AMERICAN JOURNAL OF EDUCATION AND LEARNING
ISSN: 2996-5128 (online) | ResearchBib (IF) = 10.91 IMPACT FACTOR
Volume-3| Issue-10| 2025 Published: |30-11-2025|

BRONXIAL ASTMA NAZORATIDA TERAPIYAGA KOMPLAENTLIK OMILI

https://doi.org/10.5281/zenodo.17596162

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Rezyume

Bronxial astmani muvaффaqiyatli nazorat qilish bemorlarning dorilar qabul qilishga sodiqligiga bog'liq. Ushbu tadqiqotning maqsadi – bemorlarning terapiyaga rioya qilishi va astmani nazorat qilish samaradorligini o'rtasidagi munosabatni o'rganish edi. Kesimiy tadqiqotga 65 nafar BA bilan kasallangan bemor ishtirok etdi. Qo'llangan metodlar: Morisky-Green so'rovnomasi, tibbiy yozuvlarni tahlil qilish, zo'rayishlar sonini hisoblash, qisqa ta'sirli bronxodilatatorlardan (QTBD) foydalanish chastotasini qayd etish va ACT orqali nazorat darajasini aniqlash. Natijalar ko'rsatdiki, tadqiq qilingan bemorlarning 81,5% terapiyaga yetarli sodiqlik ko'rsatmadi. Asosiy to'sqinchilar orasida: achchiq-ochar vaqtda profilaktik ingalyatsiyalarni qo'lda qoldirish (73%), davolvchi preparatlarni qabul qilish vaqtiga rioya qilmaslik (61%) va dorilarning yon ta'sirlari (18%). Yomon sodiqlik bilan bemorlarda yo'l qo'yilgan zo'rayishlar o'rtacha sonining yil davomida 3 baravar ko'p (2,1±0,8/yil) bo'lib, dori qabul qilish rejimiga rioya qiladigan bemorlarda 0,7±0,4/yil edi. Qutqarish preparatlaridan foydalanish chastotasi 4 baravar farq qildi: 68% ga nisbatan 17%. ACT bo'yicha baholash nazorat ostida bo'lmagan kechishda 15±3 ball, erishilgan nazaratda 22±2 ball farqini aniqladi. Xulosa qilib aytganda, terapiyaga past sodiqlik astmani nazorat qilishning eng muhim to'sqinchilaridan biri shuning uchun maqsadli ta'lim va motivatsiya dasturlarini ishlab chiqish va joriy qilish zaruridir.

Kalit so'zlar

bronxial astma, terapiyaga sodiqlik, Morisky-Green, Asthma Control Test, qisqa ta'sirli bronxodilatatorlar, ambulator amaliyot

КОМПЛАЕНТНОСТЬ ТЕРАПИИ КАК ФАКТОР КОНТРОЛЯ БРОНХИАЛЬНОЙ АСТМЫ

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Резюме

AMERICAN JOURNAL OF EDUCATION AND LEARNING
ISSN: 2996-5128 (online) | ResearchBib (IF) = 10.91 IMPACT FACTOR
Volume-3| Issue-10| 2025 Published: |30-11-2025|

Контроль бронхиальной астмы зависит от многих факторов, одним из которых является приверженность пациентов к проводимой терапии. Целью данного исследования стало изучение взаимосвязи между комплаентностью пациентов и эффективностью достижения контроля над заболеванием. Методология включала кросс-секционное исследование с участием 65 больных БА, для оценки которых применялись опросник Morisky-Green, анализ архивных данных, подсчёт эпизодов обострения, регистрация кратности использования КДБД и определение уровня контроля по АСТ. Результаты показали, что более четырёх пятых обследованных пациентов (81,5%) демонстрировали недостаточную приверженность лечению. Среди факторов, препятствующих соблюдению рекомендаций, доминировали следующие: игнорирование профилактических ингаляций в периоды клинического улучшения (73%), пропуски по времени приёма поддерживающей терапии (61%) и побочные реакции препаратов (19%). У пациентов с плохой комплаентностью среднегодовая частота обострений была в 3 раза выше (2,1±0,8/год) по сравнению с теми, кто лучше придерживался назначений (0,7±0,4/год). Интенсивность использования спасительных препаратов четырёхкратно отличалась: 68% против 17%. Оценка контроля по АСТ выявила существенную разницу: 15±3 баллов при неконтролируемом течении против 22±2 при достигнутом контроле. Заключение демонстрирует, что недостаточная приверженность терапии представляет собой критический барьер на пути достижения и поддержания контроля БА, что подчёркивает необходимость разработки и внедрения целевых образовательных и мотивационных программ.

Ключевые слова

бронхиальная астма, приверженность терапии, Morisky-Green, Asthma Control Test, короткодействующие бронходилататоры, амбулаторная практика

THERAPEUTIC ADHERENCE AS A FACTOR IN BRONCHIAL ASTHMA CONTROL

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Summary

Effective asthma management depends on patient adherence to prescribed therapy. This study examined the relationship between patient compliance and

AMERICAN JOURNAL OF EDUCATION AND LEARNING
ISSN: 2996-5128 (online) | ResearchBib (IF) = 10.91 IMPACT FACTOR
Volume-3| Issue-10| 2025 Published: |30-11-2025|

asthma control outcomes. A cross-sectional analysis of 65 asthma patients was conducted using the Morisky-Green questionnaire, medical record review, exacerbation frequency assessment, short-acting bronchodilator (SABD) utilization patterns, and Asthma Control Test (ACT) scoring. Findings revealed that 81.5% of patients demonstrated poor adherence to treatment regimens. Major barriers included omitting preventive inhalations during symptom-free periods (73%), irregular timing of maintenance medication (61%), and adverse medication effects (19%). Non-adherent patients experienced exacerbations 3 times more frequently (2.1±0.8/year) compared to adherent patients (0.7±0.4/year). SABD consumption differed substantially: 68% versus 17% used rescue medications >3 times weekly. ACT scores reflected significant differences between uncontrolled disease (15±3 points) and controlled asthma (22±2 points). Conclusion: poor treatment adherence represents a critical barrier to achieving and maintaining asthma control, necessitating implementation of targeted educational and motivational interventions.

Key words

bronchial asthma, therapy adherence, Morisky-Green, Asthma Control Test, short-acting bronchodilators, outpatient practice

Low adherence to bronchial asthma (BA) therapy remains a global problem, exerting significant impact on disease control and the economic burden of healthcare. According to systematic review data, only 28-36% of patients adhere to prescribed maintenance therapy, which directly correlates with the frequency of exacerbations, hospitalizations, and treatment costs.[1,2]. Research demonstrates that patients with low adherence have a 3-4 fold increased risk of uncontrolled asthma course, while annual treatment expenditure exceeds $3000.[3,4]. In outpatient settings, key barriers include poor communication between physician and patient, fear of adverse effects of inhaled corticosteroids (ICS), and low disease awareness.[1,5]. For example, 44% of parents refuse ICS for their children due to "corticophobia," which worsens disease progression[2].

The studies by Stern et al. (n=97,743) and Williams et al. (N=405) demonstrate that a 25% increase in adherence reduces hospitalization rates by 50%, and the use of questionnaires (Morisky-Green) and electronic monitoring improves asthma control[6,7]. However, in resource-limited countries, questions remain regarding the optimization of outpatient management of patients. The current study focuses on identifying local factors of poor compliance (cultural attitudes, availability of educational programs) and developing adapted interventions, which is relevant in the context of GINA-2024 recommendations. The results will help reduce economic

losses and improve patients' quality of life, aligning with the goals of the global strategy for asthma control.

Materials and Methods

The study was conducted at the outpatient department of Tashkent Medical Academy with the participation of 65 patients with an established diagnosis of bronchial asthma, observed during the period from October 2024 to March 2025. The study included patients aged 18 to 65 years, with disease duration of at least 1 year, receiving basic therapy with inhaled corticosteroids (ICS) or combination drugs. Exclusion criteria were severe comorbidities, mental disorders, and refusal to participate.

To assess therapy adherence, the Morisky-Green questionnaire was used, consisting of 4 questions aimed at identifying reasons for non-compliance with the treatment regimen. Additionally, an analysis of medical records was conducted to assess the frequency of bronchial asthma exacerbations, the frequency of short-acting beta-agonist (SABA) use, and the level of disease control by Asthma Control Test (ACT). All patients completed the questionnaire during a scheduled doctor's visit, after which the questionnaire results were compared with medical record data.

Statistical Analysis and Ethics

Statistical data processing was performed using SPSS v.28 software. Descriptive statistics methods (mean value, standard deviation) were applied for the analysis of quantitative indicators. Pearson's correlation coefficient was used to assess the correlation between therapy adherence and the level of disease control. The study protocol was approved by the local ethics committee, and all patients provided informed consent to participate.

Morisky-Green Questionnaire

1. Do you ever forget to take your medications?
2. Are you sometimes careless about the times you take your medications?
3. Do you ever skip taking your medications when you feel better?
4. If you feel worse after taking your medications, do you ever skip the next dose?

Interpretation

Patients who scored 4 points are considered compliant (adherent). Patients who scored 2 points or less are considered non-adherent. Patients who scored 3 points are considered insufficiently adherent and at risk for developing non-adherence.

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Results

The study included 65 patients with bronchial asthma who were followed up in outpatient settings. Assessment of therapy adherence was performed using the Morisky-Green questionnaire, and medical records were analyzed for exacerbation frequency, short-acting beta-agonist (SABA) use, and disease control level by Asthma Control Test (ACT).

According to the Morisky-Green questionnaire results, low adherence to maintenance therapy was identified in 53 (81.5%) patients. The main reasons for reduced adherence were skipping inhalations when feeling well (73% of patients), inattention to the timing of inhalations (61% of patients), and feeling unwell after the previous inhalation (19% of patients). Low motivation and disease awareness were noted in 42% of patients. Analysis of medical records showed that patients with low adherence had an average exacerbation frequency of 2.1±0.8 episodes per year, whereas patients with satisfactory adherence had 0.7±0.4 episodes. SABA use more than 3 times per week was observed in 68% of patients with low adherence and in 17% of patients with satisfactory adherence. The mean ACT score in patients with low adherence was 15±3, indicating uncontrolled disease, whereas in patients with satisfactory adherence it was 22±2 (partial or full control). The study results confirm that low therapy adherence is the leading cause of uncontrolled bronchial asthma and frequent exacerbations in outpatient practice. The obtained data are consistent with current recommendations and results of similar studies, emphasizing the importance of measures to increase patient awareness and motivation for regular maintenance therapy use[8,9].

Indicator	Patients with low Adherence	Patients with satisfactory adherence
Number of patients (%)	53 (81,5%)	12 (18,5%)
Main reasons for low adherence	• Missing inhalations when feeling well (73%) • Inattentiveness to medication timing (61%) • Feeling unwell after inhalation (19%) • Low motivation and awareness (42%)	—
Frequency of exacerbations (mean ± SD, episodes/year)	2,1 ± 0,8	0,7 ± 0,4

Use of SABA >3 times/week (%)	68%	17%
Mean Asthma Control Test (ACT) score	15 ± 3	22 ± 2

Discussion of the study results indicates that low adherence to asthma therapy among outpatients is a significant problem, affecting disease control quality and exacerbation frequency. The findings are consistent with international studies, which also report a high prevalence of poor adherence to maintenance therapy and its negative impact on asthma outcomes. For example, the study by van Alqarni et al. (2003) highlights that the main reasons for nonadherence are insufficient disease awareness, fear of side effects, and poor doctor–patient communication, which fully supports our conclusions[10]. In our study, 42% of patients demonstrated low motivation and inadequate information, emphasizing the importance of educational programs in improving adherence.

The observed relationship between poor adherence and increased exacerbation frequency (2.1 ± 0.8 vs. 0.7 ± 0.4 episodes per year) is confirmed by Baddar et al. (2014), where patients with poor compliance had a significantly higher risk of uncontrolled asthma[11]. Use of short-acting β-agonists (SABA) more than three times a week in 68% of patients with poor adherence also aligns with Nwaru et al. (2020), who note that SABA overuse is associated with an increased risk of hospitalization and worsened asthma control[12].

The paradox described by Paracha et al. (2022) is that patients with mild asthma who consider their disease controlled often neglect maintenance therapy, leading to exacerbations and uncontrolled disease courses[6]. This explains why even when patients feel well subjectively, those with poor adherence show increased exacerbations and worse ACT control.

A key aspect is the impact of psychological factors on adherence. Large studies, such as the work by Alqarni et al. (2022), note that anxiety and depression reduce adherence by 15–20%[13]. Although our study did not assess mental health, the high rate of missed inhalations may indirectly reflect these factors.

The implementation of educational programs and regular monitoring of inhaler technique, as shown in van Ganse et al. (2003), can substantially improve adherence and asthma control[5]. However, as noted by Smits et al. (2022), lack of objective adherence assessment methods (e.g., electronic monitoring) may lead to overestimation of patients with satisfactory compliance[9].

Thus, our results confirm that poor therapy adherence is a modifiable risk factor for uncontrolled asthma. Comprehensive interventions aimed at increasing patient awareness and monitoring inhaler technique may be key to optimizing outpatient asthma management.

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