Irish Journal of Medical Science (1971 -)
https://doi.org/10.1007/s11845-026-04526-5

ORIGINAL ARTICLE

Perspectives on allergic rhinitis and related upper airway conditions: a qualitative meta-synthesis of patient and healthcare professional experiences

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Received: 12 January 2026 / Accepted: 20 June 2026
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Abstract

Background Allergic rhinitis (AR) and related upper airway conditions impose a substantial burden on quality of life and daily functioning. Although biomedical research predominates, the subjective experiences of patients and healthcare professionals remain underexplored.

Methods The aim of this review was to synthesize qualitative evidence on the experiences, perceptions, and management strategies of individuals with allergic rhinitis and related upper airway conditions, as well as the perspectives of healthcare professionals involved in their care. A thematic meta-synthesis was conducted in accordance with PRISMA guidelines and registered in PROSPERO (XXX). Comprehensive searches were carried out in MEDLINE, Academic Search Ultimate, Complementary Index, OAIster, and Web of Science up to August 2025. Study selection followed the PICo framework, and methodological quality was appraised using the Joanna Briggs Institute Qualitative Assessment and Review Instrument (QARI). Data were analyzed using Thomas and Harden's three-stage thematic synthesis approach.

Results Eleven qualitative studies with 271 participants (235 patients, 36 professionals) from multiple countries were included. Three major themes and seven subthemes were identified: (1) Making Sense of Illness (identity, symptom burden, emotional responses), (2) Treatment and Management Strategies (personal and pharmacological approaches, alternative and professional orientations), and (3) Care Journey and Meaning-Making (diagnostic uncertainty, information networks). AR was found to be a multidimensional experience shaped not only by symptoms but also by stigma, social perceptions, and healthcare interactions.

Conclusion Effective management of allergic rhinitis and related upper airway conditions requires more than pharmacological interventions, emphasizing patient-centered communication, shared decision-making, and individualized care. Incorporating digital self-management tools and culturally sensitive approaches may improve adherence and outcomes. Future research should explore cross-cultural perspectives, long-term patient experiences, and the integration of digital health technologies into care pathways.

Keywords Allergic rhinitis · Qualitative meta-synthesis · Patient experience · Healthcare professionals · Management strategies

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Published online: 30 June 2026

Introduction

Allergic rhinitis (AR) and related upper airway conditions, including chronic rhinosinusitis (CRS), acute rhinosinusitis (ARS), and rhinitis medicamentosa (RM), are common disorders that adversely affect individuals' quality of life and daily functioning [1].Typical symptoms such as nasal discharge, congestion, sneezing, and itching—when combined with sleep disturbances, fatigue, poor concentration, and social restrictions—create an invisible yet substantial burden in patients' everyday lives [2–4]. This burden, arising both from symptoms and treatment challenges, disrupts sleep quality and psychological well-being, often leading to negative emotional consequences [5].

In the management of AR and related upper airway conditions,, clinical guidelines play a central role, particularly in directing medical treatment [6]. These guidelines recognize the dual responsibility of both healthcare professionals and patients in the therapeutic and care process [7]. Nevertheless, the literature indicates that these conditions are often approached primarily from a biomedical perspective [4, 8, 9], and treatment adherence among patients remains consistently low [10, 11].

The management of care and treatment in AR and related upper airway conditions is particularly challenging. Overcoming these difficulties requires not only the evidence-based recommendations provided by high-quality clinical guidelines but also the inclusion of patients' and healthcare professionals' experiences, perceptions, and approaches in order to design individualized care plans [9]. Existing syntheses in the literature are largely meta-analyses with a predominant biomedical focus [5, 12–15].

Understanding life with AR and related upper airway conditions requires going beyond symptom control to examine how the condition influences daily living, the coping strategies developed by patients, the ways in which treatment and care services are experienced, the decision-making processes of professionals, and the reliance on non-professional sources of support. Integrating the perspectives of both patients and healthcare professionals can bridge biomedical recommendations with care management, making this complex process more effective and patient-centered. To the best of our knowledge, no meta-synthesis has comprehensively addressed the combined experiences of individuals with AR and related upper airway conditions and healthcare professionals. The present study therefore aimed to systematically synthesize qualitative research from both perspectives, providing insights into how the illness is understood, the strategies employed for treatment and management, and the care journey as subjectively experienced, thereby offering a novel contribution to the field.

Method

Design

This study was conducted in line with PRISMA guidelines and registered in the PROSPERO database (XXXXXX) as a thematic meta-synthesis. Thematic meta-synthesis aims to examine findings from qualitative research within their contexts, identify recurring themes, and thereby achieve a deeper understanding of the phenomenon [16]. The research process consisted of six stages: formulating the research question, systematically identifying and selecting relevant studies, assessing the methodological quality of included papers, analyzing the data to generate themes, comparing themes across studies to highlight similarities and differences, and synthesizing them into an integrated framework. Finally, the results were reported in a structured and transparent manner [17].

Research question

How are the management and care processes of allergic rhinitis and related upper airway conditions experienced by patients and healthcare professionals?

Search strategy

Relevant literature was identified through systematic searches in MEDLINE, Academic Search Ultimate, Complementary Index, OAIster, and Web of Science (WOS). The search string applied was: AB (allergic rhinitis OR atopic rhinitis OR allergic rhinitides OR atopic rhinitides OR rhinoconjunctivitis) AND AB (experiences OR perceptions OR attitudes OR views OR feelings) AND AB (qualitative research OR qualitative study OR qualitative methods OR interview OR focus group). Searches were completed in August 2025, and the process is illustrated in Fig. 1. EndNote X8 software was employed to detect duplicates and assist with title and abstract screening.

Inclusion and exclusion criteria

Eligibility for this meta-synthesis was defined according to the PICo framework (Population, Phenomenon of Interest, Context) [18]. The population (P) included patients living with allergic rhinitis and related upper airway conditions (e.g., chronic rhinosinusitis, acute rhinosinusitis, and rhinitis medicamentosa), as well as healthcare professionals involved in their care. The phenomenon of interest (I) was the experiences, perceptions, and emotions related to the management and care of allergic rhinitis and related upper airway conditions. The context (Co) referred to both daily

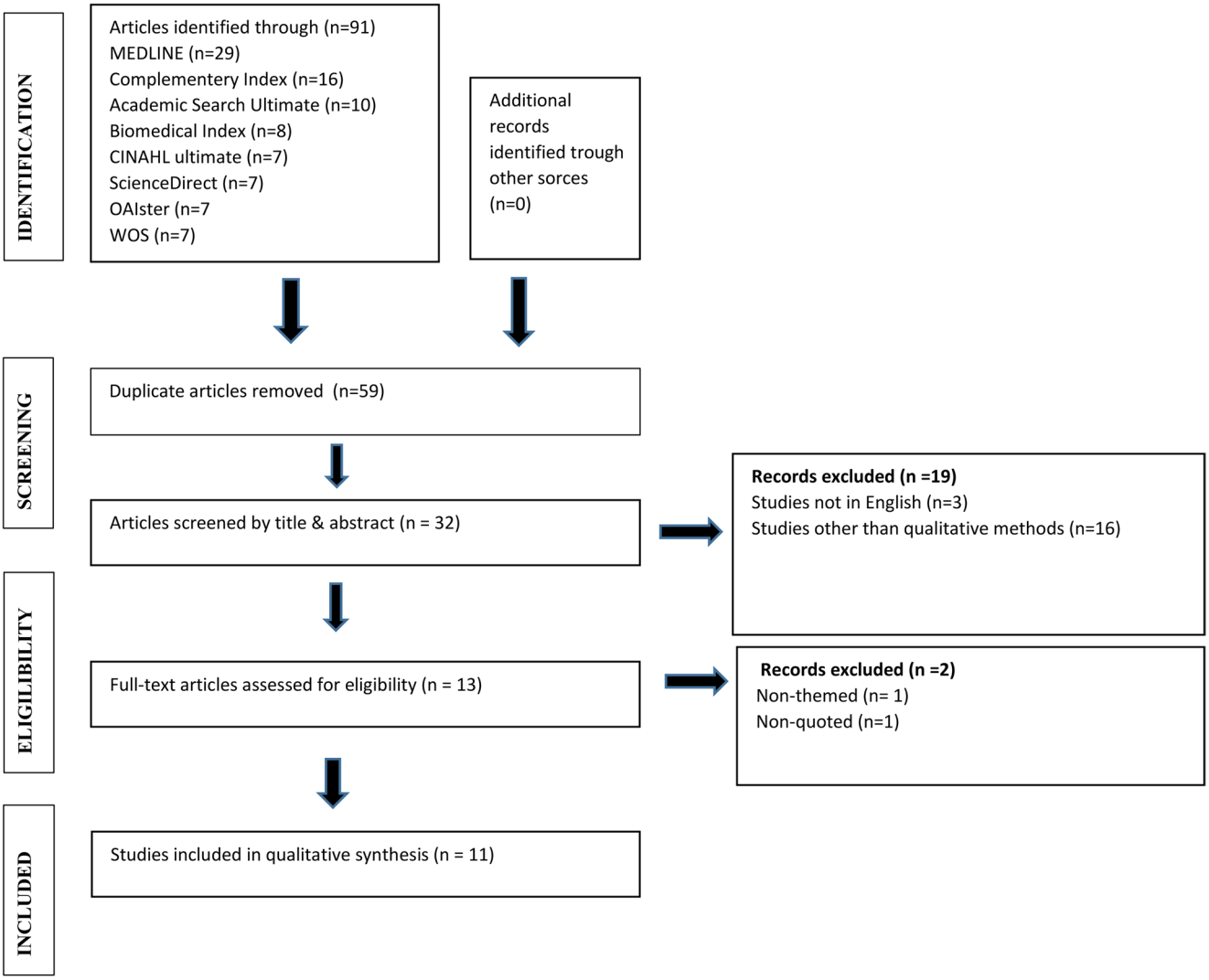


Fig. 1 Search Strategy and Selection of Studies

life and healthcare delivery settings. Only qualitative studies based on original empirical data were considered eligible. Studies were excluded if they did not provide qualitative findings, relied solely on quantitative methods, or reported mixed-methods results without separable qualitative data. In addition, articles without thematic reporting or those published in languages other than English were not included.

Search results

The systematic database search conducted for this thematic meta-synthesis initially identified 91 records. After removing duplicates, 32 studies were screened for eligibility. In the first stage, three researchers (YK, ST, and İÖ) independently reviewed the titles and abstracts, and studies deemed relevant were advanced to full-text assessment. Full texts were examined individually using a predesigned data extraction form, and studies not meeting the inclusion criteria were excluded with reasons documented. Studies addressing allergic rhinitis as well as related upper airway conditions, including chronic rhinosinusitis, acute rhinosinusitis, and rhinitis medicamentosa, were retained when they provided qualitative evidence regarding symptom burden, treatment experiences, self-management practices, healthcare interactions, or care pathways relevant to the review question. Ultimately, 11 qualitative studies were included (Fig. 1) [19–29]To minimize the risk of bias, all steps—including the search process, study selection, data extraction, and quality appraisal—were performed independently by the research team.

Quality appraisal

The methodological quality of the included qualitative studies was assessed using the Joanna Briggs Institute Critical Appraisal Checklist for Qualitative Research (QARI) [30].

This tool consists of 10 items, with each study scored on a scale up to 10 points. Independent assessments by the researchers resulted in scores ranging from 7 to 9. None of the studies were excluded on the basis of low quality.

Data analysis

Data analysis followed the three-stage thematic synthesis approach proposed by Thomas and Harden (2008): (1) line-by-line coding, (2) development of descriptive themes, and (3) generation of analytical themes [31]. In the first step, all selected studies were read repeatedly by YK, ST, and İÖ, and statements related to the research question were coded at line level. Coding units ranged from single words to entire paragraphs, and each researcher worked independently. In the second step, codes were compared for similarities and relationships, leading to the development of descriptive themes. Thematic proposals drafted by YK and ST were discussed with İÖ, and consensus was reached among all three authors. In the final step, descriptive themes were reinterpreted to generate more abstract, analytical themes that extended beyond the scope of individual studies. This process highlighted similarities and differences across themes, strengthening the interpretive and conceptual dimensions of the synthesis.

Ethical considerations

As this meta-synthesis did not involve the collection of primary data or direct participation of human subjects, ethical approval was not required. Throughout the process, principles of research integrity and publication ethics were strictly observed.

Results

A total of 11 qualitative studies from different countries were included in this meta-synthesis. Three were conducted in Australia [19–21], two in the United Kingdom [22, 29], two in the United States [23, 28], and one each in the Netherlands [26], Hungary [25], Malaysia [24], and Ireland [27]. The study populations comprised both adult patients [20–28] and healthcare professionals [9, 29]. Participants included individuals diagnosed with allergic rhinitis, chronic rhinosinusitis, rhinitis medicamentosa, or persistent sinus symptoms, as well as pharmacists, general practitioners, and otolaryngologists. Samples varied considerably, with participant ages ranging from 18 to 86 years. In total, 271 individuals were represented across the included studies, comprising 235 patients and 36 healthcare professionals (pharmacists n = 15, general practitioners n = 12, otolaryngologists n = 9) (Table 1). Analysis of these studies generated three overarching themes and seven subthemes that captured the experiences of individuals with allergic rhinitis and related upper airway conditions, as well as the perspectives of healthcare professionals involved in their care (Table 2).

Theme: making sense of illness

The synthesis of qualitative studies shows that allergic rhinitis and related upper airway conditions are not merely biological disorders but multidimensional experiences shaped by identity, social perceptions, and emotional burdens. While symptoms restrict daily activities and are often trivialized by society, patients reported feelings of stigma, denial of a patient identity, and strong emotional reactions. In this way, these conditions become lived realities that profoundly influence both self-concept and processes of social acceptance. The subthemes identified were: (1) identity perception, (2) the physical and psychosocial burden of symptoms, and (3) emotional responses and psychological impacts.

Subtheme: identity perception

Qualitative evidence indicates that allergic rhinitis and related conditions strongly influence how individuals perceive their patient identity and position themselves socially. Participants described feelings of embarrassment and fear of stigma in social settings (Cvetkovski, 2018; Lakatos, 2025), while some minimized the illness and rejected the notion of being a "patient" altogether (Erskine, 2016). Cultural context also shaped these perceptions; for example, Dutch participants resisted being labeled as "sick," instead framing their condition as an ordinary complaint rather than a medical identity (Mulder, 2025).

> *"There's a big stigma and focus on people sneezing… so I often say to people I don't have a cold, it's hay fever." (Cvetkovski, 2018).*

Subtheme: physical and psychosocial burden of symptoms

Findings from qualitative studies demonstrate that the symptoms of allergic rhinitis and related upper airway conditions are not limited to biological discomfort but also impose significant constraints on functionality, social life, and psychosocial well-being. Participants reported that nasal congestion, loss of smell, breathing difficulties, and fatigue severely restricted daily activities and social participation (Cvetkovski, 2018; Erskine, 2016; Lakatos, 2025; Mulder, 2025; Rabago, 2008; Shintani, 2023). The tendency of society to trivialize these symptoms as merely "hay fever" contributed to making

Table 1 Characteristics of included studies and quality assessment. {He, [12] #51; Hong, [13] #54; Licari, [5] #52; Sousa-Pinto, [14] #55; Steiner, [15] #53}

CODE	First Authoryear, country	Study aims	Methodology	Analysis	Sample	Data collection	Themes Subthemes	QARI
1	Cvetkovski 2018 Australia	To explore patients' experiences and beliefs regarding allergic rhinitis (AR) management and their tendency toward self-medication	Qualitativephenomenological approach	Combined (deductive + inductive) thematic analysis	47 adult patients	Semi-structured interviews; face-to-face ($n=4$) and telephone; audio-recorded and transcribed verbatim	**1. Delayed diagnosis and misdiagnosis** **2. Treatment fatigue** **3. Confidence in self-management** **4. Management preferences** **5. Financial expense** **6. Unwanted attention** **7. Impact on wellbeing**	9
2	Cvetkovski 2019 Australia	To qualitatively explore patients' perceptions of the roles of alters within the allergic rhinitis (AR) network and to understand the factors determining their influence on AR management	Qualitative study, embedded in social network theory	Deductive + inductive thematic analysis	41 adults with self-reported AR	Semi-structured interviews (face-to-face or telephone), audio recorded, transcribed verbatim	**1.Roles of alters**: -Diagnosis - Medication prescription/supply/administration - Medication advice - Information about AR - Emotional support **2.Determinants of influence**: – Perceived impact on day-to-day management – Trust and confidence – Participant beliefs	9
3	Cvetkovski 2020 Australia	To explore community pharmacists' experiences and perceptions following the implementation of an Allergic Rhinitis Clinical Management Pathway (AR-CMaP) in Australian community pharmacies	Qualitative study (post-implementation evaluation)	Thematic analysis; line-by-line coding; independent coding by multiple researchers; consensus meetings	15 pharmacists (10 female) from 6 community pharmacies (ACT, Australia)	Semi-structured telephone interviews (4–14 min, median 10 min); audio-recorded and transcribed verbatim	**1. Impact of training on pharmacists' approach to patients and AR management recommendations** -Training increased pharmacists' knowledge and confidence -Development of a more structured patient approach -Ability to provide evidence-based recommendations **2. Patient engagement and the importance of appropriate tools** -AR-CMaP tools (leaflets, flowcharts) supported patient education -Tools facilitated active patient involvement in management -Visual aids enhanced communication with patients **3. Patient barriers to change in practice** -Patient resistance to changing familiar medications -Minimizing or misattributing symptoms -Lack of motivation to adopt new practices **4. Physical, logistical, and inter-professional barriers within the pharmacy environment** -Time constraints in busy pharmacy settings -Lack of private consultation spaces -Limited collaboration with general practitioners **5. Recommendations for improvement** -Need for further training and ongoing updates -Systematic support for wider AR-CMaP implementation -Public awareness campaigns to improve patient understanding	9

Table 1 (continued)

CODE	First Authoryear, country	Study aims	Methodology	Analysis	Sample	Data collection	Themes Subthemes	QARI
4	Erskine 2016 UK	To explore the experiences of patients with chronic rhinosinusitis (CRS) in relation to primary and secondary care management	Qualitative study (semi-structured interviews)	Thematic analysis using NVivo 10; independent coding, cross-checking to reduce bias	21 adult CRS patients	Semi-structured interviews (50–90 min), audio-recorded, transcribed verbatim	**1. Symptoms & duration** -Insidious vs. sudden onset -Variability in severity -Long duration of illness **2. Treatment seeking & referral** -Self-treatment attempts -Delays in referral -Experiences with GPs -Need for referral to secondary care **3. Problems with treatment** -Ineffective medications -Lack of systematic management -Limitations of surgery -Continuity of care issues **4. Impact on daily living** -Reduced quality of life -Emotional burden and distress -Suicidal ideation in severe cases -Work and social limitations -Sleep disturbance **5. Financial burden** -Cost of medications -Repeat GP visits -Complementary/alternative therapies -Private care costs	9
5	Ismail, 2018, Malaysia	To explore perceptions of allergic rhinitis patients toward their condition and the use of facial candling as treatment	Qualitative exploratory study	Thematic analysis; manual coding; intercoder agreement; consensus discussions	12 Malay patients	Semi-structured in-depth interviews (25–30 min), face-to-face, audio-recorded, transcribed and translated	**1. Knowledge about facial candling** **2. Effectiveness of facial candling** **3. Options for disease treatment** - Cost - Cultural influence - Recommendation -Safety -New method **4. Sources of information** **5. Comparison with modern medical treatment** **6. Application of treatment** **7. Treatment budget** **8. Safety**	

this burden invisible (Cvetkovski, 2020). This theme was identified primarily in patient-centered studies and was not directly emphasized in research focusing on healthcare professionals; in one study involving pharmacists, the emphasis was placed more on the underestimation of the condition rather than on the symptom burden itself (Cvetkovski, 2020). *"My nose gets so blocked at night that it really frustrates me, and I get anxious. I can't fall back asleep, even when it clears up." (Lakatos, 2025, P16, Male, 25–30).*

Subtheme: emotional reactions and psychological implications

Qualitative studies reveal that allergic rhinitis and related upper airway conditions generate substantial emotional distress and psychological strain in addition to their physical symptom burden. Participants described feelings of depression, hopelessness, and helplessness in response to the persistence and uncontrollability of symptoms (Cvetkovski, 2018). Some patients associated their symptoms with more severe illnesses, expressing anxiety about potential threats such as cancer (Erskine, 2016). Recurrent treatment cycles were also reported to cause frustration, weariness, and emotional exhaustion (Lakatos, 2025).

> *"I think I was about 14 I tried to commit suicide because it got so bad it really you know it seemed like no one was helping me [although] I was going to my doctors explaining everything to him." (Erskine, 2016, Male, 24).*

Table 1 (continued)

CODE	First Authoryear, country	Study aims	Methodology	Analysis	Sample	Data collection	Themes Subthemes	QARI
6	Fox, 2022, USA	To determine facilitators and barriers to adherence to intranasal pharmacotherapy (intranasal corticosteroids, antihistamines, saline irrigation) for allergic rhinitis	Qualitative study, grounded theory, inductive approach	Thematic analysis using iterative coding; transcripts coded with Dedoose 9.0.46	32 patients (12 male, 20 female), age 22–78; recruited from tertiary rhinology & allergy clinic	Semi-structured interviews (initial visit and/or 4–6 weeks after treatment); audio-recorded, transcribed	**1. Facilitators of adherence** -Memory triggers -Use of alarms or reminders -Perceived benefit. **2. Barriers to adherence** -Forgetting/distractions - Logistical obstacles of nasal saline irrigation (NSI) -Side effect concerns -Prior negative experiences -Travel-related issues **3. Self-directed alteration of treatment routine** -Adjusting based on symptoms -Changing due to side effects -Perceived efficacy **4. Actions by care team to improve confidence** -Explanation of diagnosis and rationale for therapy -Demonstration of proper technique -Review of endoscopic findings -Providing video links/resources	8
7	Lakatos, 2025, Hungary	To explore the impact of nasal spray overuse (rhinitis medicamentosa, RM) on quality of life and identify addiction components	Qualitative study, exploratory	Directed content analysis, based on Griffiths' addiction components model	20 participants	Semi-structured interviews (16–52 min, median 26), online (17) or in-person (3), Hungarian language, audio-recorded and transcribed verbatim	**1.Addiction components (Griffiths' model)** -Salience -Tolerance -Mood modification -Withdrawal -Conflict - Relapse **2.Distinctive features of nasal spray addiction**: - Feeling of suffocation - Sleep disorders -Side effects -Psychological influence -Illness identity	
8	Mulder, 2025, Netherlands	To explore self-management practices, beliefs, and the role of knowledge and information among adults with seasonal allergic rhinitis, and to understand their information needs and preferences	Qualitative focus group study	Thematic analysis (Atlas.ti 22); deductive + inductive coding by two independent coders; consensus discussions	20 participants	4 focus groups (2 online, 2 on-site at pharmacies); each 50–120 min; audio/video recorded and transcribed verbatim	**1. Being ill, but not a patient – it's bad, but you learn to live with it** **2. Individual search for what does or doesn't work** **3. Information needs and uses**	9
9	Rabago, 2008, USA	To assess whether patients using hypertonic saline nasal irrigation (HSNI) for chronic sinus symptoms also reported improvements in allergy, asthma, or nasal polyposis symptoms	Qualitative study (re-analysis of prior RCT qualitative interviews)	Thematic content analysis of interview transcripts	28 participants with chronic sinus symptoms	In-depth long interviews, audio recorded and transcribed	**1. Allergy** -Symptom improvement -Recommendations for HSNI use in allergies **2. Asthma** - Symptom relief **3. Nasal Polyposis** -Preventive potential	7

Table 1 (continued)

CODE	First Authoryear, country	Study aims	Methodology	Analysis	Sample	Data collection	Themes Subthemes	QARI
10	Shintani, 2023, USA	To understand patient perceptions of what drives or deters them from wanting, seeking, and taking antibiotics for acute rhinosinusitis (ARS)	Qualitative study, interpretivist approach	Iterative thematic analysis using structural and thematic coding (Dedoose software)	19 adults	Semi-structured in-person interviews (~1 h), audio-recorded and transcribed	1.**Drivers of antibiotic use** 2. **Deterrents of antibiotic use** 3. **Physician influence** 4. **Side effects**	7
11	Vennik, 2018, UK	To explore GP and ENT specialist perspectives of current treatment strategies for chronic rhinosinusitis (CRS) and care pathways through primary and secondary care	Qualitative interview study	Inductive thematic analysis (NVivo)	12 GPs and 9 ENT specialists	Semi-structured telephone interviews (25–55 min), audio-recorded and transcribed verbatim	**1. Diagnostic uncertainties** -Reaching a diagnosis -Distinguishing between subgroups **2.Selecting best management** -Treatment decisions - Initiating treatment in primary care -Further medical treatment options **3. Decision-making for surgery** -Implementing guidelines -Value of sinus surgery -Joint decision-making **4.Transition of care** **-Factors affecting referral** **- Quality of referral**	9

Theme: treatment and management strategies

The synthesis of qualitative studies indicates that the burden of allergic rhinitis and related upper airway conditions extends far beyond their biological manifestations, significantly influencing daily life, functionality, and social participation. Symptoms such as nasal obstruction, loss of smell, shortness of breath, and fatigue restricted patients' ability to fulfill everyday roles, while the tendency of society to dismiss the condition as mere "hay fever" rendered these challenges largely invisible. Within this theme, two subthemes were identified: (1) personal and pharmacological management, and (2) alternative and professional orientations.

Subtheme: personal and pharmacological management

Qualitative studies show that individuals with allergic rhinitis and related conditions adopt both personal strategies and pharmacological approaches to manage their symptoms. Participants reported integrating medications into their daily routines, discovering effective methods through trial and error, and making environmental adjustments in their living spaces (Fox, 2022; Mulder, 2025; Lakatos, 2025; Cvetkovski, 2019). However, side effects, limited and temporary benefits, costs, and issues of accessibility were frequently cited as barriers to effective self-management (Cvetkovski, 2018; Shintani, 2023). Attitudes toward nasal irrigation varied, and tensions were observed between patient expectations and evidence-based practice (Vennik, 2018). Pharmacists, on the other hand, highlighted the growing social acceptance of nasal spray use (Cvetkovski, 2020). *"The biggest challenge is patients wanting antibiotics because they think that will cure everything!" (Vennik, 2018, GP 05).*

> *"Every time I feel like I could quit, I get sick again… it's a vicious cycle." (Lakatos, 2025, Female, 40–45).*

Subtheme: alternative and professional orientations

Qualitative studies indicate that individuals with allergic rhinitis and related conditions often turn to both alternative practices and professional guidance during the course of treatment. Participants described using traditional remedies such as facial candling and saline irrigation, which were viewed by some as beneficial but by others as ineffective or even risky (Ismail, 2018; Rabago, 2008). These findings highlight how limited knowledge and cultural influences drive patients to explore different options. From a professional perspective, trust in physicians and pharmacists played a key role in treatment choices. Thorough clinical examinations and treatment recommendations from doctors fostered patient confidence, while pharmacists' demonstrations of medication techniques, particularly nasal spray use, were crucial for effective self-management (Cvetkovski, 2019a; Shintani, 2023). Healthcare professionals themselves displayed varying attitudes toward antibiotics, irrigation, and surgical interventions, with continuing education sessions, specialist correspondence, and clinical guidelines serving as primary sources of updated knowledge (Vennik, 2018).

Table 2 Themes, subthemes and supporting quotes

Themes	Subthemes	Supporting Quotes
Making Sense of Illness	Identity Perception	"It's embarrassing you know, having these symptoms." (Cvetkovski, 2018, patient) "He never referred me because I didn't consider it a really big problem." (Erskine, 2016, patient) "I didn't want to expose myself to people making remarks like, 'you're nasal spray addict'." (Lakatos, 2025, patient) "We are Dutch, we are much too down to earth to put labels on it, such as 'patient' and such, but if you listen carefully… Those are really annoying complaints." (Mulder, 2025, patient)
	Physical and Psychosocial Burden of Symptoms	"I wait for the symptoms to occur because I'm very anti-drug and the symptoms are so severe to the point where I actually can't work, because it is like a head cold." (Cvetkovski, 2018, patient) "I was just producing a lot of mucus… I'm constantly blowing my nose and I've lost my sense of smell." (Erskine, 2016, patient) "Last time, we were at the cinema, and I didn't take it with me. I couldn't even concentrate on the movie because I couldn't breathe, and it simply took away my attention." (Lakatos, 2025, patient) "I did have medication and I think also the blue one… Only that made me so incredibly tired that it actually affects me a lot. So you can't really function." (Mulder, 2025, patient) "It [HSNI] literally changes a great aspect of my life. For instance, I couldn't mow my lawn because the grass, it would just kill me." (Rabago, 2008, patient) "We're under pressure to perform in daily life, on work, with family… and when you have a sinus issue, you don't feel well and, so, you're coming in. You want a solution to the problem." (Shintani, 2023, patient) "Most of them just trivialise it … oh, it's just hay fever. … the biggest barrier. So time and the patients just don't think that it's a serious sort of condition." (Cvetkovski, 2020, pharmacist)
	Emotional Reactions and Psychological Reflections	"You get not depressed but kind of like depressed I suppose the word is. It's very debilitating. You can't believe it but it's true." (Cvetkovski, 2018, patient) "You start worrying about various things like you know with obviously like cancer… that does play on my mind um quite a bit at times and obviously that's a lot of the reason why I did go back to the GP." (Erskine, 2016, patient) "I was actually angry, I was mad about this, that it's happening again. Again I have to spray, again there's no nasal spray nearby, again I'm tired, again I woke up in the morning feeling like a squeezed lemon." (Lakatos, 2025, patient)
Treatment and Management Strategies	Personal and Pharmacological Management	"I already have a nighttime routine of medicines…so I'll just add that to this." (Fox, 2022, patient) "The antihistamine would make [me] so sleepy during the day… so I did the antihistamine at night." (Mulder, 2025, patient) "So, I tried to reduce it; I didn't use the spray constantly, but only when the situation became unbearable, and I really couldn't breathe." (Lakatos, 2025, patient) "It's trial and error. I just know—you know what works for yourself." (Cvetkovski, 2019, patient) "It worked quite good [INCS] but at the time I didn't have the money to buy it because it was so expensive." (Cvetkovski, 2018, patient) "The drawback with both of those is the cost to them. So if people can't afford that cost then… we can give you this one it's not as potent but… it's worth the cost." (Cvetkovski, 2020, pharmacist) "I am very nervous about antibiotic resistance in most cases when I get an infection." (Shintani, 2023, patient) "The biggest challenge is patients wanting antibiotics because they think that will cure everything!" (Vennik, 2018, GP)
	Alternative and Professional Orientations	"Facial candling is actually a treatment which I can say is a traditional treatment." (Ismail, 2018, patient) "I noticed the neti pot helps with the breathing." (Rabago, 2008, patient) "I listened to her advice… I waited it out and I rode it out without the antibiotic." (Shintani, 2023, patient) "I like him [respiratory physician] because he doesn't believe in operations… I trust [respiratory physician] with my life." (Cvetkovski, 2019, patient) "Being able to show a patient visually [using VAS ruler] … making sure that patients were a little bit more educated … I did feel that it has had an impact in a positive way." (Cvetkovski, 2020, pharmacist) "I tend to do a lot of online stuff, so I'll look at BMJ or RCGP learning. Sometimes, we get local events. We've not had a local ENT event recently, but we do get local consultants or specialist nurses, sometimes, come out and give us updates and guidelines." (Vennik, 2018, GP)
Care Journey and Search for Meaning	Diagnostic Uncertainty and Decision-Making	"It's been a while since my GP recommended that. I've never gone back for a follow up." (Cvetkovski, 2019, patient) "My one thing would be … if it turns out that it is something [sinister] I'll be pretty miffed that I wasn't referred that long ago." (Erskine, 2016, patient) "… why weren't you sent to the ENT earlier by your GP … why have you never come here before?" (Mulder, 2025, patient) "So generally EPOS guidelines are probably the thing that I pay the most attention to." (Vennik, 2018, ENT)
	Information Ecosystem and Social Interaction	"My parents did everything under the sun. They've gone everywhere." (Cvetkovski, 2018, patient) "I always google everything … I need to know what it could be …" (Mulder, 2025, patient) "[My husband] is an expert and he's been able to just find a tablet for me that is non-drowsy and it does seem to work quite rapidly." (Cvetkovski, 2019, patient) "My friend recommended it to me because he told me there was a positive effect on him after the treatment." (Ismail, 2018, patient)

GP = General Practitioner (primary care physician), ENT = Ear, Nose, Throat specialist (otorhinolaryngologist), EPOS = European Position Paper on Rhinosinusitis and Nasal Polyps (clinical guideline)

"The pharmacist [checked nasal spray technique] did and I think I'm using it right. The nasal spray—the chemist—actually the local chemist where I work was the first guy who said you're supposed to point the tube between your eyes when you put it up your, at an angle." (Cvetkovski, 2019).

Theme: care journey and search for meaning

The synthesis of qualitative studies demonstrates that the care trajectories of allergic rhinitis and related upper airway conditions are shaped by diagnostic and treatment uncertainties, healthcare experiences, and social interactions. Patients often reported frustration with delayed referrals and inconsistent clinical practices, while healthcare professionals showed variability in diagnostic and therapeutic decision-making. Clinical guidelines were cited as an important reference point in navigating these challenges. At the same time, individuals constructed their own information ecosystems through family, friends, and digital sources, basing decisions not only on professional advice but also on input from their social networks. In this way, the care journey of allergic rhinitis emerges as a multidimensional process situated at the intersection of clinical evaluations and personal as well as social quests for knowledge. Two subthemes were identified: (1) diagnostic uncertainty and decision-making, and (2) the information ecosystem and social interaction.

Subtheme: diagnostic uncertainty and decision-making

Qualitative studies reveal considerable uncertainty and inconsistency in the diagnostic and referral processes for allergic rhinitis and related conditions. Patients frequently expressed frustration with delayed referrals and repeated consultations, and some voiced concern that serious underlying pathologies might be overlooked (Cvetkovski, 2019; Erskine, 2016; Mulder, 2025). From the professional perspective, variations were observed between general practitioners and otolaryngologists: while some relied heavily on medical history and symptom scores, others introduced surgical options at an earlier stage (Vennik, 2018). Clinical guidelines, particularly EPOS, were identified as an important reference point in guiding these decisions (Vennik, 2018). *"My one thing would be … if it turns out that it is something [sinister] I'll be pretty miffed that I wasn't referred that long ago." (Erskine, 2016).*

Subtheme: information ecosystem and social interaction

Qualitative studies highlight that the management of allergic rhinitis and related conditions is strongly influenced by how individuals access and share information, often relying on family members, peers, and digital resources. Participants noted that their families played an active role in researching treatment options and providing guidance (Cvetkovski, 2018). Others described creating personal information networks through internet searches (Mulder, 2025), while advice from spouses, friends, or close contacts was frequently cited as shaping treatment decisions (Cvetkovski, 2019; Ismail, 2018).

"*I've got more faith in them [friends rather than health care professionals*." (Cvetkovski, 2019).

Discussion

Exploring the lived experiences of individuals with allergic rhinitis and related upper airway conditions is essential for understanding the multifaceted challenges posed in daily life and for informing the development of management strategies. To our knowledge, this study represents the first meta-synthesis focusing on the life experiences of people with allergic rhinitis and related upper airway conditions, while integrating both patient and healthcare professional perspectives. In this original work, findings from 11 qualitative studies were systematically synthesized. The inclusion of studies conducted across different countries and the integration of both patient and healthcare professional perspectives demonstrate that the impact of AR extends beyond clinical symptoms, encompassing social life and broader dimensions of lived experience. Considering that most previous syntheses have primarily concentrated on the biomedical aspects of AR [5, 12–15], the present meta-synthesis makes a distinct contribution by emphasizing subjective perspectives and offering a more holistic understanding.

Theme: making sense of illness

Allergic rhinitis and related upper airway conditions are not life-threatening disorders; however, they considerably disrupt daily functioning and quality of life and represent an important public health concern due to their prevalence and symptom burden [4]. Findings from this study indicate that AR extends beyond its clinical manifestations and constitutes a complex experience involving identity, the physical and psychosocial burden of symptoms, and their emotional impact. Symptoms such as nasal obstruction, loss of smell, and fatigue substantially reduce quality of life [32, 33], limiting social participation and everyday roles in both work and personal life [2]. Considering its high prevalence, the overall burden of these conditions becomes even more pronounced [3]. Both symptoms and medical treatments were found to negatively affect sleep quality and emotional well-being, leading to

irritability, poor concentration, and frustration [5]. At times, this burden was minimized by both patients and healthcare professionals, which further increased the risk of functional decline and social exclusion [4]. The findings highlight allergic rhinitis and related upper airway conditions as more than a biomedical condition: it is a multidimensional experience that may reshape identity, generate concerns about stigma, or, conversely, encourage denial of illness. The invisible burden of symptoms, accompanied by functional losses and exclusion, triggered intense emotional reactions such as anger, exhaustion, hopelessness, and despair. Addressing not only biological symptoms but also identity, social perception, and psychosocial aspects is therefore essential for healthcare professionals in order to preserve patients' quality of life.

Theme: treatment and management strategies

In patient care, the primary emphasis has been placed on strengthening disease control, improving patient satisfaction, and enhancing the effectiveness of preventive measures [34]. Nevertheless, the literature consistently reports low levels of treatment adherence among individuals with allergic rhinitis and related upper airway conditions [4, 10, 11]. Allergic rhinitis and related upper airway conditions management is not confined to pharmacological interventions but instead represents a multidimensional process shaped by personal coping strategies, alternative practices, and professional guidance. Participants described integrating medications into daily routines, adopting environmental modifications, using irrigation methods, and applying culturally embedded approaches as part of their management strategies. Overall, the synthesis demonstrates that the interaction between patients' self-management practices and professional input directly influences both clinical outcomes and illness perceptions.

Pharmacotherapy choices in allergic rhinitis and related upper airway conditions are determined by factors such as age, symptom type and severity, level of disease control, patient preferences, and treatment costs [4]. In this study, barriers to effective medication management included side effects, financial burden, limited accessibility, and lack of knowledge. From a professional standpoint, the credibility and guidance of physicians and pharmacists, along with guideline-based clinical approaches, played a central role in shaping treatment. However, existing guidelines were often found to inadequately reflect real-life conditions and patient expectations, limiting their acceptance in practice. These findings underscore the need for guidelines that incorporate real-world evidence and facilitate individualized care planning. While the importance of such an approach is clear, awareness and implementation in clinical practice remain limited [8].

Theme: care journey and search for meaning

The treatment process in allergic rhinitis and related upper airway conditions is often marked by uncertainty due to individual variability in symptoms, limited evidence supporting preventive strategies, and unclear timing of interventions [35]. Such uncertainty is shaped not only by the limitations of clinical guidelines but also by patients' self-management strategies developed through personal experiences [9]. This complexity makes it difficult to standardize clinical decisions and undermines both continuity and effectiveness of care [1]. Findings from this meta-synthesis show that the care journey of individuals with allergic rhinitis and related upper airway conditions is influenced not only by clinical evaluations but also by uncertainties, decision-making challenges, and reliance on social information sources. Patients reported distrust caused by delayed referrals, repeated consultations, and variations in professional approaches. Although guideline-based decisions enhanced confidence, inconsistencies in practice contributed to ongoing perceptions of uncertainty. Additional factors such as inadequate or inappropriate treatment further complicated disease control [9]. Taken together, these findings underscore that effective allergic rhinitis and related upper airway conditions care cannot rely solely on clinical protocols but must also integrate patient experiences and strategies for managing uncertainty through holistic approaches.

Limiting allergic rhinitis and related upper airway conditions strictly to guidelines, medical treatment, and professional opinion is regarded as a key reason for suboptimal control [36]. Research indicates that many patients manage their condition independently, relying on personal experiences or prior advice rather than consulting healthcare professionals [1, 9]. The present synthesis also highlights the extensive role of family, peers, and digital platforms in shaping care-seeking and treatment decisions. Supporting this, data from the MASK-air study involving nearly 7,000 patients revealed widespread misconceptions about treatment and adherence rates below 10% [10]. These findings point to shared decision-making as a critical need in the management of allergic rhinitis and related upper airway conditions. Beyond delivering evidence-based information, healthcare professionals must engage in patient-centered communication that incorporates past experiences, preferences, comorbidities, and social support networks [6, 37]. Ultimately, the results demonstrate that the future of care for allergic rhinitis and related upper airway conditions depends not only on medical interventions but also on fostering trust and collaborative decision-making between patients and professionals.

Recommendations for clinical practice

The findings of this meta-synthesis indicate that approaching allergic rhinitis and related upper airway conditions solely from a biomedical perspective is insufficient, and that patient-centered communication and shared decision-making are crucial for improving adherence and the effectiveness of care. Addressing the invisibility of symptoms, the risk of stigma, and diverse treatment expectations is essential for developing individualized care plans and supporting self-management skills. Current guidelines were found to inadequately reflect real-life conditions and cultural diversity; thus, localized recommendations, improved access to care, and a stronger role for pharmacists in patient education and follow-up are needed. Training programs aimed at enhancing healthcare professionals' communication and practical skills should be prioritized, with regular updates on key practices such as nasal spray techniques, irrigation, and symptom management. Future research should place greater emphasis on cross-cultural differences, the integration of digital self-management tools, and longitudinal experiences, while also including socioeconomically diverse populations and patients with comorbid conditions to address existing gaps in the field.

Strengths and limitations

A key strength of this meta-synthesis is its multidimensional perspective, extending beyond the biomedical aspects of allergic rhinitis and related upper airway conditions to also address identity, psychosocial burden, emotional impacts, and uncertainties within the care journey. The inclusion of studies from diverse countries and the integration of both patient and healthcare professional viewpoints enhanced the richness and diversity of the findings. Several limitations should also be acknowledged. Many of the included studies were based on relatively small samples, which limits the generalizability of the results. In addition, qualitative data reflecting healthcare professionals' perspectives were less extensive than those from patients, making it difficult to capture both dimensions equally. Restricting inclusion to English-language publications may also have introduced language bias. Although independent assessments were used to minimize subjectivity, the interpretive nature of meta-synthesis means that the influence of researchers' perspectives on theme development cannot be entirely eliminated.

Conclusion

This meta-synthesis demonstrates that allergic rhinitis and related upper airway conditions is not solely a biological disorder but a multidimensional experience shaped by identity, symptom burden, emotional consequences, and the broader care journey. The findings show that patient experiences are closely intertwined with treatment strategies and professional practices, directly influencing clinical outcomes. In clinical practice, individualized care is particularly critical for patients with high symptom burden, poor adherence, or comorbid conditions. Patient-centered care models that strengthen communication, support shared decision-making, and integrate practical tools such as digital self-management applications are highlighted as valuable approaches. Future research should expand to include cross-cultural comparisons, explore the experiences of different socioeconomic groups, and examine the role of digital health technologies in order to advance more inclusive and effective strategies for allergic rhinitis and related upper airway conditions.

Funding Open access funding provided by the Scientific and Technological Research Council of Türkiye (TÜBİTAK). This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Declarations

Ethical approval This study is a qualitative meta-synthesis based exclusively on previously published studies. Therefore, ethical approval was not required.

Informed consent This study is based on previously published studies. Informed consent was obtained in the original studies included in the review.

Conflict of interest The authors declare that they have no conflict of interest.

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