

An evaluation of the SF-36 questionnaire in patients with gouty arthritis

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Abstract: Objective: to assess quality of life (QL) of gouty patients by SF-36 questionnaire in comparison with standardized indicators of population-based control. Subjects and methods: The study included 198 patients with gout, in each case the diagnosis was verified by detection of crystals of monosodium urate. The patients' mean age was 46.5 ± 2.5 years (24 to 68 years); the median disease duration was 4 years. The SF-36 questionnaire was used to compare the quality of life of the patients with the standardized indicators of the population. The comparison was made separately in different age groups: 24-34 years (n = 48), 35-44 years (n = 50), 45-54 years (n = 49), 55-68 years (n = 51). Results: According to the scales of physical functioning, role physical functioning, intensity of pain and general state of health, values of QL were 5-8 points lower than population-based control ($p < 0.0001$). The average standardized indicators of viability ($p < 0.0005$) and social functioning ($p < 0.02$) were also lower than the population ones and indicated a limitation of vital activity and social contacts. Comparative analysis revealed the above-mentioned similar differences in different age groups. For age groups older than 35 years, there was no difference in any of the indicators characterizing psychological health. Only in the group from 24 to 34 years with gout, we found lower values of psychological health than population, on the scale of social functioning, which was also demonstrated when comparing the general group of patients with gout with population control not divided into age groups. Conclusion: The physical health of the gouty patients is mainly poor and their mental health is poor to a lesser degree; their social adaptation is decreased.

Keywords: gout, quality of life, SF-36

Gout is a disease characterized by the deposition of crystals of sodium monourate in various tissues and developing in connection with this inflammation [1,9]. Joint damage with gout is usually manifested by acute attacks of mono- or oligoarthritis, the frequency of which, in the absence of adequate therapy, can increase until the development of chronic arthritis involving a large number of joints, as well as the formation of subcutaneous and intraosseous tophi [2-4]. According to

summary data, patients with gout visit the doctor many times more often than patients with systemic lupus erythematosus, rheumatoid arthritis, various types of cancer, liver and kidney diseases [3,5]. Gouty arthritis often leads to temporary disability. The study of the quality of life (QL) in rheumatology is a highly informative method for assessing the condition of patients and provides an idea of the effect of the disease on various areas of human life. To objectify the concept of QL and to expand the doctor's presentation about the patient's condition in general, both national and international practice successfully use general and specific questionnaires. One of the most common questionnaires is the Short Form Medical Outcomes Study (SF-36). The effect of gout on QL has not been studied sufficiently [6-8,10].

The aim of this study is evaluation of QL of gouty patients by the SF-36 questionnaire in comparison with the indicators of population-based control.

Material and methods the study involved 198 patients with diagnosis of gout. To confirm the diagnosis, all patients were examined synovial fluid or the contents of subcutaneous tophus by polarization microscopy to identify crystals of sodium monoaurate. The average age of the patients was 46.5 ± 2.5 years (from 24 to 68 years); the median duration of the disease was 4 years. Arthritis was considered chronic if its activity persisted continuously > 3 months. The frequency of attacks of arthritis was assessed for the preceding calendar year, the presence of subcutaneous tophus.

The results were processed using the Statistical 8.0 program. Evaluation of the effect of the disease by QL was carried out using the SF-36 questionnaire. The parameters of QL of gouty patients were compared with the standardized parameters of the group of the population control of corresponding sex. It should be borne in mind that the respondents of the population group could also have functional disorders or individual symptoms of articular pathology associated with age-related changes. Therefore, the comparison of parameters of QL of patients and control was carried out separately for each age group. To this end, all patients were divided according to age into 4 groups: 24-34 years ($n = 48$), 35-44 years ($n = 50$), 45-54 years ($n = 49$), 55-68 years ($n = 51$).

Results When analyzing scales of SF-36, the total physical health component in patients with gout was significantly lower than population ($p < 0.00001$). Their total value of the psychological component of health has not differed from the standardized population index. Indicators, which characterize physical health, also reduced to the greatest extent in gout. So, according to the scales of physical functioning, role physical functioning, intensity of pain and general state of health, QL values were lower to 5-8 points than population ($p < 0.0001$). This indicated that gout significantly limits the physical activity of patients; the ability to withstand physical activity and perform daily activities, patients had less resistance to the

disease. The average standardized indicators of viability ($p < 0.0005$) and social functioning ($p < 0.02$) were also lower than the population ones and indicated a limitation of vital activity and social contacts. Role emotional functioning has not differed much from the average population values. The average value for the scale of psychological health in patients with gout, on the contrary, was population-based, but the differences were not statistically significant.

Therefore, QL of patients with gout were significantly reduced due to chronic pain, functional limitations, and psychological problems. At the same time, the total psychological component of health in patients with gout has not differed from the population one. In a comparative analysis we found that patients with gout aged 24-34 years compared with the population group had lower scores of scales of physical functioning ($p=0.005$), role physical functioning ($p<0.00001$), intensity of pain ($p<0.00001$) and social functioning ($p=0.0033$), which indicated a restriction of physical and social activity of young men suffering from gout.

In two other age groups (from 35 to 44 and from 55 to 68 years), significant differences were observed only on three scales - physical functioning ($p=0.001$ and $p=0.001$, respectively), role physical functioning ($p=0.0002$ and $p=0.03$) and pain intensity ($p=0.00001$ and $p=0.01$), indicating a decrease in the physical health of patients.

Patients aged 45-54 years compared with the corresponding control had a significant decrease in the scales of physical functioning ($p=0.0004$) and general health ($p=0.0044$). These indicators allow us to characterize the state of health of patients with gout as unsatisfactory and suggest that they have less resistance to the disease.

For age groups older than 35 years, there was no difference in any of the indicators which characterizing psychological health. Only in the group from 24 to 34 years with gout, we found lower values of psychological health than population, by scale of social functioning, which was also demonstrated in comparison with general group of gouty patients than population, which were not divided into age groups.

Discussion

The indicators of QL in our patients are significantly inferior to population. They suffer mainly physical health, to a lesser extent - a psychological state, reduced social adaptation. As a number of foreign works that devoted to the study of QL, our survey used the general questionnaire SF-36, which allows assessing QL not only in patients, but also in population [12]. In addition to the HAQ questionnaire, the OMERACT Gout Examination Team as a valid instrument reflecting QL recommended SF-36 [6,11,19]. The choice of this questionnaire by us was also conditioned by the possibility of using it in population studies in cases of a

combination of several somatic diseases, which is especially important for gout [13-17].

However, in this study, there was no analysis of the effect to the QL of patients with gout who have comorbid diseases, although their presence may contribute to decrease of QL.

Our data show that gout is accompanied by decrease of indicators of physical health, while the total psychological component of their health has not differed from the population. The results of most similar studies have shown results similar to ours. Thus, C.A.Scire et al. [18] reported that, in the absence of changes in the psychological sphere, the total physical component of health suffered significantly in patients with gout in comparison with the population norm. There was no difference in the mental health component of gout in the population by research of M.A.Becker et al. [20-23], although the physical component of their patients' health caused a significant decrease of QL in comparison with the population. In the general group of patients with gout, we observed lower values of QL than in population control on scales reflecting such mental health components as viability and social functioning, but when comparing these indicators in separate age groups, these differences were completely leveled.

In conclusion, it must be emphasized that the results obtained by us demonstrate a low QL of gout patients, reflecting primarily changes in physical health. These data determine the social importance of gout and the need for more in-depth study of the problem, QL should be taken into account when assessing the effectiveness of the treatment.

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