

SUMMARY

The main aim of the study was to compare the quality of life and the physical function of patients with osteoarthritis to these of patients with rheumatoid arthritis.

The examinations were carried out in the Department of Rheumatology and Internal Diseases of the Medical University of Białystok and Out-patient Clinic in Augustów. The study group consisted of 198 patients diagnosed with *osteoarthritis* (OA) of the hip, knee and spine according to American College of Rheumatology (1988), who were under care of hospital and out-patient clinic. The control group included 100 patients diagnosed with *rheumatoid arthritis* (RA), according to American College of Rheumatology (2010).

Diagnostic survey was used based on the author's survey questionnaire established for the needs of the examinations, Visual Analogue Scale (VAS) in the descriptive version, Short Form Health Survey (SF- 36) and Health Assessment Questionnaire (Health Assessment Questionnaire).

The group of patients with *osteoarthritis* included 110 (56.6%) women and 88 (44.4%) men. The mean age among women equalled 64.7 years, while in men 59.6 years. The total of 122 people lived in the cities (61.6%), whereas 76 people inhabited the rural area (38.4%). The evaluation of respondents' professional activity showed that more than half of them – 70.1% were retired or on disability pension. Taking into consideration the disease duration, 56.1% of the surveyed were ill more than 10 years.

Patients with *rheumatoid arthritis* (RA) included 70 (70%) women and 30 (30%) men. The mean age of women with RA was 49.32 years, while in men - 55.22 years. The total of 63 people (63%) inhabited the city, whereas 37 people (37%) – the rural area. Regarding the disease duration, more than half of the respondents with RA - 51% suffered from the disease longer than 10 years. Taking into consideration professional activity, 59% of people were retired or on disability pension.

Visual Analogue Scale (VAS) in a descriptive version (0 – 100mm) was used to evaluate the intensity of pain. When analysing the pain levels with regard to the gender in patients with *osteoarthritis*, 52.3% of men and 49.1% of women reported severe pain. In the group with *rheumatoid arthritis*, 55.7% of women assessed their pain as moderate, whereas 46.7% of men as severe.

The study of patients with OA regarding the correlations between pain and disease duration indicated that 54.1% of the surveyed with disease duration above 10 years reported

severe pain. Similarly, 51% of the respondents with RA of more than 10 years duration assessed the pain as severe. Among patients diagnosed with OA, a linear correlation was observed between the pain and the incapacity level ($p= 0.0003$), which showed that capability of doing everyday activities decreased as the pain grew. No such a correlation was observed in patients with RA ($p= 0.103$).

A progressive character of OA and RA frequently causes marked limitations in everyday activities, such as: walking, independently preparing meals, doing shopping, hygiene and others. Health Assessment Questionnaire (HAQ) was used to assess the incapacity level of doing everyday activities.

When analysing the incapacity level with regard to the gender in the respondents with OA, it was observed that 63.6% of men and 48.6% of women had mild dysfunctions at everyday activities (HAQ 0-1 scores). In patients with RA, 62.9% of women declared significant limitations and need for help at everyday activities (HAQ 1-2 scores), while 50% of men assessed their incapacity level as mild dysfunctions (HAQ 0-1 score).

When analysing the study results, a correlation between the dysfunction level at everyday activities and disease duration was found in patients with OA ($p= 0.028$). Thus, disease duration had a significant influence on the level of limitations when doing everyday activities. The patients with disease duration of more than 10 years reported significant limitations and need for aid at everyday activities (HAQ 1 – 2 scores) compared to the patients with the shorter duration of the disease. In patients with RA, no such a correlation was observed ($p= 0.230$).

Disability, persistent pain, fatigue and depression influence mainly the quality of life in people with rheumatic diseases. Additionally, it can be modified by beliefs regarding health status and psychological problems.

Short Form Health Survey (SF-36) was used to evaluate the quality of life. The respondents with OA evaluated the mental sphere on a slightly higher level than (47 ± 21.44) the physical (42.39 ± 18.73). In the study group, a positive linear correlation was observed between the quality of life levels in the mental and physical sphere ($r= 0.643$). It can be stated that the evaluation of the quality of life in the mental sphere increased together with the better quality of life in the physical sphere ($p< 0.0001$). In the group diagnosed with RA, the health status was assessed as higher in the mental sphere (44.39 ± 20.81) compared to the physical sphere (37.36 ± 14.57).

A statistically significant correlation was revealed between the physical functioning ($p= 0.001$), the mental functioning ($p= 0.007$) and the gender in patients with OA. The men

evaluated the sphere of mental (mean value 52.21 scores) and physical (mean value 47 scores) functioning higher compared to the study group of women (Physical Component Summary, PCS = 38.70 scores, Mental Component Summary, MCS = 44.0 scores, respectively). In RA, a statistically significant correlation was found between evaluation of the quality of life in the mental sphere functioning and the gender ($p= 0.028$). In patients with RA, the gender statistically significantly affected such domains of the quality of life like, social functioning ($p= 0.043$) and limitations in social roles caused by mental functioning ($p= 0.045$).

In the study group with OA, statistically significant correlations were revealed between the quality of life in the physical ($p < 0.0001$) and mental sphere ($p= 0.006$) and disease duration. The respondents with more than 10 years of disease duration evaluated lower both the quality of life in the mental (mean value 42.63 scores) as well as physical sphere (38.14 scores). The shorter duration period of the disease was, the better the quality of life both in the mental and physical sphere. Among the surveyed with RA, the patients with the shortest disease duration assessed the physical sphere at the higher level (mean value 41.80 scores) than the patients with disease duration of more than 10 years (mean value 33.52 scores).

A statistically significant correlation between the physical ($p < 0.0001$) and mental functioning ($p < 0.0001$), and the ability level at everyday functioning was observed in patients with OA. The patients declaring mild dysfunction at everyday activities (HAQ 1- 2 scores) assessed the level of physical (mean value 51.44 scores) and mental (mean value 56.69 pts) functioning higher. When the incapacity level and other people's assistance at everyday activities increased, the evaluation of both physical (mean value Gr.II – 32.53 scores, Gr.III – 24.54 scores) and mental condition (mean value Gr.II – 37.86 scores Gr.III – 29.53 scores) worsened. In the control group, a statistically significant correlation was observed between the evaluation of the quality of life in the sphere of physical functioning and incapacity in everyday activities ($p < 0.0001$). In patients with OA, the worsening incapacity level affected such domains of the quality of life as, social functioning ($p < 0.0001$) as well as somatic pain sensation ($p < 0.0001$).

In patients with RA, a statistically significant correlation was found between the physical ($p < 0.0001$) and mental functioning ($p < 0.0001$), and pain sensation. The examined feeling mild pain (VAS 0-35 mm) evaluated the level of the physical (mean value 61.83 scores) and mental (mean value 63.89) functioning higher compared to the respondents declaring moderate (VAS 36 – 65 mm) and severe pain (VAS 66 – 100 mm). In patients with RA, a correlation was observed between the evaluation of the quality of life with regard to physical

functioning and the level of pain sensation ($p < 0.0001$). When the pain sensation increased, the patients reported the lower quality of life with regard to physical functioning ($p < 0.0001$). In patients with OA, intensification of pain sensation affected markedly such life domains as, social functioning ($p < 0.0001$) and limitations in social roles due to physical factors ($p = 0.0005$).

The following conclusions have been drawn based on the analysis of examinations performed:

1. Patients with OA and RA most frequently reported: joint pains, progressing incapacity at everyday activities and worsening the quality of life with regard to mental and physical sphere.
2. In patients with OA, the factors significantly affecting the intensification of pain sensation were: gender (mainly women), disease duration (>10 years) and lack of individualized fitness programmes executed at home. In patients with RA, the following factors influenced the pain sensation: female sex and disease duration.
3. In patients with OA and RA, the main factors, having an impact on an increase in the level of incapacity at everyday activities, were: age (ChZS ≥ 77 years, RZS ≥ 66 years), disease duration (more than 10 years) and intensification of pain sensation.
4. The overall assessment of the quality of life was higher in patients with OA than in patients with RA.
5. In patients with OA, the quality of life with regard to mental functioning was assessed at the higher level than physical functioning. Physical and social functioning worsened together with intensification of pain sensation in patients with OA. Similarly, in patients with RA, the quality of life with regard to mental functioning was assessed at the higher level than physical functioning.
6. In patients with OA, female sex, progressing disease duration and marked incapacity decreased the quality of life with regard to physical, mental and social functioning. A greater decrease in the quality of life referring to such domains, as: pain sensation and limitations in social functioning was observed together with longer duration of the disease.
7. In patients with RA, female sex was a significant factor affecting the worsening quality of life with regard to the mental sphere. Progressing disease duration, incapacity and pain sensation contributed to the worse quality of life assessment regarding mainly the physical and social sphere.