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MONITORING OF THE PARAMETERS OF THE QUALITY OF LIFE IN PATIENTS WITH MULTIPLE SCLEROSIS WITH MYOFASCIAL PAIN SYNDROME IN IMPLEMENTATION OF PHYSICAL REHABILITATION PROGRAM

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Abstracts

The Topicality of the Research. Multiple sclerosis is accompanied by significant deviations in the psycho-emotional, spiritual and social spheres. Cryotherapy is a new effective method that is used in programs for patients with myofascial pain syndrome. This publication presents the results of the study of the quality of life of patients with multiple sclerosis before and in different periods after local and complex cryotherapy, as well as a description of responses associated with quality of life after combined physical rehabilitation. **The aim of the Research:** to substantiate the inclusion of cryotherapy in the basic programs of physical rehabilitation for patients with multiple sclerosis complicated by myofascial pain syndrome. **The methods of the Research.** The research included 105 patients at age 25–54 years with a verified diagnosis of multiple sclerosis complicated by myofascial pain syndrome. The general questionnaire SF-36 was used to assess the quality of life. **The results of the Research.** It was determined that the quality of life of patients with multiple sclerosis prior to implementation of physical rehabilitation program is significantly reduced by most scales of physical, mental and social functioning; the profile of quality of life of patients is characterized by compression and deformation. Carrying out of the cryotherapy with acupuncture is accompanied by a marked improvement in the quality of life of patients with multiple sclerosis. The answers are related to the quality of life, in the form of improvement or stabilization, recorded in most patients with complicated by myofascial pain syndrome after complex cryotherapy: in 96% of patients after combined physical rehabilitation and in 87% of patients after local cryotherapy. **Conclusions.** A profile of the quality of life of patients with multiple sclerosis indicates its compression and deformity, which is due to a significant decrease in the indicators that characterize the physical, mental and social scale of functioning. Monitoring of such patients in the long term after the implementation of the author's program on physical rehabilitation indicates a stabilization of quality of life, which manifests itself as a marked improvement in the profile in 96% of patients after complex and in 87% of patients after local procedures.

Key words: multiple sclerosis, quality of life, mio relaxation, cryotherapy, acupuncture.

Юрій Лисенко, Богдан Мицкан, Сергій Попель. Моніторинг параметрів якості життя у хворих на розсіяний склероз із міофасціальним больовим синдромом при впровадженні програми фізичної реабілітації. Актуальність теми дослідження. Розсіяний склероз супроводжується суттєвими відхиленнями психо-емоційної, духовної та соціальної сфери. Кріотерапія – новий ефективний метод, який застосовується в програмах для хворих із міофасціальним больовим синдромом. У цій публікації представлені результати вивчення якості життя хворих на розсіяний склероз до та в різні терміни після локальної й комплексної кріотерапії, а також дається характеристика відповідей, пов'язаних із якістю життя після комбінованої фізичної реабілітації. **Мета статті** – обґрунтувати включення кріотерапії в базові програми фізичної реабілітації для пацієнтів із розсіяним склерозом, ускладненого міофасціальним больовим синдромом. **Методи дослідження.** У дослідження включено 105 пацієнтів у віці від 25 до 54 років із верифікованим діагнозом «розсіяний склероз, ускладнений міофасціальним больовим синдромом». Для оцінки якості життя використано загальний опитувальник SF-36. **Результати роботи.** Установлено, що показники якості життя хворих на розсіяний склероз до впровадження програми фізичної реабілітації істотно знижені за більшістю шкал фізичного, психічного та соціального функціонування; профіль якості життя хворих характеризується компресією й деформацією. Проведення кріотерапії з голкотерапією супроводжується вираженим поліпшенням показників якості життя хворих на розсіяний склероз. Відповіді пов'язані з якістю життя, у вигляді поліпшення або стабілізації, зареєстровані в більшості хворих на ускладнений міофасціальний больовий синдром після комплексної кріотерапії – у 96% хворих після комбінованої фізичної реабілітації і у 87% хворих після локальної кріотерапії. **Висновки.** Профіль якості життя хворих на розсіяний склероз указує на його компресію та деформацію, що зумовлено суттєвим зниженням показників, які характеризують фізичну, психічну й соціальну шкали функціонування. Моніторинг таких хворих у віддалені терміни після впровадження авторської

програми фізичної реабілітації вказує на стабілізацію якості життя, що проявляється вираженим поліпшенням профілю в 96 % хворих після комплексних й у 87 % хворих після локальних процедур.

Ключові слова: розсіяний склероз, якість життя, міорелаксація, криотерапія, голкотерапія.

Юрий Лисенко, Богдан Мицкан, Сергей Попель. Мониторинг параметров качества жизни у больных рассеянным склерозом с миофасциальным болевым синдромом при внедрении программы физической реабилитации. Актуальность темы исследования. Рассеянный склероз сопровождается существенными отклонениями психо-эмоциональной, духовной и социальной сфер. Криотерапия – новый эффективный метод, который применяется в программах для больных с миофасциальным болевым синдромом. В данной публикации представлены результаты изучения качества жизни больных рассеянным склерозом до и в различные сроки после локальной и комплексной криотерапии, а также дается характеристика ответов, связанных с качеством жизни после комбинированной физической реабилитации. **Цель статьи** – обосновать включение криотерапии в базовые программы физической реабилитации для пациентов с рассеянным склерозом, осложненного миофасциальным болевым синдромом. **Методы исследования.** В исследование включено 105 пациентов в возрасте от 25 до 54 лет с верифицированным диагнозом «рассеянный склероз, затруднен миофасциальным болевым синдромом». Для оценки качества жизни использовали общий опросник SF-36. **Результаты работы.** Установлено, что показатели качества жизни больных рассеянным склерозом к внедрению программы физической реабилитации существенно снижены по большинству шкал физического, психического и социального функционирования; профиль качества жизни больных характеризуется компрессией и деформацией. Проведение криотерапии с иглотерапией сопровождается выраженным улучшением показателей качества жизни больных рассеянным склерозом. Ответы, связанные с качеством жизни, в виде улучшения или стабилизации, зарегистрированные у большинства больных осложненным миофасциальным болевым синдромом после комплексной криотерапии – у 96 % больных после комбинированной физической реабилитации и у 87 % больных после локальной криотерапии. **Выводы.** Профиль качества жизни больных рассеянным склерозом указывает на его компрессию и деформацию, что обусловлено существенным снижением показателей, характеризующих физическую, психическую и социальную шкалы функционирования. Мониторинг таких больных в отдаленные сроки после внедрения авторской программы физической реабилитации указывает на стабилизацию качества жизни, проявляется выраженным улучшением профиля у 96 % больных после комплексных и у 87 % больных – после локальных процедур.

Ключевые слова: рассеянный склероз, качество жизни, миорелаксація, криотерапія, иглотерапія.

Introduction. Multiple sclerosis as a chronic progressive disease of the central nervous system is often accompanied not only by physical disorders in the form of myofascial pain syndrome, but also deviations in the psycho-emotional, spiritual and social spheres. Such patients have a wide range of symptoms that significantly reduce the quality of their life [8; 12].

The main purpose of treatment of this condition is to increase integrated indicator LP (lipid peroxidation) and maintain a sufficient level of quality of patients' life and to control / reduce the severity of pathological symptoms that are typical for myofascial pain syndrome [5; 10].

Thus, an integral component of physical rehabilitation of patients with multiple sclerosis complicated by myofascial pain syndrome is the quality control of life, spectrum and severity of symptoms in the process of disease development [9; 11].

Cryotherapy is a new effective method of treatment of multiple sclerosis complicated by myofascial pain syndrome which allows to influence on certain components of pathogenesis of this disease on a regular basis [6; 7].

The quality control of life parameters during treatment and at the stage of physical rehabilitation is an important component of evaluating the effectiveness of various rehabilitation measures in patients with multiple sclerosis with myofascial pain syndrome along with traditional clinical and instrumental parameters (EDSS, MRI, EMG). The results of effectiveness of cryotherapy in combination with acupuncture and spasmodic muscle stretching exercises based on clinical and instrumental data are presented in our previous publications [6; 7].

This publication shows the analysis of the study of the quality of life of patients with multiple sclerosis complicated by myofascial pain in different periods after local and complex cryotherapy.

The aim of the study is to substantiate the inclusion of cryotherapy in the basic programs of physical rehabilitation for patients with multiple sclerosis complicated by myofascial pain syndrome.

Material and methods of the study. The research included 105 patients at age 25–54 years with a verified diagnosis of multiple sclerosis complicated by myofascial pain syndrome. Also, the inclusion criteria were local or complex cryotherapy, EDSS value from 1.5 to 8.5 units, the absence of cognitive impairment, the presence of concomitant myofascial pain syndrome. The patients were divided into two groups depending on the type of physical rehabilitation measures[1, 3]: complex cryotherapy was conducted(EDSS 3,5 – 8,5) in combination with acupuncture and physical exercises for stretching spasmodic muscles in first group of patients;only local cryotherapy was conducted in second group of patients (EDSS 1,5-3,0).

It should be noted that the protocol of physical rehabilitation programs in MS did not include different types of cryotherapy before, so this is the author's program, based on the mechanism of influence of cryotherapy on the immune system and general improvement of health, first used in this combination with other measures of physical rehabilitation and requires experimental verification of its effectiveness.

Furthermore, the measures of medical rehabilitation are more largely used in the modern system of physical rehabilitation, which in combination shows high efficiency for patients with various types of disorders of the musculoskeletal system.

The general questionnaire SF-36 was used to assess the quality of life[4]. It consists of 36 questions, that form eight scales like physical functioning, role physical functioning, pain, general health, viability, role emotional functioning and mental health.

The data obtained from the questionnaire is expressed in points from 0 to 100 on each of the eight scales. The higher score on the SF-36 scale indicates a better quality of life. Patients filled the questionnaire before and after 3, 6, 9 and 12 months after the introduction of the physical rehabilitation program.

An integral indicator of the quality of life for each patient was calculated, based on the data of the SF-36 and the characteristic of patients' distribution according to the gradations of the quality of life was given. Thus, we compared the quality of life of the patients by the value of the integral index of the population norm.

There were distinguished the following gradations of decrease of the integral indicator of quality of life: absence of decrease (there are no differences in the value of the integral indicator of the patient and the integral indicator of the population norm); a slight decrease in the integral indicator of quality of life (decrease in the integral indicator <25% of the integral indicator of the population norm); a moderate decrease in the integral indicator of quality of life (decrease in the integral indicator 25-50% of the integral indicator of the population norm); a significant decrease in the integral indicator of quality of life (decrease in the integral indicator 51-75% of the integral indicator of the population norm); a critical decrease in the integral indicator of quality of life (decrease in the integral indicator of life > 75%)of the integral index of population norm) [1; 2].

The evaluation of responses was determined by using the information indicator of quality of life by the method of integral profiles. There were three gradations of responses related to the quality of life: improvement, stabilization and deterioration.

The results of the study. The statistically essential differences were identified on all scales of the SF-36 questionnaire, except for the scale of «role emotional functioning», comparing the quality of life of patients with multiple sclerosis complicated by myofascial pain syndrome included in the study with the indicators of population norm (table 1).

The indicators of quality of life of patients before the program of physical rehabilitation is predominantly lower than in the population norm. There was improvement after the program of physical rehabilitation in the group of patients with multiple sclerosis complicated by myo-fascial pain syndrome while no statistically significant differences were revealed, comparing the indicators in 3 months with the population norm.

The following results were obtained by stratification of patients with multiple sclerosis complicated by myofascial pain syndrome before the introduction of the program of physical rehabilitation by the degree of reduction of the integral indicator of quality of life: with the absence of a decrease in the integral indicator of quality of life – 26% of patients; with a slight decrease in the integral indicator of quality of life – 8 %; with a moderate decrease in the integral indicator of quality of life – 20 %; with a significant decrease in the

integral indicator of quality of life – 22% and with a critical decrease in the integral indicator of quality of life – 24% patients. Thus, a significant or critical decrease in the integral indicator of quality of life was observed in almost half of the patients.

Table 1

The indicators of quality of life of patients with multiple sclerosis complicated by myofascial pain

Indicator	Population norm	The patients before the physical rehabilitation	The patients after the physical rehabilitation
The physical functioning	82,5±2,34	62,7±2,49	76,4±2,02
The role physical functioning	77,8±1,98	38,1±1,05	71,5±2,83
Pain	88,9±2,03	69,9±1,41	85,2±3,14
The general health	68,1±1,45	51,8±2,04	60,4±1,94
Viability	76,8±1,92	48,5±1,17	70,1±2,17
The social functioning	82,3±2,61	54,1±1,83	78,9±2,33
The role emotional functioning	72,3±2,11	66,2±2,58	69,4±2,16
Mental health	80,2±2,56	55,9±1,81	72,1±2,17

The quality of life of patients of each group is lower before transplantation than in the population norm. There was a great improvement of the quality of life after local cryotherapy as well as after cryotherapy in combination with acupuncture and physical exercises for stretching muscles after 12 months from the the introduction of the physical rehabilitation program.

It should be noted that in the first group of patients essential positive changes were observed on all scales of the questionnaire; patients' profile of the quality of life corresponded to the population norm 6 months after cryotherapy. These changes were preserved 9 months after local cryotherapy. There was an improvement of the quality of life on most scales of the questionnaire in the group of patients after cryotherapy in combination with acupuncture and physical exercises for stretching the muscles 6 months after using the physical rehabilitation program and these changes were more pronounced than in the first group.

Also, there was a further improvement of the quality of life on some scales of the questionnaire 12 months after complex cryotherapy; the profile of the quality of life was characterized by some deformation and compression in comparison with the profile, which corresponds to the population norm.

Thus, the effectiveness of cryotherapy in patients with multiple sclerosis complicated by myofascial pain syndrome is demonstrated not only on the basis of clinical and instrumental data, but also on the basis of monitoring the parameters of quality of life. The positive effect was observed predominantly in the group of patients after complex physical rehabilitation than in the group of patients only after local cryotherapy.

Conclusions. There is a significant or critical decrease of the integral indicator of quality of life in 46.3% of patients with multiple sclerosis complicated myofascial pain syndrome before the implementation of the physical rehabilitation program.

There is an improvement of quality of life in 96.0% of patients after complex cryotherapy and 87.0 % after local cryotherapy.

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