Relationship of Nutritional Status and Sleep Quality with Quality of Life in Geriatrics

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ABSTRACT
The number of geriatric people increases every year. The geriatrics population in Indonesia is predicted to increase higher than the geriatrics population in the world after 2100. The highest percentage of the geriatric population is in the Special Region of Yogyakarta. Increasing the quantity of geriatrics must be balanced with improving the quality of life. Nutritional status and quality of sleep are problems experienced by geriatrics. This study aims to analyze the relationship between nutritional status and sleep quality with quality of life in geriatrics. This research is an observational study with a cross-sectional method. This research was conducted in Karang Tengah, the Special Region of Yogyakarta. The subjects used were those who met the inclusion criteria. The independent variables in this study were nutritional status and sleep quality, the dependent variable was quality of life. The data collected included subject identity, body mass index, sleep quality data, and quality of life data. Subject identity data was obtained through interviews using a questionnaire. Body mass index data were obtained by direct measurement. Sleep quality data was measured using the PSQI (Pittsburgh Sleep Quality Index). Quality of life data was measured using the WHOQOL-BREF (World Health Organization Quality of Life) form. Data analysis using SPSS software. The total respondents in this study were 58 geriatrics. There was no correlation between nutritional status and quality of life and there was a correlation between sleep quality and quality of life.

Keywords: *Geriatrics, Nutritional Status, Sleep Quality, Quality of Life, Malnutrition*

1. INTRODUCTION

According to reports there are more than 600 million geriatric people worldwide and is expected to increase to double by 2025 and 2 billion by 2050 [1]. In ASEAN countries, data on geriatric people amount to around 142 million (8%) which is estimated to reach 426 million in 2050 [2] The geriatrics population is predicted to continue to increase. The geriatrics population in Indonesia is predicted to increase higher than the geriatrics population in the world after 2100. The highest percentage of the geriatric population is in the Special Region of Yogyakarta (13,4%) [3].

Getting older in humans is accompanied by pathological and physiological changes, nutrition, psychological, social factors, and physical changes, such as unexpected weight loss, depression, eating disorders, and functional disabilities [4]. Good diet and nutritional status are determinants of health that are very important for the quality of life [5]. Malnutrition and poor functioning are two important factors associated with loss of independence in old age [6]. Malnutrition is a common syndrome in geriatrics and refers to malnutrition characterized by malnutrition or inadequacy and inadequate food intake, loss of appetite, muscle, and weight loss [7]. Assessing the nutritional status of geriatrics helps to identify malnutrition early in the hope of improving their quality of life [8].

Bad sleep quality is a common problem that often occurs due to the demands of work and lifestyle changes [9]. Sleep problems increase sharply with age[10]. People's need for sleep and time spent sleeping decreases in geriatrics. Sleep quality declines in geriatrics and bad sleep quality will negatively affect the quality of life. Therefore, it is necessary to continuously assess sleep quality and

A. Kusuma Wardana (ed.), *Proceedings of the 2nd UPY International Conference on Education and Social Science (UPINCESS 2023)*,
Advances in Social Science, Education and Humanities Research 812,
https://doi.org/10.2991/978-2-38476-176-0_76

quality of life in geriatrics nursing and make plans to maintain good and better sleep quality[11].

Quality of life is a person's perception of a comfortable position in life, the cultural context in which they live, and the system of values and is associated with their goals, expectations, standards, and concerns. Quality of life is important for geriatrics people as it declines with age [1]. Quality of life for geriatric people at risk of malnutrition is limited [12] Quality of life problems are getting attention in developed countries besides health problems that have emerged [13].

2. MATERIALS AND METHODS

This research is an observational study with a cross-sectional method. This research was conducted in Karang Tengah, the Special Region of Yogyakarta. The subjects used were those who met the inclusion criteria. Subject inclusion criteria were men and women aged ≥60 years, able to move independently, had no hearing loss and were willing to be interviewed. The number of subjects in this study was 58 subjects.

The independent variables in this study were nutritional status and sleep quality, the dependent variable was quality of life. The data collected included subject identity, body mass index, sleep quality data, and quality of life data. Subject identity data was obtained through interviews using a questionnaire. Body mass index data were obtained by direct measurement. Sleep quality data was measured using the PSQI (Pittsburgh Sleep Quality Index). Quality of life data was measured using the WHOQOL-BREF (World Health Organization Quality of Life) form. Data analysis using SPSS software.

3. RESULTS AND DISCUSSION

Research on the relationship between nutritional status and sleep quality with quality of life conducted in 2022 in Karang Tengah, Special Region of Yogyakarta, obtained the following results :

TABLE 1. Characteristics of Subjects

No	Variable	Frequency (n)	Percentage (%)
1	Sex		
	Male	25	43,1
	Female	33	56,9
2	Nutritional Status		
	Underweight	10	17,2
	Normal	27	46,6
	Overweight	21	36,2
3	Sleep Quality		
	Good	38	65,5
	Bad	20	34,5
4	Quality of Life		
	Good	51	87,9
	Bad	7	12,1

TABLE 2. Relationship of Nutritional Status and Sleep Quality with Quality of Life

Variable	Quality of Life		n (%)	p
	Good	Bad		
Nutritional Status				
Underweight	8 (13,79%)	2 (3,45%)	10 (17,24%)	0,101
Normal	24 (41,38%)	3 (5,17%)	27 (46,55%)	
Overweight	19 (32,76%)	2 (3,45%)	21 (36,21%)	
Sleep Quality				
Good	36 (62,07%)	2 (3,45%)	38 (65,52%)	0,023
Bad	15 (25,86%)	5 (8,62%)	20 (34,48%)	

Table 1 shows the characteristics of the research subjects. The age of the subjects in this study was ≥60 years. Subjects consisted of 25 men (43.1%) and 33 women (56.9%). From 58 subjects, 10 (17.2%) had underweight nutritional status, 27 subjects (46.6%) had normal nutritional status and 21 subjects (36.2%) were overweight. 38 subjects (65.5%) had good sleep quality and 20 subjects (34.5%) had poor sleep quality. Most of the subjects (87.9%) had a good quality of life.

Table 2 shows the relationship between nutritional status, sleep quality, and quality of life. From table 2 it can be seen that 46.55% of the subjects had normal nutritional status, 41.38% experienced good quality of life and 5.17% experienced a poor quality of life. The statistical test result was 0.101 ($p > 0.05$), which means that the nutritional status was not statistically related to the quality of life. Most (65.52%) subjects had good sleep quality, 62.07% experienced good quality of life and 3.45% experienced poor quality of life. The statistical test result is 0.023 which means that the quality of sleep is related to the quality of life.

In this study, more subjects were female. This is my data that the geriatrics population is mostly women [3], which shows that the highest life expectancy is for women. Life expectancy in women is higher because it is influenced by the hormone estrogen has a role as a protector [14].

The results showed that most of the subjects (46.6%) had normal nutritional status (Table 1). Undernutrition and overweight status will increase the risk of mortality [15].

The distribution of the respondents' sleep quality showed that most of them (65.5%) were good. The need for sleep will decrease with advancing age. At the age of 12 years, the need for sleep is 9 hours, reduced to 8 hours at the age of 20 years, seven hours at the age of 40 years, six and a half hours at the age of 60 years, and six hours at the age of 80 years. Sleep quality in the elderly group tends to decrease, at the age of 65 those who live at home are estimated to experience a decrease in sleep quality, and two-thirds of those who live in elderly care facilities also experience a decrease in sleep quality. They tend to have trouble sleeping because they think too much about things that are troubling their minds. At this old age, of course, they want to feel good and comfortable sleep every day, which is an indicator of happiness and the degree of quality of life. Meanwhile, decreased sleep quality is considered the mildest form of mental disorder [16].

In table 2 it can be seen that there is no relationship between nutritional status and quality of life. This is in line with other studies [13] which state that nutritional status does not directly affect the quality of life. Nutritional status may affect the quality of life through a decreased physical function that occurs in geriatrics. In addition, the study also stated that factors that influence food intake such as the ability to swallow and appetite affect the quality of life more than nutritional status.

CONCLUSION

Based on the results of the study, it was shown that most of the respondents had normal nutritional status (46.6%), good sleep quality (65.5%), and good quality of life (87.9%). In this study, there was no relationship between nutritional status and geriatric quality of life, but there was a relationship between sleep quality and geriatric quality of life. Researchers suggest to improve the quality of life of geriatrics is to participate in activities around the environment that can provide a sense of comfort and safety.

ACKNOWLEDGMENTS

This research was funded by a Beginner Lecturer Research Grant from the Institute of Research and Community Service Universitas PGRI Yogyakarta, Indonesia, number 007/B/LPPM-UPY/XII/2021, December 8th, 2021

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