

Quality of life between early stage and advanced stage nasopharyngeal carcinoma patients in dr. sardjito hospital yogyakarta, Indonesia

Abstract

Background: Patients with advanced stage Nasopharyngeal Carcinoma (NPC) have much better quality of life compared to other types of cancer, which causes the patients to experience misdiagnosis or they go to see the doctor in an already advanced stage, consequently therapy becomes more complex. Research used specific questionnaire measurements for head and neck cancer, which was the European Organization for Research and Treatment of Head and Neck Cancer Quality of Life Questionnaire (EORTC QLQ-H & N35) to detect small changes in NPC patients' quality of life at the initial clinical staging is required.

Method: A cross sectional study, all observations on research subjects were made once at the beginning of NPC staging and on the same episode in ENT Polyclinic Dr. Sardjito Hospital Yogyakarta Indonesia, starting from September 2018 - March 2019.

Result: Derived from 78 research subjects consist of 50 men & 28 women diagnosed with Nasopharyngeal Carcinoma, on NPC patients research subject with European Organization For Research And Treatment Of Cancer - Head and Neck Cancer assessment of Life Quality Questionnaire (EORTC QLQ-H & N35) resulted that the early stages who had good quality of life were 11 patients (14.1%) and poor quality of life was 1 patient (1.3%), while advanced stage NPC patients who had good quality of life were 62 patients (79.5%) and 4 patients had poor quality of life (5.1%).

Conclusion: There was no significant difference between clinical stage and NPC patients' quality of life.

Keywords: nasopharyngeal carcinoma, advanced stage, early stage, quality of life, EORTC QLQ-H & N35

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Introduction

Nasopharyngeal carcinoma (NPC) is a malignancy originated from nasopharynx epithelial lining.¹ This carcinoma is very invasive and often causes more metastasis than other head and neck cancers (MPAs). About 90% of patients were found to have metastases to lymph nodes.² Nasopharyngeal carcinoma is generally caused due to smoking with tobacco and excessive alcohol consumption.³ Global Burden Cancer (GLOBOCAN) states that as many as 87.000 new cases occur each year and the majority (61.000 cases) occur in men and the rest occur in women (26.000 cases).⁴ The presence of malignancy in the body, including NPC has significant influence on the decrease of patients' quality of life due to side effects of therapy.⁵ Changes in quality of life in patients with head and neck carcinomas include physical complaints such as pain in the neck and head, reduced vision, taste disorder, lack of appetite, hair loss, bitter taste in mouth and difficulty in swallowing. Patients also reported physical and functional complaints such as depression. The symptoms are not felt by patients at an early stage, but only felt by patients as the disease develops.⁶ These complaints were experienced by patients for one to twelve months after undergoing therapy, with getting older and the increasing stage of the tumor decreased the physical status (Karnofsky Performance Scale) of head and neck cancer patients.⁷ To evaluate the quality of life of cancer patients was not adequate by

using only single-dimensional measurements such as Karnofsky's display status to detect small changes in the patients' quality of life of.⁸ Quality of life is patient's perception of the effect of the disease and its impact on daily functioning (Fang *et al.*, 2010). Quality of life is the patients conceptions of health, happiness and well-being based on their satisfaction or dissatisfaction in an important part of their lives.⁹ Measuring quality of life should be multidimensional that pertain physical, social and emotional aspects, which are simple, easy to understand, can be answered by all patients and must be validated.¹⁰ One of the measurement tools widely used to assess the quality of life of head and neck cancer patients is based on European Organization for Research and Treatment of Cancer Head and Neck Cancer Quality of Life Questionnaire (EORTC QLQ-H & N35), which is specific for patients with head neck tumors.^{11,12}

The many numbers of patients with advanced stage NPC and the lack of research on nasopharyngeal carcinoma quality of life made researcher interested in assessing the quality of life of NPC patients in different clinical stages. This research aims to learn the quality of life between early stage and advanced stage NPC patients at the initial staging, using specific questionnaire measurements for head and neck cancer, the European Organization for Research and Treatment of Cancer Head and Neck Cancer Quality of Life Questionnaire (EORTC QLQ-H & N35).

Materials and methods

This study was an observational analytic study to determine the quality of life based on the European Organization for Research and Treatment of Cancer Head and Neck Cancer Quality of Life Questionnaire (EORTC QLQ-H & N35) between early and advanced stage nasopharyngeal cancer. The study design applied was cross sectional, all research observation subjects were done once at the initial NPC clinical staging and on the same episode. Research samples were nasopharyngeal carcinoma patients (WHO Type I, II and III) at initial diagnosis in ENT Department Dr. Sardjito Hospital Yogyakarta Indonesia, starting September 2018 until March 2019 who met inclusion and exclusion criteria. Inclusion criteria in this

study were nasopharyngeal carcinoma patients aged 20 years and above at the initial diagnosis who were willing to be research subjects by signing informed consent forms after receiving explanation, able to follow and understand EORTC QLQ-H&N35 questionnaire assessment instructions and had not undergone radiotherapy nor chemotherapy. Exclusion criteria of this study were uncooperative NPC patients, had severe comorbidities unrelated to NPC and patients with disabilities. This study gained 78 patients as research subjects who met inclusion and exclusion criteria. This study was approved by Medical and Health Research Ethics Committee (MHREC) Public Health and Nursing Faculty UGM/Dr. Sardjito Hospital Yogyakarta Indonesia.

Table 1 Subject characteristics

Research Subject Characteristics		Total		p Value
		Sum	%	
Gender	Male	50	64.1	0.649
	Female	28	35.9	
	Total	78	100	
Age	< 45 years old	27	34.6	0.157
	> 45 years old	51	65.4	
	Total	78	100	
Educational Background	Elementary	26	33.3	0.628
	Secondary	31	39.7	
	High	21	26.9	
	Total	78	100	
Social Economy	Low	38	48.7	0.749
	Middle	20	25.6	
	High	20	25.6	
Histopathology Description	Total	78	100	0.061
	WHO Type I-II	7	9.0	
	WHO yipe III	71	91.0	
Quality of Life	Good	73	93.6	0.577
	Poor	5	6.4	
	Total	78	100	

Results

The characteristics of this study research subjects of are in the Table 1 below.

Gender characteristic of this study subjects consisted of 50 (64.1%) male and 28 (35.9%) female, with male and female ratio of 1.79:1. This value was not much different with the earlier studies, where male: female ratio were 1.4: 1,¹³ and 2.7:1.¹⁰ There was no significant difference between male and female with NPC patients

(p=0.649). The age characteristics of this research subjects consisted of below 45 years of age were 27 patients (34.6%) and above 45 years of age were 51 patients (65.4%), no significant difference between age and quality of life in nasopharyngeal carcinoma patients (p = 0.157). Table 2 below shows the age distribution among patients. This study educational levels consisted of elementary of 26 patients (33.3%), secondary of 31 patients (39.7%) and high of 21 patients (26.9%). There was no significant difference between educational levels and nasopharyngeal carcinoma patients quality of life with p=0.628. Social

economy characteristics consisted of low social economic level of 38 patients (48.7%), middle social economic level of 20 patients (25.6%) and high social economic level of 20 patients (25.6%). No significant difference between social economic level and quality of life, whether of good quality of life or poor quality of life with value $p=0.749$. The most NPC histopathology description on this research subject Table 3 was WHO type III (Undifferentiated carcinoma), as many 71 patients (91.0%). WHO type I (squamous cell carcinoma moderately differentiated) and WHO type II (non-keratinizing squamous cell carcinoma) account for 7 patients (9.0%). No significant difference on histopathology description as p value=0.061.

Table 3 The quality of life of nasopharyngeal carcinoma patients

		Good QoL		Poor QoL		Total		p Value
Stage								
	Early	11	14.1%	1	1.3%	12	15.4%	P=0.557
	Advance	62	79.5%	4	5.1%	66	84.6%	
Total		73	93.6%	5	6.4%	78	100.0%	

χ^2 test, p value is meaningful when <0.05

Quality of life between early and advanced stage patients

To recognize QOL differences between early and advanced stage of nasopharyngeal carcinoma patients, we performed chi square test. On early stage nasopharyngeal carcinoma patient research subjects who had good quality of life were 11 patients (14.1%) and patient who had poor quality life was 1 (1.3%), while advanced stage nasopharyngeal carcinoma patients who had good quality of life were 62 patients (79.5%) and 4 (5.1%) patients who had poor quality of life. This study showed that there was no significant difference of QoL between early and advanced stage NPC patients.

Discussion

This study revealed that there was no significant difference of QoL between early and advanced stage NPC patients. This result controversy with study from Chaukar¹⁴ which took place in India. The study from 200 Head and Neck malignancy patients using QoL instrument for head and neck malignancy showed poor QoL in advanced stage patients. This different result may due to different study subjects. This study only included NPC patients, while Chaukar¹⁴ included several head and neck malignancy such as Laryngeal carcinoma, sino-nasal carcinoma, oropharyngeal carcinoma.

The relation between tumor stage and NPC patients' quality of life is still controversial until now and there is no standard explanation about it. Aside from tumor stage and tumor location being the factors that can exacerbate cancer patients quality of life, potential factors affecting quality of life include: patient characteristics (race, gender and age), characteristics associated to tumor location and characteristics associated to treatment / therapy (surgical therapy, adjuvant chemotherapy, radiation therapy or neck dissection).¹⁵ Quality of life is patient's perception of the effect of the disease and its impact on daily functioning (Fang et al., 2010). Although the relationship between tumor stage and the quality of life of patients still is still questionable, an assessment of the quality of life of patients still

Table 2 Age distribution among patients

Age Range (years)	Frequency	Percentage (%)
20-29	10	12.8
30-39	10	12.8
40-49	17	21.8
50-59	19	24.3
60-69	18	23.1
70-70	4	5.1
Total	78	100

needs to be done because by assessing the quality of life of patients can be used as a parameter to assess the quality of cancer therapy in patients.¹⁶

Various patient characteristics such as gender, age, educational background, social economy, and histopathology description did not show significant results on the quality of life of patients with NPC. World Health Organization defines quality of life as an individual's perception of their position in life viewed from cultural context and value system in which they live and the relations to objectives, expectations, standards and other matters of concern to the individual.¹⁵ Patients who have bad perception of their health cause a decrease in the quality of life in these patients (Hardiano, 2015) Quality of life is subjective, self-reported by patients, multidimensional and can change over time.¹⁷

Conclusion

There is no significant difference quality of life of NPC patients. Early stage and advanced stage NPC patients have good quality of life. The results showed that the patients at the initial stage showed a good quality of life were 11 patients (14.1%) and poor quality of life was 1 patient (1.3%). Whereas for advanced stage patients showed good quality of life were 62 patients (79.5%) and patients with poor quality of life were 4 patients (5.1%). The quality of life of a patient is not only affected by the stage of tumor but includes the patient's characteristics, tumor location, and treatment. The results of this study show different result from previous studies which showed a difference in quality of life between early stage and advanced stage patients.

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Conflicts of interest

The author declares that there is no conflict of interest to disclose.

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