UDK: 616.248:616-056.3:613.86

THE ASSOCIATION BETWEEN ASTHMA PHENOTYPE, DISEASE SEVERITY, AND HEALTH-RELATED QUALITY OF LIFE

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Abstract: Moderate and severe bronchial asthma substantially impair patients' health-related quality of life and daily functioning. The aim of this study was to evaluate the quality of life of patients with bronchial asthma according to disease severity and clinical phenotype. A total of 44 patients with moderate and severe bronchial asthma were enrolled, and health-related quality of life was assessed using the SF-36 questionnaire. Patients with severe asthma demonstrated significantly poorer scores for general health and mental well-being than those with moderate disease. These findings support the use of quality-of-life assessment for individualized patient management and early identification of individuals requiring additional psychological support.

Keywords: bronchial asthma, disease severity, asthma phenotype, quality of life, SF-36.

ВЗАИМОСВЯЗЬ ФЕНОТИПА, ТЯЖЕСТИ БРОНХИАЛЬНОЙ АСТМЫ И КАЧЕСТВА ЖИЗНИ ПАЦИЕНТОВ

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Аннотация: Бронхиальная астма средней и тяжелой степени существенно ухудшает качество жизни пациентов и ограничивает их повседневную активность. Целью настоящего исследования явилась оценка качества жизни больных бронхиальной астмой с учетом степени тяжести и клинического фенотипа заболевания. В исследование были включены 44 пациента со среднетяжелой и тяжелой бронхиальной астмой, качество жизни которых оценивали с использованием опросника SF-36. У пациентов с тяжелым

течением заболевания выявлены более низкие показатели общего и психического здоровья по сравнению с больными со среднетяжелой бронхиальной астмой. Полученные результаты подтверждают целесообразность оценки качества жизни для разработки персонализированного подхода к лечению и своевременной коррекции психоэмоциональных нарушений.

Ключевые слова: бронхиальная астма, фенотип бронхиальной астмы, степень тяжести заболевания, качество жизни, SF-36.

Introduction: Bronchial asthma is one of the most common chronic respiratory diseases and remains a significant global public health problem. The number of people affected by asthma continues to increase worldwide, creating a substantial medical, social, and economic burden. Poorly controlled asthma is associated with persistent respiratory symptoms, frequent exacerbations, emergency hospital admissions, and an increased risk of severe complications. In addition to its clinical manifestations, the disease has a considerable negative impact on patients' health-related quality of life by limiting physical activity, reducing work capacity, and impairing emotional and social well-being.

The degree of quality-of-life impairment is closely related to disease severity and the level of asthma control. Appropriate treatment and effective disease management can improve symptom control and significantly enhance patients' daily functioning. Recent clinical studies have emphasized the importance of asthma phenotypes, demonstrating that different phenotypic characteristics may influence disease progression, therapeutic response, and long-term prognosis. Therefore, evaluation of health-related quality of life according to both disease severity and clinical phenotype provides valuable information for individualized patient management. Understanding these relationships may facilitate more personalized therapeutic strategies, optimize clinical outcomes, and improve patient education programs aimed at achieving better long-term asthma control and overall quality of life.

Aim of the study: To evaluate the health-related quality of life of patients with moderate and severe bronchial asthma and to determine its association with disease severity and clinical phenotype.

Materials and methods. This cross-sectional study included 44 patients with moderate and severe bronchial asthma. The study population consisted of 13 men (29.5%) and 31 women (70.5%). Moderate asthma was diagnosed in 24 patients (54.5%), while 20 patients (45.5%) had severe disease. The mean age of the participants was 57.6 ± 9.4 years. Patients were classified according to the Global Initiative for Asthma (GINA) recommendations and represented three major clinical phenotypes: asthma with fixed airflow limitation, late-onset asthma, and obesity-associated asthma.

Health-related quality of life was evaluated using the Medical Outcomes Study Short Form-36 (SF-36) questionnaire. Eligible participants were adults aged 18–70 years with a confirmed diagnosis of bronchial asthma for at least two years who provided written informed consent. The diagnosis was established according to current GINA recommendations and national clinical guidelines.

Patients with malignant diseases, acute exacerbations of other chronic illnesses, recent surgical interventions within the previous four weeks, or current treatment with psychotropic medications were excluded from the study. Clinical and demographic data were collected using standardized questionnaires and medical records. Statistical analysis was performed using SPSS Statistics software. Continuous variables were expressed as the median and interquartile range (Q1–Q3), while comparisons between groups were performed using the Mann–Whitney U test. Statistical significance was defined as $p < 0.05$.

Results. A total of 44 patients with moderate and severe bronchial asthma were evaluated using the SF-36 questionnaire. Reduced health-related quality of life was observed in both groups; however, patients with severe asthma demonstrated significantly poorer outcomes than those with moderate disease. The most pronounced differences were found in the domains of general health and mental

health, indicating a greater physical and psychological burden among patients with severe asthma ($p < 0.05$).

Comparison of different asthma phenotypes showed no statistically significant differences in overall quality-of-life scores. Nevertheless, when disease severity was analyzed within each phenotype, patients with severe asthma consistently demonstrated lower physical and psychological health indicators. Individuals with fixed airflow obstruction had significantly lower physical health scores than patients with moderate asthma of the same phenotype ($p < 0.05$). Among patients with late-onset asthma, severe disease was associated with greater pain intensity, poorer emotional functioning, and lower physical health scores compared with moderate asthma.

Patients with obesity-associated asthma also exhibited marked deterioration in quality of life. Those with severe disease had significantly lower general health and mental health scores than patients with moderate asthma ($p < 0.05$). Overall, disease severity had a greater influence on quality of life than clinical phenotype. These findings indicate that severe bronchial asthma is associated with substantial impairment of both physical and psychological well-being and emphasize the importance of routine quality-of-life assessment for individualized patient management and timely psychological support.

Conclusions: Health-related quality of life was reduced in patients with both moderate and severe bronchial asthma, with the greatest impairment observed in severe disease. Patients with severe asthma demonstrated significantly lower general and mental health scores than those with moderate asthma. No significant differences in overall quality of life were identified among different asthma phenotypes. However, within individual phenotypes, severe asthma was associated with greater impairment of physical health, emotional functioning, pain intensity, and general well-being. These findings support the routine assessment of quality of life as an essential component of personalized asthma management and early identification of patients requiring additional psychological and rehabilitative support.

References.

1. Ziyadullaev, S. K., Sultonov, I. I., Dushanova, G. A., & Akbarovna, K. S. (2021). The Effectiveness Of Pharmacotherapy For Dmards With Ra Depending On The C3435t Polymorphism Of The Mdr1 Gene. *Int. J. of Aquatic Science*, *12*(3), 2908-2916.
2. Islomovich, S. I. (2024). GENDER CHARACTERISTICS OF THE CURRENT RHEUMATOID ARTHRITIS. *International journal of medical sciences*, *4*(10), 3-8.
3. Ilkhom, S. (2023). CAJAM–VOLUME 1. ISSUE 1. 2023. *Central Asian Journal of Advanced Medicine*, *1*(01), 16-19.
4. Kireev, V. V., Sultonov, I. I., Ziyadulaaev, S. K., Suyarov, A. A., Aripova, T. U., Usmanbekova, K. T., & Nasretdinova, M. T. (2021). Genetic Engineered Preparations-An Innovative Approach in the Treatment of Rheumatoid Arthritis. *Annals of the Romanian Society for Cell Biology*, *25*(3), 4114-4119.
5. Sultonov, I. I., Xasanov, F. S., Eshmuratov, S., Uralov, R. S., Shukurova, D., & Ziyadullayev, S. X. Predictors of Systemic Lupus Erythematosus: A Case-control Study. *International journal of health sciences*, *6*(S10), 175-182.
6. Khusainova, M. A., Vakhidov, J. J., Khayitov, S. M., & Mamadiyorova, M. M. (2023). Cardiac arrhythmias in patients with rheumatoid arthritis. *Science and Education*, *4*(2), 130-137.
7. Yarmatov, S., Khusainova, M., & Djabbarova, N. (2023). STUDY OF QUALITY OF LIFE INDICATORS IN PATIENTS WITH CORONARY HEART DISEASE USING THE SF-36 QUESTIONNAIRE. *Бюллетень студентов нового Узбекистана*, *1*(7), 58-64.