

Original Research Article

Assessment of Health Related Quality of Life (SF-12) in patients with head and neck cancer (a cross-sectional study)

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Abstract: Head and neck cancer is one of the six most prevalent neoplasms worldwide. Regardless of tumor site, deterioration of basic functions affecting head and neck areas are perceived and affect patients' lives. The aim of this study was to evaluate health related quality of life (HRQoL) in patients with head and neck cancer. This cross-sectional study was conducted on 72 patients being treated for head and neck cancer. Demographic characteristics including sex, age, educational level, and occupation, duration of the disease and treatment modality were collected from patient's hospital records. HRQoL measured by 12-Item Short Form Health Survey (SF-12) questionnaire. Data analyzed in SPSS 21 software by ANOVA, linear regression and t-tests. P value was considered significant at 0.05% level. 56.9% of the patients were men and 43.1% were women. Their mean age was 58.4 ± 15.9 years. The most frequent cancer was squamous cell carcinoma of larynx. The mean score of SF-12 was 35.94 ± 7.86 . Females, higher educational level and older patients had significantly lower quality of life. Based of the present study head and neck cancer can have a negative impact on HRQoL. Sex and educational level and age were factors correlated with HRQoL.

Keywords: Head and Neck Cancer, Quality of life, SF-12

INTRODUCTION:

Head and neck cancers (HNC) and its treatment have deep impact on all aspects of patient quality of life (QOL [1]. Treatment protocol of HNC is consist of surgery ,radiotherapy,chemothreapy or combination therapy [2, 3]. Patients with HNC report significant and persistent physical problems such as radio necrosis, mucositis, loss of taste, and dysphagia, functional problems such as pain, difficulty swallowing, voice impairment, and poor dental status, xerostomia and psychosocial problems such as depression, disfigurement, social isolation, and delays returning to work [1].

HNC treatments can effect on QOL patients. Management of side effect s of cancer treatment is a major challenge for those patients and clinicians [4-6]. QOL is a tool for individual's subjective assessment of the impact of an illness or treatment on his or her physical, psychological, social, and somatic functioning and general well-being. QOL has become an important treatment outcome in HNC. It is shown that QOL domains can predict survival among HNC patients [1].

Barrois and *et al.*; showed patients with HNC in comparison of control group had lower physical aspect of HRQOL [7]. Wang and *et al.*; showed surgery treatment in patients with tongue cancer had impact on their QOL [8].

Li and *et al.*; showed QOL in patients with oral cancer had decreased specially in psychological and social domain [9]. In Torabi and *et al.*; study QOL in patients with HNC had been decreased [10]. QOL assessment in HNC is critical not only to the evaluation of treatment options, but also to the development of rehabilitative services and patient education materials.

The aim of the present study was to assessment of QOL (SF-12) of patients with HNC who attended to an oncology hospital in North-East Iran.

METHODS:

This study was a cross-sectional survey of a convenience sample of 72 patients with head and Neck cancers; seen at an oncology hospital during January to September 2016. All patients were at least 1

month after treatment. Patients with minor skin cancers and illiterate patients were excluded. Data collected through SF-12 questionnaire. Patients' demographic and clinical characteristics, treatment modalities (surgery, chemotherapy, radiation) were collected from patient's hospital records. After institutional review board approval and patient consent were obtained, patients completed general health survey SF-12 [11].

SF12 have 12 items in 8 subscales consist of general health, Physical Functioning, Role Limitation Due To Physical Problems, Role Limitation due to Emotional problems, Bodily Pain, Vitality, Mental Health and Social Functioning [6, 12, 13]. Data analyzed in SPSS software by t test, ANOVA and linear regression at 0.05% significant level.

RESULTS:

From 72 patients 41(56.9%) were men. The mean age of patients was 58.4±15.9 years. Based on

educational level 37.5% were under diploma. Table 1 show demographic data. The most frequent cancer was squamous cell carcinoma of larynx (43.1%), followed by follicular carcinoma of thyroid (18.1%). The most frequent treatment method was surgery plus chemotherapy or radiotherapy (84.7%). Table 2 show details. In the present study, general health in 39(54.2%) were moderate. Moderate activity such as moving a table, light exercise in 45(63.5%) had been limited. In 26(36.1%) of patients reported that sometimes physical condition or psychological conditions interrupted social activities. The mean score of SF-12 was 35.94±7.86. There was significant difference between gender and QOL (p=0.019). Females had lower quality of life. There was also significant difference between educational level and quality of life (p=0.000). (Table-3) Regression analysis show there are was significant correlation between age and QOL. The older patients had worse QOL (Table - 4).

Table 1-Frequency of demographic characteristic

Variable		Number	percent
sex	men	41	56.9
	women	31	43.1
Marriage status	single	3	4.2
	married	69	95.8
Educational level	elementary	39	54.2
	diploma	15	20.8
	Up of diploma	18	25.0
job	housewife	20	27.8
	Self-employment	19	26.4
	worker	18	25.0
	employment	15	20.9

Table 2: Frequency of type and treatment mode of HNC

variable		Number	percent
Cancer Type and location	Squamous cell carcinoma of larynx	31	43.1
	Follicular carcinoma of thyroid	13	18.1
	Squamous cell carcinoma of tongue	4	5.6
	Squamous cell carcinoma of nasopharynx	4	5.6
	Parathyroid adenocarcinoma	4	5.6
	Adenoid cystic carcinoma of salivary gland	3	4.2
	Squamous cell carcinoma of oral cavity (except tongue)	2	2.8
	indeterminate	11	15.2
Treatment method	Surgery +chemotherapy or radiotherapy	61	84.7
	chemotherapy	4	5.6
	radiotherapy	7	9.7

Table 3: Correlation between demographic variables and SF-12

variable		SF-12 SCORE		P value
		mean	Standard deviation	
sex	men	37.87	7.18	0.019
	women	33.43	8.10	
Educational level	elementary	39.83	5.76	0.000
	diploma	36.50	7.15	
	Up of diploma	26.90	5.30	
Job	housewife	35.94	6.89	0.638
	worker	35.72	8.92	
	employment	31.30	7.60	
	Self-employment	37.83	7.40	
marriage status	married	33.49	5.72	0.451
	single	33.61	6.43	

Table 4-correlation between SF-12 and demographic variables

variable	B	T	P-value
age	0.191	2.709	0.009
Duration of cancer	0.548	1.559	0.126
Treatment mode	0.544	0.566	0.574

DISCUSSION:

The quality of life (QoL) evaluation in patients with head and neck cancer is integral to optimal patient care [14]. HNC and its treatment have impact on patients 'health related quality of life [1]. In the present study mean score of SF-12 was 35.94±7.86.this means quality of life in the present study was low. We found women had significant lower quality of life than men. Barrois and *et al.*; showed women with oral cancer had worse QOL [15]. Lopez and *et al.*; also showed women had lower score in Social functioning ,Vitality and Role emotional subscale [16]. In the present study older patients had worse QOL. This finding is compatible with Barrois and *et al.*; [15]. Fang and *et al.*; showed older patients had worse physical condition [17]. In the present study there was no correlation between job and HRQoL. It is compatible with barrios and *et al.*; study [15]. Fang and *et al.*; showed patients with lower annually income had worse status in mental and physical domains [17]. It is known that socioeconomic condition is a predictor factor for morbidity and mortality, but there is controversy between socioeconomic condition and HRQoL relationship [18, 19].

We found patients with higher educational level had worse HRQoL. This finding is not compatible with Torabi *et al.*; that did not find correlation between educational level and HRQoL [10]. In the present study, there was no correlation between type of treatment and site of tumor with HRQoL. Fang a *et al.*; showed there was not significant differences between radiotherapy and radiotherapy plus chemotherapy treatment and

QOL [17]. Our Findings are disagreement with Alickius, Lopez and *et al.*; studies [16, 20]. This difference might be due to difference of research tools and type and frequency of tumor. In the present study, HNC patients had lower score in physical limitation. It is compatible with Barrois a *et al.*; and Wang *et al.*; studies [7, 8].

CONCLUSION:

The finding of the present study showed quality of life in HNC patients was low. Women, higher educational level and older patients had worse quality of life.

Conflict of Interests:

Authors have no conflict of interest.

Acknowledgments:

The authors hereby would like to thank the research deputy of Kerman University of Medical Sciences for approval and financial support of this project.

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