International Journal of Otorhinolaryngology and Head and Neck Surgery
Mili MK et al. Int J Otorhinolaryngol Head Neck Surg. 2022 Jun;8(6):511-516
http://www.ijorl.com
pISSN 2454-5929 | eISSN 2454-5937
DOI: https://dx.doi.org/10.18203/issn.2454-5929.ijohns20221390

Original Research Article

A study of quality of life of head and neck cancer patients attending ear, nose, throat out-patient department of tertiary care centre in upper Assam region

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Received: 22 March 2022
Revised: 05 May 2022
Accepted: 06 May 2022

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ABSTRACT

Background: Head and neck cancer makes up 3-4% of cancers, however, in developing nations like India, it constitutes 30-40% of cancer cases, primarily attributed to use of tobacco, alcohol.
Methods: A hospital-based, descriptive, cross-sectional study was done in a tertiary care centre upon 54 patients during a period of 1 year. Patients were subjected to a questionnaire on quality of life, using University of Washington quality of life questionnaire (UW-QOL).
Results: Out of 54 patients, 43 were males, 11 were females. Maximum cases were observed in the 6th decade of life. When asked to state the most important aspect of lifestyle for the patient in the past week, the highest percentage answered pain followed by appearance and chewing, swallowing and speech.
Conclusions: Around two-fifths of patients experienced moderate pain needing regular non-narcotic medications and approximately one/fourths stated they felt significantly disfigured. Around 45% patients stated they can chew soft solids, while 30% stated that they can swallow certain soft solids, 28% stated that they can swallow only liquids and 15% were unable to swallow (choking). Around one-third of patients complained of difficulty in speech and around a third of all patients were depressed. Around 45% patients were dissatisfied with their sex lives. Around half of the patients complained of reduced salivation, attributed to radiation-induced xerostomia. One-third of the patients experienced shoulder stiffness and/or pain due to possible injury to spinal accessory nerve.

Keywords: Head and neck cancer, Quality of life, UW-QOL

INTRODUCTION

Head and neck cancers are malignant tumours of the upper aero-digestive tract including oral cavity, nasopharynx, oropharynx, hypopharynx and larynx.[1] They account for about 4% of all cancers in developed countries like the United States.[2] However, in developing nations like India, approximately 30-40% of all cancer cases are head and neck cancers.[3] In India, one-fourth cases of head and neck cancers are seen in males and one-tenth in females.

This is mainly attributed to tobacco, areca nut, alcohol.[4]

Etiology

Tobacco

It contains over 30 known carcinogens such as polycyclic aromatic hydrocarbons and nitrosamines and its synergism is seen with alcohol.[5,6]

Dental factors

Poor oral hygiene is one of the etiological factors.

Viral infections

Human papilloma virus (HPV), herpes simplex virus (HSV), Epstein-Barr virus (EBV) are the etiological factors.

Inflammatory

The inflammatory factors were gastroesophageal reflux disease, pre-cancerous lesions like erythroplakia, leukoplakia

Occupational exposure

Exposure to wood dust, organic chemicals and coal dust were some of the occupational exposures.[7]

Nutritional factors

Intake of red meat and salted meat increases the risk, whereas high fruit and vegetable intake is associated with a decreased risk of head and neck cancer probably due to increased amounts of antioxidants or free radical scavenging vitamins A, C and E.[8]

Genetic and immunologic predisposition

Few genetic conditions are associated with increased cancer risk, for instance, Li-Fraumeni syndrome, Fanconi's anemia, Bloom syndrome, ataxia-telangiectasia. There is a genetic susceptibility in the capacity to metabolize carcinogens and repair consequent DNA damage. This involves polymorphisms in GST genes, CYP genes and the cytochrome P450 system.[9-12]

According to the cancer atlas project by the Indian council for medical research (ICMR) reports, among incidences of different cancers across India, the incidence in Assam, Manipur, Mizoram, Tripura and Nagaland has been reported to be higher (54%).

The world's highest incidence of cancers in men, which was of the lower pharynx (11.50/100,000 people) and the tongue (7.60/100,000 people), was reported from Mizoram. Pondicherry had also reported the incidence of oral cancer in males (7.80-8.90/100,000). However, the highest incidence of nasopharyngeal cancer had been reported from Nagaland.[13-17]

Although the treatment for head and neck cancer had resulted in a significant improvement in survival rates, yet the correct assessment and aiding the patient's quality of life still remained a pivotal challenge.

QoL

It is defined as an individual's perceptions of their position in life taken in the context of the culture and value systems in which they live and in relation to their goals, standards and concerns (according to WHO).[18]

It is defined as the measure between age expectations or present experience and the perceived and actual goals (according to Calman-gap theory).[19]

It was observed that the patients usually do not have a good standard of living, owing to their morbidity. QoL information can change clinical practice both in terms of treatment protocols and strategies and also in terms of individualized patient care.[20]

The patient's perspective of outcome is a critical component of healthcare evaluation.[21] Hence, it was decided to study the quality of life of all diagnosed cases of head and neck cancer.

Aim

The aim of the study was to assess the QoL amongst all diagnosed cases of head and neck cancer.

METHODS

This was a hospital-based, descriptive, cross-sectional study in which the quality of life of 54 patients diagnosed with head and neck cancer attending the out-patient department of ENT, Assam medical college were studied. The study was conducted from July 2020 to June 2021. Patients presenting to outpatient department and fulfilling the following criteria were included in the study.

Inclusion criteria

Patients of head and neck cancers attending the OPD of ENT, AMCH; patients above 18 years of age; patients who were able to understand the questions of the questionnaire UW-QoL; patients who gave consent were included in the study.

Exclusion criteria

Patients whose diagnosis had not been confirmed; terminal cases who were not able to understand and/or answer the questionnaire, by any means whatsoever were excluded.

Data collection

Patients satisfying the inclusion criteria were subjected to a questionnaire on QoL using UW-QOL, which included the dietary and sexual aspects of their lifestyle.

The data collected were tabulated in Microsoft excel worksheet and computer-based analysis was performed using Microsoft excel 2013. The categorical variables were summarised as proportions and percentages.

The study was a hospital-based observational study, so no statistical analysis between the parameters were evaluated.

The study was approved by the institutional ethics committee.

RESULTS

The number of cases were significantly higher in males with 43 cases (79.62%) as compared to females who comprised only 11 cases (20.38%).

Table 1: Age distribution.

Age (years)	N	%
Less than 20	01	1.85
20-29	01	1.85
30-39	07	12.96
40-49	10	18.52
50-59	16	29.63
60-69	12	22.22
70-79	03	5.55
80-89	03	5.55
90-99	01	1.85
Total (n)	54	100

Table 2: Gender distribution.

Sex	N	%
Male	43	79.62
Female	11	20.38
Total (n)	54	100

Table 3: Aspect of lifestyle which were among the three most important for the patient in past one week (n=54).

Criteria	N	%
Pain	31	57.40
Appearance	20	37.03
Activity	09	16.66
Recreation	02	3.70
Swallowing	17	31.48
Chewing	20	37.03
Speech	17	31.48
Shoulder	06	11.11
Taste	00	0.00
Saliva	01	1.85
Mood	10	18.51
Anxiety	12	22.22

The highest number of cases was observed in the sixth decade of life (29.63%), followed by seventh decade (22.22%).When asked to state the aspect of lifestyle was most distressing/inconvenient for the patient in past one week (up to three choices per patient), the highest fraction of patients responded pain (54.50%), followed by appearance and chewing (37.03% each) and subsequently, swallowing and speech (31.48% each).

Table 4: Severity of pain experienced by patients.

Severity of pain	N	%
0 (no pain)	2	3.7
25 (mild pain not needing medication)	15	27.77
50 (moderate pain needing regular non-narcotic medication)	21	38.88
75 (severe pain controlled by narcotic medication)	6	11.11
100 (severe pain not controlled by medication)	10	18.51
Total (n)	54	100

Table 5: Effect of chewing on life of patients (1 patient was on feeding jejunostomy).

Effect on chewing	N	%
No effect	14	25.92
Can chew soft solid	24	44.44
Cannot even chew soft solid	15	27.77

Table 6: Effect of difficulty in swallowing on life of patients.

Effect on swallowing	N	%
Unaffected	15	27.78
Certain solid food	16	29.62
Only liquid food	15	27.78
Cannot swallow	8	14.81
Total (n)	54	100

Table 7: Effect of saliva on life of patients.

Saliva	N	%
Normal	27	50
Less than normal	19	35.18
Too little	7	12.96
No saliva	1	1.85
Total (n)	54	100

Table 8: Status of sexual satisfaction on life of patients.

Status	N	%
6 (very dissatisfied)	02	3.70
5 (moderately dissatisfied)	09	16.66
4 (a little dissatisfied)	14	25.92
3 (neither satisfied nor dissatisfied)	27	50
2 (a little satisfied)	01	1.85
1 (moderately satisfied)	01	1.85
0 (very satisfied)	00	00
Total (n)	54	100

Table 9: Mental status of patients.

Mood	N	%
Excellent and unaffected	01	1.85
Generally good, occasionally affected	15	27.77
Neither good mood nor depressed	20	37.03
Somewhat depressed	15	27.77
Extremely depressed	03	5.55
Total (n)	54	100

Table 10: Shoulder function of patients.

Shoulder function	N	%
Unaffected	36	66.66
Stiff, not affected activity	11	20.37
Stiffness/pain leading to change of work	04	7.40
Cannot work	03	5.55
Total (n)	54	100

Majority of patients (38.88%) stated that they experienced moderate pain needing regular non-narcotic medication. Majority (44.44%) of the patients stated that they can chew soft solids, but cannot chew some foods.

29.62% patients responded that they can swallow certain soft solids, but cannot swallow certain foods. 7 of the patients were tube fed and one patient had undergone feeding jejunostomy.

Around half of the patients complained of dry mouth, due to reduced salivation.

25 of such patients, who had reduced salivation, had undergone/were undergoing radiotherapy as either curative or palliative purpose.

On being asked about the sexual aspect of their lifestyle, around 25.92% patients responded that they were a little dissatisfied, 16.66% patients were moderately dissatisfied and 3.70% patients were very dissatisfied with their sex lives. On being asked about their mood, around 37.03% patients stated that they were neither in a good mood nor depressed, while around 33.33% revealed that they were depressed about their cancer.

Around 33.33% patients experienced shoulder stiffness with or without pain. 15 of these patients were post-operative cases and 13 had undergone radical/modified radical/selective neck dissection, inducing the risk for injury to the spinal accessory nerve.

DISCUSSION

All patients of head and neck cancer attending department of otorhinolaryngology during the study period who fulfil the inclusion criteria were included in the study. There was a total of 54 patients of head and neck cancers during this study period.

The number of cases were significantly higher in males with 43 cases (79.62%) in comparison to females which was only 11 cases (20.38%). The male to female ratio was 3.9:1. A study, head and neck cancer patients' QoL: analysis of three instruments, consisted of 33 individuals where 69.70% were males, which was somewhat similar to our study.[22]

The highest incidence of cases was observed in the sixth decade of life (29.63%), followed by seventh decade (22.22%). In the study, head and neck cancer patients' quality of life: analysis of three instruments with 33 individuals, the mean age was (63.42±11.25) years, which was almost similar to our study.[22]

When asked to state the aspect of lifestyle which was most important for the patient in past one week (up to three choices per patient), the highest fraction of patients answered pain (54.50%), followed by appearance and chewing (37.03% each), followed by swallowing and speech (31.48% each). In the study, importance-rating using the UW-QoL questionnaire in patients treated by primary surgery for oral and oro-pharyngeal cancer, patients tended to rate speech, chewing and swallowing as more important than the other UW-QOL domains, which was majorly consistent with our study.[23]

According to the severity of pain experienced, majority of patients (38.88%) experienced moderate pain needing regular non-narcotic medication. In the study, Influence of pain severity on the quality of life in patients with head and neck cancer before antineoplastic therapy, 66.9% of all patients reported that they used analgesics for pain control, despite which the number of patients with pain (59%) remained high.[24]

On the basis of effect of appearance, 25.92% patients stated that they felt significantly disfigured and their activities were limited due to their appearance.

Majority (44.44%) of the patients stated that they can chew soft solids, but cannot chew some foods, but 29.62% patients stated that they can swallow certain soft solids, but cannot swallow certain foods. 7 patients were tube fed and one patient had undergone feeding jejunostomy. A maximum of 33.33% patients stated that they had some difficulty in speech, however they could be understood over phone.

Around half of the patients complained of reduced salivation. It was noteworthy that 25 of these 27 patients had undergone/were undergoing radiotherapy as either curative or palliative purpose. This was almost similar to the study QoL and salivary output in patients with head-and-neck cancer five years after radiotherapy, where around 40 percent of the patients complained of reduced salivation.[25]

Around 25.92% patients were a little dissatisfied, 16.66% patients were moderately dissatisfied and 3.70% patients were very dissatisfied with their sex lives. In the study, issues of intimacy and sexual dysfunction following major head and neck cancer treatment, one-third of those answering the intimacy and sexuality questions reported substantial problems with sexual interest and enjoyment.[26] Around 37.03% patients were neither in a good mood nor depressed, while around 33.33% were depressed about their cancer. In the study, the identification of mood and anxiety concerns using the patients concerns inventory following head and neck cancer, 44% patients had reported significant anxiety or mood problems on the UW-QOL or highlighted issues of anxiety, mood and/or depression.[27]

Around 33.33% patients experienced shoulder stiffness and/or pain. Of these 18 patients, 15 were post-operative cases and 13 had undergone radical/modified radical/selective neck dissection. It was noteworthy to mention that by shoulder activity, we referred to risk of injury to the spinal accessory nerve.

Limitations

The main limitation of this study was that it included patients who were yet to start any form of treatment for their cancer as well as those who were currently undergoing treatment and also those who had completed their regime of treatment, which led to a loss of uniformity in the overall condition of the selected patients. Furthermore, there was a considerable loss in follow-up of patients.

CONCLUSION

Head and neck cancers greatly impact the healthcare system in a developing nation like India. It affects people of all age groups, and merely seeking curative intent for the disease is not sufficient. Assessment of quality of life of those afflicted by the disease plays a significant role in the overall well-being of the patients. Pain, appearance, chewing, swallowing and speech are the important aspects which encompass the quality of life of the patients. Early detection of the disease, and spreading awareness about head and neck cancers is of utmost importance and is the need of the hour.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Mili MK, Sarmah M, Goswami S, Saikia A. A study of quality of life of head and neck cancer patients attending ear, nose, throat out-patient department of tertiary care centre in upper Assam region. Int J Otorhinolaryngol Head Neck Surg 2022;8:511-6.