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ASSESSMENT OF PHYSICAL AND PSYCHOLOGICAL QUALITY OF LIFE AFTER COVID-19 PNEUMONIA

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Abstract: Coronavirus disease 2019 (COVID-19) pneumonia has a substantial impact on patients' physical and psychological well-being even after hospital discharge. The aim of this study was to evaluate subjective health-related quality of life in patients recovering from COVID-19-associated pneumonia. A structured questionnaire was administered to assess changes in physical health, emotional status, sleep quality, daily activity, working capacity, and overall perception of health after recovery. The results demonstrated a significant decline in physical functioning, work capacity, and general health, while emotional well-being showed partial improvement following discharge. These findings emphasize the importance of long-term follow-up, rehabilitation, and psychological support to improve quality of life in patients after COVID-19 pneumonia.

Keywords: COVID-19, pneumonia, quality of life, rehabilitation, psychological health, physical functioning.

ОЦЕНКА ФИЗИЧЕСКИХ И ПСИХОЛОГИЧЕСКИХ АСПЕКТОВ КАЧЕСТВА ЖИЗНИ ПОСЛЕ COVID-19-АССОЦИИРОВАННОЙ ПНЕВМОНИИ

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Аннотация: Пневмония, вызванная COVID-19, оказывает длительное влияние на физическое и психоэмоциональное состояние пациентов даже после завершения стационарного лечения. Целью исследования явилась оценка качества жизни пациентов после перенесенной COVID-19-ассоциированной пневмонии с использованием структурированного

опросника. Были проанализированы изменения физического состояния, эмоционального благополучия, качества сна, повседневной активности, работоспособности и общего самочувствия после выписки из стационара. Полученные результаты показали снижение показателей физического здоровья, работоспособности и общей оценки состояния здоровья, несмотря на частичное восстановление эмоционального состояния. Полученные данные подтверждают необходимость длительного медицинского наблюдения, комплексной реабилитации и психологической поддержки пациентов после перенесенной COVID-19-ассоциированной пневмонии.

Ключевые слова: COVID-19, пневмония, качество жизни, реабилитация, психологическое состояние, физическое здоровье.

Introduction: Coronavirus disease 2019 (COVID-19) remains one of the most significant global public health challenges because of its high prevalence and long-term health consequences. Although considerable progress has been achieved in the diagnosis and treatment of acute infection, many patients continue to experience persistent physical, psychological, and functional impairments after recovery from COVID-19 pneumonia. Reduced exercise tolerance, chronic fatigue, sleep disturbances, anxiety, emotional stress, and decreased work capacity may persist for weeks or months, substantially affecting daily activities and overall well-being. These post-acute manifestations have become an important medical and social problem, emphasizing the need for comprehensive patient assessment beyond conventional clinical outcomes.

Health-related quality of life has emerged as an essential indicator of recovery following COVID-19 pneumonia, providing valuable information on physical functioning, emotional status, and social adaptation. Evaluation of patients' subjective health perception allows clinicians to identify residual symptoms, determine rehabilitation needs, and monitor long-term recovery. Early recognition of persistent impairments may contribute to timely implementation of individualized rehabilitation programs and psychological support. Therefore, assessment of quality of life after COVID-19-associated pneumonia is of

considerable clinical importance and may improve long-term management strategies aimed at restoring functional capacity and enhancing patients' overall quality of life.

Aim of the study: To assess health-related quality of life and subjective physical and psychological well-being in patients after recovery from COVID-19-associated pneumonia and to identify the main factors affecting their functional recovery and rehabilitation needs.

Materials and methods. This observational study included patients who had recovered from COVID-19-associated pneumonia and completed inpatient treatment. Assessment of health-related quality of life was performed during the post-discharge period using a structured questionnaire designed to evaluate patients' subjective perception of their physical, psychological, and social well-being. The survey collected information on general health status, physical activity, exercise tolerance, sleep quality, emotional condition, daily functioning, and work capacity. Demographic and clinical characteristics were also analyzed to identify factors associated with impaired recovery after COVID-19 pneumonia. All participants completed the questionnaire voluntarily after providing informed consent. The obtained data were summarized and compared according to the severity of residual symptoms and functional limitations. Statistical analysis was performed using standard descriptive and comparative methods. Continuous variables were expressed as mean $\pm$ standard deviation, while categorical variables were presented as frequencies and percentages. Differences between groups were considered statistically significant at $p < 0.05$. The results were used to determine the impact of COVID-19 pneumonia on long-term quality of life and to identify priorities for medical rehabilitation and follow-up care.

Results. The analysis showed that patients who had recovered from COVID-19-associated pneumonia continued to experience significant impairment in health-related quality of life after hospital discharge. The most pronounced changes were observed in physical functioning, where many participants reported persistent fatigue, reduced exercise tolerance, generalized weakness, and limitations in

performing routine daily activities. A considerable proportion of patients experienced a decline in work capacity and required additional time to resume their normal professional and social activities. Sleep disturbances, including difficulty falling asleep and frequent nocturnal awakenings, remained common during the recovery period.

Evaluation of psychological well-being demonstrated that anxiety, emotional instability, and decreased self-perceived health persisted in a substantial number of patients. Although emotional status gradually improved with time, overall quality-of-life scores remained below pre-illness levels. Patients who had experienced a more severe course of COVID-19 pneumonia reported greater physical limitations, lower tolerance to physical activity, and slower functional recovery than those with less severe disease. Reduced physical performance was frequently accompanied by decreased motivation and lower confidence in returning to previous levels of daily activity.

Assessment of patients' subjective health status revealed that the majority considered their general health to be only partially restored after discharge. Persistent respiratory complaints and reduced endurance negatively influenced social functioning and overall well-being. The findings indicate that recovery from COVID-19 pneumonia extends beyond the resolution of acute clinical symptoms and is associated with prolonged physical and psychosocial consequences. These results highlight the importance of comprehensive rehabilitation programs, regular medical follow-up, and continuous assessment of quality of life to facilitate functional recovery, improve long-term outcomes, and optimize patient-centered care after COVID-19-associated pneumonia.

Conclusions: Recovery after COVID-19-associated pneumonia is often accompanied by persistent impairment of health-related quality of life despite resolution of acute symptoms. The greatest limitations involve physical functioning, exercise tolerance, work capacity, and overall health perception, while psychological disturbances may also persist. Assessment of quality of life helps identify patients requiring prolonged follow-up and multidisciplinary

rehabilitation. Individualized rehabilitation programs, including physical and psychological support, may improve functional recovery and long-term outcomes. Routine evaluation of health-related quality of life should be incorporated into post-COVID patient management to optimize recovery and rehabilitation.

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