# The evaluation of the functioning and of the quality of life of patients with Rheumatoid Arthritis

**Bączyk G**

Department of Nursing, Faculty of Health Sciences, Poznań University of Medical Sciences, Poznań, Poland

## Abstract

**Purpose: It has been reported that Rheumatoid Arthritis (RA) affects 0.5-1% of the adult population in Poland. The condition is two or three times more common among women than among men. The majority of the onsets of disease occur between the ages of 40 and 60.**

**The aim of this study was to assess the functioning and quality of life of patients with Rheumatoid Arthritis treated in Rheumatoid Special Clinic in Poznań, Poland.**

**The specific question was: does the functioning and the quality of life of RA patients depend on demographic variables (gender and age) and duration of the disease?**

**Material and methods: The study sample consisted of 168 RA patients, including 123 women (73.2%) and 45 men (26.8%). To assess the functioning and the quality of life the Polish version of the Arthritis Impact Measurement Scales 2 (AIMS 2) was applied [3]. The Arthritis Impact Measurement Scales 2 was translated into Polish according to standardized approach (internal consistency reliability for the global score, alpha = 0.78).**

**AIMS 2 scores range from 0-10, with 0 representing high functioning and quality of life, 10 representing poor functioning and quality of life.**

**Results: The results showed that the mean scores on the AIMS 2 for physical state and mobility was 3.53, which is within the medium section of the average measurement of the quality of life. The quality of life depended on the sex of the patients. Women scored significantly lower in the emotional area than men. Youngest patients demonstrated higher evaluation of quality of life in the area of bending and walking (4.4). Life satisfaction of people with RA is higher among the patients suffering longer than 5 years.**

**Key words:** functioning, quality of life, arthritis rheumatoid.

## Introduction

It has been reported that Rheumatoid Arthritis (RA) affects 0.5-1% of the adult population in Poland. The condition is two or three times more common among women than among men. The majority of the onsets of disease occur between the ages of 40 and 60 [1-3].

Important goals of health care for patients with Rheumatoid Arthritis are to minimize functional loss maintain independence and preserve quality of life. In the past decade, health status instruments have proven to be valuable, relevant and outcome measures in both clinical trials and clinical practice. Questionnaires based on health status variables, such as mobility, mood and social interaction, are particularly relevant because they assess the aspects of that most concern the individual patient. Generic health status instruments can be used to compare patients with different diseases. Since important areas for specific patient groups may either be omitted or only superficially covered, disease specific instruments have also appeared for arthritis patients [2,4,5].

The aim of this study was to assess the functioning and quality of life of patients with Rheumatoid Arthritis treated in Rheumatoid Special Clinic in Poznań, Poland.

The specific question was: does the functioning and the quality of life of RA patients depend on demographic variables (gender and age) and duration of the disease?

ADDRESS FOR CORRESPONDENCE:
Grażyna Bączyk
Poznań University of Medical Sciences Karol Marcinkowski
Faculty of Health Sciences, Department of Nursing
ul. Smoluchowskiego 11, 60-179 Poznań, Poland
Tel: +48 0-61 6 559 261; Fax: +48 0-61 6 559 266
e-mail: gbaczyk@amp.edu.pl

Received 08.02.2005 Accepted 15.02.2005

*Table 1.* **Functioning and quality of life of Rheumatoid Arthritis patients (Arthritis Impact Measurement Scales 2) n=168**

| AIMS 2 * | Mean | SD |
|---|---|---|
| **Physical state and mobility:** | 3.53 | 1.91 |
| physical activity (mobility) | 2.98 | 2.21 |
| walking and bending | 5.79 | 2.44 |
| functioning of hands and fingers | 4.28 | 2.44 |
| functioning of arm | 2.88 | 2.46 |
| self-care tasks | 2.68 | 2.58 |
| household tasks | 2.55 | 2.48 |
| **Emotional state:** | 4.66 | 1.41 |
| level of emotional tension | 5.25 | 1.51 |
| mood | 4.07 | 1.63 |
| life satisfaction | 5.02 | 1.83 |
| **State of social functioning:** | 3.57 | 1.44 |
| social activity | 5.54 | 1.65 |
| support of family and friends | 1.60 | 1.99 |
| work | 4.08 | 2.21 |
| arthritis pain | 7.08 | 1.97 |

SD – standard deviation
* score range 0-10; 0 – high quality of life, 10 – poor quality of life

## Material and methods

The study sample consisted of 168 RA patients, including 123 women (73.2%) and 45 men (26.8%). The mean age (years) of the treated women was 51.34±12.82, for men 55.84±10.96 and 52.54±12.47 for the whole group. The mean duration of the disease in women was 12.88±8.91 in men 11.33±8.30 for the whole group 12.48±8.75. To assess the functioning and the quality of life the Polish version of the Arthritis Impact Measurement Scales 2 (AIMS 2) was applied. The Arthritis Impact Measurement Scales 2 [6,7] was translated into Polish according to standardized approach (internal consistency reliability for the global score alpha =0.78).

AIMS 2 scores range from 0-10, with 0 representing high functioning and quality of life, 10 representing poor functioning and quality of life.

AIMS 2 is an independent multi-dimensional scale of assessment consisting of two parts.

## Results

The assessment of the quality of life using the AIMS 2 scale. This is shown in *Tab. 1*.

The lowest mean result referred to the subscale: Physical state and mobility related to household tasks at 2.55, where the highest result was in the subscale walking and bending (5.79). The emotional state is evaluated on the basis of average values for the measures of emotional tension and mood. The assessment of the emotional state and life satisfaction represent medium values. The lowest average in the subscale was in the assessment of mood at 4.07. The highest score was for the subscales: level of emotional tension (5.25), life satisfaction (5.02). The next category of assessment was the area of social functioning in reference to social activity, support of family and friends and the work done. The lowest average result was in the subscale of social support (1.6), *Tab. 2*.

It was followed by the presentation of the relation between the age and quality of life. This relation was analyzed in three age groups: under 39 years, 40-59, over 60 years, *Tab. 3*.

Kruskal-Wallis' test indicates a major difference in the evaluation of the quality of life in reference to walking and bending between the age group under 39 years and 40-59 years. The next question in the study was: does the quality of life of RA patients depend on duration of the disease. Using the non-parametric U-Mann-Whiney's test the comparison was carried out of the quality of life of people whose RA lasts less than 5 years with those with condition lasting more than 5 years.

In the assessment of life satisfaction a major statistical difference was reported (level of importance $p<0.05$) between the groups.

People who have been suffering from the condition longer report higher assessments of life satisfaction. This fact is related to the processes of the chronic adaptation.

## Discussion

The analysis of the quality of life of people suffering from RA, taking into account demographic indicators (gender and age), showed that sex of the patients interviewed influences the assessment of the quality of life in the area of emotional state.

Women showed lower quality of life in the area of emotional state than men. A statistical relevance with the level of importance was reported by Zaphiroponlos and co-authors [8-10]. In their work assess the emotional state of people with RA as far as their level of anxiety, emotional tension and depressive reaction are concerned. They report more common presence of these symptoms among women than among men.

Meenan and co-authors [11-13] did not show any influence of the sex on the assessment of functioning within the particular areas in AIMS 2 scale, claiming the sex does not determine the quality of life of the patients. The analysis of the quality of life with reference to the age indicated a statistical relation between the assessment of the quality of life by patients under 39 and patients over 60 and even more in the area of physical state and mobility. The interviewed patients over 60 years old assessed their quality of life in the area of physical state and mobility lower than the patients under 39. The conclusion supports the results of research by Sherrer and co-authors [14] who describe the influence of the older age of patients with RA on physical limitations and lower efficiency in dealing with household tasks, or carrying out tasks related to self-care. It was showed that people suffering from the condition for more than 5 years achieve a higher level of satisfaction than those whose disease process is shorter. Similarly, the assessment of the quality of life in the remaining areas was better for the patients suffering longer, although no statistical relevance was revealed. The conclusions Sherrer and co-authors [14] are consistent with the results of the research by Meenan and co-authors [12,13] which prove that the intensive development of RA takes

*Table 2*. **Gender and functioning and quality of life of Rheumatoid Arthritis patients (Arthritis Impact Measurement Scales 2)**

| AIMS 2* | Women (n=123) Mean (SD) | Men (n=45) Mean (SD) | U | Z | p-value |
|---|---|---|---|---|---|
| physical activity (mobility) | 3.04 (2.21) | 2.81.(2.23) | 2575.0 | -0.689 | Ns |
| walking and bending | 5.86 (2.41) | 5.61.(2.53) | 2603.0 | -0.589 | Ns |
| functioning of hands and fingers | 4.44 (2.35) | 3.83(2.67) | 2352.0 | -1.488 | Ns |
| functioning of arm | 2.97 (2.47) | 2.67(2.45) | 2556.0 | -0.756 | Ns |
| self-care tasks | 2.63 (2.51) | 2.85(2.81) | 2682.5 | 0.304 | Ns |
| household tasks | 2.64 (2.49) | 2.32(2.49) | 2522.0 | -0.879 | Ns |
| level of emotional tension | 5.43 ( 1.45) | 4.78(1.59) | 2207.0 | -2.008 | p<0.05 |
| mood | 4.16 (1.67) | 3.83(2.57) | 2435.0 | -1.191 | Ns |
| life satisfaction | 5.01 (1.79) | 5.04(1.96) | 2681.5 | 0.308 | Ns |
| social activity | 5.37 (1.62) | 6.02(1.67) | 2168.5 | 2.145 | p<0.05 |
| support of family and friends | 1.44 (1.92) | 2.06(2.14) | 2302.5 | 1.665 | Ns |
| work | 3.96 (2.07) | 4.38(2.57) | 355.5 | 0.363 | Ns |
| arthritis pain | 7.15 (2.51) | 6.91(1.83) | 2439 | -1.177 | Ns |

SD – standard deviation *score range 0-10 0 – high quality of life 10 – poor quality of life

*Table 3*. **Age and functioning and quality of life of Rheumatoid Arthritis patients (Arthritis Impact Measurement Scales 2)**

| AIMS 2 * | <39 (n=27) Mean (SD) | 40>59 (n=89) Mean (SD) | >60 (n=52) Mean (SD) | p-value |
|---|---|---|---|---|
| physical activity (mobility) | 2.26 (1.90) | 2.94 (2.11) | 3.43 (2.44) | Ns |
| walking and bending | 4.4 (2.24)** | 6.3 (2.2)** | 5.65(2.65) | p<0.001 |
| functioning of hands and fingers | 3.39 (2.0) | 4.48 (2.29) | 4.4 (2.82) | Ns |
| functioning of arm | 1.89 (1.61) | 3.13 (2.25) | 2.99 (3.0) | Ns |
| self-care tasks | 1.53 (1.93)* | 2.68 (2.5) | 3.31(2.85)* | p<0.05 |
| household tasks | 1.6 (1.85)* | 2.39 (2.13) | 3.34 (3.07)* | p<0.05 |
| level of emotional tension | 5.59 (1.76) | 5.22 (1.45) | 5.1 (1.48) | Ns |
| mood | 3.85 (1.66) | 4.13 (1.6) | 4.10 (1.70) | Ns |
| life satisfaction | 4.51 (1.84) | 5.15 (1.71) | 5.05 (2.0) | Ns |
| social activity | 5.50 (1.70) | 5.62 (1.45) | 5.43 (1.94) | Ns |
| support of family and friends | 1.2 (1.75) | 1.56 (1.89) | 1.9 (2.39) | Ns |
| work | 4.19 (2.32) | 4.20 (2.23) | 3.58 (2.22) | Ns |
| arthritis pain | 6.3 (1.75)* | 7.351 (1.67)* | 7.03 (2.42) | p<0.05 |

SD – standard deviation *score range 0-10 0 – high quality of life 10 – poor quality of life

place in the first few years of the condition and in the following years the state of health is more stabilized. This might be the reason why the suffering assesses their quality of life higher. The general assessment of the quality of life of the people suffering from RA has the average value of 3.53, which is within the medium section of the average measurement of the quality of life. Good assessment of the quality of life among RA patients is influenced by the support of family and friends and is expressed in the average value 1.60. Negative assessment of the quality of life results from the limitations in carrying out everyday activities. It is related to arthritis pain the mean score of 7.07, and for walking and bending 5.79. The assessment of the quality of life of the people with RA depends on the sex of the patient. Women scored lower in the emotional area than men. The age of the patients influences the quality of life of people with RA. Younger patients showed higher evaluation of quality of life in the area of physical state and mobility. Life satisfaction of people with RA is higher among the patients suffering longer than 5 years.

## Conclusions

Further research into the quality of life can lead to improvement in the quality of care and treatment of people suffering from Rheumatoid Arthritis.

## Acknowledgements

With thanks to Maria Kijewska, Lidia Jędrasiak and Monika Kmieciak for help in my research.

## References

1. Mackiewicz S, Zimmermann-Górska I. Rheumatology, Warszawa, PZWL, 1995; p. 82-101.
2. Zimmermann-Górska I. Rheumatology. Warszawa, PZWL; 1993, p. 142-60.
3. Spector TD. The epidemiology of rheumatic disease. Rheumatoid arthritis. Curr Opin Rheum, 1992; 266-71.
4. Browne JP, O'Boyle CA, McGee HM. Individual quality of life in the healthy elderly. Qual Life Res, 1994; 3: 235-44.
5. Kazis LE, Callahan LF, Meenan RF, Pincus T. Health status reports in the care of patients with rheumatoid arthritis. J Clin Epidemiol, 1990; 43: 1243-53.
6. Meenan R, Gertman P, Mason J. The Arthritis Impact Measurement Scales. Further investigations of a health status measure. Arthritis Rheum, 1982; 25: 1048-53.
7. Meenan R, Mason J, Anderson J, Guccione A, Kazis L. AIMS-2: The content and properties of a revised and expanded arthritis impact measurement scales health status questionnaire. Arthritis Rheum, 1992; 35: 1-10.
8. Zaphiroponlos G, Burry HC. Depression in rheumatoid disease. Ann Rheum Dis, 1974; 33: 132-5.
9. Larry D. Young psychological factors in rheumatoid arthritis. J Consul Clin Psychol, 1992; 60: 619-7.
10. Lee P, Jasani M, Dick W. Evaluation of a functional index in rheumatoid arthritis. Scand J Rheum, 1973; 2: 71-7.
11. Liang MH, Jette AM. Measuring functional ability in chronic arthritis. Arthritis Rheum, 1981; 24: 80-6.
12. Meenan R, Kazis L, Anderson J. The stability of health status in rheumatoid arthritis. A five-year study of patients with established disease. Am J Public Health, 1987; 78: 1484-7.
13. Mason J, Weener J, Gertman P, Meenan R. Health status in chronic disease. A comparative study of rheumatoid arthritis. J Rheumatol, 1983; 10: 763-8.
14. Sherrer US, Block DA, Mitchell DM, Young DY, Fries JF. The development of disability in rheumatoid arthritis. Arthritis Rheum, 1986; 29: 494-500.
15. Mason J, Anderson J, Meenan R. A model of health status for rheumatoid arthritis. Arthritis Rheum, 1992; 31: 714-20.