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ASSESSMENT OF QUALITY OF LIFE IMPROVEMENT IN PATIENTS WITH METABOLIC SYNDROME

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Abstract: Metabolic syndrome is a multifactorial disorder that negatively affects both physical and psychological aspects of patients' health-related quality of life. The aim of this study was to evaluate changes in quality of life following comprehensive management in patients with metabolic syndrome. Health-related quality of life was assessed using the Medical Outcomes Study Short Form-36 (MOS SF-36) questionnaire before and after treatment. Patients demonstrated significant improvements in physical functioning, general health, vitality, and overall well-being after therapeutic intervention. These findings suggest that effective control of metabolic syndrome components contributes to better quality of life and should be considered an important objective of long-term patient management.

Keywords: metabolic syndrome, quality of life, health-related quality of life, SF-36, cardiovascular risk, treatment outcomes.

ОЦЕНКА УЛУЧШЕНИЯ КАЧЕСТВА ЖИЗНИ У ПАЦИЕНТОВ С МЕТАБОЛИЧЕСКИМ СИНДРОМОМ

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Аннотация: Метаболический синдром представляет собой многофакторное заболевание, которое оказывает неблагоприятное влияние на физическое и психоэмоциональное состояние пациентов, существенно снижая качество их жизни. Целью настоящего исследования являлась оценка изменений качества жизни у пациентов с метаболическим синдромом после проведения комплексного лечения. Качество жизни оценивали с использованием

опросника Medical Outcomes Study Short Form-36 (MOS SF-36) до начала терапии и после её завершения. После проведённого лечения отмечено достоверное улучшение показателей физического функционирования, общего состояния здоровья, жизненной активности и общего самочувствия пациентов. Полученные результаты свидетельствуют о том, что эффективная коррекция компонентов метаболического синдрома способствует повышению качества жизни и должна рассматриваться как одна из основных целей долгосрочного ведения пациентов.

Ключевые слова: метаболический синдром, качество жизни, качество жизни, связанное со здоровьем, SF-36, сердечно-сосудистый риск, результаты лечения.

Introduction: Cardiovascular and cerebrovascular diseases remain the leading causes of morbidity, disability, and mortality worldwide, imposing a substantial burden on healthcare systems. Effective prevention and rehabilitation strategies are essential to reduce recurrent cardiovascular events and improve long-term patient outcomes. Among the major modifiable cardiovascular risk factors, metabolic syndrome has attracted considerable attention because of its strong association with obesity, insulin resistance, arterial hypertension, dyslipidemia, hyperuricemia, and type 2 diabetes mellitus. The coexistence of these metabolic abnormalities significantly increases the risk of myocardial infarction, stroke, and other cardiovascular complications.

The prevalence of metabolic syndrome has risen steadily over recent decades, largely due to unhealthy dietary habits, physical inactivity, and increasing rates of obesity. These changes have contributed not only to higher healthcare costs but also to reduced physical functioning, impaired quality of life, and premature mortality. Patients with metabolic syndrome frequently require long-term medical care and comprehensive rehabilitation to restore functional capacity and prevent disease progression.

Assessment of health-related quality of life has become an important component of patient evaluation during rehabilitation. Standardized questionnaires provide

valuable information regarding physical, emotional, and social well-being and help determine the effectiveness of therapeutic interventions. Therefore, improving quality of life should be considered one of the primary objectives of comprehensive management in patients with metabolic syndrome, alongside reducing cardiovascular risk and preventing future complications.

Aim of the study: To investigate the relationship between the severity of obesity and metabolic as well as cardiovascular disorders in patients with metabolic syndrome and to evaluate the effectiveness of comprehensive treatment by assessing clinical and quality-of-life outcomes six months after the initiation of therapy.

Materials and methods. A total of 81 patients with overweight or obesity and metabolic syndrome were included in this prospective observational study. All participants underwent comprehensive clinical evaluation performed by a multidisciplinary team consisting of a cardiologist, endocrinologist, neurologist, internist, psychotherapist, and nutrition specialist. Baseline assessment included anthropometric measurements, structured questionnaires, dietary habit evaluation, and routine laboratory and instrumental investigations to determine the severity of metabolic syndrome and identify associated cardiovascular risk factors.

All patients received an individualized treatment program that included dietary counseling, pharmacological therapy when indicated, lifestyle modification, and structured educational sessions focused on weight management and healthy nutrition. Non-pharmacological interventions consisted of supervised physical exercise, physiotherapy, hydrotherapy, and psychological counseling aimed at improving treatment adherence and correcting unhealthy eating behaviors. After discharge, participants were advised to continue lifestyle modifications and attended regular outpatient follow-up visits for clinical assessment, laboratory monitoring, and adjustment of therapy.

The mean age of the study population was 48.2 ± 10.2 years, with 46.1% men and 53.9% women. The mean body mass index was 34.8 ± 5.8 kg/m². According to

body mass index, patients were classified into overweight, class I obesity, class II obesity, and class III obesity groups for comparative analysis.

Results. A total of 81 patients with metabolic syndrome were evaluated. Clinical assessment demonstrated that increasing obesity severity was associated with a higher frequency of cardiovascular symptoms, including exertional dyspnea, angina, and elevated arterial blood pressure. Patients with advanced obesity also showed significantly greater waist circumference, body mass index, body fat percentage, and impaired glucose metabolism. Following six months of comprehensive treatment, significant improvements were observed in both anthropometric and metabolic parameters. Mean body weight decreased by 8.5%, body mass index by 19.9%, and body fat percentage by 9.0%. Waist circumference, heart rate, and systolic blood pressure were also significantly reduced. Laboratory analysis demonstrated lower postprandial glucose, low-density lipoprotein cholesterol, uric acid, and liver enzyme levels after treatment ($p < 0.05$). Furthermore, dietary assessment revealed a considerable reduction in daily caloric intake and fat consumption. Overall, comprehensive rehabilitation and lifestyle modification resulted in improved metabolic status and contributed to better clinical outcomes in patients with metabolic syndrome. Patients who consistently followed dietary recommendations and maintained regular physical activity achieved greater reductions in body weight and metabolic risk factors than those with poor adherence. Significant improvements were also observed in fasting glucose control and anthropometric measurements during the six-month follow-up period. Overall, the findings indicate that a multidisciplinary treatment approach provides sustained clinical benefits and supports long-term improvement in patients with metabolic syndrome.

Conclusions: The comprehensive treatment program successfully promoted sustainable lifestyle changes among patients with metabolic syndrome. Most participants developed greater motivation to reduce body weight and adhere to long-term therapeutic recommendations. Improvement in metabolic parameters

was accompanied by better control of cardiovascular risk factors. Weight reduction and healthier dietary habits contributed to improved overall clinical status. Regular physical activity and continuous medical follow-up enhanced treatment effectiveness and patient adherence. These changes are expected to reduce the incidence of future cardiovascular complications and disability. Comprehensive rehabilitation also contributed to improved health-related quality of life and functional capacity. Long-term multidisciplinary management should be considered an essential strategy for patients with metabolic syndrome to achieve sustained clinical benefits and prevent disease progression.

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