



Editorial

 A current overview of the psychological aspects of asthma in adults[☆]

Una mirada actual a los aspectos psicológicos del asma en la adultez

In ancient times, prominent physicians such as Hippocrates or Maimonides thought of asthma as a disease essentially of the mind.¹ Even at the end of the 19th century, asthma was referred to as a “neurotic affection”.² The emotional component of the disease was later sidelined following the identification of other pathophysiological mechanisms, but psychological factors continue to affect asthma patients in a bidirectional manner, constituting both the cause and/or the consequence of the asthmatic disease.^{3,4}

Several studies have demonstrated how emotional factors act on various aspects of the disease, such as asthma control, quality of life, or episodes of sick leave.^{5,6} It is well established that psychological distress has an impact on the asthmatic patient via neuroimmunological and neuroendocrine mechanisms that trigger symptoms of stress, depression, panic attacks and behavioral disturbances.³ The course of the disease is also indirectly affected by the development of health-related beliefs and behaviors (e.g. an individual’s beliefs about their ability to manage asthma, therapeutic adherence) and social support networks (e.g., presence of family and friends who support behaviors aimed at better respiratory health), and loss of perceived control.⁷

One of the factors of perceived control that has been associated with asthma control and health-related quality of life in asthma patients is self-efficacy, understood as a person’s beliefs about his or her ability to successfully perform a particular behavior.⁸ If an adult with asthma has developed skills to successfully manage their disease, and has developed positive beliefs about those abilities, they are more likely to develop behaviors associated with positive management of their health status.

The prevalence of anxiety is higher in asthma patients than in the general population.⁹ Psychological stressors may be associated in asthma patients with increased airway resistance and respiratory rates.⁴ The hyperventilation typical of anxiety states has been associated with the respiratory pattern of asthma, and may be both a consequence and an aggravator of asthmatic symptoms.

Wright et al. propose taking an integrated approach to the life-long influence of stress on the manifestations of asthma.⁷ They take the view that the relationship between psychosocial stress and asthma manifestations is a complex phenomenon, and that stress induces a phenotypic plasticity that affects the risk of asthma and/or lung function. This approach can be expanded to include

advanced adulthood and old age, taking into account that as life proceeds and asthma chronicity advances, factors such as lifestyle, support networks, and coping strategies gain importance.¹⁰ In asthmatic adults, symptoms are determined by the presence of multiple factors, including emotional aspects and affective disorders such as depression.^{10,11}

Different types of psychological interventions, including relaxation training, mindfulness techniques, and cognitive behavioral therapy, have shown a positive impact in randomized clinical trials, primarily on health-related quality of life and psycho-affective variables, but also on lung function.¹² Mindfulness techniques, based on the development of full awareness, are focused on achieving greater respiratory control by fostering non-evaluative awareness, acceptance of respiratory patterns, and in general, acceptance of both body sensations and thoughts related to these sensations. Understood as a personality trait, a level of mindfulness has been associated with higher health-related quality of life in asthmatic patients, lower stress levels, and less frequent cough and wheezing.^{13,14} Likewise, mindfulness-based stress management training results in long-term improvements in quality of life and perceived stress in asthmatic patients.¹⁵

It seems an appropriate time to turn our attention back to the behavioral and emotional aspects of asthma patients, and to combine these factors with advances in the understanding of the pathophysiological mechanisms of the disease, while bearing in mind that individuals with asthma will have to face different types and sources of stress related directly or indirectly to their lung function that vary throughout their life cycle. Mindfulness training may be a good candidate as a complementary treatment to improve the psychological side of asthma chronicity in adults, although more evidence is still needed on the efficacy of interventions of this type.

References

1. Douwes J, Brooks C, Pearce N. Asthma nervosa: old concept, new insights. *Eur Respir J*. 2011;37:986–90. <http://dx.doi.org/10.1183/09031936.00018511>.
2. Osler W. *The principles and practice of medicine*. New York: D. Appleton and Company; 1892.
3. Ohno I. Neuropsychiatry phenotype in asthma: psychological stress-induced alterations of the neuroendocrine-immune system in allergic airway inflammation. *Allergol Int*. 2017;66:S2–8. <http://dx.doi.org/10.1016/j.alit.2017.06.005>.
4. Plourde A, Lavoie KL, Raddatz C, Bacon SL. Effects of acute psychological stress induced in laboratory on physiological responses in asthma populations: a systematic review. *Respir Med*. 2017;127:21–32. <http://dx.doi.org/10.1016/j.rmed.2017.03.024>.
5. Alsaïd-Habia T, McLeish AC, Kraemer KM. Associations between distress tolerance and asthma symptoms and quality of life. *J Asthma*. 2018;4:1–8. <http://dx.doi.org/10.1080/02770903.2018.1520862>.

[☆] Please cite this article as: Facal D, López-Lois B, Gonzalez-Barcala F-J. Una mirada actual a los aspectos psicológicos del asma en la adultez. *Arch Bronconeumol*. 2020;56:475–476.

6. Gonzalez Barcala FJ, la Fuente-Cid RD, Alvarez-Gil R, Tafalla M, Nuevo J, Caamaño-Isorna F. Factors associated with a higher prevalence of work disability among asthmatic patients. *J Asthma*. 2011;48:194–9, <http://dx.doi.org/10.3109/02770903.2010.539294>.
7. Wright RJ, Rodríguez M, Cohen S. Review of psychosocial stress and asthma: an integrated biopsychosocial approach. *Thorax*. 1998;53:1066–74.
8. Melgarejo González-Conde V, Pérez-Fernández V, Ruíz-Esteban C, Valcerde-Molina J. Impacto de la autoeficacia en la calidad de vida de niños con asma y sus cuidadores. *Arch Bronconeumol*. 2019;55:189–94, <http://dx.doi.org/10.1016/j.arbres.2018.07.008>.
9. Martínez-Rivera C, Vennera MC, Cañete C, Bardagí S, Picado C. Perfil psicológico de los pacientes con asma bronquial y disnea funcional: comparación con población no asmática e impacto sobre la enfermedad. *Arch Bronconeumol*. 2011;47:73–8, <http://dx.doi.org/10.1016/j.arbres.2010.10.003>.
10. Facal D, González-Barcala FJ. Age-related changes in respiratory function and daily living. A tentative model including psychosocial variables, respiratory diseases and cognition. *Curr Aging Sci*. 2016;9:71–6.
11. Wright RJ. Epidemiology of stress and asthma: From constricting communities and fragile families to epigenetics. *Immunol Allergy Clin North Am*. 2011;31:19–39, <http://dx.doi.org/10.1016/j.iaac.2010.09.011>.
12. Yorke J, Fleming S, Shuldham C, Rao H, Smith HE. Nonpharmacological interventions aimed at modifying health and behavioural outcomes for adults with asthma: a critical review. *Clin Exp Allergy*. 2015;45:1750–64, <http://dx.doi.org/10.1111/cea.12511>.
13. Kraemer KM, McLeish A. Evaluating the role of mindfulness in terms of asthma-related outcomes and depression and anxiety symptoms among individuals with asthma. *Psychol Health Med*. 2019;24:155–66, <http://dx.doi.org/10.1080/13548506.2018.1529326>.
14. Shi L, Liang D, Gao Y, Huang J, Nolan C, Mulvaney A, et al. Mindfulness and asthma symptoms: a study among college students. *J Asthma*. 2017;55:101–5, <http://dx.doi.org/10.1080/02770903.2017.1306545>.
15. Pbert L, Madison JM, Druker S, Olendzki N, Magner R, Reed G, et al. Effect of mindfulness training on asthma quality of life and lung function: a randomised controlled trial. *Thorax*. 2012;67:769–76, <http://dx.doi.org/10.1136/thoraxjnl-2011-200253>.

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