

Quality of Life in Combined Asthma and Rhinitis: The Impact of Sniff, Sneeze, and Wheeze



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Allergic rhinitis and asthma are 2 of the most common chronic diseases globally, particularly in developed countries, and have a complex bidirectional relationship. Most patients with asthma have rhinitis, but only up to 38% of patients with rhinitis have asthma.¹⁻⁶ Multimorbidity in rhinitis and asthma is associated with a genetic component and risk factors such as atopy.⁷ Allergic rhinitis is a risk factor for the development of asthma.⁸ Those with asthma plus allergic rhinitis are more likely to have poor asthma control, and treatment for allergic rhinitis in patients with asthma reduces bronchial responsiveness, asthma symptoms, and exercise-induced bronchospasm.⁹⁻¹¹

The burden of symptoms and impact of quality of life (QOL) are known to be high but are likely underestimated in both diseases, and particularly in rhinitis. Rhinitis does not cause mortality but causes significant symptoms and a large burden of morbidity.¹² These symptoms negatively impact on QOL. Asthma uncommonly causes mortality but causes a large burden of symptoms. For patients, QOL is arguably the most important end point in asthma and allergic rhinitis.¹³ It is a multidimensional measure that takes into account several facets of a patient's experience including overall well-being and ability to function. Physicians who are used to measuring hard outcomes such as exacerbations and lung function are increasingly recognizing that patient-centered outcomes are important and that traditional outcomes may not capture the patient experience of disease improvement, stability, or deterioration.¹⁴ Coupled with also causing exacerbations and lung function impairment, asthma has a big impact on QOL. Studies carried out in the 1990s

surprisingly showed that rhinitis was impacting QOL similarly to mild to moderate asthma, that rhinitis was affecting social QOL components more than asthma, and that asthma was affecting physical activity more than rhinitis.¹⁵

Although tools for assessing health-related QOL both generally and in rhinitis and asthma separately have existed for a number of years, a specific tool to assess QOL when both conditions are present is more recent. CARAT (Control of Allergic Rhinitis and Asthma Test) is a control test assessing symptoms and medications of both asthma and rhinitis.^{16,17} Many of the CARAT questions are close to QOL, but CARAT is not a QOL patient-reported outcome measure. Its digital version, included in MASK-air,^{18,19} is however correlated with QOL measures and patient-reported outcome measures.²⁰

In 2003, the first questionnaire to measure QOL in those with both asthma and allergic rhinitis, RhinAsthma, was published.²¹ This questionnaire was found to be reliable in evaluating QOL in those with asthma and rhinitis, and was able to differentiate those with both rhinitis and asthma from those with rhinitis alone.²¹ However, this questionnaire was cumbersome with at least 30 questions, an impractical feature for a real-world, clinical questionnaire. Subsequently, it was refined to include 8 key items that had similar reliability to the full questionnaire.²² The resulting questionnaire, the RhinAsthma Patient Perspective (RAPP), was validated and found to be reliable and sensitive to health-related QOL changes in those with coexistent rhinitis and asthma.²² It is easy to score, with a high score indicating worse health-related QOL and a cutoff point of less than 15 indicating ideal disease-related QOL.

The RAPP fills a gap. Because allergic rhinitis and asthma are so common and occur together frequently, a simple-to-use, combined measure of QOL for these 2 conditions is a useful tool in clinical practice. In this month's issue of *Journal of Allergy and Clinical Immunology: In Practice*, Baiardini et al²³ publish further data about the utility and role of the RAPP in clinical practice. Examining approximately 600 patients from an international asthma and rhinitis cohort, mostly from Europe and Asia, they found significant differences in the mean RAPP score between different countries at baseline. As expected, good disease control of both rhinitis and asthma resulted in better RAPP scores. Those with both uncontrolled rhinitis and asthma had the worst RAPP scores. Cutoffs were determined for differentiating between those with uncontrolled rhinitis but controlled asthma (≥ 15), uncontrolled asthma but controlled rhinitis (≥ 16), or uncontrolled rhinitis and asthma (≥ 18), allowing estimation of the likelihood of uncontrolled disease based on this QOL score. These scores do not provide diagnostic or control information per se and should be used by the clinician in conjunction with other diagnostic and control information. This study revealed

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that the presence of uncontrolled rhinitis and uncontrolled asthma confers worse health-related QOL for patients compared with either disease being uncontrolled in isolation, something that most clinicians would assume.

The RAPP is a quick questionnaire that may be useful in clinical practice to provide an objective measure of the impact of asthma and rhinitis on QOL, particularly useful as a measure repeated over time to help gauge the impact of treatment interventions.

However, there are some gaps in RAPP. In particular, there is no economic assessment, and it is likely that comorbid asthma and rhinitis confer a large health economic burden.²⁴ This information may be added with further studies. Moreover, RAPP is not digitalized yet, but work on this is underway.

Measuring QOL in patients with comorbid asthma and rhinitis is important to help understand the impact of these conditions on patient's lives and should be measured more frequently in clinical practice. The RAPP questionnaire is quick and easy to score, and has been shown to be useful as a measure of the impact of asthma and rhinitis on health-related QOL over time.

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