains that have been the most important to them. There were also three global questions, one about how patients feel relative to before they developed their cancer, one about their health-related QOL and one about their overall QOL. Answers were also scaled from 0 to 100 to enable ease of presentation of all key results using the same 0 to 100 scale. The general question asking about overall QOL has 6 possible responses which are scored as 0, 20, 40, 60, 80 & 100. In regard to their overall QOL patients were asked to consider not only physical & mental health, but also many other factors, such as family, friends, spirituality or personal leisure activities that were important to their enjoyment of life). The whole questionnaire focuses on current patient health and quality of life within the past 7 days. The UW-QOL has domains based upon discrete ordinal responses. Scoring is scaled to so that a score of 0 represents the worst possible response, and a score of 100 represents the best possible response. Scoring was scaled in equal stages from 0 to 100 to reflect the number of possible responses. Thus the pain domain has 5 possible responses which are scored as 0, 25, 50, 75 & 100.

- **A:** (0) Much worse (25) somewhat worse (50) about the same (75) somewhat better (100) Much better.
- **B:** (0) V Poor (20) Poor (40) Fair (60) Good (80) V Good (100) Outstanding
- **C:** (0) V Poor (20) Poor (40) Fair (60) Good (80) V Good (100) Outstanding
- *** BEST SCORES**: A: % scoring 50, 75 or 100; B & C: % scoring 60, 80 or 100

Important Question

Results can be presented as percentage of patients choosing each domain. The domains can also be ranked in order. To determine the content validity, the draft of the tool along with the criteria checklist was submitted to five experts and the standardized tool "University of Washington Quality of Life Questionnaire (UW-QOL v4), version 4" was translated to Assamese which was validated and it was again translated back to English by expert for verification. There was 80-100percent agreement on all items.The reliability of University of Washington Quality of Life Questionnaire (UW-QOL)scored >0.90 on reliability coefficient which was done by Department of Otolaryngology- Head and Neck Surgery, University of Washington**.** The reliability of the Assamese version of "University of Washington Quality of Life Questionnaire (UW-QOL)" was established using split half method and the reliability was found to be0.83.Hence, the tool was found to be highly reliable.

Ethical considerations

Ethical clearance was obtained appropriatelyconstituted institutional ethics committee.Verbal and written consent was obtained from all the participants of the study after explaining the purpose and other details of the study.The participants were assured of confidentiality of the data obtained.Data were collected using the structured interview schedule and the standardized tool "University of Washington Quality of Life Questionnaire (UW-QOL), version 4".

RESULTS

Data analysis was done on the basis of the objectives of the study using statistical methods of descriptive and inferential statistics. The raw data were transformed on a master data sheet for all the demographic and other variables and Quality of Life scores.

Description of Sample Characteristics

Table 1. Frequency and Percentage distribution of demographic variables

N= 60

Sample characteristics	Frequency (f)	Percentage (%)
Age (in years)		
30-40	6	10
41-50	11	18.33
51-60	23	38.33
61-70	15	25
71-80	5	8.33
Sex		
Male	41	68.3
Female	19	31.7
Education		
Primary	39	65
High school	11	18.3
Higher secondary	7	11.7
Graduate	3	5
Marital status		
Married	45	75
Widowed	13	21.7
Separated	2	3.3
Monthly income		
< 10,000	41	68.33
10,000- 20,000	11	18.33
>20,000	8	13.33
Place of residence		
Urban	13	21.7
Rural	47	78.3
Personal habits		
Tobacco	42	70
Alcohol	37	61.7
Cigarette	39	65
smoking	21	35
Gutka	53	88.3
Betel nut		
Oral and dental hygiene		
Dental cavities	23	51.1
Bad breath	16	35.6
Sharp teeth	6	13.3
Nutritional status		
Normal	49	81.7
Under nutrition	11	18.3

Table 1 describes thedemographic variablesof oral cancer patients. With regards to age, most (38.30%) of the oral cancer patients belongs to age group of 51-60 years, majority (68%) of them were male. Regarding education, majority (65%) had primary level qualification and majority (75%) oral cancer patients were marriedwhile the monthly income of majority (68.3%) of theoral cancer patients was found<10,000. Majority (78.3%) of oral cancer patients resides in rural areas. Regarding personal habits, (88.3%)of them had the habit of chewing betel nut while most (38.3%) of oral cancer patient had dental cavities and majority (81.6%) were having normal nutritional status.

Table 2: Frequency and Percentage distribution regarding stages of cancer and treatment undergoing

N= 60

Sample characteristics	Frequency (f)	Percentage (%)
Stage of cancer		
I	11	18.33
II	41	68.33
III	6	10
IV	2	3.33
Treatment undergoing		
Chemotherapy, radiotherapy and surgery	8	13.3
Chemo-radiotherapy	13	21.7
Chemotherapy and surgery	39	65

Table 2 shows that majority (68.3%) of the patients were in stage II, followed by stage I (18.3%), stage III (10%) and stage IV (3.3%). And majority (65%) of the patients received combined therapy (chemotherapy and surgery), followed by chemo-radiotherapy (21.7%), and chemo-radiotherapy and surgery (13%).

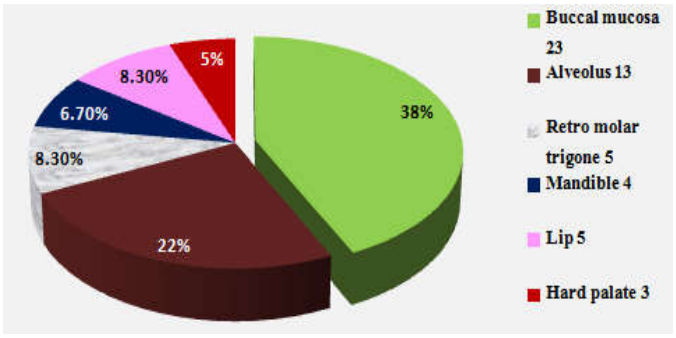

Fig. 1. Distribution among oral cancer patients according to Site of tumor

Figure 1 describes that the most common site of tumor development was buccal mucosa 38% (23) followed by alveolus 22%, tongue 11.7%, lip and retro molar trigone 8.3%, mandible 6.70% and hard palate.

Scoring of UWQOL domains

Table 3.describes that patients had poor physical function (55.60%) as compared to socio-emotional function (70.06%).Patient scored well in pain (66.60%), recreation (63.30%) and activity (50%). In comparison, patient scored poorly in saliva (6%), chewing (10%) and swallowing (15%).

A. Importance question

The most important domain according to patient can be presented as Percentage of patients choosing each domain. The domains can also be ranked in order. Majority (58.30%) of the patients chose saliva as their most important issue followed by shoulder (41.70%), chewing (38.30%), anxiety (36.60%), appearance (26.70%), swallowing and taste (20%), activity (18.30%), speech (15%), mood (10%), pain (8.30%) and recreation (6.70%)

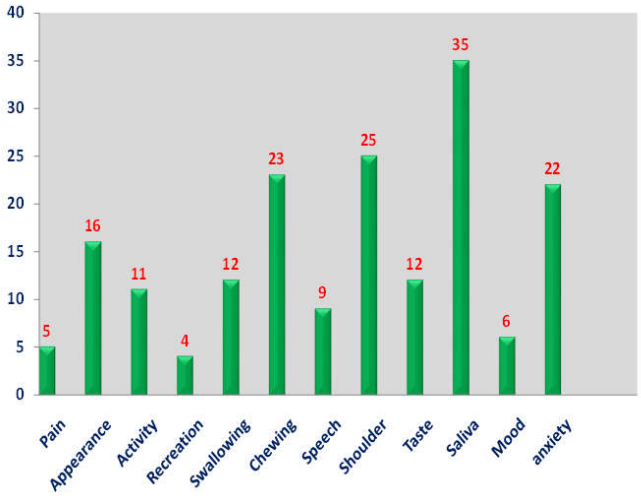

Fig. 2. Patients Most important domain under the study

Table 3. Mean domain scores and sub scores of the domains

N= 60

Sl No	Subscale	Domains	Individual Mean Score	Subscale Mean Score	Best Score %	Rank
1		Appearance	56.6		30	7
2		Swallowing	49.6		15	10
3		Chewing	45		10	11
4	PHYSICAL	Speech	72.3		43.3	4
5	FUNCTION	Taste	69.16	55.6	40	5
6		Saliva	38.3		6	12
7		Pain	85		66.6	1
8		Activity	74.16		50	3
9	SOCIO-	Recreation	83.75		63.3	2
10	EMOTIONAL	Shoulder	52.16		21.6	9
11	FUNCTION	Mood	64.16	70.06	33.3	6
12		Anxiety	61.16		26.6	8

Table 4. Mean score of General Question

N=60

UWQOL	Mean Score (%)	Best Score (%)
Health related QOL compared to month before developing oral cancer	74.16	87
Health related QOL during past 7 days	58.7	61.6
Overall QOL during past 7 days	62	73.3

Table 5. Association between worst Quality of Life with selecteddemographic variables and medical record variables

N= 60

Demographic variables	Sample characteristic	Chi square value (χ^2)	df	Inference
Age	30-80 years	17.7	15	NS
Sex	Male	2.41	3	NS
	Female			
Education	Primary	4.06	6	NS
	High school			
	Higher secondary			
	Graduate			
Personal habits	Tobacco			
	Alcohol	160.24	12	S
	Cigarette smoking			
	Gutka			
Site of tumor	Betel nut			
	Buccal mucosa	2.23	6	NS
	Alveolus			
	Hard palate			
	Mandible			
	Tongue			
Treatment	Lip			
	Chemo-radiotherapy and surgery			
	Chemo-radiotherapy	72.79	2	S
	Chemotherapy and surgery			

$p \leq 0.05$, Key: NS- Not significant, S- significant

B. General question

The UW-QOL has domains and general questions based upon discrete ordinal responses. The UW-QOL asks three global questions, one about how patients feel relative to before they developed their cancer, one about their health related QOL and one about their overall QOL. The health related Quality of Life compared to the month before developing oral cancer was rated better (87%) than the overall Quality of Life past 7 days (73.30%) followed by least health related Quality of Life during the past 7 days (61.60%). Chi square test was used to determine the associationbetween worst Quality of Life with selected demographic variables and medical record variables and the findings are shown in the table 4 indicated that there is significant association between worst Quality of Life with personal habits and treatment. There was nosignificant association foundbetween worst Quality of Life with age, sex, education and site of tumor.

DISCUSSION

The findings of the present study reveals that the frequency and percentage distribution of medical variables showed that the most common site of oral cancer was buccal mucosa accounting 38%. Majority 68.30% of patients presented in stage-II and majority 65% of patients had undergone combined therapy i.e. chemotherapy and surgery.QOL of physical function was found to be worst as compared to socio-emotional function. These findings are consistent with a study by Fang (2013)[7]who reported the quality of life of patients with oral cancer after pectoralis major myocutaneous flap reconstruction with a focus on speech. Of the 12 disease-specific domains, the best 3 scores from the patients were for pain, saliva, and anxiety and the worst 3 scores were for taste, chewing, and swallowing. The mean UW-QOL composite score was 73.4. Swallowing was considered to be the most important issue

within the previous 7 days, followed by chewing and speech. Those patients who had undergone wider excision had poorer speech. Another study conducted by Bhanja (2016) on assessment of Quality of Life in Oral Cancer Patients following pectoralis major myocutaneous flap reconstruction. The result showed average physical function (74.6±18.2), socioemotional sub-score (65.2±17.6) and composite scores (69.9±16.6) were good and within acceptable range. Mood (46.5±23.7) and anxiety (56.6±26.9) scored poorly among 12 domains. Statistically significant difference ($P<0.05$) was found in the domain score in relation to age, sex, tumor size, neck dissection, radiotherapy and recurrence. There was no significant difference in quality of life scores in relation to postoperative complications of pectoralis major myocutaneous flap, which supports enhanced utilization of this flap.The current study shows a significant association between worst Quality of Life, personal habits and treatment received by the patients. Similar study conducted by Shavi and Thakur (2015) found thatthe majority of the population 84 (54.9%) belonged to 41-60 years age group and most of them were male (78.4%). The most frequent site of the primary tumor was the oral cavity (71.3%) and the majority of patients had Stage II and III cancer. Significant association found between pain ($p = 0.044$), swallowing ($p= 0.018$), sense ($p = 0.001$), Social eating ($p = 0.003$), social contact ($p = 0.008$), reduced mouth opening ($p= 0.008$) with respect to type of treatment.In the present study majority of the patient were under the age group of 50-61 years and had the habit of chewing betel nut.

Conclusion

Globally cancers account for 5.1 % of total disease burden and 12.5% of all deaths.Oral cancer is a major problem in the Indian subcontinent where it ranks among the top three types of cancer in the country.QOL refers to "global well-being," including physical, emotional, mental, social, and behavioral components. Therefore, identifying the domain which affects the QOL is important. With this aim the present study was conducted to assess the Quality of Life (QOL) of oral cancer patients. The study findings concluded that the majority of the patient were under the age group of 50-61 years, had the habit of chewing betel nut, the most common site of oral cancer was buccal mucosa, and QOL of Physical function was found to be worst as compared to Socio-emotional function.A significant association was found between the worst QOL that is saliva with selected demographic variables that is personal habits and treatment received.

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