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The Correlation Between Characteristics and the Quality of Life of Patients with Rheumatoid Arthritis at the Special Polyclinic of RSUP Dr. M. Djamil Padang

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Abstract. Rheumatoid arthritis is an autoimmune disease characterized by chronic inflammation of the joint that can have a negative impact on the quality of life (QoL). Characteristics of patients with rheumatoid arthritis are factors that influence determining the QoL. The objective of this research is to find the correlation between characteristics with the QoL in patients with rheumatoid arthritis at Special Polyclinic of Rheumatology RSUP Dr. M. Djamil Padang. The research employed in this study is an analytical cross-sectional method. Data were collected with the SF-36 questionnaire in November 2023 – December 2023. The population of this study was patients with rheumatoid arthritis at Poliklinik Khusus Reumatologi with a total sample of 43 respondents. The results of this study shows male respondents, early adulthood, still working, low educational level, and duration of illness less than five years had poor quality of life. The results of the Chi-Square analysis, showed a presence correlation between gender (p=0,039), occupation (p=0,018), and education (p=0,038) with the QoL of AR patients. However, there was no correlation between age (p=0,333) and duration of illness (p=0,799) with the QoL of AR patients. To sum up, there is a correlation between gender, occupation, and education with the QoL of AR patients and also there is no correlation between age and duration of illness with the QoL of AR patients.

Keywords: Characteristics; Quality of Life; Rheumatoid Arthritis; Sociodemographic Factors; SF-36 Questionnaire.

1. BACKGROUND

Non-communicable diseases are chronic diseases of long duration with a slow process of healing or control of clinical conditions (Kemenkes RI, 2017). Symptoms and body functions in patients with chronic diseases can lead to fluctuating general health in these patients. Rheumatoid arthritis is one example of an autoimmune disease that is included in non-communicable diseases and is chronic (Shofany, 2017). The impact caused by various clinical manifestations of RA can occur over a long period of time. Clinical manifestations that appear can have a significant impact not only on physical health but also on mental health. Physical health and health problems that arise can affect the quality of life of individuals (Sparks, 2019). Based on the results of research conducted at Dr. Kariadi Semarang Hospital, it was found that 19 out of 20 patients with RA had a good quality of life (Robbizaqtana *et al.*, 2019). While in a study conducted at the Kemantan Health Center, Kerinci, it was found that more RA patients had a poor quality of life than patients with a good quality of life. The differences in research results regarding the quality of life of RA patients can be influenced by individual characteristics such as gender, age, employment status, education level, and duration of illness. A person's quality of life against a disease can be assessed in a variety of instruments, one of which uses the Short Form 36 (SF-36) questionnaire. The SF-36 questionnaire is a questionnaire designed to measure quality of life which is divided into physical health domains

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and mental health domains. The SF-36 questionnaire contains 36 questions that have been divided into eight aspects which include physical role, physical limitations, pain, general health, vitality, social function, emotional role, and mental health (Beaudart *et al.*, 2018). Based on the background above, there is a correlation between characteristics and the quality of life of patient with rheumatoid arthritis patients in West Sumatra, so it is necessary to do this research at special polyclinic of rheumatology RSUP Dr. M. Djamil Padang.

2. METHOD

This research is an analytical study with a cross-sectional approach using data from SF-36 questionnaire interviews on patient who had been diagnosed with rheumatoid arthritis by the criteria of ACL/EULAR 2010. The sample in this study was selected through consecutive sampling.

3. RESULT AND DISCUSSION

Research Data

The minimum sample size in this study is 43 samples. The data used as research material were gender, age, occupation, education level, duration of illness, and the

quality of life based on SF-36 questionnaire.

Table 1. Frequency Distribution of Characteristics of Rheumatoid Arthritis Patients.

Characteristics	Category	Frequency (n = 43)	Percentage (%)
Gender	Female	39	90.7
	Male	4	9.3
Age	18–40 years old	14	32.6
	> 40 years old	29	67.4
Occupation	Working	11	25.6
	Not Working	32	74.4
Educational Level	Low	7	16.3
	High	36	83.7
Duration of Illness	< 5 years	26	60.5
	≥ 5 years	17	39.5
Total	–	**43**	**100.0**

In Table 1, the respondents of this study were dominated by women (90.7%), late adulthood (67.4%), not working (74.4%), higher level of education (83,7%), and duration of illness less than five years (60.5%).

Table 2. Frequency Distribution of The Quality of Life of Rheumatoid Arthritis Patients.

Quality of Life	Frequency (n = 43)	Percentage (%)
Good	23	53.5
Poor	20	46.5
Total	**43**	**100.0**

In Table 2, shows that it was found that the majority of respondents had a good quality of life, which was 23 respondents (53.5%).

Table 3. The Correlation between Characteristics and The Quality of life.

Characteristic	Goodf	Good%	Poorf	Poor%	Totalf	Total%	p-value
Gender							**0.039***
Female	23	59.0	16	41.0	39	100.0	
Male	0	0.0	4	100.0	4	100.0	
Age							**0.333**
18–40 years old	5	38.5	8	61.5	13	100.0	
> 40 years old	18	60.0	12	40.0	30	100.0	
Occupation							**0.018***
Working	2	18.2	9	81.8	11	100.0	
Not Working	21	65.6	11	34.4	32	100.0	
Education Level							**0.038***
Low	1	14.3	6	85.7	7	100.0	
High	22	61.1	14	38.9	36	100.0	
Length of Illness							**0.799**
< 5 years	13	50.0	13	50.0	26	100.0	
> 5 years	10	58.8	7	41.2	17	100.0	
Total	**23**	**53.5**	**20**	**46.5**	**43**	**100.0**	–

***** There is a correlation between characteristics and the quality of life of rheumatoid arthritis patients

In Table 3, it was found that respondents who had a good quality of life were more common in women, as many as 23 out of 39 respondents (56.4%) compared to men who were not found to have a good quality of life. Respondents with poor quality of life were found more in the male gender (100%) than in women, 17 out of 39 respondents with poor quality of life (43.6%). The results of the Chi-Square analysis test between gender and the quality of life of RA patients obtained a significance value or p-value of 0.039 ($p < 0.05$) which indicates a relationship between gender and the quality of life of RA patients.

It was found that respondents who had a good quality of life were more in late adult respondents with an age range of > 40 years, as many as 18 out of 30 respondents (69.8%) than in early adult respondents with a range of 18-40 years, as many as 5 out of 13 respondents (30.2%). Poor quality of life is dominated by respondents with early adulthood, as many as 8 out of 13 respondents compared to late adulthood respondents as many as 12 out of 30 respondents. Based on the results of the Chi-Square analysis test, the significance value or p-

value is 0.333 (p>0.05), the results of this analysis test indicate that there is no relationship between age and the quality of life of RA patients.

Respondents with good quality of life were found more in individuals are not working as many as 21 out of 32 (65.6%) respondents compared to those who work as many as 2 out of 11 respondents (18.2%). Respondents with poor quality of life were found mostly in respondents who worked (81.8%) compared to respondents who did not work (34.4%). The results of the Chi-Square analysis test between work and the quality of life of RA patients obtained a significance value or p-value of 0.018 (p <0.05), the results of this analysis test indicate a relationship between work and the quality of life of RA patients.

Respondents with good quality of life were dominated by patients with high education or high school equivalent, namely 22 out of 36 respondents (61.1%) compared to respondents with low education, namely there were no patients with low education who had good quality of life (0%). Respondents with poor quality of life were found in 7 respondents with low education (100%) and 14 out of 36 respondents with higher education (38.9%). Based on the results of the Chi-Square test analysis between education and quality of life of RA patients, the significance value or p-value is 0.038 (p <0.05), the results of this test indicate a relationship between education and the quality of life of RA patients.

Respondents with good quality of life were dominated by respondents with a long duration of illness for ≥ 5 years, which was 10 out of 17 respondents (58.8%) while respondents with a long duration of illness < 5 years were 13 out of 26 respondents (50%). Respondents with poor quality of life were found more in patients with a long duration of < 5 years (50%) than in respondents with a long duration of illness ≥ 5 years (41.2%). Based on the results of the Chi-Square analysis test between the duration of illness and the quality of life of RA patients, the significance value or p-value is 0.799 (p>0.05) which indicates that there is no relationship between the duration of illness and the quality of life of RA patients.

Frequency Distribution of Characteristics of Rheumatoid Arthritis Patients

In this study, there were more female respondents (90.7) than male respondents (9.3%). This is in line with research conducted by Bobi et al. at Dr. H. Abdoel Moeloek Hospital, Bandar Lampung, that RA patients were more in the female gender, namely 92 patients (72.4%) compared to men who were only 35 patients (Bobi Wijaya, Nurlis Mahmud, 2014). In accordance with the theory attached to the Guidelines for Diagnosis and Management of Rheumatoid Arthritis, that RA is a disease that is more common in women because the hormone estrogen is higher than in men. The estrogen hormone is very instrumental in

stimulating the production of TNF-alpha which plays an important role in the pathogenesis of RA (Hidayat *et al.*, 2021).

The age of respondents in late adulthood with an age category of more than 40 years, which was 62.8% compared to the early adulthood age group. This is in line with previous research conducted by Yafrinal et al. in Medan, that RA patients often occur in late adulthood or the age range 40-60 years (57.4%). The results of this study are in accordance with existing theory that the incidence of RA will increase at ages ranging from 40 to 60 years. As you get older, there will be changes in the joint cartilage so that the surface layer of the cartilage is getting thinner (Siregar, 2016). Respondents with high education or ≥ senior high school/equivalent were more common in RA patients (83.7%) compared to respondents with low education or < junior high school/equivalent (16.3%). In contrast to research conducted by Yafrinal (2016), it was found that most respondents had low education status. The level of education in an individual is a factor that plays an important role in determining the individual's knowledge (Siregar, 2016).

In this study, it was found that respondents who suffered from RA were individuals who were not working (74.4%) more dominating than respondents with working status (25.6%). This is in line with previous research conducted in Ponorogo Regency, that RA patients mostly have a status of not working (58.5%) (Nugraha, 2017). Jobs that use more energy, such as laborers and farmers, can increase the risk of RA twice as high, so there are patients with RA who prefer to stop working in order to reduce the risk of RA manifestations. Most respondents have suffered from RA with a duration of less than 5 years after being diagnosed by a doctor. In line with previous research conducted at Dr. Cipto Mangunkusomo Hospital, it was found that there were 75% of respondents who had been diagnosed with RA for 1-5 years (Antono *et al.*, 2017). Another case with research conducted at the Puskesmas of Bungkal District, Ponorogo, patients with a long duration of illness for 6-10 years were found to dominate (Nugraha, 2017). The long duration of illness of RA patients can affect how the patient accepts his current condition and how to adapt to the situation.

Frequency Distribution of The Quality of Life of Rheumatoid Arthritis Patients

In this study, it was found that RA patients with good quality of life (53.5%) dominated compared to RA patients who had poor quality of life (46.5%). This is in line with research conducted in Lubuk Pakam, RA patients with a good quality of life (68%) were found to be more than those with a poor quality of life (32%). In contrast to previous research conducted at the Kemantan Health Center, Kerinci, the results of patient respondents with a worse quality of life were found to be 64% compared to those with a good quality of life of 36%.The

difference in the results of each study on the quality of life of respondents can occur due to various influencing factors, such as the characteristics of the respondents.

The Relationship between Gender and the Quality of Life of Rheumatoid Arthritis Patients

The results of the chi-square test analysis between gender and the quality of life of RA patients in this study showed that there was a significant relationship between gender and the quality of life of RA patients. This study shows that women have a better quality of life than men where all male respondents have a poor quality of life. In accordance with the statement put forward in Green's Theory, gender is one of the factors that can reflect the attitudes and health behaviors of individuals in dealing with their illness. The results of this study are different from research conducted by Ana et al. in 2014, it was found that more female respondents had a poor quality of life than male respondents (Siregar, 2016). This can occur because there are more than one factor that causes many female respondents to have a poor quality of life, such as a poor perception of the disease, the appearance of depressive symptoms, internal family problems, and obstruction of physical activity and function.

The Relationship between Age and the Quality of Life of Rheumatoid Arthritis Patients

The results of the analysis using the chi-square test showed no relationship between age and the quality of life of RA patients (p=0.097). In the results of the study, all respondents with an age range of 18-40 years or early adulthood had a poor quality of life, while the majority of respondents in the late adult category or over 40 years of age had a good quality of life. The results of this study were different from research conducted by Alfaruq, in 2023, found a relationship between age and quality of life in RA patients, the majority of poor quality of life occurred in patients aged 18-25 years or early adulthood, these ages are productive age groups and are still often active (Alfaruq and Kartinah, 2023). The absence of a relationship between age and the quality of life of RA patients in this study can be supported by the theory that RA is an autoimmune disease with a chronic inflammatory nature that can affect all age categories, both those diagnosed at a young age, especially productive age, and those diagnosed in late adulthood.

The Relationship between Occupation and the Quality of Life of Rheumatoid Arthritis Patients

The results of the analysis using the chi-square test showed a relationship between occupational status and the quality of life of RA. This study shows that the majority of respondents with a working status have a poor quality of life compared to respondents with a non-working status. This is in line with previous research, that RA patients in Ponorogo

Regency with a working status after being diagnosed have a poor quality of life compared to patients with a non-working status (Nugraha, 2017). In principle, most patients will not feel pain when they are working, but the symptoms will arise when the patient is doing his job, such as at night or in the morning so that the patient will need more rest time when he finishes doing his job.

The Relationship between Education Level and the Quality of Life of Rheumatoid Arthritis Patients

The results of the analysis with the chi-square test showed a relationship between education and quality of life in RA patients. In this study, respondents with low educational attainment or limited to junior high school had a poor quality of life, while the majority of respondents with high educational attainment or equivalent to high school and the rest had a good quality of life. In line with research conducted on RA patients in Bengkulu in 2020, achieving a high level of education will have a positive impact on these patients because education reflects the knowledge possessed by the patient, the higher the education, the higher the patient's knowledge and the opening of insight to find out information related to their own disease (Andri *et al.*, 2020).

The Relationship between Duration of ill and the Quality of Life of Rheumatoid Arthritis Patients

The results of the analysis using the chi-square test showed that there was no relationship between the length of illness and the quality of life of RA patients. The majority of respondents with good quality of life were patients with a long duration of illness for more than 5 years diagnosed. Previous research found that there was an effect of length of illness on the condition of RA patients, patients with an earlier diagnosis will generally immediately conduct further examinations and be treated appropriately and quickly (Kupcewigs and Dreje, 2017).

4. CONCLUSION

Based on the results of this study, the characteristics of respondents in this study show that most respondents are female, in late adulthood, no longer working, have a high educational level, and have a long duration of illness for less than five years. The majority of rheumatoid arthritis patients at Poliklinik Khusus Reumatologi RSUP Dr. M. Djamil Padang have a good quality of life. There is a significant relationship between gender, occupation, and educational level, with the quality of life of rheumatoid arthritis patients. There is no significant link between age, length of illness, and the quality of life of rheumatoid arthritis patients.

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