The Health Related Quality of Life aspects in chronic rheumatic diseases

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ABSTRACT

Purpose: The aim of the study is comparative analyze the Health Related Quality of Life (HRQOL); effect of social-demographic factors on quality of life also taking into account four domains and effect of the duration of disease on quality of life.
Material and Methods: The evaluation of the quality of life in patients with rheumatoid arthritis (RA)(n=64), ankylosing spondylitis (AS) (n=60) and systemic sclerosis (SSc) (n=63) was conducted with the use of a standardized research tool - WHOQOL Bref.
Results: The conducted general analysis of particular life quality domains showed that for RA patients the weakest domain was the one related the environment (11.3) and physical health (11.6), with the strongest social domain (14.7). The respondents with AS had the lowest score for physical health (12.2), also with the strongest social domain (14.2). The results obtained from SSc patients are slightly better than for RA and AS patients as regards physical health (12.6) and the environment (13.9).
Conclusions: It seems that, taking into account the patient's own opinion about the treatment and its consequences by means of QOL evaluation, makes the patient a partner in the process of treatment and nursing, which leads to a greater humanization of medicine.
Key words: quality of life, ankylosing spondylitis, rheumatoid arthritis, systemic sclerosis.

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INTRODUCTION

Rheumatic diseases are one of the major health problems of the contemporary society. They are usually chronic and progressive, and they influence the patient's functioning not only in the area of disease and treatment, but also in their immediate and wider social environment, their interpersonal relations in the family and in the society. Adjusting to the changes caused by the disease, mutilation, psychic and physical handicap is complex and difficult for most patients [1].

The Health Related Quality of Life (HRQOL) with rheumatic diseases is connected with incapacity, the tolerance of treatment and its side effects, as well as the mortality connected with the accompanying diseases. Patients' HRQOL is also greatly influenced by their individual capacities, adaptation skills and the ability to cope with the disease [2, 3].

Rheumatoid arthritis (RA) is a chronic, inflammatory, systemic disease of connective tissue, leading to progressive disability and cripplehood [4]. The main problems of RA patients are: chronic polyarticular pain, often of great intensity, morning joint stiffness, muscular atrophy, deformity of joints and the limitation of their mobility [5,6]. The specificity of this disease and its treatment have a negative influence on patients' emotional state.

Systemic sclerosis (SSc) is another disease belonging to the group of systemic connective tissue diseases. SSc patients' problems include, first of all, articular pain, mobility limitation caused by dysaesthesia and fingertip ulceration, Reynaud's symptom, systemic complications. Scleroderma renal crisis is a life-threatening condition, occurring especially during the first four years of the generalized form of SSc, and later – pulmonary arterial hypertension and interstitial lung disease [7].

Ankylosing spondylitis (AS) is a rheumatic disease of an inflammatory character, which is classified as a seronegative spondyloarthropathy. AS it nearly always leads to the ankylosis of the spine and sacroiliac joints. Particularly tiresome symptoms, which lower the life comfort, include pain, morning stiffness, weakness and quick fatigue [8]. The progressive deterioration of function contributes to the patient's intolerance of their own incapacity.

The aim of this study is a comparative assessment of the HRQOL of patients with rheumatoid arthritis, systemic sclerosis and ankylosing spondylitis.

MATERIAL AND METHODS

The evaluation of the quality of life was conducted with the use of a standardized research tool - WHOQOL Bref, which provides a life quality profile in four domains – physical health, psychological health, social relationships, and environment [9]. The analyzed data were presented in the statistical package 6.0, being parameters like percent, average, standard deviation for the studied parameters. The results were verified with the test t-student and χ^2.

The approval of the Medical University of Białystok ethic committee was obtained before the start of the study.

RESULTS

Survey research was conducted among 64 patients with RA, 60 AS sufferers and 63 patients diagnosed with SSc, including 47 individuals with limited systemic sclerosis (lSSc) and 16 with diffuse systemic sclerosis (dSSc) (Tab 1).

Women constituted the majority of RA and SSc groups (over 90%) whereas in the AS group men prevailed (88.3%).

Subjective evaluation of patients' quality of life based on WHOQOL- Bref

The conducted general analysis of particular life quality domains (the scale from 4 to 20 points) showed that for RA patients the weakest domain was the one related the environment (11.3) and physical health (11.6), with the strongest social domain (relationships, support -14,7). The respondents with AS had the lowest score for physical health (12.2), also with the strongest social domain (14.2). The results of quality of life obtained from SSc patients are slightly better than for RA and AS patients as regards physical health (12.6) and the environment (13.9) (Fig 1).

In comparison with the subjects with dSSc, patients with lSSc have significantly lower scores for psychological health, social relationships and the environment ($p \leq 0.05$) (Tab.2).

As far as the global estimation of the quality of life is concerned, it was comparable (on an average level) (1-5 scale) in examined groups of rheumatoid diseases - 3,1 for the group of RA patients, 3.3 for SSc and 2,9 for AS. As regards the global estimation of health, it was 2.4 for RA and SSc patients and 2.6 for AS patients. There was a statistically significant difference in a higher estimation of the quality of life for patients with lSSc in comparison to those with dSSc ($p \leq 0.05$).

Table. 1. The characteristics of examined group.

AGE OF GROUPS	**to 40 of age**		**41-60 of age**		**≥ 61 of age**	
	N	**%**	**N**	**%**	**N**	**%**
rheumatoid arthritis	13	20.3	32	50	19	29.7
systemic sclerosis	12	19	35	55.6	16	25.4
ankylosing spondylitis	10	16.7	36	60	14	23.3
EDUCATION OF GROUPS	at most the elementary education		at least the average education			
	N	%	N		%	
rheumatoid arthritis	23	36	41		64	
systemic sclerosis	29	46	34		54	
ankylosing spondylitis	29	48.3	31		51.7	
THE CIVIL STATUS	married		not married			
	N	%	N		%	
rheumatoid arthritis	46	71.8	18		28.2	
systemic sclerosis	46	73	17		27	
ankylosing spondylitis	50	83.3	10		16.7	
THE PLACE OF RESIDENCE	the city		the village			
	N	%	N		%	
rheumatoid arthritis	45	70.3	19		29.7	
systemic sclerosis	38	60.3	25		39.7	
ankylosing spondylitis	53	88.3	7		11.7	
DURATION OF DISEASE	to 10 of age		11-20 of age		≥ 21 of age	
	N	%	N	%	N	%
rheumatoid arthritis	29	45.3	27	42.2	8	12.5
systemic sclerosis	to 4 of age		5-14 of age		≥ 15 of age	
	17	27	29	46	17	27
ankylosing spondylitis	to 10 of age		11-20 of age		≥ 21 of age	
	N	%	N	%	N	%
	13	21.7	23	38.3	24	40

Table 2. The general quality of life of patients with limited systemic sclerosis (lSSc) and diffuse systemic sclerosis (dSSc).

SYSTEMIC SCLEROSIS		**Physical health**	**Psychological health**		**Social relationships**		**Environment**	
limited systemic sclerosis (lSSc) N= 47	Std. Deviation Mean	2.5 12.1	2.5 11.7	$(p \le 0.05)$	2.7 13.1	$(p \le 0.05)$	2.3 12.7	$(p \le 0.05)$
diffuse systemic sclerosis (dSSc) N= 16	Std. Deviation Mean	2.6 13	2 13.7		2.7 15		1.6 15.1	
Total N=63	Mean	12.6	12.7		14		13.9	

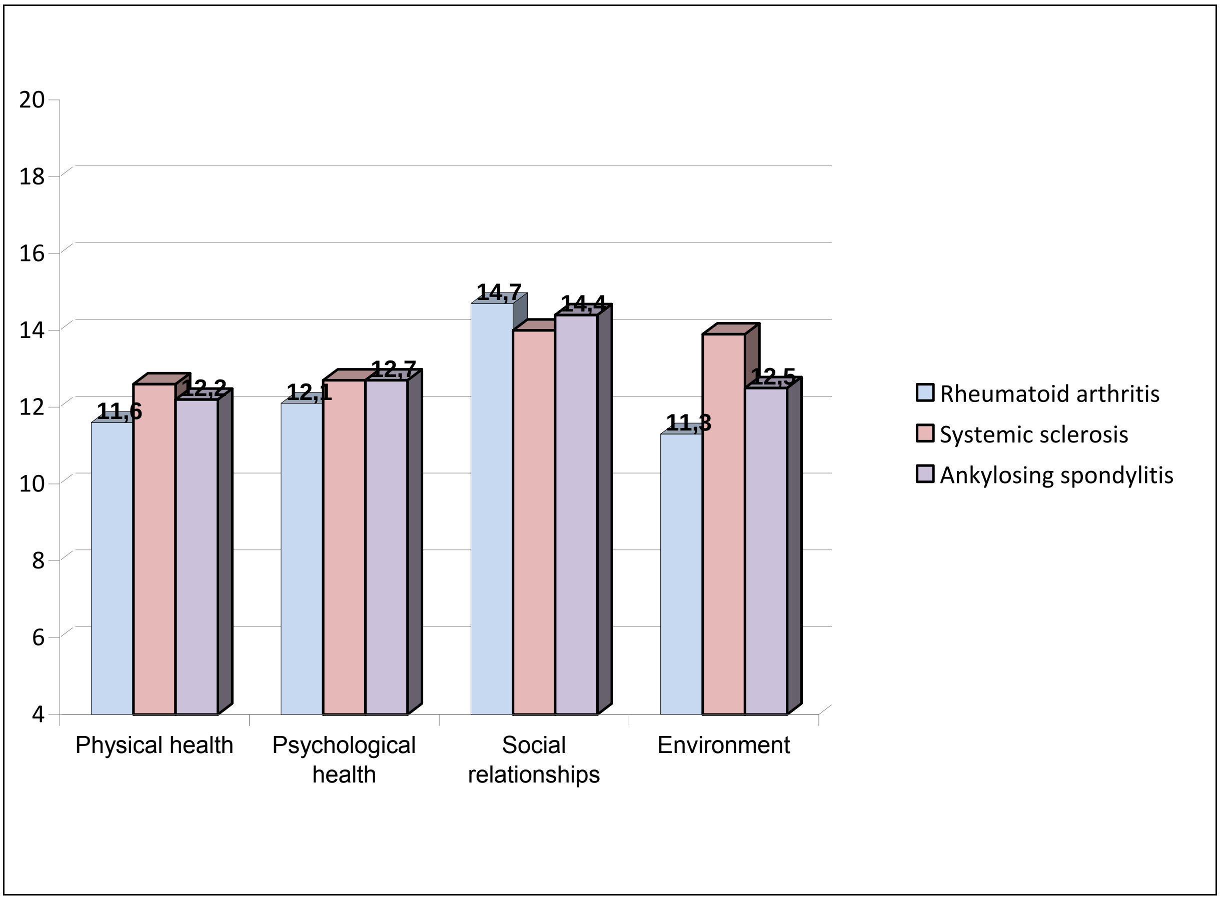

Figure 1. The general estimation of the quality of life of patients with rheumatoid arthritis (RA), ankylosing spondylitis (AS) and systemic sclerosis (SSc).

The influence of environmental factors on the assessment of the studied patients' quality of life

Considering the age variable, RA patients are less satisfied with their physical health (11.5) than other domains of their life. The research results also indicate that RA patients living in the country are much more satisfied with their physical health (13.6) than city dwellers (11.1).

Respondentts with secondary and higher education have the lowest score for the environmental domain (11.0) whereas the people with lower education – the physical domain (11.0). Married people function much better in the social domain (14.7) than the single ones (12.7).

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Taking into account the age variable for SSc patients, the subjects, especially from the ≥ 61 age group had the lowest score for the psychological (10.5) ($p \leq 0.05$) and physical domain (10,9) ($p < 0.05$) in comparison to the 41-60 age group. (Tab. 3)

Country dwellers indicate a bit worse evaluation of the psychological domain (11.7) than city dwellers (12.5). The education of SSc patients does not influence their subjective evaluation of the quality of life, but single people, similarly to RA patients, have more problems with the social domain (12.5) than the married ones (13.9). While analysing the assessment of AS patients depending on age, it appears that the group of over 40 year old patients gave indeed lower scores of functioning in the physical domain, when compared with the group of under 40 year old patients. ($p \leq 0.05$) (Tab.4)

Table 3. The quality of life of patients with systemic sclerosis (SSc) and age of group.

AGE OF GROUP		Physical health		Psychological health		Social relationships	Environment
to 40 of age N= 10	Std. Deviation Mean	2.8 13.4		3 12.4		2.6 14.3	2.8 13.6
41-60 of age N= 36	Std. Deviation Mean	2.2 12.7	(p≤0.05)	2 12.9	(p≤0.05)	3 13.7	2 13.7
≥ 61 of age N= 14	Std. Deviation Mean	2.7 10.9		2.6 10.5		2.4 12.7	2.6 12.5

Table 4. The quality of life of patients with ankylosing spondylitis (AS) and age of group.

AGE OF GROUP		Physical health		Psychological health	Social relationships	Environment
to 40 of age N= 10	Std. Deviation Mean	3.3 13.9	(p≤0.05)	2 13.7	2.8 15.3	1.7 12.7
41-60 of age N= 36	Std. Deviation Mean	2.4 11.9		2.8 12.3	2.8 13.9	2.3 12.4
≥ 61 of age N= 14	Std. Deviation Mean	3.6 12		2 12.9	1.6 15.1	2.7 12.4
Total N= 60	Std. Deviation Mean	2.9 12.2		2.5 12.7	2.6 14.4	2.2 12.5

No significant differences have been observed as regards the influence of the education on the quality of life of AS patients. Single people declare slightly lower evaluation in the scope of environmental domain (11.3), when compared with married ones (12.6). Differences are also observed in the social domain, however, they are of no statistical significance. Country dwellers function worse in physical domain (10.7), in comparison with city dwellers (12.4) and significantly weaker in environmental domain (country – 10.9, city – 12.7) (p≤0.05).

Evaluation of the quality of life was performed in the AS and SSc groups of patients, according to professional activity of the surveyed. Only 28% ankylosing spondylitis subjects worked professionally, which, at the same time, indicated the significantly better quality of life in every domain (p≤0.05).

There were 36.5% of professionally active systemic sclerosis patients, and a significantly higher evaluation of the quality of life in the physical domain (13.2), when compared with those who do not work (11.9) (p≤0.05).

The influence of disease duration on the assessment of the quality of life

RA patients had the lowest score in the physical domain, especially in the case of patients who have been ill for longer periods (10-20 years - 10.9, ≥ 21 years -11.1). A decrease of the quality of life assessment was observed in every domain, along with the period of disease duration (Fig 2).

The SSc subjects with disease duration ≥ 21 had lower scores to the psychological (11.6) and physical domain (11.8), in comparison to the subjects with a shorter duration of the disease, whereas among AS patients, who have been ill for 11—20 years – had lower scores for physical health (11.1) and significantly lower scores for the environmental domain (11.8) compared with the people suffering from this disease for shorter periods (0—10 years) – the physical domain 13,1; the environmental domain 13.4 (p≤0.05). (Tab. 5)

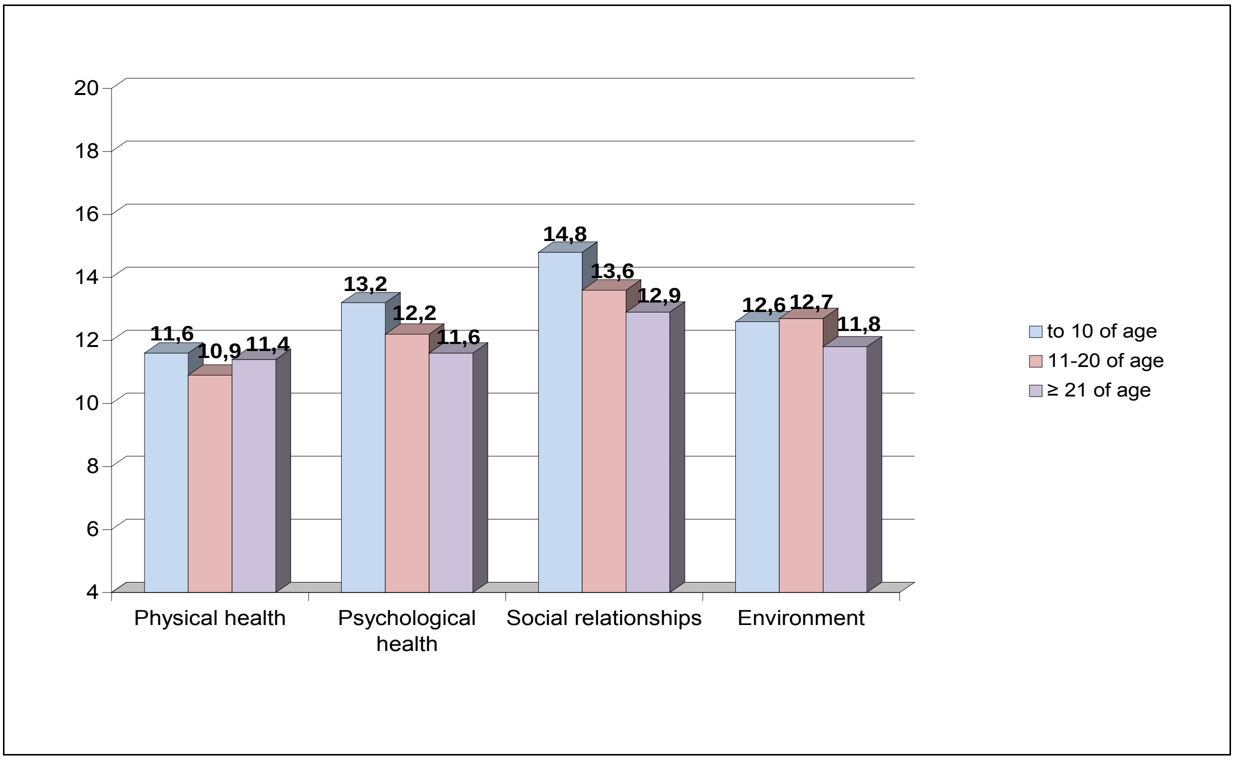

Figure 2. The quality of life of patients with rheumatoid arthritis (RA) and duration of disease.

Table 5. The quality of life of patients with ankylosing spondylitis (AS) and duration of disease.

DURATION OF DISEASE		**Physical health**	**Psychological health**	**Social relationships**	**Environment**	
to 10 of age N= 13	Std. Deviation Mean	2.9 13.1	2.1 13.7	1.6 15.5	1.6 13.4	($p \leq 0.05$)
11-20 of age N= 23	Std. Deviation Mean	2.7 11.6	2.8 12.3	3.1 14.1	2.2 11.8	
≥ 21 of age N= 24	Std. Deviation Mean	3.1 12.4	2.4 12.5	2.5 14.1	2.4 12.7	
Total N= 60	Std. Deviation Mean	2.9 12.2	2.5 12.7	2.6 14.4	2.2 12.5	

DISCUSSION

The evaluation of the quality of life of chronic patients is influenced by the disease and its course as well as many other factors, such as age, sex, social roles, individual capacities of a person suffering from the disease, their adaptive potential, the processes of coping with the disease and the level of the obtained social support [10, 11].

A diagnosis of a chronic disease brings on numerous changes and challenges to the patient's life. It disorganizes his/her family and professional life, forcing modifications to the existent relations. The appearance of the disease in the family carries along emotional as well as financial costs. The disease limits the possibility of continuing the activities which make our lives meaningful, including the professional activity of patients, which lowers the family's income [1,10]. Undoubtedly, it influences the social domain of life, which is indicated by the results of own research, where in the general evaluation of the quality of life of RA patients, the domain to get the lowest scores was the one connected with, e.g. financial resources, security, medical care availability (11.3). At the beginning of a rheumatic disease, incapacity is determined by the activity of the disease process, but later, there appear destructive lesions, which handicap the functioning of patients in everyday life [12]. Physical incapacity has a negative influence on the subjective evaluation of health and the quality of life. The research shows that the physical domain, especially for RA patients, scored below 12 points. Subjects with a longer disease duration present a worse evaluation of the studied domains. It is observed that the quality of life, in particular, domains deteriorate along with disease duration. Many rheumatic diseases are connected with emotional and psychic disorders. Rheumatic patients, who are physically handicapped, suffering from pain, stiffness, weakness, withdraw from active life, suffer from bouts of low spirits, sadness, resignation or depression [1,13].

Own research shows that the psychological domain received the lowest scores from the oldest patients, suffering from SSc (10.5) and living in villages. The family, who understands the disease and the limitations, provides emotional support and assistance in self-care, plays the key role in the care of a rheumatic patient. Research shows that the people remaining in relationships, provided with help, have fewer health problems [14].

Our observations indicate that single persons from all the studied groups find it more difficult to cope in the social domain, which is particularly true for RA and SSC patients. The care of rheumatic patients should focus on the alleviation of the disease, protection as well as the acceptance of incapacity and limitations, improving the life with the disease and, at the same time, retaining independence and activity for as long as possible [15-17].

CONCLUSIONS

1. The studied patients with rheumatoid arthritis have the lowest scores for the environmental and the physical domains, patients with ankylosing spondylitis – physical and environmental domains and patients, while systemic sclerosis declared their discontent with the psychological and the physical domain.
2. The results of the research show that while recognizing the problems of rheumatic patients, we must pay special attention to their social needs, provide help and support, especially to single people.
3. Measuring the patients' evaluation of their quality of life seem to be helpful in the identification of the aspects of life who are the most important for patients and recognizing their specific problems.

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