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ORIGINAL PAPER

Perceived health-related quality of life and selected characteristics of inpatients with rheumatic diseases

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Abstract

Aim: To assess the perceived health-related quality of life (HRQoL) in hospitalized patients with rheumatic diseases and to determine whether selected characteristics can affect their perceived quality of life. *Design:* A cross-sectional study. *Methods:* Data were collected between September 2022 and March 2023 using the standardized instrument to measure HRQoL, namely the RAND 36-Item Health Survey (SF-36). The sample consisted of 170 patients with rheumatic diseases hospitalized in a teaching hospital in the Czech Republic. *Results:* The average perceived HRQoL was 34.94 (SD = 17.06), indicating poor quality of life. The most highly rated subscale was 'emotional well-being' (56.02 ± 15.71), and the lowest rated subscale was 'role limitations due to physical health' (11.76 ± 28.54). The HRQoL subscales were significantly correlated with Mini-Mental State Examination (MMSE) score, self-care activities, pain severity, age of the patients, and length of hospitalization. Differences in HRQoL were identified based on education, social status, use of compensatory aids, attendance at social events, and history of falls in the past year ($p < 0.05$). *Conclusion:* The study contributes to the existing body of knowledge on the subject, but also underscores the importance of considering holistic factors when evaluating HRQoL in individuals with rheumatic diseases.

Keywords: hospital, patients, rheumatic disease, quality of life.

Introduction

Rheumatic diseases constitute a diverse group of conditions that significantly influence the lives of those affected. These conditions, including but not limited to rheumatoid arthritis, systemic lupus erythematosus, and ankylosing spondylitis, are characterized by chronic pain, functional limitations, and, in some cases, disability (Bae et al., 2018; Martinec et al., 2019). The impact of rheumatic diseases extends beyond the physiological realm, affecting the holistic well-being and quality of life (QoL) of individuals (Matcham et al., 2014).

Health support and preventive activities have a significant place in health care, and nursing plays a crucial role (Bártlová et al., 2020). The most common rheumatic diagnosis, rheumatoid arthritis, has a prevalence estimated at around 0.5%, to 1%, with a three-fold higher incidence in women than in men. The overall prevalence of rheumatic diseases in the population ranges from 2% to 3% (Albayrak Gezer et al., 2017; Kwan et al., 2014).

The term health-related quality of life (HRQoL) has been introduced to monitor the impact of illnesses and their treatment on individuals. Understanding HRQoL has become central to the comprehensive assessment of patient experiences and results. HRQoL encompasses the subjective evaluation of various aspects, including physical health, mental health, social functioning, and general well-being in the context of health and illness. In the case of rheumatic diseases, which often present unique challenges and considerations, examining HRQoL becomes particularly important (Malm et al., 2017; Martinec et al., 2019; Salaffi et al., 2018). One of the most widely used tools to measure HRQoL is the Short-Form Health Survey of the Medical Outcomes Study 36 (SF-36). Rheumatic diseases

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have various effects on patient quality of life, encompassing both physical and mental well-being. Reduced HRQoL in patients with rheumatic diseases is associated with increased utilization of healthcare resources (Beşirli et al., 2020; Matcham et al., 2014; Salaffi et al., 2018). The SF-36 has been found to be a reliable and valid measure of HRQoL in patients with rheumatic diseases, well correlated with disease-specific measures such as rheumatoid arthritis. Increased pain levels, disease activity, and reduced physical function are correlated with decreased HRQoL. Evidence from studies on other chronic diseases suggests that various factors, including gender, body mass index, disease severity, and age, can be expected to have an impact on HRQoL (Matcham et al., 2014; Salaffi et al., 2018). Based on available evidence, it can be concluded that beyond physical manifestations, rheumatic diseases can have an impact on psychological and social dimensions, influencing the ability to perform daily activities, maintain relationships, and participate in society. The multifaceted nature of these diseases calls for a comprehensive examination that goes beyond clinical parameters, shedding light on the human experience and the factors that contribute to or hinder a positive quality of life (Bártlová et al., 2020; Malm et al., 2017; Martinec et al., 2019). As we embark on this exploration, we recognize the importance of considering not only the disease-specific aspects but also the broader sociodemographic factors that may play a role in shaping the HRQoL of individuals with rheumatic diseases. By unravelling these complexities, we aim to contribute valuable insights that can inform healthcare practices, interventions, and support systems tailored to improve the overall well-being of patients in this unique medical context.

Aim

Our study aimed to evaluate the perceived QoL of hospitalized patients with rheumatic diseases and to determine whether any of the selected characteristics can affect their perceived QoL.

Methods

Design

This cross-sectional quantitative study was conducted in accordance with the STROBE checklist.

Sample

To meet the study objectives, a rheumatology care unit was asked to participate in the study within the selected teaching hospital in the Czech Republic. After permission was granted to conduct the study, hospitalized patients were purposefully selected according to predefined criteria. Patients were included in the sample if they were: a) 18 years or older; b) hospitalized for at least 48 hours; and c) diagnosed with a rheumatic disease. The diagnoses most frequently represented were rheumatoid arthritis, systemic scleroderma, and systemic lupus erythematosus. In total, 186 patients were contacted. Twelve questionnaires were discarded due to repeated hospitalizations and previous interviews, and four questionnaires due to incomplete data. Patients were not included in the sample if they: a) were diagnosed with moderate / severe dementia (or other severe cognitive impairment; b) had significant hearing or sensory impairment; c) had been hospitalized repeatedly and interviewed previously. Before the investigation, patients gave their informed consent and, in a separate introductory section, were informed that their participation was voluntary and made aware that by completing the questionnaire set they consented to data processing.

Data collection

Data were collected from September 2022 to March 2023 using a set of questionnaires, including the standardized RAND 36-Item Health Survey (SF-36) questionnaire designed to assess health-related quality of life (HRQoL). The 36-item Short-Form Health Survey (SF-36) Medical Outcomes Study defines HRQoL as the degree to which physical health affects an individual’s functional abilities and perceived well-being in mental, social, and physical aspects of life. The SF-36 is a shortened version of a generic questionnaire for assessing quality of life designed for self-completion by respondents aged 14 and older with various types of illness and treatments. It takes approximately 20 minutes to complete the questionnaire. The questionnaire was created by a team led by Ware and Sherbourne (1992), intended for use in clinical practice in the context of individual patient screening, research, Health Policy Evaluations (comparing treatment costs for different diseases), and monitoring the quality of life of specific and general populations. The original version has been translated, validated, and standardized in more than 15 countries as part of the International Quality of Life Assessment project. The SF-36 is licensed to the medical outcome study trust nonprofit organization, and the RAND nonprofit organization manages the tool. In each dimension, questions are initially scored, then totalled and the resulting value is transformed on a scale of 0–100, with 100 indicating a better quality of life and 0 indicating a poorer quality. A score below 50 may be interpreted as below the norm of the general population. This approach produces one value for each block describing the patient's health status, with eight resulting values. The questionnaire can be further evaluated as a whole or by examining the results for each dimension separately. The SF-36 quality of life questionnaire consists of a total of 36 items divided into eight dimensions, each item containing several proposed responses on a scale of 1–5 points: excellent: 1, very good: 2, good: 3, fairly good: 4, bad: 5. The individual dimensions include physical functioning (ten items; 1 to 3-point scale: 0–50–100), role limitations due to physical health (four items; yes / no options: 0–100), role limitations due to emotional problems (three items; yes / no options: 0–100), energy / fatigue (four items; 1 to 6-point scale; 0–20–40–60–80–100), emotional well-being (five items; 1 to 6-point scale: 0–20–40–60–80–100), social functioning (two items; 1 to 5-point scale: 0–25–50–75–100), pain (two items; 1 to 5-point scale: 0–25–50–75–100; 1 to 6-point scale; 0–20–40–60–80–100), general health (six items; 1 to 6-point scale: 0–20–40–60–80–100). The questionnaire set also included sociodemographic data supplemented by the authors of this study, such as age, sex, education, social situation, length of hospitalization, frequency of social relationships, pain assessment, hearing, vision, history of falls, use of compensatory aids, self-care (ADL), and mental state (Mini-Mental State Examination – MMSE).

Data analysis

Data were analyzed using Tibco STATISTICA statistical software (TIBCO Software Inc.). Variables were presented using means, standard deviations (SD), medians, minimum, and maximum values. Quantitative data were represented using absolute and relative frequencies. The Kolmogorov-Smirnov test revealed that the data did not have a normal distribution ($p < 0.05$), therefore nonparametric tests were used in further analyses. The Spearman correlation coefficient was used to test the relationship between the SF-36 subscales and the selected variables i.e.: gender, education, social status, compensatory aids, social activities, visits, fall history in the last three months, fall history in the past year, and consequences of falls. Differences in HRQoL rating based on selected variables were tested using the Mann-Whitney U test and the Kruskal-Wallis test. The Cronbach alpha coefficient had a value of 0.897 for the SF-36. For the subscales of the SF-36 Cronbach alpha ranged from 0.874 to 0.914, indicating acceptable reliability of the instrument.

Results

The sample consisted of 170 hospitalized patients with rheumatic diseases, mainly rheumatoid arthritis ($n = 79$; 46.7%), from a teaching hospital in the Czech Republic (Table 1, Table 2).

Table 1 Sample characteristics

Variable		**n = 170**	**%**
Type of disease	rheumatoid arthritis	79	46.7
	systemic scleroderma	22	13.0
	systemic lupus erythematosus	32	18.9
	Wegener's granulomatosis	9	5.3
	Bechterew's disease	7	4.1
	other	20	11.8
Gender	male	42	24.7
	female	128	75.3
Age	up to 64 years	102	60.0
	65 years or more	68	40.0
Education	elementary	15	8.8
	qualification	45	26.5
	secondary	82	48.2
	university	28	16.5
Social status	living alone	27	15.9
	living with partner	79	46.5
	living with other persons	63	37.1
	living in residential care facility	1	0.6
Compensatory aids	yes	66	38.8
	no	104	61.2
Social activities	never	18	10.6
	more than 7 days ago	75	44.1
	more than 30 days ago	77	45.3
Visits	never	4	2.4
	more than 7 days ago	24	14.1
	in less than 7 days ago	142	83.5

On average, patients were hospitalized 4.9 days (SD = 6.66). The mean age of the respondents was 58.8 (SD = 16.67). The majority of the respondents were women (n = 128; 75.3%), up to 64 years old (n = 102; 60.0%), and had completed secondary education (n = 82; 48.2%). Most of the respondents also lived with a partner (n = 79; 46.5%) and had compensatory aids (n = 104; 61.2%). Regarding social activities, most respondents had attended social events more than 30 days before (n = 77; 45.3%) but had visited friends or family less than seven days before (n = 142; 83.5%). The mean average ADL in the sample was 90.92 (SD = 18.18), indicating a light dependence on self-care activities.

Table 2 Characteristics of selected variables

Variables	Min	Max	Mean	SD
MMSE	22	30	28.99	1.863
ADL	5	100	90.92	18.189
Length of hospitalization	2	60	4.90	6.669
BMI	17.30	39.50	25.33	5.08
Pain assessment	0	10	2.84	2.842

MMSE – Mini-Mental State Examination; ADL – self-care; BMI – Body Mass Index

HRQoL of patients with rheumatic diseases

The average perceived HRQoL measured by the SF-36 was 34.94 (SD = 17.06), indicating poor quality of life in hospitalized patients with rheumatic diseases (Table 3). Regarding the SF-36 subscales, only ‘emotional well-being’ achieved a score above 50, which can be interpreted as above the norm. The HRQoL subscale rated most highly was therefore ‘emotional well-being’ (56.02 ± 15.71), and the lowest-rated subscale was ‘role limitations due to physical health’ (11.76 ± 28.54).

Table 3 Quality of life in patients with rheumatic diseases

Subscales of SF-36	Min	Max	Mean	SD
Physical functioning	0	100	38.85	31.95
Role limitations due to physical health	0	100	11.76	28.54
Role limitations due to emotional problems	0	100	21.92	38.22
Energy / fatigue	0	100	36.68	16.21
Emotional well-being	0	100	56.02	15.71
Social functioning	0	100	40.28	23.74
Pain	0	100	32.03	28.04
General health	0	100	42.02	17.04
Health change	0	100	36.91	26.57

Changes in HRQoL in relation to selected characteristics

HRQoL subscales were significantly correlated with MMSE (Mini-Mental State Examination) score, self-care activities, pain severity, patient age, and length of hospitalization ($p < 0.05$). With an increase in MMSE score, an increase in ‘physical functioning’ ($r = 0.333$), ‘role limitations due to emotional problems’ ($r = 0.185$) and ‘social functioning’ ($r = 0.205$) could also be expected. As scores for self-care activities increased, the score on all subscales also rose. On the other hand, as severity of pain increased, scores decreased on the following subscales: ‘physical functioning’ ($r = -0.244$), ‘role limitations due to physical health’ (-0.290), ‘energy / fatigue’ ($r = -0.210$), ‘emotional well-being’ ($r = -0.245$), ‘social functioning’ ($r = -0.268$) and ‘pain’ ($r = -0.304$). Furthermore, older patients assessed the following subscales of the SF-36 more negatively: ‘physical functioning’ ($r = -0.359$), ‘role limitations due to physical health’ ($r = -0.179$) and ‘role limitations due to emotional problems’ ($r = -0.237$). As length of hospitalization increased, the scores on the following subscales decreased: ‘role limitations due to emotional problems’ ($r = -0.181$), ‘energy / fatigue’ ($r = -0.239$) and ‘social functioning’ ($r = -0.165$). The correlations are shown in Table 4.

Differences in HRQoL rating measured by the SF-36 were identified according to education, social status, use of compensatory aids, attendance at social events, and history of falls in the last year ($p < 0.05$). In contrast, no differences were detected in terms of type of disease, gender, visits, fall history in past three months and consequences of fall (Table 5). Patients with university education ($p = 0.041$) achieved the highest score on the ‘general health’subscale. Patients who lived in residential

Table 4 Correlations between SF-36 subscales and selected variables

Subscales of SF-36	**MMSE**	**ADL**	**Pain**	**BMI**	**Age**	**Length of hospitalization**
Physical functioning	0.333**	0.653**	-0.244**	-0.026	-0.359**	-0.108
Role limitations due to physical health	0.181*	0.242**	-0.290**	-0.092	-0.179*	-0.107
Role limitations due to emotional problems	0.185*	0.247**	-0.193	0.147	-0.237**	-0.181*
Energy / fatigue	0.064	0.296**	-0.210**	0.141	0.020	-0.239**
Emotional well-being	0.082	0.171*	-0.245**	-0.115	-0.021	-0.127
Social functioning	0.205**	0.386**	-0.268**	-0.165	-0.107	-0.165*
Pain	0.138	0.250**	-0.304**	-0.059	-0.051	0.004
General health	0.142	0.189*	0.065	0.243	0.080	0.055

**p > 0.05; **p > 0.01*

care facilities (p = 0.025) evaluated the 'role limitations due to physical health' subscale most highly (p = 0.025). Patients who did not report using compensatory aids achieved the highest score on the following subscales: 'physical functioning' (p < 0.001), 'role limitations due to physical health' (p = 0.020), and 'role limitations die from emotional problems' (p = 0.011). Furthermore, patients who reported attending a social event more than 30 days before also reported a higher score on the subscale of 'physical functioning' (p < 0.001). Finally, patients who reported no history of falls in the last year also achieved a better score on the following subscales: 'physical functioning' (p = 0.045), 'energy / fatigue' (p = 0.002), 'social functioning' (p = 0.019) and 'pain' (p = 0.040).

Table 5 Differences in rating quality of life based on selected variables (Part 1)

	Physical functioning	**Role limitations due to physical health**	**Role limitations due to emotional problems**	**Energy / fatigue**	**Emotional well-being**	**Social functioning**	**Pain**	**General health**	**Health change**
Type of disease									
rheumatoid arthritis	77.58	86.51	84.29	90.01	88.15	80.00	80.13	82.33	84.84
systemic scleroderma	88.32	73.43	81.73	85.80	71.57	86.00	97.02	81.23	84.91
systemic lupus erythematosus	85.73	82.72	86.47	73.20	77.19	92.58	80.78	84.77	92.88
Wegener's granulomatosis	119.06	87.50	92.50	98.94	107.50	87.56	87.94	87.00	70.22
Bechterew's disease	107.79	93.71	97.79	85.21	84.57	84.21	100.64	91.29	86.36
other	86.20	91.23	81.20	76.88	89.88	90.65	90.98	96.98	79.30
p value	0.163	0.511	0.911	0.547	0.421	0.854	0.627	0.887	0.831
Gender									
male	82.26	81.94	82.32	88.60	77.38	89.07	81.82	87.29	83.62
female	86.56	86.67	86.54	84.48	88.16	86.71	86.71	84.91	84.91
p value	0.622	0.428	0.545	0.637	0.215	0.581	0.572	0.785	0.764
Education									
elementary	74.43	86.63	77.10	86.57	70.97	85.53	91.10	79.13	89.73
qualification	88.61	82.52	80.31	91.47	81.16	86.19	89.21	68.86	86.99
secondary	80.65	85.10	85.20	76.93	85.24	82.32	79.82	92.61	84.34
university	100.64	90.86	99.21	100.45	101.04	93.68	93.18	94.84	84.25
p value	0.220	0.778	0.178	0.122	0.212	0.762	0.517	0.041*	0.971
Social status									
living alone	83.69	75.50	76.00	78.50	83.20	85.04	82.89	89.48	82.15
living with partner	89.70	84.10	83.91	81.16	83.00	86.03	84.08	88.73	84.70
living with other persons	80.98	90.29	90.44	94.38	89.83	83.93	87.82	81.02	86.89
living in residential care facility	87.00	164.50	156.00	58.00	72.50	155.00	122.00	5.00	151.50
p value	0.764	0.025*	0.114	0.313	0.843	0.543	0.837	0.288	0.531

**p > 0.05; **p > 0.01*

Table 5 Differences in rating quality of life based on selected variables (Part 2)

	Physical functioning	Role limitations due to physical health	Role limitations due to emotional problems	Energy / fatigue	Emotional well-being	Social functioning	Pain	General health	Health change
Compensatory aids									
no	104.51	93.02	95.10	92.25	90.20	92.29	88.28	89.06	85.51
yes	73.44	80.73	79.41	81.22	82.51	81.19	83.74	83.24	85.50
p-value	< 0.001**	0.020*	0.011*	0.152	0.318	0.145	0.553	0.449	0.999
Social activities									
never	69.72	73.69	74.94	68.89	77.28	59.83	72.36	80.53	90.36
more than 7 days ago	72.41	82.72	79.96	80.07	87.77	77.91	85.73	81.40	79.89
more than 30 days ago	101.94	90.97	93.36	94.68	85.21	98.90	88.35	90.66	89.92
p value	< 0.001**	0.091	0.052	0.058	0.714	0.002**	0.454	0.456	0.382
Visits									
never	109.25	107.25	108.50	99.00	90.25	114.50	117.13	121.25	122.0
more than 7 days ago	88.90	83.35	79.38	83.77	71.02	69.81	85.25	73.56	79.17
in less than 7 days ago	84.26	85.25	85.89	85.41	87.81	87.33	84.65	86.51	85.54
p value	0.564	0.409	0.372	0.846	0.293	0.124	0.420	0.163	0.238
Fall history in past 3 months									
never	88.09	85.76	87.63	88.96	87.42	88.19	86.93	86.99	86.93
one	85.88	85.38	75.14	69.80	78.60	73.34	85.18	78.48	84.36
two	43.60	88.50	93.70	89.50	90.40	92.80	77.80	79.90	74.70
three and more	34.00	69.50	61.00	51.67	47.00	52.00	35.83	85.50	46.67
p value	0.062	0.866	0.315	0.193	0.455	0.313	0.338	0.871	0.500
Fall history in past year									
never	89.78	87.10	89.43	95.07	89.93	92.66	88.97	89.02	86.17
one	83.09	85.16	76.76	65.80	79.16	68.49	82.03	80.51	89.20
two	75.36	78.14	84.50	55.86	71.68	81.36	88.91	68.32	91.82
three and more	34.00	69.50	61.00	66.50	60.75	51.50	31.17	76.92	39.25
p value	0.045*	0.538	0.152	0.002**	0.265	0.019*	0.040*	0.472	0.098
Consequences of falls									
fracture	29.17	27.79	31.04	33.58	31.52	25.77	27.19	30.88	31.81
laceration	34.67	24.00	22.50	27.67	25.83	32.00	16.50	44.00	16.17
hematoma	37.86	31.71	30.50	30.57	34.07	32.29	33.64	27.86	32.64
abrasion	25.31	29.38	25.17	24.52	24.95	31.33	31.93	25.64	26.60
other	26.25	37.50	49.25	17.50	28.25	27.25	22.50	23.25	27.00
p value	0.483	0.633	0.055	0.347	0.627	0.768	0.454	0.408	0.465

** p> 0.05; **p > 0.01*

Discussion

Assessing HRQoL in patients with chronic disease is desirable. For patients with rheumatic diseases, which are incurable, progressive, and impactful, it is essential to focus especially on factors that can be altered so that the quality of life of these people can be improved. Thus, nurses are primarily responsible for positive influences on HRQoL through the planning of targeted interventions. Rheumatic diseases often require adherence to regimens that impose limitations on activities of daily living; therefore, the objective of our study was to assess the perceived quality of life related to health in hospitalized patients with rheumatic disease and to reveal which selected sociodemographic characteristics influence perceived HRQoL.

The quality of life in the Czech population aged 40+ shows relatively positive results in terms of outcomes. The area rated most highly was that of emotional problems. On the other hand, the evaluation of vitality (energy / fatigue) and general health tends to be problematic (Bártlová et al., 2020). However, if we focus on the population of our study, specifically patients with rheumatic diseases, their HRQoL is significantly lower (34.94 ± 17.06) than the QoL of the Czech population (78.99). Similar results in terms of impaired HRQoL in patients with rheumatoid arthritis in the Czech Republic were indicated in a study by Kaas and Tóthová (2017), in which differences compared to the population norm were identified in all areas of HRQoL. The area of HRQoL most impaired in patients with rheumatoid arthritis in the Czech Republic was physical health limitation (11.76 ± 28.54). As pointed out by Matcham et al. (2014) in their systematic review and meta-analysis of 33 studies, HRQoL in patients with rheumatoid arthritis tends to be lower across physical domains worldwide (34.1), with role limitation due to physical health (36.1) the lowest-rated domain. HRQoL domains related to the level of physical function and physical pain tend to be markedly reduced in patients with rheumatoid arthritis (Matcham et al., 2014), demonstrated not only in our research but also in other more recent studies (Bai et al., 2020; Berner et al., 2018; Carvalho et al., 2022; Wysocki et al., 2023). Given that even the emotional well-being domain (56.02 ± 15.71) showed less satisfactory HRQoL results compared to the population norm of patients 40+ (78.50), it can, therefore, be concluded that the impact is considerable in patients with rheumatic diseases in both physical and mental domains, which should be a key indicator for planning targeted interventions.

With regard to the results and interventions, it is desirable to focus on factors that can positively influence the HRQoL of patients with rheumatic diseases. However, evaluating the most important or significant factors influencing changes in HRQoL scores can prove difficult. Fatigue, mobility, social situation, presence of pain, and frequent falls have been shown to be the main contributors to reduction of HRQoL in these patients (Bae et al., 2018; Cho et al., 2013; Horová et al., 2020; Lee et al., 2020; Matcham et al., 2014; Zhou et al., 2020). Our research produced similar results, in which the influence of self-care activities and pain severity was also demonstrated. The relationship between ADL and the expression of quality of life using the SF-36 questionnaire agrees with the results of other authors, who have demonstrated a strong relationship mainly between the domains of physical function, energy / fatigue, and pain and degree of self-sufficiency. In several studies, different degrees of disability were found in up to two thirds of the respondents (Bae et al., 2018; Bai et al., 2020; Román Ivorra et al., 2019; van Leeuwen et al., 2021; Zhou et al., 2020). The authors Lee et al. (2020) and Zhou et al. (2020) found that fatigue and exhaustion had a significant effect on HRQoL ratings. Given the greater effort these patients must exert to perform activities of daily living, fatigue plays an important role in this domain. In fact, higher energy losses, reduced interest in other activities, and reduced quality of sleep and rest tend to have an impact not only on routine activities but also in relation to social participation (Kaas & Tóthová, 2017; Lee et al., 2020). Our results indicated that the lowest rated HRQoL domain (limitation due to physical health) was the most positively rated by those who lived in residential care facilities. The physical domain was also influenced by attendance of social events. Social participation was a significant predictor of increased HRQoL in the study by Arvidsson et al. (2011), along with other factors such as rest and socioeconomic status. Unfortunately, changes in lifestyle and adaptation to the disease are needed. The possible loss of some hobbies and interests or the necessity of amending one's plans and life goals (Berner et al., 2018; Matcham et al., 2014) may be problematic.

Length of hospital stay was revealed as significant, with its prolongation resulting in lower domain scores. Differences were also identified regarding fall history and use of compensatory aids, which may also be related to predictors in the assessment of activities of daily living. Xavier et al. (2019) found that the higher the level of self-sufficiency in patients, the higher the level of HRQoL that could be achieved. In addition to length of hospital stay, longer duration of disease has been cited as an important factor affecting mental health components (Matcham et al., 2014).

Finally, age and education level were significant factors in relation to HRQoL assessment in patients with rheumatic diseases in the Czech Republic. Rheumatic diseases are not only the domain of adult and senior populations. Matcham et al. (2014) found a poorer perception of HRQoL in the young patient population than among older adults and the elderly. Consequently, in our research, it was shown that older patients rated the domains related to physical function and role limitation more negatively due to physical health and emotional problems. A systematic review by Matcham et al. (2014) pointed out the impact of older age, especially in relation to physical domains, while younger patients scored better in domains related to mental components. MMSE scores were also closely related to age, with higher scores indicating higher HRQoL scores in our research. Age has been confirmed as a major factor by other recent studies (see, for example, Berner et al., 2018; Ristic et al., 2023). In terms of education, university-educated patients rated the HRQoL domain of general health most highly, but international results regarding this domain tend to be variable (see, e.g., Arvidsson et al., 2011; Cho et al., 2013). Ristic et al. (2023) reported that higher education is a component of poor quality of life in patients with rheumatic diseases. Wysocki et al. (2023) found higher education to be particularly important in HRQoL acceptance.

Based on our findings, it is important for health professionals to focus on improving the quality of life of rheumatological patients not only in physical terms, but especially by supporting the return of patients to normal life, coping with daily activities, and using social support resources. Findings on quality of life in these patients and the factors that influence it can provide a basis for planning appropriate interventions to improve their quality of life.

Limitation of study

The study had some limitations. The main limitation was the way the questionnaires were administered. The face-to-face administration of the questionnaire, during which the interviewer presented the items orally, had the advantage of openness and engaging the interest of patients with rheumatic diseases in the research. Subsequent coding of questionnaires and their transcription and calculation of scores for individual domains was time-consuming. Adaptive computer administration of questionnaires, whereby the selection of items is presented on a computer and, according to the answers to these items, the computer selects items optimized for the estimated abilities or characteristics of the tested person, is a far more suitable variant for the SF-36 questionnaire; however, computer administration is not always suitable in a hospital environment.

Conclusion

Rheumatic diseases present significant challenges that affect the lives of affected individuals both physically and mentally. The wide range of conditions, including rheumatoid arthritis, systemic lupus erythematosus, and ankylosing spondylitis, contribute to chronic pain, functional limitations, and potential disability. The influence of these diseases extends beyond the physiological realm and affects holistic well-being and quality of life. Nursing, a crucial component of health care, plays a vital role in providing health support and preventive activities to address the unique needs of people dealing with rheumatic diseases. The results of our study revealed that HRQoL as perceived by hospitalized patients with rheumatic diseases was considerably lower than in the general population, highlighting the substantial impact of these conditions on both physical and mental domains. The study identified factors such as self-care activities, pain severity, patient age, and length of hospitalization as significant contributors to HRQoL variations. Older age and lower levels of education were associated with poorer scores in physical function and emotional well-being.

The findings underscore the importance of a holistic approach to patient care, addressing not only physical symptoms but also factors that influence daily activities, social participation, and mental well-being. Health professionals, particularly nurses, play a crucial role in planning targeted interventions to improve the overall quality of life of people with rheumatic diseases. The study provides valuable information that can inform healthcare practices and interventions customized to the unique medical context of rheumatology patients, contributing to improved well-being and improved patient outcomes.

Ethical aspects and conflict of interests

The study was approved by the Ethics Committee of Palacký University in Olomouc, UPOL-47677/1070-2021. The demographic data of the participants were processed in accordance with Regulation 2016/679 (27.04.2016) of the European Parliament and the EU Council on the protection of persons in connection with the processing of personal data and the free movement of such data.

The authors declare no potential conflicts of interest concerning the research, authorship, and / or publication of this article.

Author's contribution

Conception and design (LK, DK, DB, HK), data collection (LK, DŠ), data analysis and interpretation (DK), manuscript draft (LK, DK, DB), critical review of the manuscript (LK, DK, DB), final approval of the manuscript (LK, DK, DB, DŠ, HK).

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