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An Integrated Approach to the Treatment of Ankylosing Spondylitis from the Position of the International Classification of Functioning

Abstract

Ankylosing spondylitis is a chronic, gradually progressive inflammatory disease characterized by damage of the sacroiliac joints and / or spine, with possible simultaneous damage of the enthesis and peripheral joints, leading to early disability and a decrease in the quality of life of patients, mainly of young age. The Assessment of SpondyloArthritis international Society (ASAS) recommends to combine non-pharmacological and pharmacological methods for treatment and rehabilitation of ankylosing spondylitis for the longest possible preservation of the quality of life of patients. This requires a multidisciplinary therapeutic approach.

Currently, in many European countries, the International Classification of Functioning, Disability and Health (ICF) is used as a universal approach to the assessment of human health. The ICF classifies the different areas of each patient's life that are health-related and affect health, thus describing changes in their physical functioning and psychological well-being. It helps to introduce multidisciplinary, patient-centered, problem-oriented rehabilitation care into real clinical practice.

The ICF shows a broader and more meaningful picture of the patient's health, which allows the multidisciplinary team to consider the patient from different perspectives — biological, personal and social. Using the ICF in the process of comprehensive treatment and rehabilitation of patients with ankylosing spondylitis, a multidisciplinary team can achieve a more complete agreement in the treatment of patients with ankylosing spondylitis, which is very important in achieving the success of therapy in this category of patients.

Key words: *ankylosing spondylitis, diagnosis, treatment, rehabilitation, international classification of functioning, disability and health*

Conflict of Interests

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AS — ankylosing spondylitis, ICF — International Classification of Functioning, Disability and Health

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Ankylosing spondylitis (AS) is a chronic, gradually progressive inflammatory disease characterized by damage of the sacroiliac joints and/or the spine, which can occur with simultaneous damage of the enthesis and peripheral joints [1–3].

AS affects young people, more often men; leads to early disability, a decrease in the quality of life of patients due to the ankylosing of the spine and joints [4, 5].

The diagnosis of AS is established according to the modified New York criteria for diagnosis (1984) in the presence of X-ray criteria and at least one clinical criterion.

Clinical criteria:

1) pain and stiffness in the lower back (for at least 3 months), decreasing after exercise, but remaining at rest;
2) restrictions on movement in the lumbar spine in both the sagittal and frontal planes;
3) restriction of chest respiratory excursions in comparison with the parameters of healthy persons. X-ray criteria: bilateral sacroiliitis (stage II or higher according to the Kellgren classification) or unilateral (stage III–IV according to the Kellgren classification) [6].

The goal of treatment is to preserve the quality of life for as long as possible by managing the symptoms of inflammation, preventing the progression of structural damage, and maintaining/normalizing motor function and social status [3, 6].

Assessment of SpondyloArthritis international Society (ASAS) recommends combining non-pharmacological and pharmacological methods for the treatment and rehabilitation of patients with AS, which requires a multidisciplinary therapeutic approach [1–3, 6].

Modern patient rehabilitation requires introduction of multidisciplinary, patient-centered, problem-oriented rehabilitation into everyday clinical practice. To realize the transition to personalized, patient-centered care, when the patient is at the center of a multidisciplinary team and becomes a member of it, a tool that classifies the patient's health status from biological, personal, and social positions is necessary. Such an instrument is the International Classification of Functioning, Disability and Health (ICF) [7–9].

Currently, in many European countries (including Germany, France, Switzerland) ICF is used as a universal approach to the assessment of human health. ICF classifies the various spheres of life of each patient related to health and affecting health, which allows to describe the changes in the patient's physical functioning and psychological well-being [7, 10].

The use of ICF in rehabilitation practice in the Russian Federation was recommended by the I Russian Congress "Rehabilitation Treatment to the Population of Russia" in 2003. However, despite this, the main provisions of this classification remain little known to a wide range of medical professionals in the Russian Federation [11].

The ICF has two parts, each consisting of two components [10, 12]:

Part 1. Functioning and disability:
- a) body functions and structures;
- b) activities and participation.

Part 2. Contextual factors
- a) environmental factors;
- b) personal factors.

Diagnosis coded according to ICF is the alphabetic designation of an ICF component (b — functions, s — body structures, d — activities and participation, e — environmental factors), which is followed by a numeric code that starts with the chapter number (one digit), followed by the second level (next two digits), and the third and fourth level (one digit each), then, after a dividing point, an ICF qualifier follows, which denotes the magnitude of the level of health or severity of the problem at issue [10, 12, 13].

Body functions (b) are the physiological functions of body systems (including psychological functions). Body structures (s) are the anatomical parts of the body such as organs, limbs and their components. Activity (d) is the execution of a task or action by an individual. Participation is a person's involvement in a life situation. Environmental factors (e) make up the physical, social and attitudinal environment in which people live and spend their time. These factors are external in relation to an individual and can have both positive and negative effect on its realization in society, ~~its~~ potential ability, as well as on functions and structures of the organism. Personal factors are the particular background of an

individual's life and living, and comprise features of the individual that are not part of a health condition or health states. The qualifier is a numeric code that defines the degree or magnitude of functioning (restriction of life activity) in this category, or the extent to which the environmental factor acts as a relief factor or barrier [10, 12].

For example:

bxxx.0 — no impairment — extent of impairment 0–4%;

bxxx.1 — mild impairment — extent of impairment 5–24%;

bxxx.2 — moderate impairment — extent of impairment 25–49%;

bxxx.3 — severe impairment — extent of impairment 50–95%;

bxxx.4 — complete impairment — extent of impairment 96–100%.

Functional and instrumental methods of research confirm disturbances of the structures and functions of the body. Restrictions on activity and participation are assessed by the patient's subjective self-assessment of the ability to perform a particular type of activity specified under the ICF.

The basic set of the ICF has been used since 2001 in various fields of medicine in different countries of the world. Basic sets of the ICF for individual diseases have been developed: the main and brief ICF is a set of codes and categories for brain stroke, traumatic brain injury, back pain, multiple sclerosis, spinal cord injury, breast cancer, chronic obstructive pulmonary disease, coronary heart disease, diabetes, for professional rehabilitation and medical statistics [10, 12]. The use of the ICF provides a complete, complex, comprehensive description of the patient's functioning state, and allows an assessment of the rehabilitation potential [9, 14].

However, not all diseases have basic ICF sets [15], in particular, none has been developed for rheumatic diseases.

Considering the fact that in the absence of a necessary basic set, it is possible to use the Rehabilitation Set (or is possible to collect an arbitrary set of categories of the ICF [13]), the basic set of the ICF created for patients with back pain [10, 12] can become the theoretical basis for creating a basic set for patients with AS.

The works of foreign authors devoted to the use of ICF show the possibility to obtain an integrated assessment of the condition of patients with AS in the process of providing rehabilitation care as well as the possibility to analyze the effectiveness of care [16–21].

The diagnosis established from the position of the ICF in our patient with AS is given by the following example (Table 1).

Table 1. *Classification of pathological conditions according to ICD 10 and ICF*

Clinical diagnosis	ICD-10	ICF
Ankylosing spondylitis, HLA-B27-associated, bilateral grade 4 sacroiliitis, moderate activity (BASDAI 2). Functional class II.	M45	b280.2 — moderate intensity pain syndrome b710.2 — moderate mobility disorders in the spine b780.1 — morning stiffness up to 30 minutes b130.1 — mild (subclinical) depression b455.1 — slight fatigue in the last week s760.2 — moderate disorders in the structure of the thoracic spine s740.4 — pronounced deviation from the norm in the structure of the pelvic region (total ankylosis) d230.1 — minor difficulties in maintaining activity during the day d410.2 — moderate functional impairment d450.0 — there is no difficulty in walking d850.1 — small difficulties in performing paid work d760.1 — minor difficulties in spending time with family and friends

As can be seen from the table, ICF describes all the problems of the patient. To provide care to this patient, it is necessary to solve the list of their problems, which can be solved not only by medical methods (pharmacological and non-pharmacological therapy), but also by psychological correction, selection of activities for the patient and work with their environment (for example, working with the beliefs of relatives).

The information presented from the position of the ICF applies to both diagnosis and functioning, which shows a broader and more significant picture of the patient's health, which can be used to solve problems in the tactics of therapy and rehabilitation.

Thus, the ICF, which has been used worldwide since 2001, shows a broader and more significant picture of the patient's health, which makes it possible for a multidisciplinary team to examine the patient from different perspectives — biological, personal, and social. Using the ICF in the process of complex therapy and rehabilitation of patients with AS, a multidisciplinary team can achieve a higher consistency of views in the treatment of patients with AS, which is very important in achieving the success of therapy for this category of patients.

Author Contribution

R. R. Akhunova (ORCID ID: https://orcid.org/0000-0003-1917-9381): collection and analysis of manuscript materials, writing of the text, text editing, final manuscript approval.

G. R. Akhunova (ORCID ID: https://orcid.org/0000-0002-1811-1548): concept and design of the article, text editing, final manuscript approval.

All the authors contributed significantly to the study and the article, read and approved the final version of the article before publication.

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