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CO-OCCURRENCE OF ASTHMA AND ANXIETY-DEPRESSIVE DISORDERS – CLINICAL IMPLICATIONS. A NARRATIVE REVIEW 2019-2026

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ABSTRACT

Introduction: Asthma is one of the most common chronic diseases worldwide, and its course may be significantly influenced by psychological factors. Anxiety and depressive disorders are among the most frequent comorbidities in patients with asthma.

Aim: The aim of this study was to analyze the coexistence of asthma and anxiety-depressive disorders, with particular emphasis on symptoms, pathophysiological mechanisms, and clinical implications.

Materials and Methods: A narrative literature review was conducted using the PubMed database. Publications published between January 2019 and July 21, 2026 were searched using the keywords: “asthma”, “anxiety”, and “depression”.

Results: Anxiety disorders were found to occur in approximately 24–35% of patients with asthma, while depression affected 12–27% of this population. The coexistence of these disorders is associated with poorer disease control, more frequent exacerbations, reduced quality of life, and diagnostic difficulties resulting from overlapping symptoms. Both biological mechanisms, including chronic inflammation and dysregulation of the hypothalamic–pituitary–adrenal (HPA) axis, as well as psychological factors, play an important role.

Conclusions: Anxiety and depressive disorders constitute an important component of the clinical picture of asthma and should be routinely considered in clinical practice. A comprehensive therapeutic approach may improve disease control and patients’ quality of life.

KEYWORDS

Asthma, Depression, Anxiety, Mental Health

CITATION

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Introduction:

Asthma is one of the most prevalent chronic diseases worldwide (Papi et al., 2018). It is characterized by airway inflammation and bronchial hyperresponsiveness, with symptoms including wheezing, cough, chest tightness, and shortness of breath (Minns et al., 2026). Increasing evidence indicates the significant role of psychological factors in the course of the disease. Anxiety and depressive disorders are among the most common psychiatric comorbidities in patients with asthma ((Ye et al., 2021; Liu et al., 2023). This comorbidity is associated with poorer asthma control, more frequent exacerbations, and reduced quality of life. Moreover, depression and anxiety may also precede the onset of asthma (Liu et al., 2023). Understanding these relationships is crucial for optimizing therapeutic strategies and improving patient outcomes. Despite increasing recognition of psychiatric comorbidities in asthma, their pathophysiological mechanisms and clinical implications remain insufficiently understood. Therefore, this review summarizes current evidence regarding the coexistence of asthma and anxiety-depressive disorders.

Methodology:

A narrative literature review was conducted using the PubMed database. The search was performed for publications published between 2019 and July 21, 2026. Articles in English and Polish were considered. The following keywords were used: “asthma”, “anxiety”, and “depression”. The analysis included studies investigating the relationship between asthma and psychiatric disorders, with particular emphasis on clinical implications.

Inclusion and exclusion criteria:

Studies published between 2019 and 2026 in English or Polish were considered eligible. Publications were included if they investigated the relationship between asthma and anxiety or depressive disorders, including their prevalence, clinical consequences, underlying mechanisms, and impact on disease control and quality of life. Systematic reviews, meta-analyses, and relevant observational studies were included. Publications unrelated to asthma and psychiatric comorbidities, studies without available full texts, conference abstracts, case reports, editorials, and articles published in languages other than English or Polish were excluded.

Results:

The reviewed literature indicates that anxiety and depressive disorders are common among patients with asthma. Anxiety symptoms are reported in approximately 24–35% of patients with asthma, while depressive symptoms affect 12–27% of this population. Mixed anxiety-depressive symptoms may occur in up to 40% of patients with severe asthma. In some analyses, more than half of individuals with asthma meet diagnostic criteria for either anxiety or depressive disorders (Ye et al., 2021; Liu et al., 2023).

The association between asthma and psychiatric disorders has been observed globally and represents a significant public health concern. However, the exact nature of this relationship, including its directionality and underlying mechanisms, remains incompletely understood. Current evidence suggests that the coexistence of anxiety and depressive symptoms is associated with poorer asthma control, increased frequency of exacerbations, and reduced quality of life (Di Marco et al., 2010).

Clinical characteristics such as dyspnea, altered breathing patterns, and obesity appear to be associated with the occurrence of anxiety and depressive symptoms in patients with asthma (Di Marco et al., 2011). Isolated anxiety disorders are particularly associated with respiratory symptoms and increased hospitalization rates, whereas depression without coexisting anxiety is more frequently related to obesity and obstructive sleep apnea. The coexistence of both anxiety and depression is associated with a higher burden of comorbidities, poorer asthma outcomes, greater prevalence among women, and earlier disease onset ((Stubbs et al., 2022).

Despite their clinical relevance, anxiety and depressive disorders remain frequently underdiagnosed in patients with asthma, which may further complicate effective disease management.

Discussion:

The relationship between asthma and anxiety-depressive disorders is increasingly recognized as an important component of comprehensive asthma management. Although asthma is primarily considered a chronic inflammatory disease of the airways, current evidence suggests that psychological factors may significantly influence disease perception, symptom severity, treatment adherence, and overall clinical outcomes. (Ye et al., 2021; Di Marco et al., 2011)). Anxiety and depressive disorders are among the most common psychiatric comorbidities observed in patients with asthma and may contribute to a more complex disease course (Ye et al., 2021; Liu et al., 2023; Katon et al., 2004).

The association between asthma and psychiatric disorders appears to be bidirectional. Asthma symptoms, including recurrent dyspnea, chest tightness, and unpredictable exacerbations, may contribute to psychological distress and increase the risk of anxiety and depressive symptoms. Conversely, pre-existing anxiety or depression may negatively affect asthma control through altered symptom perception, impaired self-management, reduced adherence to treatment recommendations, and increased healthcare utilization (Liu et al., 2023; Widge et al., 2025). This reciprocal interaction suggests that psychological disorders should not be considered merely secondary consequences of asthma but rather important factors influencing its clinical course.

Several biological mechanisms may contribute to the relationship between asthma and anxiety-depressive disorders. Chronic inflammation associated with asthma may affect central nervous system functioning through immune-mediated pathways. Inflammatory mediators, including interleukins and tumor necrosis factor-alpha, have been implicated in neuroinflammatory processes associated with mood disturbances. In addition, prolonged activation of stress-response pathways, including hypothalamic–pituitary–adrenal (HPA) axis dysregulation, may increase susceptibility to anxiety symptoms, particularly in patients exposed to recurrent episodes of respiratory distress (Ye et al., 2021; Dantzer et al., 2008).

However, biological mechanisms alone do not fully explain the complexity of this association. Psychological and behavioral factors play an equally important role. Patients with asthma may interpret respiratory sensations, such as mild dyspnea or chest discomfort, as signs of impending exacerbation, which

may increase anxiety and promote avoidance behaviors (Ritz et al., 2012; Di Marco et al., 2011). Reduced physical activity, fear of symptoms, and impaired confidence in disease control may subsequently contribute to poorer functional status and reduced quality of life (Ye et al., 2021). Depression may additionally interfere with motivation, treatment adherence, and active participation in disease management.

An important clinical challenge is the overlap between asthma symptoms and manifestations of anxiety or depression. Symptoms such as breathlessness, fatigue, sleep disturbances, and chest discomfort may result from both respiratory pathology and psychological distress. This overlap may complicate the assessment of asthma control and lead either to unnecessary intensification of respiratory treatment or delayed recognition of psychiatric comorbidities (Widge et al., 2025).

Current evidence emphasizes the importance of integrating psychological assessment into routine asthma care. According to the Global Initiative for Asthma (GINA), psychosocial factors are relevant contributors to poor asthma control and increased risk of exacerbations and should therefore be considered during comprehensive patient evaluation (Global Initiative for Asthma, 2025). Screening tools, including the Hospital Anxiety and Depression Scale (HADS), may facilitate early identification of patients requiring further psychological or psychiatric assessment (Zigmond & Snaith, 1983; Widge et al., 2025).

The management of asthma patients with psychiatric comorbidities should involve a multidisciplinary approach combining optimal respiratory treatment, psychological support, patient education, and individualized therapeutic strategies. Such an approach may improve treatment adherence, enhance disease control, and positively influence patients' quality of life. Recognition and treatment of anxiety and depressive symptoms should therefore be considered an integral part of personalized asthma management rather than an additional intervention.

Pharmacological aspects should also be taken into consideration when evaluating psychiatric symptoms in patients with asthma. In the case of montelukast, concerns regarding possible neuropsychiatric adverse effects have been raised; however, current evidence remains inconclusive. While no consistent association with severe psychiatric outcomes has been demonstrated, individual monitoring of patients, particularly those with previous psychiatric symptoms, remains clinically important (Lo et al., 2023).

Further research is needed to better understand the mechanisms linking asthma and psychiatric disorders and to establish effective models of integrated care. Additional studies should focus on identifying patients at increased risk of anxiety and depression, evaluating the effectiveness of screening strategies, and determining whether targeted psychological interventions can improve long-term asthma outcomes.

The present review has several limitations. Only publications indexed in the PubMed database and published in English or Polish were included. As a narrative review, this study did not follow a systematic review methodology and therefore may be subject to selection bias. Furthermore, heterogeneity among the included studies limits direct comparison of reported outcomes.

Conclusions:

The coexistence of asthma and anxiety-depressive disorders is common and represents an important clinical issue affecting disease course, treatment outcomes, and patients' quality of life. Psychiatric comorbidities in individuals with asthma are associated with poorer disease control, increased frequency of exacerbations, and greater difficulties in achieving optimal therapeutic outcomes. The relationship between asthma and anxiety-depressive disorders is complex and involves reciprocal interactions between biological mechanisms, including chronic inflammation and neuroendocrine dysregulation, as well as psychological and behavioral factors.

Therefore, the assessment of patients' psychological status should be considered an integral part of comprehensive asthma management. Early identification of anxiety and depressive symptoms may allow timely implementation of appropriate interventions and improve adherence to treatment recommendations. A multidisciplinary therapeutic approach, combining optimal asthma management with psychological support and patient education, may contribute to improved disease control, better prognosis, and enhanced quality of life.

REFERENCES

1. Dantzer, R., O'Connor, J. C., Freund, G. G., Johnson, R. W., & Kelley, K. W. (2008). From inflammation to sickness and depression: When the immune system subjugates the brain. *Nature Reviews Neuroscience*, 9(1), 46–56. <https://doi.org/10.1038/nrn2297>
2. Di Marco, F., Santus, P., & Centanni, S. (2011). Anxiety and depression in asthma. *Current Opinion in Pulmonary Medicine*, 17(1), 39–44. <https://doi.org/10.1097/MCP.0b013e328341003f>
3. Di Marco, F., Verga, M., Santus, P., Giovannelli, F., Busatto, P., Neri, M., et al. (2010). Close correlation between anxiety, depression, and asthma control. *Respiratory Medicine*, 104(1), 22–28. <https://doi.org/10.1016/j.rmed.2009.08.005>
4. Global Initiative for Asthma. (2025). *Global strategy for asthma management and prevention (2025 update)*. <https://ginasthma.org>
5. Katon, W. J., Richardson, L., Lozano, P., & McCauley, E. (2004). The relationship of asthma and anxiety disorders. *Psychosomatic Medicine*, 66(3), 349–355. <https://doi.org/10.1097/01.psy.0000126202.89941.ea>
6. Liu, X., Zhang, Y., Chen, W., et al. (2023). Bidirectional associations between asthma and types of mental disorders. *Journal of Allergy and Clinical Immunology: In Practice*, 11(3), 799–808. <https://doi.org/10.1016/j.jaip.2022.11.034>
7. Lo, C. W. H., Pathadka, S., Qin, S. X., et al. (2023). Neuropsychiatric events associated with montelukast in patients with asthma: A systematic review. *European Respiratory Review*, 32(169), 230079. <https://doi.org/10.1183/16000617.0079-2023>
8. Minns, S. A., Martins-Klein, B., Zapetis, S., et al. (2026). When breath lifts your mood: Dynamic everyday links between breathing, affect, and emotion regulation in remitted depression. *Journal of Affective Disorders*, 396, 120686. <https://doi.org/10.1016/j.jad.2025.120686>
9. Papi, A., Brightling, C., Pedersen, S. E., & Reddel, H. K. (2018). Asthma. *The Lancet*, 391(10122), 783–800. [https://doi.org/10.1016/S0140-6736\(17\)33311-1](https://doi.org/10.1016/S0140-6736(17)33311-1)
10. Potoczek, A. (2011). *Psychiatryczne i psychologiczne uwarunkowania astmy ciężkiej i trudnej*. Wydawnictwo Uniwersytetu Jagiellońskiego.
11. Ritz, T., Meuret, A. E., Trueba, A. F., Fritzsche, A., & von Leupoldt, A. (2012). Psychosocial factors and behavioral medicine interventions in asthma. *Journal of Consulting and Clinical Psychology*, 80(2), 345–356. <https://doi.org/10.1037/a0029167>
12. Stubbs, M. A., Clark, V. L., Gibson, P. G., et al. (2022). The detrimental clinical associations of anxiety and depression with difficult asthma outcomes. *Journal of Clinical Medicine*, 11(11), 3148. <https://doi.org/10.3390/jcm11113148>
13. hi, Y., & Han, Q. (2024). Does maternal anxiety and depression increase the risk of asthma in the offspring? A systematic review and meta-analysis. *European Review for Medical and Pharmacological Sciences*, 28(3), 1066–1076. https://doi.org/10.26355/eurrev_202402_35343
14. Widge, S., Paquet, J., Ling, L., et al. (2025). Psychiatric screening tools in asthma and their barriers to clinical utilization: A systematic review. *Journal of Asthma*, 62(11), 1843–1852. <https://doi.org/10.1080/02770903.2025.2480457>
15. Ye, G., Baldwin, D. S., Hou, R., et al. (2021). Anxiety in asthma: A systematic review and meta-analysis. *Psychological Medicine*, 51(1), 11–20. <https://doi.org/10.1017/S0033291720001683>
16. Zigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica*, 67(6), 361–370. <https://doi.org/10.1111/j.1600-0447.1983.tb09716.x>