

## Comparison of the Quality of Life of Regular Hemodialysis Patients Based on the World Health Organization-BREF Score with the Missoula Score at RSUD Dr. Soegiri Lamongan

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### Abstract:

Chronic kidney disease is becoming a health problem worldwide. The fact that chronic kidney disease patients cannot be separated from hemodialysis throughout their lives causes a significant decrease in physical and cognitive abilities in kidney failure patients, so that assessment of regular hemodialysis patients is very important because it can affect optimal quality of life. The aim of this study is to compare the quality of life of regular hemodialysis patients based on the World Health Organization Quality of Life-BREF score with the Missoula VITAS Quality of Life Index-15 score. This study uses an observational analytical method, with a cross sectional study to be conducted on regular hemodialysis patients caused by chronic kidney disease at RSUD Dr. Soegiri Lamongan. The instruments used are the WHOQOL-BREF quality of life scale and the Missoula score. The results of this study showed that there were significant differences in several quality of life domains between WHOQOL-BREF and Missoula score. WHOQOL-BREF tends to score higher in the physical and environmental health domains. In contrast, MVQOLI provides a more in-depth assessment of aspects of symptoms and physical function as well as psychological well-being. There was a difference in quality of life in patients on regular hemodialysis therapy with World Health Organization-BREF and Missoula scores.

**Keywords:** Chronic kidney disease, Hemodialysis, Quality of Life, WHOQOL- BREF score, MVQOLI-15 score

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### Introduction

Chronic kidney disease is a global health problem, classified as a non-communicable disease (Rahma et al., 2022; Kovesdy, 2022). Chronic kidney disease is a condition of end-stage kidney failure in which the body is no longer able to maintain metabolic processes, fluid balance, and electrolyte regulation, ultimately leading to death. The World Health Organization (WHO) reports that chronic kidney disease ranks as the 12th leading cause of death worldwide, with approximately 850.000 deaths occurring annually (WHO, 2015). In Indonesia, the prevalence of chronic kidney disease increased between 2013 and 2018. In 2013, the prevalence was 0.2%, rising to 0.38% in 2018 (Kesehatan RI, 2013) (Kementrian Kesehatan Republik Indonesia, 2019).

To sustain their lives, patients with chronic kidney disease require renal replacement therapy, which includes hemodialysis, peritoneal dialysis, and kidney transplantation. Among these therapies, the focus of this study is on hemodialysis, a lifelong treatment unless the patient

undergoes kidney transplantation (Putri et al., 2016). The fact that chronic kidney disease patients are dependent on hemodialysis for the rest of their lives has significant psychological impacts, including the risk of stress. Surya (2013, as cited in Kholifah & Wardhono, 2022) stated that stress is a condition in which a person experiences tension or pressure due to circumstances that affect them. This dependency may result in significant depressive symptoms, potentially leading to suicidal behavior. End-stage renal disease patients often experience a decline in physical and cognitive abilities, which can lead to feelings of sadness and hopelessness, potentially culminating in the decision to discontinue dialysis, a behavior considered a risk factor for suicidal ideation. Therefore, regular monitoring of hemodialysis patients is crucial, as consistent treatment can contribute to maintaining an optimal quality of life (Wahyuni, 2015). It is thus important to compare the quality of life of chronic kidney disease patients undergoing regular hemodialysis using both the World Health Organization Quality of Life-BREF score and the Missoula score.

## Method

This study is an analytical observational research with a cross-sectional design, conducted on patients undergoing regular hemodialysis due to chronic kidney disease at RSUD Dr. Soegiri Lamongan. The instruments used to assess quality of life are the World Health Organization Quality of Life-BREF (WHOQOL-BREF) score and the Missoula VITAS Quality of Life Index-15 (MVQOLI-15) score.

## Results and discussions

### *Patients Characteristics*

A detailed description of the patients' characteristics based on age, gender, education, and employment status is presented in the table below.

No.	Criteria	n	Percentage (%)
1.	<b>Age</b>		
	≤ 45 Years	22	30.1
	46 - 60 Years	35	46.8
	> 60 Years	17	23.1
2.	<b>Gender</b>		
	Male	44	59.5
	Female	30	40.5
3.	<b>Education</b>		
	SD	11	14.9
	SMP	18	24.3
	SMA	26	35.1
	S-1	19	25.7
4.	<b>Employment Status</b>		
	Employed	39	52.7
	Unemployed	35	47.3
	<b>Total</b>	<b>74</b>	<b>100.0</b>

**Table 1.** Descriptive Criteria of Patients Based on Age, Gender, Education, and Employment Status

Based on Table 1, from a total of 74 medical record samples, the majority of patients were in the age group of 46-60 years, totaling 35 individuals (46.8%). This was followed by the age group ≤45 years with 22 individuals (30.1%), and the smallest proportion was in the age

group >60 years with 17 individuals (23.1%). In terms of gender, most patients were male, accounting for 44 individuals (59.5%), while females comprised 30 individuals (40.5%). Regarding employment status, 39 individuals (52.7%) were employed, and 35 individuals (47.3%) were unemployed.

### *Overview of WHOQOL-BREF and Missoula Scores*

The overview of WHOQOL-BREF and Missoula scores was obtained by calculating each criterion within the WHOQOL-BREF and Missoula scoring systems, then summing the scores to obtain the total for each.

No.	Criteria	n	Percentage (%)
1.	<b>Physical Health</b>		
	Poor	2	2.7
	Moderate	33	44.5
	Good	39	52.8
2.	<b>Psychological</b>		
	Poor	0	0
	Moderate	7	9.5
	Good	67	90.5
3.	<b>Social Relationships</b>		
	Poor	0	0
	Moderate	20	27
	Good	54	73
4.	<b>Environment</b>		
	Poor	0	0
	Moderate	0	0
	Good	74	100
<b>Total</b>		<b>74</b>	<b>100.0</b>

**Table 2.** Overview of WHOQOL-BREF Score

Based on Table 2, from a total of 74 respondents assessed using the WHOQOL-BREF scoring criteria, the physical health domain showed that 39 individuals (52.8%) had good physical health quality, 33 individuals (44.5%) were in the moderate category, and 2 individuals (2.7%) experienced a decline in physical health quality. In the psychological domain, 67 individuals (90.5%) had good psychological quality, 7 individuals (9.5%) were in the moderate category, and none (0%) were in the poor category. For the social relationships domain, 54 individuals (73%) demonstrated good social relationship quality, while 20 individuals (27%) were in the moderate category, and none (0%) experienced a decline. In the environmental domain, all 74 individuals (100%) reported good environmental quality, with no respondents (0%) in either the moderate or poor categories.

No.	Criteria	n	Percentage (%)
1.	<b>Symptoms</b>		
	Poor	14	18.9
	Good	60	81.1
2.	<b>Function</b>		
	Poor	0	0
	Good	74	100
3.	<b>Interpersonal</b>		
	Poor	11	14.9
	Good	63	85.1
4.	<b>Well-being</b>		
	Poor	27	36.5
	Good	47	63.5
5.	<b>Transcendence</b>		
	Poor	20	27
	Good	54	73
<b>Total</b>		<b>74</b>	<b>100.0</b>

**Table 1.** Overview of Missoula Scores

Based on Table 3, from a total of 74 respondents assessed using the Missoula scoring criteria, the symptoms dimension showed that the majority, 60 individuals (81.1%), had good quality, while 14 individuals (18.9%) were in the poor category. In the function dimension, all 74 individuals (100%) demonstrated good quality, with none (0%) in the poor category. For the interpersonal dimension, 63 individuals (85.1%) had good quality, while the remaining 11 individuals (14.9%) were in the poor category. In the well-being dimension, 47 individuals (63.5%) had good quality, whereas 27 individuals (36.5%) were in the poor category. The assessment of the transcendence dimension showed that 54 individuals (73%) had good quality, while 20 individuals (27%) were in the poor category.

### *Quality of Life Based on WHOQOL-BREF and Missoula Scores*

The following table presents a detailed overview of quality of life as assessed by the WHOQOL-BREF and Missoula scores.

Criteria	n	Percentage (%)
<b>Quality of Life</b>		
0-40 (Very Poor)	0	0
41-80 (Poor)	2	2.7
81-90 (Moderate)	19	25.7
91-110 (Good)	47	63.5
110-130 (Very Good)	6	8.1
<b>Total</b>	<b>74</b>	<b>100.0</b>

**Table 4.** Quality of Life Based on WHOQOL-BREF Score

Based on Table 4, among the 74 respondents assessed using the WHOQOL-BREF score criteria, the majority, 47 individuals (63.5%), had a quality of life score between 91-110, categorized as good. This was followed by 19 individuals (25.7%) with scores ranging from 81-90, categorized as moderate. Additionally, 6 individuals (8.1%) had very good quality of life scores (111-130), and 2 individuals (2.7%) fell into the poor category with scores ranging from 41-80.

Criteria	n	Percentage (%)
<b>Quality of Life</b>		
Decreased	3	4
Improved	71	96
<b>Total</b>	<b>74</b>	<b>100.0</b>

**Table 5.** Quality of Life Based on Missoula Score

Based on Table 5, from 74 respondents assessed using the Missoula score criteria, the majority of 71 individuals (96%) had improved quality of life, while 3 individuals (4%) experienced decreased quality of life.

### *Comparison of Quality of Life Based on WHOQOL-BREF and Missoula Scores*

The comparison results of quality of life using the WHOQOL-BREF and Missoula scores are shown in the table below.

	Quality of Life
Mann-Whitney	.000
Wilcoxon W	351.000
Z	-7.567
Asymp. Sig. (2-tailed)	.000

**Table 6.** Mann-Whitney Test Results

Based on Table 6, the results of the non-parametric statistical analysis using the Mann-Whitney test showed a significant p-value of 0.000. Since  $p < 0.05$ , the null hypothesis ( $H_0$ ) is rejected and the alternative hypothesis ( $H_a$ ) is accepted. This indicates that there is a significant

difference in the quality of life of regular hemodialysis patients when assessed using the World Health Organization-BREF score and the Missoula score.

### **Discussions**

The research results showed that among the total of 74 samples, a comparison was found between the World Health Organization-BREF scores and the Missoula scores in regular hemodialysis patients. Based on the data analysis, the highest number of World Health Organization-BREF scores was in the “good quality of life” category, with 47 patients (63.5%), followed by 19 patients (25.7%) with “moderate quality of life,” 6 patients (8.1%) with “very good quality of life,” and 2 patients (2.7%) with “poor quality of life.”

The results of this study indicate that there is a significant difference in several domains of quality of life between the WHOQOL-BREF and the MVQOLI. The WHOQOL-BREF tends to yield higher scores in the physical health and environment domains. This may be due to the WHOQOL-BREF's more comprehensive approach in assessing various aspects of daily life, which includes broader elements of physical conditions and environmental factors (Joshi et al., 2017).

Conversely, the MVQOLI, which is specifically designed for patients with chronic or terminal illnesses, provides a more in-depth assessment of symptoms, physical functioning, and psychological well-being factors that may be more relevant to chronic conditions such as hemodialysis. Nevertheless, no significant differences were found in the psychological health and social interaction domains between the two instruments, indicating that both provide consistent evaluations in these aspects (Byock & Merriman, 2018).

The transcendence domain in the MVQOLI stands out as a crucial component that is not addressed in the WHOQOL-BREF. Transcendence encompasses spiritual aspects and the meaning of life, which are particularly significant for patients with chronic conditions. This highlights the importance of incorporating spiritual assessment in evaluating the quality of life of hemodialysis patients, who often face existential challenges and seek meaning in their life experiences (Park & Yoo, 2016).

These findings have important implications for clinical practice. Using the WHOQOL-BREF can provide a general overview of the quality of life in hemodialysis patients, which is useful for routine monitoring and evaluating health interventions. However, for a more in depth assessment, particularly in the spiritual domain and specific physical symptoms, the MVQOLI offers more relevant and comprehensive insights (Dimova et al., 2019).

### **Conclusion**

Based on the analysis, there is a significant difference in the quality of life of patients undergoing regular hemodialysis therapy as measured by the World Health Organization Quality of Life-BREF (WHOQOL-BREF) and the Missoula-VITAS Quality of Life Index (MVQOLI) instruments. The WHOQOL-BREF is more appropriate for general assessment and routine monitoring, as it broadly covers physical and environmental aspects. In contrast, the MVQOLI provides a more in-depth understanding of the patient's condition, particularly in terms of physical symptoms and spiritual well-being, making it more suitable for individuals with chronic or terminal illnesses.

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