Original article:

Differences in Quality of Life of Nasopharyngeal Carcinoma Patients at Rsi Sultan Agung Semarang
Observational Analytical Studies in Age, Gender, and Stages of Cancer

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Abstract

Nasopharyngeal carcinoma is a malignant tumor in the head and neck area of squamous cell type located in the nasopharynx. Nasopharyngeal carcinoma in Indonesia is the 4th most malignant cancer and is considered one of the most malignant tumors with high mortality and morbidity. This study aims to determine the difference in quality of life in nasopharyngeal carcinoma patients with characteristics (age, gender, and stage of cancer) nasopharyngeal tumors. The research method was carried out with analytical observational through a cross sectional approach. The measuring instruments used in the form of EORTC QLQ-C30 and EORTC QLQ-H&N35 questionnaires were used to measure the quality of life of nasopharyngeal carcinoma patients at RSI Sultan Agung Semarang. The data were analysed using a binary logistic regression test. The results of the study of nasopharyngeal carcinoma patients according to the characteristics at RSI Sultan Agung Semarang based on 13 respondents were dominated by male patients totaling 8 people (61.54%), aged 45 years as many as 8 people (61.54%), and cancer stages were divided into 6 people (≥46.15%) and 7 people (53.85%) in the early and advanced stages. The results of the Wald Test did not significantly differ in the quality of life of nasopharyngeal carcinoma patients at RSI Sultan Agung Semarang with each sig intention. The independent variables were age (p = 0.187), gender (p = 0.227), and cancer stage (p = 0.558). The independent variable that most affected the level of quality of life of nasopharyngeal carcinoma patients was gender with a value of Exp(B) = 5.394. The conclusion of this study is that there is no difference in quality of life in nasopharyngeal carcinoma patients with characteristics (age, gender, and stage of cancer) nasopharyngeal tumors.

Keywords: Quality of Life, Nasopharyngeal Carcinoma, Age, Gender, Stage of Cancer.

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1. INTRODUCTION

Nasopharyngeal carcinoma is a malignant tumor in the head and neck area, precisely above the throat and behind the nose. Nasopharyngeal carcinoma is endemic in several Asian countries such as South China, Southeast Asia, Japan, and the Middle East (Zhou et al., 2007). Indonesia was one of the five countries with 5.6 nasopharyngeal carcinoma cases per 100,000 highest incidence in Asia in 2012 (Mahdavifar et al., 2016). Nasopharyngeal cancer is the 4th malignancy in Indonesia after breast cancer, cervical cancer, and lung cancer (National Cancer Management Committee of the Indonesian Ministry of Health, 2015). Riskesdas 2007 data with analysis *Case Control* The highest prevalence of nasopharyngeal carcinoma was found in Central Java Province at 14.3%, East Java at 9.4%, and East Nusa Tenggara at 8.4%.

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The incidence of nasopharyngeal carcinoma according to age is often found in early to late adult patients. Based on data at the ENT Poly of Sanglah Hospital Denpasar in 2015 as many as 59.4% at the age of 46 to 65 years (Wicaksana &; Asthuta, 2019). This data is in line with research at Dr. H. Abdul Moeloek Hospital, the highest nasopharyngeal carcinoma cases aged 46-55 years (Kuswandi et al., 2020). According to some studies, the incidence of nasopharyngeal carcinoma is mostly found in men. At Dr. Wahidin Sudirohusodo Hospital, nasopharyngeal carcinoma cases in men are 64.18% while women are 35.82% (Kuswandi et al., 2020). Research by Dawolo (2017) states that the most nasopharyngeal carcinoma in men is 72.73%. Nasopharyngeal carcinoma is often diagnosed at an advanced stage rather than an early stage. The results of Faiza's research (2016) at Dr. M. Djamil Padang Hospital found that advanced stage nasopharyngeal carcinoma amounted to 86.36% consisting of stages IV and III. As many as 40% of advanced nasopharyngeal carcinoma cases feel noticeable symptoms and signs, compared to the early stages whose symptoms are not specific (Mentari &; Imanto, 2019). Early stage nasopharyngeal carcinoma can be cured by radiosensitivity, but to date only 10% of cases are diagnosed (Deviana et al., 2016). The advanced phase if left unchecked will aggravate the handling and healing of nasopharyngeal carcinoma.

According to research by Andriana (2015), nasopharyngeal carcinoma has a diverse distribution and has various characteristics, from time to time nasopharyngeal carcinoma cases have increased so that it becomes one of the malignancies that attract attention. Nasopharyngeal carcinoma is considered one of the most malignant tumors with high mortality and morbidity. The problem is increasing, there are various symptoms that are not specific and therapy has not been maximized in nasopharyngeal carcinoma patients. Limited nasopharyngeal carcinoma health services due to delays in the diagnosis of diseases with atypical symptoms, especially patients with early stages. These various problems are the main causes of anxiety in the community, especially in nasopharyngeal carcinoma patients. The symptoms and signs of nasopharyngeal carcinoma are quite disturbing for sufferers, the longer there will be physical and psychological adjustments directly affecting the quality of life of nasopharyngeal carcinoma patients (Mukhlis Imanto, 2019).

Quality of life generally includes physical functioning, mental health and social support according to individual perceptions. There are several variables interrelated with quality of life, including biological/psychological factors, symptoms, functional status, overall healthy perception, and health related to quality of life (Mentari &; Imanto, 2019). In nasopharyngeal carcinoma patients, potential predictive factors affecting quality of life were found to be divided into 3 characteristic :characteristic patient (age, race, gender), tumor characteristics (location and stage), and therapeutic characteristics (Murphy et al., 2007). Quality of life assessment needs to be done to determine the perception of disease effects and the functioning of daily activities (Mukhlis Imanto, 2019). Quality of life is measured subjectively according to the thinking of nasopharyngeal carcinoma sufferers so that it can change over time. This can be measured by validated questionnaires published by the European Organization for Research into the Treatment of Cancer, namely EORTC QLQ-C30 and EORTC QLQ-H&N35. The EORTC QLQ-C30 questionnaire is a measuring instrument used to measure the quality of life of cancer patients including 5 functional scales, 3 symptom scales, and 6 single scales and overall quality of life scales (Noviyani et al., 2016). The EORTC QLQ-H&N35 questionnaire is a specific measurement tool for assessing head and neck cancer consisting of 7 symptom scales and 6 single questionnaires (Rahmaeni et al., 2015).

Research on the quality of life of nasopharyngeal carcinoma in Semarang, especially at RSI Sultan Agung, has not been carried out. Therefore, researchers are interested in examining the differences in the quality of life of nasopharyngeal carcinoma patients with characteristics (age, gender, and stage of cancer) at RSI Sultan Agung Semarang.

2. METHOD

This study is an analytical observational study with a cross-sectional research design. The study sample was 13 patients of nasopharyngeal carcinoma RSI Sultan Agung Semarang. The sampling of this study using the consecutive sampling method was obtained in order according to the data and considered according to predetermined criteria. The measuring instruments used by EORTC QLQ-C30 and EORTC QLQ-H&N35

questionnaires were used to measure the quality of life of nasopharyngeal carcinoma patients at Sultan Agung Islamic Hospital Semarang. The results of the study used a binary logistic regression test with the interpretation of the Wald Test to test the significance of each independent variable against the dependent variable.

3. RESULTS AND DISCUSSION

3.1 Characteristics of Respondents

Table 1. Characteristics of Respondents at RSI Sultan Agung Semarang

Variable	Frequency (N)	Percentage (%)
Age		
< 45 years old	5	38,46
≥ 45 years old	8	61,54
Gender		
Man	8	61,54
Woman	5	38,46
Stage cancer		
Early stage (I and II)	6	46,15
Further stadiums (III and IV)	7	53,85
Quality of life level		
Less good (0-69)	8	61,54
Good (70-100)	5	38,46

The total respondents produced in this study were 13 respondents. This statistical analysis test uses SPSS 16 software. The results of the study using a binary logistic regression test with the interpretation of the Wald Test were used to see that the independent variable had a significant influence on the dependent variable. Table 1 is the characteristics of respondents in RSI Sultan Agung Semarang. The results of data interpretation showed that respondents had characteristics, namely age < consisting of 45 years and 45 years as many as ≥ 5 people (38.46%) and 8 people (61.54%), gender consisting of men (8 = 61.54%) and women (5 = 38.46), cancer stage consisting of early stage (I and II) and advanced stage (III and IV) of 46.15% (6 people) and 53.85% (7 people), And the level of quality of life is divided into less good (0-69) and good (70-100) with a percentage of 61.54% (8 people) and 38.46% (5 people).

3.2 Results of EORTC QLQ-C30 dan EORTC QLQ-H&N35

Table 2. Results of the effect of the functional scale of the EORTC QLQ-C30 questionnaire on the level of quality of life of nasopharyngeal carcinoma patients at RSI Sultan Agung Semarang

Quality of Life Level	Frequency (N)	Percentage (%)
Physical functions		
Not good	13	100,00
Good	0	0,00
Role functions		
Not good	11	84,62
Good	2	15,38
Emotional functioning		
Not good	11	84,62
Good	2	15,38
Cognitive function		
Not good	8	61,54
Good	5	38,46
Social functions		
Not good	6	46,15
Good	7	53,85

Table 2 is questionnaire data on the relationship between functional scales and the level of quality of life of nasopharyngeal carcinoma patients at RSI Sultan Agung Semarang. The results showed that in the aspect of physical functioning, the level of quality of life was not good obtained by all respondents (100%). In the role function and emotional function, both obtained results, namely 11 respondents had a poor quality level (84.62%) and 2 respondents had a good quality level (15.38%). Furthermore, questionnaire data for cognitive function showed that respondents with poor quality levels were 8 (61.54%) and good as many as 5 (38.46%). Finally, in social function, the quality of life level was not good as many as 6 (46.15%) and good as many as 7 (53.85%) respondents.

Table 3. The results of the effect of the EORTC QLQ-H&N35 questionnaire symptom scale on the quality of life of nasopharyngeal carcinoma patients at RSI Sultan Agung Semarang

Quality of Life Level	Frequency (N)	Percentage (%)
Pain		
Not good	1	7,69
Good	12	92,31
Quality of Life Level	**Frequency (N)**	**Percentage (%)**

Quality of Life Level	Frequency (N)	Percentage (%)
Swallowing problems		
Not good	3	23,08
Good	10	76,92
Sensory problems		
Not good	2	15,38
Good	11	84,62
Speech problems		
Not good	4	30,77
Good	9	69,23
Feeding problems		
Not good	4	30,77
Good	9	69,23
Social interaction		
Not good	0	0,00
Good	13	100,00
Genderuality		
Not good	4	30,77
Good	9	69,23

Table 3 is the result of questionnaire data on the effect of symptom scale on the quality of life of nasopharyngeal carcinoma patients at RSI Sultan Agung Semarang. The results of the questionnaire showed that the results of pain had a role in the level of quality of life was not good as many as 1 respondent (7.69%) and good as many as 12 respondents (92.31%). Furthermore, in the aspect of swallowing problems and sensory problems obtained results, namely the level of poor quality by 3 (23.08%) and 2 (15.38%), respectively, while both by 10 (76.92%) and 11 (84.62%) respondents, respectively. In the items of speech problems, eating problems, and genderuality, all three had the same results, namely the level of poor quality of life by 4 respondents (30.77%) and the level of good quality by 9 respondents (69.23%). Finally, the social interaction item had a good quality of life level in all respondents (100%).

Table 4. The results of the effect of overall health status of the EORTC QLQ-C30 questionnaire on the level of quality of life of nasopharyngeal carcinoma patients at RSI Sultan Agung Semarang

Quality of Life Level	Frequency (N)	Percentage (%)
Overall health		
Not good	2	15,38
Good	11	84,62

Table 4 is the result of questionnaire data on overall health status on the level of quality of life of nasopharyngeal carcinoma patients at RSI Sultan Agung Semarang. The data results showed that the average overall health status of EORTC QLQ-C30 questionnaire data for the level of quality of life was not good by 15.38% (2 respondents) and the level of quality of life was good by 84.62% (11 respondents).

Table 5. Results of Logistic Regression Hypothesis Testing (Wald Test)

Variable	Sig value.	Exp(B)
Age	0,187	0,139
Gender	0,227	5,394
Stage Cancer	0,558	2,321

Based on table 5 is the result of hypothesis testing. In testing the hypothesis on the age variable, a significance level value of 0.187 (> 0.05) was obtained, this concluded that age did not significantly affect the level of quality of life. Testing the gender variable hypothesis obtained a significance level value of 0.227 (> 0.05), this means that gender does not significantly affect the level of quality of life. Testing the disease stage variable hypothesis has a significance level value of 0.558 (> 0.05), which concludes that the stage of disease does not significantly affect the level of quality of life. In this study, the logistic regression equation can be made as follows:

$$Y = -1.043 - 1.973\ X1 + 1.685\ X2 + 0.842\ X3$$

Information:

Y : Dependent variable (quality of life)

X1 : Independent variable (age)

X2 : Independent variable (gender)

X3 : Independent variable (stage of cancer)

4. CONCLUSION

In this study there were no differences in quality of life in nasopharyngeal carcinoma patients with characteristics (age, gender, and stage of cancer) of nasopharyngeal tumors. However, The independent variable that most affects the level of quality of life of nasopharyngeal carcinoma patients is gender with a value of Exp(B)=5,394. This is in accordance with the literature review that gender, especially men, affects the quality of life of nasopharyngeal carcinoma patients (Mentari &; Imanto, 2019).

Conflict of Interest:

The authors declare that they have no competing interests. The authors alone are responsible for the writing and content of this paper.

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Author Contribution

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Ethical clearance

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