

LIBRA JOURNAL CLUB

3-12-JAN-2025

Our legal office confirmed that articles NOT OPEN ACCESS cannot be distributed to the members of the list. Thus, we will transmit only the titles of articles.

ABSTRACTS of almost all these articles are available from PubMed, and full papers can be obtained through your institutions' library.

OPEN ACCESS articles are available by accessing the articles from PubMed using just the PMID for the search (eg PMID: 35514131 without . at the end)

(copd OR "Pulmonary Disease, Chronic Obstructive"[Mesh])

1

Review

Eur J Intern Med

-
-
-

. 2025 Jan 9:S0953-6205(24)00539-9.

doi: 10.1016/j.ejim.2024.12.033. Online ahead of print.

[Chronic obstructive pulmonary disease: A narrative synthesis of its hallmarks for palliative care clinicians](#)

[Jacopo D'Andria Ursoleo](#)¹, [Alice Bottussi](#)², [Donald R Sullivan](#)³, [Corrado D'Andria](#)⁴, [Natalia Smirnova](#)⁵, [William E Rosa](#)⁶, [Stefano Nava](#)⁷, [Fabrizio Monaco](#)⁸

Affiliations Expand

- PMID: 39794226
- DOI: [10.1016/j.ejim.2024.12.033](https://doi.org/10.1016/j.ejim.2024.12.033)

Abstract

Chronic obstructive pulmonary disease (COPD) is a life-limiting condition and the third leading cause of death worldwide. People with COPD experience physical and psychological symptoms and functional limitations that impair their quality of life.

Their caregivers face adverse clinical outcomes due to personal, social, and financial demands. As such, recent emphasis has been placed on early referral to palliative care services to enhance prognostic awareness, clarify goals of care, and manage symptoms. In this narrative synthesis of key aspects of COPD care, we propose practical, evidence-based strategies to integrate palliative care principles with conventional disease-directed treatments throughout the illness trajectory. We emphasize the importance of equipping clinicians caring for people with COPD with a thorough understanding of both the inherent disease complexities and the cornerstones of its multimodal management, including palliative care, to address the unique psychosocial and physical needs of this patient population.

Keywords: COPD; Chronic obstructive pulmonary disease; Dyspnea; End of life; Palliative care; Symptom management.

Copyright © 2025 European Federation of Internal Medicine. Published by Elsevier B.V. All rights reserved.

Conflict of interest statement

Declaration of competing interest The other authors declare that they have no competing interests.

Supplementary info

Publication types Expand

Full text links



[Proceed to details](#)

Cite

Share

2

BMC Pulm Med

-
-
-

. 2025 Jan 4;25(1):5.

doi: 10.1186/s12890-024-03346-6.

[Factors related to the progression of chronic obstructive pulmonary disease: a retrospective case-control study](#)

[Fang Ding](#)¹, [Wenjing Liu](#)², [Xiaoying Hu](#)³, [Chunyan Gao](#)³

Affiliations Expand

- PMID: 39755600
- PMCID: [PMC11699637](#)
- DOI: [10.1186/s12890-024-03346-6](#)

Abstract

Objectives: To explore the factors related to the progression of chronic obstructive pulmonary disease (COPD).

Methods: 80 COPD patients treated between January 2020 and December 2022. The patients' pulmonary functions at their first hospital admission were categorized into four groups: Grade I, Grade II, Grade III and Grade IV. Each group was further divided into a progression group and a non-progression group based on the disease progression over one year or several years of follow-up. Patients with other respiratory diseases, malignant tumors, severe heart, kidney, liver dysfunctions, or immune deficiencies affecting the prognosis were excluded. General information, clinical data, treatment data, and statistical analysis of the patients.

Results: In comparison with the non-progression group, the progression group had significantly higher age, smoking behavior, COPD history, hemoptysis history, CRP levels, IL-6 levels, and Pneumonia Severity Index (PSI) scores, exhibiting significantly lower FEV1, FEV1% predicted, PaO2, and PaCO2. More frequent use of antibiotics, corticosteroids, oxygen therapy, and mechanical ventilation were observed in the progression group than that in the non-progression group ($P < 0.05$). As a consequence, the progression group had a worse prognosis as indicated by higher hospitalization costs, longer hospital stay, and higher rate of acute exacerbations than the non-progression group ($P < 0.05$). Multifactorial logistic regression analysis showed that age ≥ 65 years, PSI score ≥ 130 points, and multidrug-resistant bacteria infection were independent risk factors for the progression of COPD ($P < 0.05$).

Conclusions: Older COPD patients, higher PSI score, and multidrug-resistant bacteria infection have a worse prognosis and need more intensive treatment and follow-up.

Keywords: Age; Bacteria infection; COPD; PSI; Progression.

© 2024. The Author(s).

Conflict of interest statement

Declarations. Ethics approval and consent to participate: This study was conducted in accordance with the Declaration of Helsinki and approved by the ethics committee of Harrison International Peace Hospital. Due to the anonymized and de-identified nature of the data, there is no need to obtain informed consent from the patient after approval by ethics committee of Harrison International Peace Hospital.

Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- [25 references](#)
- [1 figure](#)

Supplementary info

MeSH terms, Grants and fundingExpand

Full text links



[Proceed to details](#)

Cite

Share

3

J Am Heart Assoc

-
-
-

. 2025 Jan 10:e035010.

doi: 10.1161/JAHA.124.035010. Online ahead of print.

[Risk of Atherosclerotic Cardiovascular Disease After Chronic Obstructive Pulmonary Disease Hospitalization among Primary and Secondary Prevention Older Adults](#)

[Christopher L Mosher](#)^{1,2}, [Oyomoare L Osazuwa-Peters](#)³, [Michael G Nanna](#)⁴, [Neil R MacIntyre](#)¹, [Loretta G Que](#)¹, [Scott M Palmer](#)^{1,2,3}, [W Schuyler Jones](#)^{2,3,5}, [Emily C O'Brien](#)^{2,3}

Affiliations Expand

- PMID: 39791395
- DOI: [10.1161/JAHA.124.035010](#)

Abstract

Background: Meta-analyses have suggested that the risk of cardiovascular disease events is significantly higher after a chronic obstructive pulmonary disease (COPD)

exacerbation, but the populations at highest risk have not been well characterized to date.

Methods and results: The authors analyzed the risk of atherosclerotic cardiovascular disease (ASCVD) hospitalizations after COPD hospitalization compared with before COPD hospitalization and patient factors associated with ASCVD hospitalizations after COPD hospitalization among 2 high-risk patient cohorts. The primary outcome was risk of an ASCVD hospitalization composite outcome (myocardial infarction, coronary artery bypass graft, percutaneous coronary intervention, stroke, transient ischemic accident) after COPD hospitalization relative to before COPD hospitalization. Additional analyses evaluated for risk factors associated with the composite ASCVD hospitalization outcome. In the high-risk primary prevention cohort, the hazard ratio (HR) estimate following adjustment for the composite ASCVD hospitalization outcome after COPD hospitalization versus before COPD hospitalization for 30 days was 0.74 (95% CI, 0.66-0.82; $P \leq 0.0001$); for 90 days, 0.69 (95% CI, 0.64-0.75; $P \leq 0.0001$); and for 1 year, 0.78 (95% CI, 0.73-0.82; $P \leq 0.0001$). In the secondary prevention cohort, the HR for 30-day hospitalization was 1.15 (95% CI, 1.05-1.26; $P = 0.0036$); 90-day hospitalization, 1.08 (95% CI, 1.01-1.15; $P = 0.0178$); and 1-year hospitalization, 1.07 (95% CI, 1.02-1.11; $P = 0.0026$). Among the 19 characteristics evaluated, hyperlipidemia and history of acute ASCVD event were associated with the highest risk of ASCVD events 1 year after COPD hospitalization in the high-risk primary and secondary prevention cohorts.

Conclusions: The risk of ASCVD hospitalization was higher in patients with established ASCVD and lower among high-risk patients without established ASCVD after-COPD hospitalization relative to before hospitalization. We identified multiple risk factors for ASCVD hospitalization after COPD hospitalization.

Keywords: COPD; atherosclerotic cardiovascular disease; high-risk; older adults; risk factors.

Full text links



[Proceed to details](#)

Cite

Share

4

Review

Clin Ther

-
-

•
2025 Jan 4:S0149-2918(24)00374-6.

doi: 10.1016/j.clinthera.2024.12.001. Online ahead of print.

[Meta-Analysis of Randomized, Controlled Trials Assessing the Effectiveness and Safety of Biological Treatments in Chronic Obstructive Pulmonary Disease Patients](#)

[Khai-Chi Hu](#)¹, [Min-Hsiang Chuang](#)², [Chih-Cheng Lai](#)³, [Kuang-Ming Liao](#)⁴

Affiliations Expand

• PMID: 39757036

• DOI: [10.1016/j.clinthera.2024.12.001](https://doi.org/10.1016/j.clinthera.2024.12.001)

Free article

Abstract

Anti-interleukin-5 (IL-5), anti-IL-5 receptor and anti-interleukin-4 (IL-4) have emerged as potential treatments for severe eosinophilic asthma, yet their role in treating chronic obstructive pulmonary disease (COPD) is unclear. A literature review was conducted up to May 31, 2024. Only randomized controlled trials (RCTs) assessing the clinical efficacy and adverse effects of biological treatment (anti-IL-5/ anti-IL-5 receptor /anti-IL-4) in COPD patients were included in this meta-analysis. Primary outcomes focused on COPD exacerbation risk, with secondary outcomes examining lung function, quality of life, and adverse events. Four articles comprising 6 RCTs were analyzed. Among 2837 patients receiving anti-IL-5/anti-IL-5 receptor therapies, 468 receiving anti-IL-4 therapies, and 1913 receiving placebo. Overall, biological treatment therapies collectively demonstrated a reduced risk of COPD exacerbation compared to placebo (rate ratio, 0.88; 95% CI, 0.80-0.97, $I^2 = 53\%$). Specifically, dupilumab statistically significant reduction in exacerbation risk (rate ratio 0.70, 95% CI 0.58-0.84). Benralizumab showed a borderline reduction in exacerbation risk (rate ratio, 0.92; 95% CI, 0.85-1.00, $I^2 = 0\%$, while Mepolizumab exhibited a trend towards lower exacerbation risk that did not reach statistical significance (rate ratio 0.90, 95% CI 0.77-1.06, $I^2 = 62\%$). Subgroup analysis showed that patients with COPD and eosinophils ≥ 300 per cubic millimeter who received biological treatment may experience a reduced risk of acute exacerbation. Changes in lung function from baseline did not significantly differ between biological therapies and placebo. Analysis of St. George's Respiratory Questionnaire (SGRQ) scores indicated significant improvements with biological therapies compared to placebo (mean difference -1.30, 95% CI -2.46 to -0.14, $I^2 = 28\%$). Biological therapies showed comparable risks of adverse events compared to placebo. This meta-analysis suggests that biological therapies may reduce the risk of acute exacerbations and improve quality of life in COPD patients compared to placebo. However, these therapies did not demonstrate significant improvements in pulmonary function. Future studies are needed to delineate the role of these biologic therapies in managing COPD exacerbations.

Keywords: Benralizumab; Biological treatments; Chronic obstructive pulmonary disease; Dupilumab; Mepolizumab.

Copyright © 2024 The Authors. Published by Elsevier Inc. All rights reserved.

Conflict of interest statement

Declaration of competing interest The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Kuang-Ming Liao reports article publishing charges was provided by Chi Mei Medical Center, Chiali. Kuang-Ming Liao reports a relationship with Chi Mei Medical Center, Chiali that includes: employment. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Supplementary info

Publication types [Expand](#)

Full text links



[Proceed to details](#)

Cite

Share

5

Randomized Controlled Trial

BMJ Open Respir Res

-
-
-

. 2025 Jan 6;12(1):e002698.

doi: 10.1136/bmjresp-2024-002698.

[Home high-flow therapy during recovery from severe chronic obstructive pulmonary disease \(COPD\) exacerbation: a mixed-methods feasibility randomised control trial](#)

[Rebecca F D'Cruz](#)^{1,2}, [Anne Rossel](#)^{3,4}, [Georgios Kaltsakas](#)^{3,2}, [Eui-Sik Suh](#)^{3,5}, [Abdel Douiri](#)⁶, [Louise Rose](#)^{7,8}, [Patrick B Murphy](#)^{3,2}, [Nicholas Hart](#)^{3,2}

Affiliations [Expand](#)

- PMID: 39762067

- DOI: [10.1136/bmjresp-2024-002698](https://doi.org/10.1136/bmjresp-2024-002698)

Free article

Abstract

Introduction: Patients recovering from severe acute exacerbations of chronic obstructive pulmonary disease (AECOPD) have a 30-day readmission rate of 20%. This study evaluated the feasibility of conducting a randomised controlled trial to evaluate clinical, patient-reported and physiological effects of home high-flow therapy (HFT) in addition to usual medical therapy, in eucapnic patients recovering from AECOPD to support the design of a phase 3 trial.

Methods: A mixed-methods feasibility randomised controlled trial (quantitative primacy, concurrently embedded qualitative evaluation) (ISRCTN15949009) recruiting consecutive non-obese patients hospitalised with AECOPD not requiring acute non-invasive ventilation. Participants were randomised to receive usual care or usual care and home HFT (37°C, 30 L/min) with weekly home-based follow-up for 4 weeks to collect data on: device usage, breathlessness (modified Borg scale, visual analogue scale, Multidimensional Dyspnoea Profile), health-related quality of life (COPD Assessment Test (CAT), Clinical COPD Questionnaire), pulse oximetry, spirometry and inspiratory capacity, parasternal electromyography and actigraphy. Semistructured interviews were conducted in week 4. Trial progression criteria were: $\geq 40\%$ of eligible patients randomised, $\leq 20\%$ attrition, $\geq 70\%$ complete data, and no device-related serious adverse events (SAE).

Results: 18 of 45 eligible patients were randomised (age 69 ± 5 years, 44% female, body mass index 23 ± 5 kg/m², forced expiratory volume in 1 second $32 \pm 12\%$). One withdrew following non-respiratory hospitalisation. Complete outcome measures were collected in $>90\%$ of home assessments. There were no device-related SAE. Daily HFT usage was 2.7 ± 2.2 hours in week 1, falling to 2.3 ± 1.4 hours by week 4. Temperature and flow settings were modified for comfort in 6 cases. Higher HFT usage was associated with lower symptom burden (CAT $p=0.01$). Interviews highlighted ease of device use, reduced salbutamol usage, and improved sputum production and clearance.

Conclusions: The data from this feasibility study support the progression to a phase 3 randomised clinical trial investigating the effect of home (HFT) on admission-free survival in COPD patients recovering from a severe exacerbation.

Trial registration number: The study received ethical approval (REC19/LO/0194) and was prospectively registered (ISRCTN15949009).

Keywords: COPD Exacerbations; Emphysema; Lung Physiology; Patient Outcome Assessment; Respiratory Function Test; Respiratory Muscles.

© Author(s) (or their employer(s)) 2025. Re-use permitted under CC BY. Published by BMJ Group.

Conflict of interest statement

Competing interests: None declared.

Supplementary info

Publication types, MeSH termsExpand

Full text links



[Proceed to details](#)

Cite

Share

6

Randomized Controlled Trial

J Med Internet Res

-
-
-

. 2025 Jan 6:27:e65888.

doi: 10.2196/65888.

[Efficacy and Acceptability of a Mobile App for Monitoring the Clinical Status of Patients With Chronic Obstructive Pulmonary Disease Receiving Home Oxygen Therapy: Randomized Controlled Trial](#)

[Anisbed Naranjo-Rojas](#) ^{#1}[2](#), [Luis Ángel Perula-de Torres](#) ^{#3}, [Freiser Eccehomo Cruz-Mosquera](#) ^{#4}, [Guillermo Molina-Recio](#) ^{#5}

Affiliations Expand

- PMID: 39761550
- DOI: [10.2196/65888](#)

Free article

Abstract

Background: Chronic obstructive pulmonary disease (COPD) primarily originates from exposure to tobacco smoke, although factors, such as air pollution and exposure to chemicals, also play a role. One of the primary treatments for COPD is oxygen therapy, which helps manage dyspnea and improve survival rates. Mobile health (mHealth) technologies have demonstrated significant potential in monitoring

patients with chronic diseases, offering new avenues for enhancing patient care and disease management.

Objective: The purpose of this study was to evaluate the efficacy and acceptability of a mobile app designed for the clinical monitoring of patients with COPD and home oxygen (HO) therapy, compared with conventional monitoring in real-world community settings.

Methods: A parallel-group, nonblinded, multicenter randomized controlled trial was conducted with 45 participants; the intervention group (IG), which used the mobile app in addition to conventional monitoring (n=23) and the control group, which received only conventional monitoring (n=22), administered by therapists over a duration of 3 months. The primary outcomes included the chronic obstructive pulmonary disease assessment test (CAT) score, the level of dyspnea measured by the Borg scale, and oxygen saturation percentage, assessed at both the beginning and end of the trial. Secondary outcomes included the frequency of app use, the number of hospitalizations, and survival rates. In addition, a satisfaction survey and an interview were conducted with the IG.

Results: The median use of the mobile app was 21 (IQR 16-28) days. At the end of the follow-up, the Borg dyspnea scale was significantly lower in patients who used the mobile app for HO therapy monitoring (mean 0.6, SD 0.8 vs mean 4.1, SD 1.4; $P=.001$). Regarding the impact of COPD on quality of life, as measured by the CAT, no differences were found in the scores between baseline and end-of-follow-up within the control group. However, a significant decrease was observed in the IG (baseline median CAT 27, IQR 23-31 vs final median CAT 22, IQR 14-28; $P<.001$). In addition, the CAT score was significantly higher in patients receiving conventional monitoring compared with those monitored with the mobile app (median 30, IQR 23-32 vs median 22, IQR 14-28; $P=.02$).

Conclusions: The use of the mobile app, AppO2 (SINCO), designed for the clinical monitoring of patients with COPD and HO therapy, is associated with improved quality of life. In addition, the app is highly accepted by users, promotes self-care, and fosters patient confidence in managing their own condition.

Trial registration: ClinicalTrials [NCT04820790](https://clinicaltrials.gov/study/NCT04820790);
<https://clinicaltrials.gov/study/NCT04820790>.

International registered report identifier (irrid): RR2-<https://doi.org/10.1186/s12875-021-01450-8>.

Keywords: chronic obstructive pulmonary disease; home oxygen therapy; m-Health; mobile health applications; mobile phone; quality of life.

©Anisbed Naranjo-Rojas, Luis Ángel Perula-de Torres, Freiser Eccehomo Cruz-Mosquera, Guillermo Molina-Recio. Originally published in the Journal of Medical Internet Research (<https://www.jmir.org>), 06.01.2025.

Supplementary info

Publication types, MeSH terms, Associated dataExpand

Full text links

[Proceed to details](#)

Cite

Share

7

J Clin Med

-
-
-

. 2025 Jan 3;14(1):252.

doi: 10.3390/jcm14010252.

[Pain and Dyspnea During Acute Exacerbations of Chronic Obstructive Pulmonary Disease: Documentation Audit 2019-2020](#)

[Stephanie Y Clarke](#)^{1,2}, [Marie T Williams](#)³, [Kylie N Johnston](#)³, [Annemarie L Lee](#)^{1,4}

Affiliations Expand

- PMID: 39797334
- DOI: [10.3390/jcm14010252](#)

Abstract

Background/Objectives: Patient-reported outcome measures (PROMs) assess the severity and impact of both pain and dyspnea in those with acute exacerbations of chronic obstructive pulmonary disease (COPD), but their frequency of use in clinical practice is unknown. This study aimed to determine the point prevalence of pain and dyspnea assessment in patients hospitalized with an acute exacerbation of COPD and the measurement tools applied for this purpose in clinical practice. **Methods:** Clinical notes and observation charts of patients admitted with acute exacerbations of COPD to a metropolitan hospital in 2019 and 2020 were retrospectively audited to identify the point prevalence of pain and dyspnea assessment, the PROMs applied, and their associated focal periods. **Results:** Pain and dyspnea were assessed using a PROM in 99% and 8% of cases of acute exacerbation of COPD, respectively. All PROMs used measured symptom intensity. Focal periods were rarely reported in the assessment of pain; in the dyspnea assessment, timeframes predominantly reflected the impact of exertion. **Conclusions:** At this single health service site, in people hospitalized with an acute exacerbation of COPD, pain was more frequently assessed using a PROM than dyspnea. Understanding factors influencing clinicians' choice of assessment

tools may inform future recommendations for the assessment of these symptoms in people hospitalized with exacerbations of COPD.

Keywords: COPD; assessment; dyspnea; exacerbation; pain.

Full text links



[Proceed to details](#)

Cite

Share

8

Randomized Controlled Trial

BMC Cardiovasc Disord

-
-
-

. 2025 Jan 10;25(1):15.

doi: 10.1186/s12872-024-04437-2.

[Reduced contrast agent volume using a heart-rate dependent and free-breathing scanning protocol in coronary computed tomography angiography \(CTA\) for patients with chronic obstructive pulmonary disease \(COPD\)](#)

[Zengkun Wang](#)¹, [Guoyue Chen](#)², [Dewei Song](#)³, [Xiaodie Xu](#)¹, [Chu Chu](#)², [Shuning Zhang](#)², [Huijing Chai](#)², [Hairong Yu](#)², [Xiaomei Luan](#)¹, [Peiji Song](#)⁴

Affiliations Expand

- PMID: 39794706
- DOI: [10.1186/s12872-024-04437-2](#)

Abstract

Background: The personalized, free-breathing, heart rate-dependent computed tomography angiography (CTA) protocol can significantly reduce the utilization of contrast medium (CM). This proves especially beneficial for patients with chronic obstructive pulmonary disease (COPD) undergoing coronary artery CTA examinations.

Objective: The aim of this study was to evaluate the feasibility of a personalized CT scanning protocol that was tailored to patients' heart rate and free-breathing for coronary CTA of patients with COPD.

Methods: A total of 400 patients with COPD who need to undergo the coronary CTA were prospectively randomized into two groups (patients with vascular occlusion were excluded). Group A (n = 200) underwent CTA following a traditional protocol (70mL). The timing of the scans in Group B (n = 200) was determined according to the patient's HR and free-breathing (30mL).

Results: No difference was found between the two groups in the CT values of RCA, LA, or LCX; (p = 0.131, 0.195 and 0.116). Subjective ratings of image quality (Table 2) were not statistically different between the two groups (p = 0.825).

Conclusion: By adopting a heart-rate dependent and free-breathing protocol, the contrast medium volume were reduced in coronary CTA for patients with COPD, while the image quality was remained comparable to those acquired with routine CTA protocol.

Keywords: COPD; Coronary CTA; HR-based protocol; Low volume of contrast medium.

© 2024. The Author(s).

Conflict of interest statement

Declarations. Ethical approval: This study was approved by the Ethics Committee of the Central Hospital Affiliated to Shandong First Medical University (approval number: JNCN2022-057, date of the approval: December in 2022), all methods were performed in accordance with the relevant guidelines and regulations. **Informed consent:** All participants provided written informed consent prior to enrollment. **Competing interests:** The authors declare no competing interests.

- [31 references](#)

Supplementary info

Publication types, MeSH terms, Substances, Grants and funding Expand

Full text links



[Proceed to details](#)

Cite

Share

9

PLoS One

-

-
-

. 2025 Jan 8;20(1):e0316135.

doi: 10.1371/journal.pone.0316135. eCollection 2025.

[Burden of chronic obstructive pulmonary disease in adults aged 70 years and older, 1990-2021: Findings from the Global Burden of Disease Study 2021](#)

[Kaifang Meng](#)¹, [Xu Chen](#)², [Zhishang Chen](#)³, [Jing Xu](#)^{4,5}

Affiliations Expand

- PMID: 39775322
- PMCID: [PMC11709235](#)
- DOI: [10.1371/journal.pone.0316135](#)

Abstract

Background: Life expectancy at age 70 has continued to rise globally over the past 30 years. However, a comprehensive assessment of the burden of COPD in older adults is lacking. We aimed to estimate the burden of COPD and its attributable risk factors among adults aged ≥ 70 years.

Methods: Data on the prevalence, incidence, deaths, disability-adjusted life years (DALYs), and risk factors of COPD among adults aged ≥ 70 years from 1990 to 2021 across 204 countries and territories, were sourced from the Global Burden of Disease Study 2021. Estimated annual percentage change (EAPC) was used to illustrate temporal trends at global and regional levels from 1990 to 2021.

Results: In 2021, the global numbers of prevalent and incident COPD cases among older adults were 99.7 and 7.4 million, increasing by 162.2% and 157.4% from 1990. The prevalence and incidence rates increased from 18823.5 (95% uncertainty interval (UI) 16324.4-21208.4) to 20165.6 (17703.8-22549.4) and 1429.0 (1224.2-1613.0) to 1502.7 (1309.0-1677.9) per 100,000 population (EAPC 0.31, 95% CI 0.28-0.33; 0.17, 95% CI 0.16-0.19). The global numbers of COPD-associated deaths and DALYs in 2021 reached 2.9 and 45.4 million, increasing by 70.7% and 70.0% from 2019, while the corresponding rates declined (both EAPC < 0). The highest prevalence and the largest increase in incidence rate occurred in high sociodemographic index (SDI) regions, while the largest increase in death and DALY rates occurred in the low SDI regions. The United States had the highest prevalence rates in 2021, while Iran had the largest increase. From 1990 to 2021, the death rates attributable to ambient ozone pollution-related COPD in older adults have risen, particularly in low and low-middle SDI regions.

Conclusion: COPD in older adults has progressively become a global health challenge with rising prevalence and incidence rates. Although the death and DALY rates attributed to COPD have globally decreased in older adults, the absolute

counts are rapidly increasing. The inequalities across different regions and countries underscore a multi-faceted approach to COPD management in older adults.

Copyright: © 2025 Meng et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Conflict of interest statement

The authors have declared that no competing interests exist.

- [46 references](#)
- [6 figures](#)

Supplementary info

MeSH terms, Grants and funding [Expand](#)

Full text links



[Proceed to details](#)

Cite

Share

10

PLoS One

-
-
-

. 2025 Jan 7;20(1):e0312742.

doi: 10.1371/journal.pone.0312742. eCollection 2025.

[Supervised pulmonary tele-rehabilitation and individualized home-based pulmonary rehabilitation for patients with COPD, unable to participate in center-based programs. The protocol for a multicenter randomized controlled trial - the REPORT study](#)

[Christina Nielsen](#)¹, [Nina Godtfredsen](#)^{1,2}, [Stig Molsted](#)^{2,3}, [Charlotte Ulrik](#)^{1,2}, [Thomas Kalleemose](#)⁴, [Henrik Hansen](#)^{1,5}

Affiliations [Expand](#)

- PMID: 39774509
- PMCID: [PMC11706455](#)
- DOI: [10.1371/journal.pone.0312742](https://doi.org/10.1371/journal.pone.0312742)

Abstract

Introduction: Chronic obstructive pulmonary disease (COPD) costs EURO 1.4 billion annually in healthcare costs. Pulmonary rehabilitation (PR) is a vital aspect of care for patients with COPD, but despite the compelling evidence, it is delivered to less than 30%. Frequent transport to the center-based program is regularly reported as reasons for non-attendance. The effectiveness and feasibility of pulmonary tele-rehabilitation (PTR) and home-based pulmonary rehabilitation (HPR) have never been investigated in patients with COPD who are unable to attend conventional outpatient PR.

Materials and methods: This study is a multicenter randomized controlled trial consisting of three parallel groups; PTR, HPR and a control group. 180 patients with moderate to very severe COPD, who are unable to attend in center-based PR programs will be included. The PTR group receives group-based resistance- and endurance training and patient education 60 min. twice a week for 10-weeks. HPR comprises an individual self-initiated home-based PR program with online motivational and professional counseling. The goal is to achieve at least 20 min. of muscle-endurance based exercises three days weekly for 10-weeks. The PTR and HPR group use a tablet with a conference system. The control group receives usual care (no PR). After completion of the intervention, the PTR and HPR groups are offered 65-weeks groupbased maintenance program supervised once a week online via tablet. The primary outcome is change in respiratory symptoms measured with the COPD Assessment Test after 10-weeks (primary endpoint).

Discussion: The study aims to test a possible equivalence between PTR and HPR and their superiority to controls on respiratory symptoms. The study will provide valuable insights into the effectiveness of new rehabilitation models and maintenance programs for patients with COPD. If the two new delivery models can reduce respiratory symptoms, patients with moderate to very severe COPD can participate in both home- or centerbased PR.

Trial registration: The trial is registered and approved by the Ethics Committee of The Capital Region of Denmark (H-22015777; 29.08.2022) and the Danish Data Protection Agency (P-2022-245-13101, 25.05.2022). The trial is registered at ClinicalTrials.gov, identifier: [NCT05664945](#) (23.12.2022).

Copyright: © 2025 Nielsen et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Conflict of interest statement

The authors have declared that no competing interests exist.

- [73 references](#)
- [2 figures](#)

Supplementary info

Publication types, MeSH terms, Associated data, Grants and funding [Expand](#)

Full text links



[Proceed to details](#)

Cite

Share

11

Cancer Epidemiol Biomarkers Prev

-
-
-

. 2025 Jan 9;34(1):35-41.

doi: 10.1158/1055-9965.EPI-24-0725.

[Lung Cancer Screening Uptake under the Revised United States Preventive Services Task Force Guideline: Assessing Disparities](#)

[Abdi T Gudina](#)¹, [Charles S Kamen](#)², [Kelly A Hirko](#)³, [David H Adler](#)⁴, [Deborah J Ossip](#)¹, [Edith M Williams](#)¹, [Vinay K Cheruvu](#)⁵, [Ana-Paula Cupertino](#)⁶

Affiliations [Expand](#)

- PMID: 39269271
- PMCID: [PMC11712035](#)
- DOI: [10.1158/1055-9965.EPI-24-0725](#)

Abstract

Background: Scanning with low-dose computed tomography reduces lung cancer mortality by 20% among high-risk individuals. Despite its efficacy, the uptake of lung cancer screening (LCS) remains low. Our study aimed to estimate state-level

and nationwide LCS rates among eligible individuals and to assess disparities in LCS uptake.

Methods: Data for this study were obtained from the 2022 Behavioral Risk Factor Surveillance System. Multivariable logistic regression models were used to model the associations between predictors and outcome variables and to examine LCS variability across states.

Results: Of the 28,071 participants eligible for LCS, 17.24% underwent LCS. Participants ages 65 to 79 years were [OR, 1.75; 95% confidence interval (CI), 1.54-1.99] more likely to undergo LCS than their younger counterparts. Those who were female (OR, 0.83; 95% CI, 0.73-0.94); divorced, separated, or widowed (OR, 0.85; 95% CI, 0.74-0.98); without health insurance (OR, 0.34; 95% CI, 0.22-0.53); without a primary care provider (OR, 0.29; 95% CI, 0.19-0.44); and without chronic obstructive pulmonary disease or those who did not disclose their chronic obstructive pulmonary disease status (OR, 0.35; 95% CI, 0.31-0.40 and OR, 0.37; 95% CI, 0.19-0.73, respectively) were less likely to undergo LCS than their respective counterparts. LCS uptake also varied significantly across U.S. states.

Conclusions: We observed a low uptake of LCS overall and significant variability in LCS uptake by sociodemographic and health-related factors, as well as by state of residence.

Impact: The findings from this study have important implications for community health workers and healthcare clinicians and indicate the need to design effective interventions to increase LCS uptake, targeting specific subgroups of populations and particular U.S. states. See related In the Spotlight, p. 9.

©2024 The Authors; Published by the American Association for Cancer Research.

Conflict of interest statement

A.T. Gudina and D.J. Ossip report grants from the University of Rochester CTSA award number TL1 TR002000 from the National Center for Advancing Translational Sciences of the NIH during the conduct of the study. No disclosures were reported by the other authors.

- [26 references](#)
- [1 figure](#)

Supplementary info

MeSH terms, Grants and funding [Expand](#)

Full text links



[Proceed to details](#)

Cite

Share

12

Review

Public Health Nurs

-
-
-

. 2025 Jan 10.

doi: 10.1111/phn.13524. Online ahead of print.

[Prevalence and Risk Factors of Cognitive Impairment in COPD: A Systematic Review and Meta-Analysis](#)

[Ziwei Zhang](#)^{1,2}, [Pengyu Yang](#)³, [Gui Xiao](#)⁴, [Bei Li](#)¹, [Mingxin He](#)¹, [Yuhan Yang](#)¹, [Yalou Yang](#)¹

Affiliations Expand

- PMID: 39794894
- DOI: [10.1111/phn.13524](https://doi.org/10.1111/phn.13524)

Abstract

Aim: The aim of this systematic review is to present the pooled estimated prevalence and risk factors for cognitive impairment (CI) in patients with chronic obstructive pulmonary disease (COPD).

Background: Patients with COPD suffer from progressive and irreversible airflow limitation, resulting in continuous impairment of lung function, which in addition to causing lesions in the lungs, often accrues to other organs as well. In recent years, a growing number of cross-sectional and longitudinal studies have shown that hypoxia is an important factor in causing CI and that there is an important link between them, but the assessment of co-morbid neurocognitive impairment and dysfunction is often overlooked. Some studies suggest that the diagnosis of mild cognitive impairment (MCI) is considered a precursor to dementia symptoms, with an annual conversion rate of 5%-10%, and it has been suggested that MCI is a potentially reversible state that can be used as a window for intervention. There is a lack of evidence on the prevalence and influencing factors of CI and its MCI.

Design: A systematic review and meta-analysis.

Methods: PubMed, Web of Science, the Cochrane Library, Ovid, Wiley, and Scopus were searched for cohort, case-control, and cross-sectional studies investigating the prevalence and risk factors of CI and MCI in COPD to June 2023 from building.

Meta-analyses were performed to identify CI and MCI prevalence and risk factors using a random-effects model. The methodological quality assessment was conducted by the modified Newcastle-Ottawa Scale (NOS) and Agency for Healthcare Research and Quality (AHRQ). This study was registered on PROSPERO (CRD42021254124).

Results: In total, 41 studies (21 cohort studies, 7 case-control studies, and 13 cross-sectional studies) involving 138,030 participants were eligible for inclusion. Current evidence suggests that the average prevalence of CI and MCI in COPD was 20%-30% (95% CI, 0.17-0.28) and 24% (95% CI, 0.17-0.32), respectively. Significant heterogeneity existed both in CI and MCI ($I^2 = 99.76\%$, 91.40% , $p < 0.001$). Meta-regression analysis showed that different region could be the source of heterogeneity in the pooled results. Cough, FEV1, PaO₂, age, education, depression, and BODE index are influential factors in the development of CI in COPD.

Conclusion: Integrated epidemiological evidence supports the hypothesis that the prevalence of CI in the COPD population has shown an increasing trend, with differences by region and by instrument. Cough, FEV1, PaO₂, age, education, depression, and BODE index are influential factors in the development of cognitive impairment in COPD patients. We should promote early screening and management of COPD patients and take targeted measures to prevent and reduce the incidence of CI.

Implications for practice: This systematic evaluation and meta-analysis identifies seven important risk factors for the development of CI among COPD patients and exposes their current epidemiological findings to provide a theoretical basis for public health administrators and healthcare professionals to effectively increase the screening rate of cognitive impairment in patients with COPD as well as to carry out early intervention.

Trial registration: PROSPERO).crd. york.ac.uk.

Keywords: chronic obstructive pulmonary disease; cognitive dysfunction; meta-analysis; prevalence.

© 2025 Wiley Periodicals LLC.

- [92 references](#)

Supplementary info

Publication typesExpand

Full text links



[Proceed to details](#)

Cite

Share

Multicenter Study**PLoS One**

-
-
-

. 2025 Jan 9;20(1):e0314299.

doi: [10.1371/journal.pone.0314299](https://doi.org/10.1371/journal.pone.0314299). eCollection 2025.

[Clinical control in COPD and therapeutic implications: The EPOCONSUL audit](#)

[Myriam Calle Rubio](#)¹, [Marc Miravittles](#)², [Juan José Soler Cataluña](#)^{3,4}, [José Luis López-Campos](#)^{5,6}, [Bernardino Alcázar Navarrete](#)^{7,8}, [Manuel E Fuentes Ferrer](#)⁹, [Juan Luis Rodríguez Hermosa](#)¹

Affiliations Expand

- PMID: 39787174
- PMCID: [PMC11717229](#)
- DOI: [10.1371/journal.pone.0314299](https://doi.org/10.1371/journal.pone.0314299)

Abstract

Objective: This study aimed to evaluate clinical control in chronic obstructive pulmonary disease (COPD), the consequences in terms of treatment decisions, and their potentially associated factors during follow-up of patients in real-life clinical practice.

Methods: EPOCONSUL 2021 is a cross-sectional audit that evaluated the outpatient care provided to patients with a diagnosis of COPD in respiratory clinics in Spain and multivariable logistic regression models to assess the relationships between clinical control and clinical inertia.

Results: 4225 patients from 45 hospitals in Spain were audited. Clinical control was analyzed in 1804 (42.7%) patients who met all the Spanish COPD Guidelines (GesEPOC) criteria. 49.1% of patients were classified as uncontrolled, and 42.2% of patients disagreed with the level of control determined by their doctor, which was reported as good during the visit. There was therapeutic inertia (TI), in other words not making any change or taking any action in the treatment of COPD, in 68.4% of uncontrolled patients and no action was taken during the visit for 9.1% of uncontrolled patients. Factors associated with TI in uncontrolled patients were disagreement with the degree of control reported by the doctor who performed the

examination (OR: 3.37 (2.33-4.88), $p < 0.001$) and having a lower burden of associated comorbidities (Charlson comorbidity index ≥ 3 versus < 3 , OR 0.8 (0.1-3.0), $p = 0.014$). The probability of disagreeing with the physician's classification of the degree of COPD control in uncontrolled patients was lower in patients with severe exacerbations (OR 0.3 (0.17-0.78), $p = 0.009$) and those with more exacerbations in the last year (OR 0.6 (0.4-0.9), $p = 0.019$).

Conclusions: Therapeutic inertia exists in more than half of uncontrolled patients and is more likely when there is disagreement with the assessment of the physician responsible for the visit, who reported there being good disease control, a situation that was more likely in patients with less history of exacerbations.

Copyright: © 2025 Calle Rubio et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Conflict of interest statement

I have read the journal policy and the authors of this manuscript have the following conflicts of interest: JLRH has received honoraria for lecturing and participation in clinical studies for: Bial, Boehringer Ingelheim, CSL Behring, Chiesi, GlaxoSmithKline, Zambon and Grifols, and consulting fees from Bial. MM has received speaker fees from AstraZeneca, Boehringer Ingelheim, Chiesi, Cipla, GlaxoSmithKline, Menarini, Kamada, Takeda, Zambon, CSL Behring, Specialty Therapeutics, Janssen, Grifols and Novartis, consulting fees from AstraZeneca, Atriva Therapeutics, Boehringer Ingelheim, Chiesi, GlaxoSmithKline, CSL Behring, Inhibrx, Ferrer, Menarini, Mereo Biopharma, Spin Therapeutics, Specialty Therapeutics, ONO Pharma, Palobiofarma SL, Takeda, Novartis, Novo Nordisk, Sanofi, Zambon and Grifols and research grants from Grifols. JLLC has received honoraria for lecturing, scientific advice, participation in clinical studies or writing for publications for: AstraZeneca, Bi-al, Boehringer Ingelheim, Chiesi, CSL Behring, Ferrer, Gebro, GlaxoSmithKline, Grifols, Menarini, Megalabs, Novartis and Rovi. JJSC has received speaker fees from AstraZeneca, Bial, Boehringer Ingelheim, Chiesi, FAES, GlaxoSmithKline, Menarini and Novartis, and consulting fees from Bi-al, Chiesi and GSK, and grants from GSK. BAN reports grants and personal fees from GSK, personal fees and non-financial support from Boehringer Ingelheim, personal fees and non-financial support from Chiesi, non-financial support from Laboratorios Menarini, grants, personal fees and non-financial support from AstraZeneca, personal fees from Gilead, personal fees and non-financial support from MSD, personal fees from Laboratorios BIAL, personal fees from Zambon, outside the submitted work; in addition, Dr. Alcázar-Navarrete has a patent P201730724 issued. MCR has received speaker fees from AstraZeneca, Bial, Chiesi, CSL Behring, GlaxoSmithKline, Menarini, and Grifols, and consulting fees from GlaxoSmithKline and Bial. This does not alter our adherence to PLOS ONE policies on sharing data and materials.

- [30 references](#)
- [4 figures](#)

Supplementary info

Publication types, MeSH terms, Grants and fundingExpand

Full text links



[Proceed to details](#)

Cite

Share

14

Eur Radiol

-
-
-

. 2025 Jan 8.

doi: [10.1007/s00330-024-11269-3](https://doi.org/10.1007/s00330-024-11269-3). Online ahead of print.

[GOLD grade-specific characterization of COPD in the COSYCONET multi-center trial: comparison of semiquantitative MRI and quantitative CT](#)

[Philip Konietzke](#)^{1,2,3}, [Oliver Weinheimer](#)^{4,5,6}, [Simon M F Triphan](#)^{4,5,6}, [Sebastian Nauck](#)^{4,5,6}, [Felix Wuennemann](#)^{4,5,6}, [Marilisa Konietzke](#)^{4,5}, [Bertram J Jobst](#)^{4,5,6}, [Rudolf A Jörres](#)^{7,8}, [Claus F Vogelmeier](#)⁹, [Claus P Heussel](#)^{4,5,6}, [Hans-Ulrich Kauczor](#)^{4,5,6}, [Mark O Wielpütz](#)^{4,5,6,10}, [Jürgen Biederer](#)^{4,5,11,12}; [COSYCONET study group](#)

Affiliations Expand

- PMID: 39779513
- DOI: [10.1007/s00330-024-11269-3](https://doi.org/10.1007/s00330-024-11269-3)

Abstract

Objectives: We hypothesized that semiquantitative visual scoring of lung MRI is suitable for GOLD-grade specific characterization of parenchymal and airway disease in COPD and that MRI scores correlate with quantitative CT (QCT) and pulmonary function test (PFT) parameters.

Methods: Five hundred ninety-eight subjects from the COSYCONET study (median age = 67 (60-72)) at risk for COPD or with GOLD1-4 underwent PFT, same-day paired inspiratory/expiratory CT, and structural and contrast-enhanced MRI. QCT assessed total lung volume (TLV), emphysema, and air trapping by parametric response mapping (PRM_{Emph}, PRM_{fSAD}) and airway disease by wall percentage (WP). MRI was

analyzed using a semiquantitative visual scoring system for parenchymal defects, perfusion defects, and airway abnormalities. Descriptive statistics, Spearman correlations, and ANOVA analyses were performed.

Results: TLV, PRM_{Emph}, and MRI scores for parenchymal and perfusion defects were all higher with each GOLD grade, reflecting the extension of emphysema (all $p < 0.001$). Airway analysis showed the same trends with higher WP and higher MRI large airway disease scores in GOLD3 and lower WP and MRI scores in GOLD4 ($p = 0.236$ and $p < 0.001$). Regional heterogeneity was less evident on MRI, while PRM_{Emph} and MRI perfusion defect scores were higher in the upper lobes, and WP and MRI large airway disease scores were higher in the lower lobes. MRI parenchymal and perfusion scores correlated moderately with PRM_{Emph} ($r = 0.61$ and $r = 0.60$) and moderately with FEV1/FVC ($r = -0.56$).

Conclusion: Multi-center semiquantitative MRI assessments of parenchymal and airway disease in COPD matched GOLD grade-specific imaging features on QCT and detected regional disease heterogeneity. MRI parenchymal disease scores were correlated with QCT and lung function parameters.

Key points: Question Do MRI-based scores correlate with QCT and PFT parameters for GOLD-grade specific disease characterization of COPD? Findings MRI can visualize the parenchymal and airway disease features of COPD. Clinical relevance Lung MRI is suitable for GOLD-grade specific disease characterization of COPD and may serve as a radiation-free imaging modality in scientific and clinical settings, given careful consideration of its potential and limitations.

Keywords: Chronic obstructive pulmonary disease; Computed tomography; Magnetic resonance imaging; Pulmonary emphysema.

© 2025. The Author(s).

Conflict of interest statement

Compliance with ethical standards. Guarantor: The scientific guarantor of this publication is Philip Konietzke. **Conflict of interest:** P.K. has no relevant relationships. O.W. airway analysis technology is licensed to Imbio, LLC. S.M.F.T. has no relevant relationships. S.N. has no relevant relationships. F.W. has no relevant relationships. M.K. employee at Boehringer Ingelheim. B.J.J. has no relevant relationships. C.F.V. grants or contracts from the German Ministry of Education and Science (BMBF), AstraZeneca, Boehringer Ingelheim, Grifols, GlaxoSmithKline, and Novartis; consulting fees from Aerogen, AstraZeneca, Boehringer Ingelheim, GlaxoSmithKline, Novartis, and Nuvaira; payment or honoraria for lectures/presentations from Aerogen, AstraZeneca, Boehringer Ingelheim. R.A.J. has no relevant relationships. H.-U.K. Bayer provided consumables to the consortium; the institution receives payment from Siemens, Philips, and Boehringer Ingelheim; consulting fees to the author from Median; and payment or honoraria for lectures/presentations to the author from Siemens, Philips, Boehringer Ingelheim, MSD, and Sanofi. C.P.H. grants/contracts from Siemens (2012–2014), Pfizer (2012–2014), MeVis (2012, 2013), Boehringer Ingelheim (2014), and German Center for Lung Research (2011ff); consulting fees from Schering-Plough (2009 and 2010), Pfizer (2008–2014), Basilea (2008, 2009, and 2010), Boehringer Ingelheim (2010–2014), Novartis (2010, 2012, and 2014), Roche (2010), Astellas (2011 and 2012), Gilead (2011–2015), MSD (2011–2013), Lilly (2011),

Intermune (2013–2014), and Fresenius (2013 and 2014); lecture fees from Gilead (2008–2014), Essex (2008, 2009, and 2010), Schering-Plough (2008, 2009, and 2010), AstraZeneca (2008–2014 and 2022), Lilly (2008, 2009, and 2012), Roche (2008 and 2009), MSD (2009–2014), Pfizer (2010–2014), Bracco (2010 and 2011), MEDA Pharma (2011), Intermune (2011–2014), Chiesi (2012), Siemens (2012), Covidien (2012), Pierre Fabre (2012), Boehringer Ingelheim (2012, 2013, and 2022), Grifols (2012), Novartis (2013–2016), Basilea (2015 and 2016), and Bayer (2016); patent: Method and Device For Representing the Microstructure of the Lungs. IPC8 Class: AA61B5055FI, PAN: 20080208038, Inventors: W Schreiber, U Wolf, AW Scholz, C.P.H.; participation on a data safety monitoring board or advisory board: Schering-Plough (2009 and 2010), Pfizer (2008–2014), Basilea (2008, 2009, and 2010), Boehringer Ingelheim (2010–2014, 2022ff), Novartis (2010, 2012, and 2014), Roche (2010), Astellas (2011 and 2012), Gilead (2011–2015), MSD (2011–2013), Lilly (2011), Intermune (2013–2014), Fresenius (2013 and 2014); leadership or fiduciary roles: chest working group of the German Roentgen Society (national guidelines: bronchial carcinoma, mesothelioma, COPD, screening for bronchial carcinoma, CT and MRI of the chest, pneumonia); consultant of ECIL-3, ECCMID, EORTC/MSG (guideline for diagnosis of infections in immunocompromised hosts); founding member of the working team in infections in immunocompromised hosts of the German Society of Hematology/Oncology (guideline for diagnosis of infections in immunocompromised hosts); faculty member of European Society of Thoracic Radiology (ESTI), European Respiratory Society (ERS), and member in EIBALL (European Imaging Biomarkers Alliance); editor of Medizinische Klinik, Intensivmedizin und Notfallmedizin at Springer publishing; stock/stock options GSK. B.J.J. has no relevant relationships. M.O.W. Bayer provided contrast material for MRI examinations; study grants were paid to institutions from Vertex Pharmaceuticals and Boehringer Ingelheim; and consultancy fees were paid to institutions from Vertex Pharmaceuticals and Boehringer Ingelheim. J.B. Siemens Healthineers helped with MRI protocol design; Bayer provided contrast material used in the study; payment for honorarium for presentation at a workshop from Roche, Boehringer Ingelheim, and Fuji; and president of the European Society of Thoracic Imaging 2022–2023. Statistics and biometry: No complex statistical methods were necessary for this paper. Informed consent: Written informed consent was obtained from all subjects (patients) in this study. Ethical approval: Institutional ethics committee approval was obtained (Ethik-Kommission der Medizinischen Fakultät der Universität Heidelberg, S-656/2012) and all subjects gave their written informed consent prior to the study conduct. Study subjects or cohorts overlap: Some study subjects or cohorts have been previously reported in <https://doi.org/10.1007/s00330-024-10610-0> (Phenotyping of COPD with MRI in comparison to same-day CT in a multi-center trial) and “COPD phenotyping based on QCT” (under review). Methodology: Prospective Observational Multicenter study

- [60 references](#)

Supplementary info

Grants and fundingExpand

Full text links



[Proceed to details](#)

Cite

Share

15

J Am Heart Assoc

-
-
-

. 2025 Jan 7;14(1):e034388.

doi: 10.1161/JAHA.124.034388. Epub 2024 Dec 24.

[Cardiovascular Health Status in US Adults With Chronic Diseases: National Health and Nutrition Examination Survey \(NHANES\), 2013-2018](#)

[James W Guo](#)¹, [Hongyan Ning](#)¹, [Donald M Lloyd-Jones](#)¹

Affiliations Expand

- PMID: 39719405
- DOI: [10.1161/JAHA.124.034388](#)

Free article

Abstract

Background: Cardiovascular health (CVH) assessment may have important benefits for adults with chronic diseases to prevent incident cardiovascular disease and additional chronic conditions. Few studies have compared CVH in adults with chronic diseases and healthy adults without chronic disease using the American Heart Association's (AHA's) Life's Essential 8 (LE8) metrics.

Methods and results: We used National Health and Nutrition Examination Survey data from 2013 to 2018 to identify the presence of 16 chronic diseases by participant self-report of diagnosis. We included adults aged 20 to 79 years. CVH was defined by AHA's LE8 metrics. Overall mean LE8 (range 0-100, higher = better CVH) and individual LE8 metric scores were calculated according to disease status for all participants and stratified by self-identified sex, race, and ethnicity. There were 12 296 adults (51% women; mean age, 46 years) representing >186 million noninstitutionalized US adults. Significantly, and often substantially, lower CVH scores were noted for adults with chronic disease (14 of 16 diseases studied) versus unaffected adults, including all subtypes of cardiovascular disease, lung diseases, chronic kidney disease, liver conditions, cancer, arthritis, cognitive decline, and depression. For example, mean overall LE8 score was 14.0 points lower

in those with versus without chronic obstructive pulmonary disease (51.0 versus 65.0, $P < 0.0001$). Men and Black adults consistently had lower LE8 scores.

Conclusions: CVH is significantly poorer in adults with many chronic diseases compared with unaffected adults. These data suggest the utility of the LE8 score to identify groups for targeted optimization of CVH to enhance primary and secondary prevention efforts for cardiovascular disease and potentially for concomitant chronic diseases of aging.

Keywords: cardiovascular disease; cardiovascular health; chronic disease.

Supplementary info

MeSH termsExpand

Full text links



[Proceed to details](#)

Cite

Share

16

Intensive Care Med

-
-
-

. 2025 Jan 7.

doi: 10.1007/s00134-024-07758-0. Online ahead of print.

[Best clinical model predicting extubation failure: a diagnostic accuracy post hoc analysis](#)

[Patricia Rodríguez Villamizar](#)¹, [Arnaud W Thille](#)^{2,3}, [Margarita Márquez Doblas](#)¹, [Jean-Pierre Frat](#)^{2,3}, [Pilar Leal Sanz](#)¹, [Elena Alonso](#)¹, [Victoria País](#)⁴, [Guillermo Morales](#)¹, [Laura Colinas](#)¹, [Alicia Propín](#)⁵, [Aida Fernández Olivares](#)⁶, [María Martínez Balaquer](#)⁷, [Diego Alvaredo Rodrigo](#)⁷, [Gonzalo Hernández](#)^{8,9,10,11}

Affiliations Expand

- PMID: 39774863
- DOI: [10.1007/s00134-024-07758-0](https://doi.org/10.1007/s00134-024-07758-0)

Abstract

Purpose: Predicting extubation failure remains a clinical challenge. This study aimed to determine diagnostic accuracy of models used at the bed side.

Methods: Post hoc analysis of 2341 patients at all risk included in five multicenter randomized trials. Diagnostic accuracy of three clinical prediction models was compared: 3-factors model including age > 65y, chronic heart or pulmonary disease; 4-factors model adding prolonged mechanical ventilation; and 11-factors model including age > 65 years, ≥ 2 comorbidities, prolonged mechanical ventilation, acute heart failure as the primary indication for mechanical ventilation, moderate-to-severe chronic obstructive pulmonary disease, APACHE II score > 12 on extubation day, airway patency problems, inability to deal with respiratory secretions, not simple weaning, obesity, or hypercapnia at the end of the spontaneous breathing trial. Crude and adjusted for spontaneous breathing trial (SBT) models were compared for all-cause reintubation at 7 days using Youden and Kappa indexes.

Results: The 3-factors model had a very low global prediction capability (Youden index 0.08 and Kappa index 0.04); the 4-factors and 11-factors models had low global prediction capability (Youden index 0.12 and 0.16, and Kappa index 0.06 and 0.07, respectively). Aggressive SBT strategies (pressure support ≥ 7 cm H₂O with or without positive end-expiratory pressure) were associated with extubation failure risk ($p < 0.001$). All adjusted models had low diagnostic capability (0.08/0.03, 0.07/0.03, and 0.06/0.02 respectively).

Conclusion: Based on these results, the 3-factors model reported a very low diagnostic accuracy, and the 4 or 11-factors models showed similar low accuracy. No improvement was observed after adjusting for other aspects of weaning.

Keywords: Extubation failure; Model; Outcome; Prediction; Reintubation; Weaning.

© 2025. The Author(s).

Conflict of interest statement

Declarations. Conflicts of interest: All authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Dr. Hernandez reported travel expenses and personal fees from Fisher & Paykel Healthcare Ltd. Role of the funder/sponsor: None.

- [34 references](#)

Full text links



[Proceed to details](#)

Cite

Share

BMJ Open

-
-
-

. 2025 Jan 7;15(1):e092096.

doi: 10.1136/bmjopen-2024-092096.

[Is longer really better? Results of a retrospective real-life cohort study evaluating the benefit of adding a weekly educational session to a traditional 8-week home-based pulmonary rehabilitation programme in people with COPD](#)

[Sarah Gephine](#)^{1,2}, [Olivier Le Rouzic](#)³, [Sophie Peres](#)⁴, [Cécile Chenivresse](#)³, [Jean-Marie Grosbois](#)⁵

Affiliations Expand

- PMID: 39773805
- DOI: [10.1136/bmjopen-2024-092096](https://doi.org/10.1136/bmjopen-2024-092096)

Free article

Abstract

Objectives: To evaluate the short-term and long-term benefits of adding a weekly educational session to a traditional 8-week home-based pulmonary rehabilitation (PR) programme in people with chronic obstructive pulmonary disease (COPD). Primary hypothesis was that 8 home-based supervised sessions will be equivalent to 16 home-based supervised sessions at both short- and long-term after PR.

Design: Retrospective cohort study conducted on prospectively collected real-life data, from January 2010 to December 2021.

Setting: FormAction Santé, Pérenchies France.

Participants: Eligible individuals were aged >18 years with a diagnosis of COPD and referred to the home-based PR programme by their respiratory physician. Participants were retrospectively divided into two groups (Gr 1, 8 PR sessions, n=759, and Gr 2, 8 PR sessions+8 educational sessions, n=262).

Intervention: All participants received an 8-week personalised home PR programme. A subgroup of participants received one additional supervised home session per week, including education and motivational support for daily physical activities and walking.

Outcomes: Health-related quality of life, dyspnoea, anxiety and depressive symptoms, fatigue and exercise tolerance were assessed at baseline (M0), at the end of PR (M2), and 14 months (M14) after M0.

Results: Baseline characteristics and assessments were similar between groups with an exception for long-term oxygen therapy (Gr1: 69.8% vs Gr2 53.0%, $p<0.001$) and noninvasive ventilation (Gr1: 38.6% vs Gr2: 29.8%, $p=0.015$). At M2 and M14, all the assessments were improved in both groups ($p<0.01$). At M2, the improvement in health status and exercise tolerance was higher in Gr 2 compared with Gr 1 ($p<0.05$). From M0 to M14, 90 (11.9%) participants and 29 (11.1%) participants died in Gr 1 and Gr 2, respectively ($p=0.794$).

Conclusion: People with COPD benefited, at short and long terms, from both 8 or 16 supervised home-based PR sessions. Once-weekly home-based supervised sessions during 8 weeks, combined with unsupervised physical training sessions and self-management plan for the other health behaviours, might be the best compromise between patients, health professionals and policy makers.

Keywords: Health Education; Pulmonary Disease, Chronic Obstructive; REHABILITATION MEDICINE.

© Author(s) (or their employer(s)) 2025. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ Group.

Conflict of interest statement

Competing interests: OLR reports personal fees and non-financial support unrelated to the submitted work from AstraZeneca, Boehringer Ingelheim, Chiesi, CSL Behring, GlaxoSmithKline, MSD France, Vertex and Vitalaire. OLR is principal investigator in studies for Vertex and CSL Behring. SP is employed by Santélys company. CC reports personal fees and non-financial support unrelated to the submitted work from ALK-Abello, AstraZeneca, Boehringer Ingelheim, Chiesi, GlaxoSmithKlein, MEDA Pharma, Medexact, Novartis, Pierre Fabre, Pfizer, Roche, Sanofi, Santélys, and TEVA. JMG reports personal fees and non-financial support unrelated to the submitted work from AstraZeneca, Boehringer Ingelheim, Chiesi, CSL Behring, GlaxoSmithKlein.

Supplementary info

MeSH termsExpand

Full text links



[Proceed to details](#)

Cite

Share

18

Randomized Controlled Trial

Pulmonology

-
-
-

. 2025 Dec 31;31(1):2441069.

doi: 10.1080/25310429.2024.2441069. Epub 2025 Jan 7.

[Effect of exercise training on modulating the TH17/TREG imbalance in individuals with severe COPD: A randomized controlled trial](#)

[Juliana Tiyaki Ito](#)¹, [Luan Henrique Vasconcelos Alves](#)¹, [Luana de Mendonça Oliveira](#)², [Rafaella Fagundes Xavier](#)³, [Regina Maria Carvalho-Pinto](#)⁴, [Iolanda de Fátima Lopes Calvo Tibério](#)¹, [Maria Notomi Sato](#)², [Celso R F Carvalho](#)³, [Fernanda Degobbi Tenorio Quirino Dos Santos Lopes](#)^{1 5}

Affiliations Expand

- PMID: 39764722
- DOI: [10.1080/25310429.2024.2441069](https://doi.org/10.1080/25310429.2024.2441069)

Free article

Abstract

Background: Chronic obstructive pulmonary disease (COPD) induces an imbalance in T helper (Th) 17/regulatory T (Treg) cells that contributes to of the dysregulation of inflammation. Exercise training can modulate the immune response in healthy subjects.

Objective: We aimed to evaluate the effects of exercise training on Th17/Treg responses and the differentiation of Treg phenotypes in individuals with COPD.

Methods: This randomized controlled trial included 50 individuals with severe or very severe COPD who were allocated to the Exercise or Control groups. The Exercise group underwent eight weeks of aerobic and muscle strength training, whereas the Control group received usual care. The primary outcome was the change in the phenotypic characteristics of Tregs and Th17 profile differentiation in systemic inflammation.

Results: Exercise training increased the frequency of total and activated Tregs and decreased the frequency of Th17 cells in between-group comparisons. Additionally, Th17/Treg responses were moderately correlated with improvements in the six-minute walking test, muscle strength of the upper and lower limbs, and daily life physical activity levels.

Conclusion: Exercise training improved functional exercise capacity, muscle strength, and physical fitness, which was associated with a decrease in the Th17

inflammatory response and an increase in Treg cell phenotypes immunosuppressive activity.

Keywords: Chronic obstructive pulmonary disease; exercise training; immune response; inflammation.

Supplementary info

Publication types, MeSH termsExpand

Full text links



[Proceed to details](#)

Cite

Share

19

Intern Emerg Med

-
-
-

. 2025 Jan 6.

doi: 10.1007/s11739-024-03852-9. Online ahead of print.

[Frequency of emergency medical service contacts after hospital admissions](#)

[Emilie Sigvardt](#)¹, [Markus Harboe Olsen](#)^{2,3}, [Fredrik Folke](#)^{4,5}, [Eske Kvanner Aasvang](#)^{#6,5}, [Christian Sylvest Meyhoff](#)^{#2,5}

Affiliations Expand

- PMID: 39760948
- DOI: [10.1007/s11739-024-03852-9](https://doi.org/10.1007/s11739-024-03852-9)

Abstract

Identifying frequent users of Emergency Medical Services (EMS) in the post-discharge period can potentially direct interventions to prevent deterioration at home. This study aimed to describe the frequency of post-discharge emergency phone calls within 30 days after common medical and surgical categories of hospital admission. A retrospective cohort study retrieved data from the electronic medical record and the EMS Capital Region Denmark database after approval by the

Danish Health Data Authority. The study investigated the number of 30-day EMS calls per 1000 days alive outside hospital in patients hospitalized due to acute exacerbation of chronic obstructive pulmonary disease (AECOPD), colorectal surgery, and 18 other disease categories. We included 16,338 patients with a discharge from hospital between August 2021 and August 2022. The overall number of EMS calls was 4,263 with 9.1 (95% confidence interval (95% CI): 8.8-9.4) calls per 1000 patient days within 30 days. Patients discharged after medical hospitalization due to AECOPD contacted EMS 15 (95% CI: 13-16) times per 1000 patient days only surpassed by sepsis with 19 calls per 1000 patient days (95% CI: 17-21). Patients undergoing colorectal surgery had an EMS call frequency of 7.5 (95% CI: 6.4-8.7) and highest among types of surgery was hip- and knee replacements with 12 (95% CI: 11-13) calls per 1000 patient days. Patients discharged after hospitalization due to AECOPD and sepsis had a higher 30-day EMS call frequency compared with other medical cohorts, whereas major orthopedic surgery was followed by more EMS calls than admissions for colorectal surgery.

Keywords: EMS use; Emergency Medical Services; Emergency medicine; Patient deterioration; Postdischarge complications.

© 2025. The Author(s), under exclusive licence to Società Italiana di Medicina Interna (SIMI).

Conflict of interest statement

Declarations. Conflict of interest: CSM and EKA have created a start-up company, WARD247 ApS, with the aim of pursuing the regulatory and commercial activities of the WARD-project. WARD247 ApS has obtained license agreement for any WARD-project software and patents. One patent has been filed: “Wireless Assessment of Respiratory and circulatory Distress (WARD)—Clinical Support System (CSS)—an automated clinical support system to improve patient safety and outcomes.” EKA also reports institutional research funding from Norpharma A/S, and advisory roles for Concentric analgesics and GenEdit without relation to the present work. Human and animal rights and Informed consent: All data in this study was registered as per clinical routine and ethical approval and consent to participate were not required for this study. Data extraction to this retrospective cohort was approved by the Danish Health Data Authority (Journal No. 22035235, 15 September 2022) prior to data collection and analysis.

- [28 references](#)

Supplementary info

Grants and fundingExpand

Full text links



[Proceed to details](#)

Cite

Share

20

J Clin Med

-
-
-

. 2025 Jan 3;14(1):249.

doi: 10.3390/jcm14010249.

[Impact of Triple Inhaler Therapy on COPD Patients with Non-Small Cell Lung Cancer After Radical Surgery: A Single-Centre Retrospective Analysis](#)

[Francesco Rocco Bertuccio](#)^{1,2}, [Vito D'Agnano](#)^{3,4}, [Simone Cordoni](#)^{1,2}, [Mitela Tafa](#)^{1,2}, [Cristina Novy](#)^{1,2}, [Nicola Baio](#)^{1,2}, [Klodjana Mucaj](#)^{1,2}, [Chandra Bortolotto](#)^{5,6}, [Giulio Melloni](#)^{1,7}, [Andrea Bianco](#)^{3,4}, [Angelo Guido Corsico](#)^{1,2}, [Fabio Perrotta](#)^{3,4}, [Giulia Maria Stella](#)^{1,2}

Affiliations Expand

- PMID: 39797331
- DOI: [10.3390/jcm14010249](https://doi.org/10.3390/jcm14010249)

Abstract

Background: Chronic obstructive pulmonary disease (COPD) is among the most relevant comorbidity associated with lung cancer. The advent of innovative triple treatment approaches for COPD has significantly improved patients' quality of life and outcomes. Few data are available regarding the impact of triple inhaler therapy on patients featuring COPD and lung cancer. **Methods:** We retrospectively evaluated the impact of triple inhale bronchodilators in a cohort of 56 patients with treated COPD who underwent lung surgery for primary cancer. **Results:** Triple bronchodilation can help to relieve the symptoms of the disease and improve lung function, allowing people with lung cancer to reduce the risk of serious exacerbations and improve their quality of life. **Conclusions:** Within the limits of the study, it should be underlined that bronchodilators can effectively affect the outcome and performance status after thoracic surgery.

Keywords: COPD; Thoracic surgery; lung cancer; triple inhaler therapy.

Supplementary info

Grants and fundingExpand

Full text links



[Proceed to details](#)

Cite

Share

21

Meta-Analysis

Lung

-
-
-

. 2025 Jan 6;203(1):22.

doi: 10.1007/s00408-024-00777-0.

[Surgical and Bronchoscopic Lung Volume Reduction for Severe Emphysema: A Systematic Review and Network Meta-analysis](#)

[Shota Yamamoto](#)¹, [Nobuyuki Horita](#)², [Ryosuke Imai](#)³, [Takayuki Niitsu](#)⁴

Affiliations Expand

- PMID: 39762564
- DOI: [10.1007/s00408-024-00777-0](#)

Abstract

Background: Along with lung volume reduction surgery (LVRS), bronchoscopic lung volume reduction is a treatment option for end-stage emphysema. However, comparisons among interventions remain insufficient.

Methods: We searched on PubMed, CENTRAL, Embase, and Web of Science. We included randomized controlled trials with outcomes measuring mid-term mortality within 6 months, changes in forced expiratory volume in one second (FEV₁), St. George's Respiratory Questionnaire (SGRQ), six-minute walk distance (6MWD) from baseline, adverse event related to procedures, and long-term mortality within 5 years. Bayesian network meta-analysis was performed. The certainty was assessed by CINeMA.

Results: Twenty-five randomized controlled trials involving 4,283 patients were included, identifying seven types of procedures and standard of care. Mid-term mortality increased in LVRS and endobronchial valve (EBV) (LVRS, risk ratio [RR] 3.26, 95% CrI 1.98-6.21, low certainty; EBV, RR 2.06 95% CrI 1.07-4.36, moderate

certainty). LVRS showed the largest improvements: change in FEV₁ (187.2 mL, 95% CrI 166.4-209.6), 6MWD (42.2 m, 95% CrI 33.2-50.5), and SGRQ (- 13.29 points, 95% CrI - 27.25-0.75). Among bronchoscopic procedures, high efficacy was noted in EBV and endobronchial coil (EBC) for FEV₁ changes (EBV, 111.8 mL, 95% CrI 92.2-136.2; EBC, 74.1 mL, 95% CrI 47.6-101.7). Pneumothorax increased in these two procedures (EBV, RR 12.75, 95% CrI 5.52-35.48; EBC, RR 4.95, 95% CrI 1.12-40.90).

Conclusion: LVRS offers high efficacies but is accompanied by increased mid-term mortality. EBV and EBC also showed effectiveness; however, they increased pneumothorax, and EBV slightly increased mortality. For accurate assessment, long-term survival data of BLVR are needed.

Keywords: Bronchoscopy; Chronic obstructive pulmonary disease; Emphysema; Meta-analysis; Surgery.

© 2025. The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature.

Conflict of interest statement

Declarations. Conflict of interest: S. Yamamoto has received overseas scholarships from the Japan Society for Promotion of Science. This organization has no role in conducting this research. The other authors declare no financial/nonfinancial relationships. Consent for Publication: This manuscript has been published as a preprint article on Social Science Research Network (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4723055 . Posted February 14, 2024).

- [49 references](#)

Supplementary info

Publication types, MeSH termsExpand

Full text links



[Proceed to details](#)

Cite

Share

22

Am J Hosp Palliat Care

-
-
-

. 2025 Jan 8:10499091251313805.

doi: 10.1177/10499091251313805. Online ahead of print.

[Palliative Medicine Consultation Reduces Readmission Significantly in Certain Diagnoses: A Retrospective Analysis](#)

[Carissa N Depew](#)¹, [Michelle Wood](#)², [Jason Walden](#)¹, [Amanda Stevens](#)¹, [Michaela Williamson](#)³, [Supriya Peshin](#)⁴, [Eric McDonald](#)⁵, [Saima Rashid](#)⁶, [Steven J Baumrucker](#)¹

Affiliations Expand

- PMID: 39778107
- DOI: [10.1177/10499091251313805](#)

Abstract

Hospital readmissions within 30 days are a significant concern due to their negative impact on patient outcomes and healthcare system costs.¹ This retrospective study explores the impact of palliative medicine consultation on reducing readmission rates for patients with severe, life-limiting illnesses. Real-world data from a 21-hospital system was analyzed for six specific diagnoses, including heart failure, sepsis, pneumonia, and chronic obstructive pulmonary disease. The study found a statistically significant reduction in readmissions for patients with sepsis, pneumonia, heart failure and (to a lesser extent) stroke who received palliative medicine consultation compared to those who did not. The findings suggest that palliative medicine consultation for these patients leads to reduced readmission and implies potential improved quality outcomes and cost savings. This study highlights the potential of palliative medicine as a multifactorial approach to reduce readmissions and potentially improve patient outcomes in the future.

Keywords: CHF; COPD; consultation; palliative; pneumonia; readmission; sepsis; stroke.

Conflict of interest statement

Declaration of Conflicting InterestsThe author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Full text links

Sage Journals 

[Proceed to details](#)

Cite

Share

Respir Res

-
-
-

. 2025 Jan 6;26(1):4.

doi: [10.1186/s12931-024-03069-6](https://doi.org/10.1186/s12931-024-03069-6).

[Outcome and safety 90 days after combined airway valve treatment of the right upper and middle lobes in patients with severe pulmonary emphysema](#)

[A Susanne Dittrich](#)^{1,2}, [Cosimo Carlo De Pace](#)^{3,4}, [Judith Maria Brock](#)^{1,2}, [Franziska Trudzinski](#)^{1,2}, [Claus Peter Heussel](#)^{2,5,6}, [Ralf Eberhardt](#)⁷, [Felix J F Herth](#)^{1,2}, [Konstantina Kontogianni](#)^{8,9}

Affiliations Expand

- PMID: 39762833
- PMCID: [PMC11706069](#)
- DOI: [10.1186/s12931-024-03069-6](https://doi.org/10.1186/s12931-024-03069-6)

Abstract

Background: In COPD patients with severe right-sided emphysema, complete major and incomplete minor fissure, implantation of one-way valves in both the right upper (RUL) and middle lobes (ML) is a possible approach for endoscopic lung volume reduction. The aim of this retrospective analysis was to evaluate the response to therapy and the complication rate at 90 days (90d-FU) after combined RUL-ML valve implantation.

Methods: This retrospective, monocentric study included all patients from the Thoraxklinik Heidelberg who underwent RUL-ML valve treatment between 2012 and 2023 with available follow-up data. Quantitative chest imaging, lung function, 6-minute walking distance (6-MWD), complications and indications for re-bronchoscopies until 90d-FU were analysed.

Results: 28 patients underwent combined RUL-ML valve treatment, predominantly sequentially (92.86%, n = 26/28). Neither lung function nor 6MWD improved significantly in the overall cohort. However, in the subgroup with heterogeneous emphysema (71.4%, n = 20/28), FEV1 ($\Delta = 116.00 \text{ mL} \pm 195.77 \text{ mL}$, $p < 0.05$) and 6-MWD ($\Delta = 50.23 \pm 69.10 \text{ m}$, $p < 0.05$) increased significantly at 90d-FU. Consistent with this, the baseline difference in emphysema volume between the RUL + ML and the right lower lobe correlated significantly with the increase in FEV1 at 90d-FU ($R = 0.74$, $p < 0.001$). Pneumothorax occurred in 5 cases in 4 patients (14.3%) following ML treatment. Severe pneumonia and/or COPD exacerbations occurred in 32.1% (9/28) of patients.

Conclusions: Although only studied in a small cohort, our data suggest that combined RUL and ML valve implantation appears to be a promising interventional treatment strategy in patients with severe heterogenous RUL and ML emphysema.

Keywords: Chronic obstructive lung diseases; Emphysema; Endobronchial valve; Fissure; Intrabronchial valve; Lung volume reduction; Middle lobe; Right upper lobe; Spiration System; Zephyr.

© 2024. The Author(s).

Conflict of interest statement

Declarations. Ethics approval: In this retrospective study we used anonymized data from patients treated at Thoraxklinik Heidelberg. For this, ethical approval was obtained from the ethics committee of the University of Heidelberg (S-621/2023). **Conflict of interest:** The present manuscript was not supported by any external donors. Irrespective of this, the following grants or fees were paid to the individual authors in the last 36 months: ASD received a grant and charges for registry analysis by the German CF Foundation. KK received consulting fees from Cook Medical as well as presentation fees from AstraZeneca, Berlin Chemie, Boston Scientific and Olympus and received travel grants from AstraZeneca. FT received speaker honoraria from Boehringer Ingelheim, Chiesi, GlaxoSmithKline, Grifols, Novartis, CSL Behring, Streamed up and RG Gesellschaft für Information und Organisation mbH. JMB received grants of the Thoraxstiftung Heidelberg and the Beatrice von Hardenberg Stiftung, consulting fees from Boehringer Ingelheim and Intuitive Surgical Inc as well as speaker fees from Boehringer Ingelheim, Astra Zeneca, Streamed up, Berlin Chemie, PulmonX and Olympus. RE received honoraria from Olympus and Pulmonx for lectures and educational activities. FH received speaker fees from Olympus and Pulmonx. **Consent for publication:** Not applicable. There are no images or other personal or clinical details of participants included in this manuscript that might compromise anonymity.

- [36 references](#)
- [3 figures](#)

Supplementary info

MeSH termsExpand

Full text links



[Proceed to details](#)

Cite

Share

24

Lung

-
-
-

. 2025 Jan 4;203(1):21.

doi: 10.1007/s00408-024-00765-4.

[The Agreement Between Lobar Emphysematous Destruction and Volumetric Air Trapping on CT Scan in Severe COPD Patients](#)

[Jorine E Hartman](#)^{1,2}, [Jens T Bakker](#)^{3,4}, [Sharyn A Roodenburg](#)^{3,4}, [Karin Klooster](#)^{3,4}, [Dirk-Jan Slebos](#)^{3,4}

Affiliations Expand

- PMID: 39755853
- DOI: [10.1007/s00408-024-00765-4](#)

No abstract available

Conflict of interest statement

Declarations. Conflict of interest: JEH, JTB, and SAR have nothing to disclose. DJS reports to have received clinical trial expenses from Pulmonx Corp, USA, Nuaira, USA, PulmAir, USA, Apreo, USA, and FreeFlowMedical, consulting fees paid to the institution from Nuaira, USA, MoreAir, USA, Apreo, USA, and PulmonX, USA, payment or honoraria for lectures, presentations, speakers, bureaus, manuscript writing, or educational events paid to the institution from PulmonX, USA and Nuaira, USA, and support for attending meetings and/or travel from PulmonX, USA. KK reports to have received payment or honoraria for lectures, presentations, speakers, bureaus, manuscript writing, or educational events from PulmonX. **Ethics Approval and Consent to Participate:** We gathered data from two different datasets. The first dataset comprised 100 patients who visited our outpatient clinic and underwent a CT scan guided by spirometry. Ethics approval was waived by the local EC due to the non-invasive character of the cohort (EC number: 2019/724). The second dataset consisted of 1030 patients who visited our hospital for a second opinion consultation regarding the possibility of a bronchoscopic intervention (registered under NCT04023409 and EC number: 2014/102). Written informed consent was obtained from all patients.

- [3 references](#)

Supplementary info

Publication typesExpand

Full text links



"Multimorbidity"[Mesh Terms] OR Multimorbidity[Text Word]

1

Glob Ment Health (Camb)

-
-
-

. 2025 Jan 3:11:e131.

doi: 10.1017/gmh.2024.141. eCollection 2024.

[Effects of physical multimorbidity on cognitive decline trajectories among adults aged 50 years and older with different wealth status: a 17-year population-based cohort study](#)

[Chen Chen](#)¹, [Shan Zhang](#)¹, [Ning Huang](#)¹, [Mingyu Zhang](#)¹, [JinXin Fu](#)², [Jing Guo](#)¹

Affiliations Expand

- PMID: 39777001
- PMCID: [PMC11704386](#)
- DOI: [10.1017/gmh.2024.141](#)

Abstract

This study aimed to investigate the effects of physical multimorbidity on the trajectory of cognitive decline over 17 years and whether vary across wealth status. The study was conducted in 9035 respondents aged 50+ at baseline from nine waves (2002-2019) of the English Longitudinal Study of Aging. A latent class analysis was used to identify patterns of physical multimorbidity, and mixed multilevel models were performed to determine the association between physical multimorbidity and trajectories of cognitive decline. Joint analyses were conducted to further verify the influence of wealth status. Four patterns of physical multimorbidity were identified. Mixed multilevel models with quadratic terms of time and status/patterns indicated significant non-linear trajectories of multimorbidity on cognitive function. The magnitude of the association between complex multisystem

patterns and cognitive decline increased the most as follow-up progressed. Individuals with high wealth and hypertension/diabetes patterns have significantly lower composite global cognitive z scores over time as compared with respiratory/osteoporosis patterns. Physical multimorbidity at baseline is associated with the trajectory of cognitive decline, and the magnitude of the association increased over time. The trend of cognitive decline differed in specific combinations of wealth status and physical multimorbidity.

Keywords: cognitive decline; physical multimorbidity; population-based study; wealth status.

© The Author(s) 2025.

Conflict of interest statement

The authors declare that they have no conflict of interest.

- [59 references](#)
- [3 figures](#)

Full text links



[Proceed to details](#)

Cite

Share

2

BMC Med

-
-
-

. 2025 Jan 8;23(1):1.

doi: 10.1186/s12916-024-03811-3.

[Multimorbidity clusters and their associations with health-related quality of life in two UK cohorts](#)

[Lewis Steell](#)^{1,2,3}, [Stefanie J Krauth](#)^{1,4}, [Sayem Ahmed](#)⁵, [Grace O Dibben](#)⁶, [Emma McIntosh](#)⁵, [Peter Hanlon](#)¹, [Jim Lewsey](#)⁵, [Barbara I Nicholl](#)¹, [David A McAllister](#)⁵, [Susan M Smith](#)⁷, [Rachael Evans](#)⁸, [Zahira Ahmed](#)⁸, [Sarah Dean](#)⁹, [Colin Greaves](#)¹⁰, [Shaun Barber](#)¹¹, [Patrick Doherty](#)¹², [Nikki Gardiner](#)¹³, [Tracy Ibbotson](#)¹, [Kate Jolly](#)¹⁴, [Paula Ormandy](#)¹⁵, [Sharon A Simpson](#)⁶, [Rod S](#)

[Taylor ⁶16](#), [Sally J Singh ⁷](#), [Frances S Mair ^{#1}](#), [Bhautesh D Jani ^{#17}](#); [PERFORM research team](#)

Affiliations Expand

- PMID: 39773733
- PMCID: [PMC11708164](#)
- DOI: [10.1186/s12916-024-03811-3](#)

Abstract

Background: Identifying clusters of multiple long-term conditions (MLTCs), also known as multimorbidity, and their associated burden may facilitate the development of effective and cost-effective targeted healthcare strategies. This study aimed to identify clusters of MLTCs and their associations with long-term health-related quality of life (HRQoL) in two UK population-based cohorts.

Methods: Age-stratified clusters of MLTCs were identified at baseline in UK Biobank (n = 502,363, 54.6% female) and UKHLS (n = 49,186, 54.8% female) using latent class analysis (LCA). LCA was applied to people who self-reported ≥ 2 LTCs (from n = 43 LTCs [UK Biobank], n = 13 LTCs [UKHLS]) at baseline, across four age-strata: 18-36, 37-54, 55-73, and 74 + years. Associations between MLTC clusters and HRQoL were investigated using tobit regression and compared to associations between MLTC counts and HRQoL. For HRQoL, we extracted EQ-5D index data from UK Biobank. In UKHLS, SF-12 data were extracted and mapped to EQ-5D index scores using a standard preference-based algorithm. HRQoL data were collected at median 5 (UKHLS) and 10 (UK Biobank) years follow-up. Analyses were adjusted for available sociodemographic and lifestyle covariates.

Results: LCA identified 9 MLTC clusters in UK Biobank and 15 MLTC clusters in UKHLS. Clusters centred around pulmonary and cardiometabolic LTCs were common across all age groups. Hypertension was prominent across clusters in all ages, while depression featured in younger groups and painful conditions/arthritis were common in clusters from middle-age onwards. MLTC clusters showed different associations with HRQoL. In UK Biobank, clusters with high prevalence of painful conditions were consistently associated with the largest deficits in HRQoL. In UKHLS, clusters of cardiometabolic disease had the lowest HRQoL. Notably, negative associations between MLTC clusters containing painful conditions and HRQoL remained significant even after adjusting for number of LTCs.

Conclusions: While higher LTC counts remain important, we have shown that MLTC cluster types also have an impact on HRQoL. Health service delivery planning and future intervention design and risk assessment of people with MLTCs should consider both LTC counts and MLTC clusters to better meet the needs of specific populations.

Keywords: Latent class analysis; Multimorbidity; Quality of life; UK Biobank.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: All participants gave informed consent to data provision. UK Biobank has full ethical approval from the NHS National Research Ethics Service (16/NW/0274). The University of Essex Ethics Committee has approved all data collection on UKHLS main study and innovation panel waves. **Consent for publication:** Not applicable. **Competing interests:** The authors declare that they have no competing interests.

- [60 references](#)
- [2 figures](#)

Supplementary info

MeSH terms, Grants and funding [Expand](#)

Full text links



[Proceed to details](#)

Cite

Share

3

J Clin Nurs

-
-
-

. 2025 Jan 9.

doi: 10.1111/jocn.17520. Online ahead of print.

[Classifying and Characterising Unmet Integrated Care Needs of Older Adults With Multimorbidity: A Latent Profile Analysis](#)

[Jingjie Wu](#)^{1,2}, [Er Xu Xue](#)², [Chunbo Liu](#)¹, [Jing Shao](#)³, [Yujia Fu](#)³, [Binyu Zhao](#)³, [Dandan Chen](#)³, [Hui Zhang](#)⁴, [Zhihong Ye](#)²

Affiliations [Expand](#)

- PMID: 39789809
- DOI: [10.1111/jocn.17520](#)

Abstract

Aims: To classify the unmet integrated care needs of older adults with multimorbidity and to explore the factors associated with different categories of unmet integrated care needs among the target population.

Design: A cross-sectional survey using the statistical method of latent profile analysis.

Methods: From July 2022 to March 2023, 397 older adults with multimorbidity, aged 60 years or older, were recruited from one primary healthcare setting and from four secondary and tertiary hospitals to participate in face-to-face questionnaire surveys. The questionnaire used in this study to assess unmet integrated care needs among older adults with multimorbidity was self-designed through a series of steps, including a scoping review, expert consultation and cognitive interviews. Latent profile analysis was applied to uncover distinct profiles of unmet integrated care needs, and multinomial logistic regression was employed to explore whether the profiles were further distinguished by participants' sociodemographic and health-related covariates. The data were analysed using IBM SPSS v.29.0 and Mplus v.8.0.

Results: The optimal solution was a four-profile model, characterised by high unmet integration needs, high unmet system integration needs, low unmet system integration needs and low unmet integration needs, respectively. Multinomial logistic regression results indicated that profile differences were associated with place of residence, number of coresidents and the presence or absence of complex multimorbidity.

Conclusion: The integrated care needs of older adults with multimorbidity have not yet been fully met. Classifying and characterising unmet integrated care needs profiles is a crucial step in the rational allocation of integrated care resources.

Reporting method: This study was reported based on the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) for cross-sectional studies.

Patient or public contribution: All participants were older adults with multimorbidity, and they were informed that they could withdraw from the study at any time.

Keywords: care continuity; care coordination; healthcare needs assessment; healthcare service delivery; multiple chronic conditions.

© 2025 John Wiley & Sons Ltd.

- [40 references](#)

Supplementary info

Grants and fundingExpand

Full text links



[Proceed to details](#)

Cite

Share

4

BMC Public Health

-
-
-

. 2025 Jan 8;25(1):92.

doi: 10.1186/s12889-024-21166-5.

[Association between physical multimorbidity in middle adulthood and mortality: findings from two large cohort studies in Japan](#)

[Yosuke Inoue¹](#), [Seitaro Suzuki²](#), [Norie Sawada²](#), [Naho Morisaki³](#), [Zui Narita⁴](#), [Taiki Yamaji⁵](#), [Yoshihiro Kokubo⁶](#), [Takehiko Doi⁷](#), [Yukiko Nishita⁸](#), [Motoki Iwasaki^{2,5}](#), [Manami Inoue⁹](#), [Tetsuya Mizoue¹⁰](#)

Affiliations Expand

- PMID: 39780100
- PMCID: [PMC11714819](#)
- DOI: [10.1186/s12889-024-21166-5](#)

Abstract

Background: While previous literature suggests that multimorbidity is linked to a higher risk of mortality, evidence is scarce among individuals in middle adulthood. We aimed to examine the association between physical multimorbidity and all-cause mortality among individuals aged 40-64 years at baseline in Japan.

Methods: Data were obtained from two cohort studies, the Japan Public Health Center-based Prospective Study (JPHC) and the Japan Epidemiology Collaboration on Occupational Health Study (J-ECOH). The study participants were 144,774 individuals aged 40-64 years at baseline who were followed up for a maximum of 29 and 10 years in the JPHC and J-ECOH, respectively. Multimorbidity was defined as the presence of ≥ 2 of 10 morbidities or conditions based on self-reported information. A Cox proportional hazards model was used to examine the association in relation to all-cause mortality. We calculated pooled hazard ratios (HR) and corresponding 95% confidence intervals (CI) using a random-effects meta-analysis model. Cause-specific analysis was performed using the JPHC dataset, which provided a sufficient number of events for mortality due to physical disorders, mental disorders/suicide, and unintentional injuries.

Results: During a follow-up of 2,304,375 person-years in the JPHC and 311,637 person-years in the J-ECOH, 23,611 and 275 deaths were recorded, respectively. Participants with vs. without physical multimorbidity at baseline were more likely to die prematurely in both cohorts with a pooled HR of 1.61 (95%CI = 1.29-2.01). Cause-specific analyses among the JPHC participants revealed that physical multimorbidity at baseline was linked with mortality due to physical disorders, mortality due to mental disorders/suicide, and mortality due to unintentional injuries.

Conclusions: Physical multimorbidity in middle adulthood is associated with an increased risk of all-cause mortality in Japan.

Keywords: Cause of death; Japan; Multimorbidity; Prospective studies.

© 2024. The Author(s).

Conflict of interest statement

Declarations. Ethics approval and consent to participate: The study was conducted in accordance with the Declaration of Helsinki. The study protocol was approved by the Institutional Review Board of the National Cancer Center (NCC), Japan (approval number 2018–194), with specific approval obtained at NCC (2001-021) and National Center for Global Health and Medicine (NCGM-S-001140). Informed consent was assumed on the voluntary response to the JPHC questionnaire and if the participants did not opt out of the in-company bulletin board for the J-ECOH. Participants were informed that they could withdraw their participation at any time. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- [51 references](#)

Supplementary info

MeSH terms, Grants and fundingExpand

Full text links



[Proceed to details](#)

Cite

Share

5

Expert Rev Clin Immunol

-
-
-

. 2025 Jan 7:1-15.

doi: 10.1080/1744666X.2024.2448990. Online ahead of print.

Type 2 inflammation: a Portuguese consensus using Web-Delphi and decision conferencing (INFLAT2-PT)

Suzete Costa^{1,2}, João Pedro Aguiar^{1,2}, Mónica D Oliveira^{3,4}, João Gonçalves^{5,6}, João Carlos Ribeiro^{7,8}, Luís Taborda-Barata^{9,10}, Helena Farinha^{5,11}, Pedro Escada^{12,13}, Samuel Fernandes^{14,15}, Luís Soares-de-Almeida^{16,17}, Maria João Paiva-Lopes^{13,18}, Cláudia Chaves Loureiro^{19,20}, Isabel Lourinho^{21,22}, João A Fonseca^{23,24}, Marta Drummond^{25,26}, Rui Tato Marinho^{14,15}, João Bana E Costa²⁷, António Vaz Carneiro^{1,2}, Carlos A Bana E Costa^{3,28}

Affiliations Expand

- PMID: 39748205
- DOI: [10.1080/1744666X.2024.2448990](https://doi.org/10.1080/1744666X.2024.2448990)

Abstract

Objectives: Atopic/allergic diseases impose a growing burden on public health, affecting millions of patients worldwide. The main objective of this study was to develop a national expert consensus on relevant clinical questions related to type 2 inflammation.

Methods: We conducted: a comprehensive literature review with a qualitative analysis to identify the most repeated themes on the overlap of conditions; a modified 3-round Web-Delphi (or e-Delphi); and a final online decision conference.

Results: We included 51 studies. Following three Web-Delphi rounds, we ended up with 30 statements with a 76% overall full agreement rate, 16% agreement, 2% disagreement, and 0% full disagreement. The decision conference enabled adjustments, and the expert panel agreed unanimously on the final set of statements. The consensus used evidence synthesis, Web-Delphi, and decision conference to produce 30 statements on type 2 inflammation as a driver for multimorbidity in asthma, certain rhinitis phenotypes, atopic dermatitis, chronic rhinosinusitis with nasal polyps, and eosinophilic esophagitis grouped under five domains in underlying pathophysiology, multimorbidity, diagnosis and management, multidisciplinary management, and impact on mental health.

Conclusion: We expect the first Portuguese expert consensus INFLAT2-PT to promote understanding of type 2 inflammation diseases, multidisciplinary care, integrated care pathways, future research, and inform health authorities.

Keywords: Allergy; asthma; atopic dermatitis; chronic rhinosinusitis; consensus; eosinophilic esophagitis; type-2 inflammation.

Full text links



[Proceed to details](#)

Cite

Share

6

PM R

-
-
-

. 2025 Jan 8.

doi: 10.1002/pmrj.13299. Online ahead of print.

[Multicomponent telerehabilitation program for veterans with multimorbidity: A randomized controlled feasibility study](#)

[Michelle R Rauzi](#)^{1,2}, [Lauren M Abbate](#)^{1,3}, [Laura Churchill](#)², [Alexander J Garbin](#)^{1,2}, [Jeri E Forster](#)^{4,5}, [Cory L Christiansen](#)^{1,2}, [Jennifer E Stevens-Lapsley](#)^{1,2}

Affiliations Expand

- PMID: 39777862
- DOI: [10.1002/pmrj.13299](#)

Abstract

Background: Older veterans with multimorbidity experience physical and social vulnerabilities that complicate receipt of and adherence to physical rehabilitation services. Thus, traditional physical rehabilitation programs are insufficient to address this population's heterogeneous clinical presentation.

Objective: To evaluate the feasibility and acceptability of a MultiComponent TeleRehabilitation (MCTR) program for older veterans with multimorbidity.

Design: Randomized controlled cross-over feasibility study.

Setting: Telehealth from Veterans Affairs Medical Center to participants' homes.

Participants: Fifty U.S. military veterans, age ≥ 60 years (mean \pm SD; 69.2 ± 6.7) with ≥ 3 comorbidities (6.0 ± 1.9), and impaired physical function were randomized and allocated equally to two groups.

Intervention: The MCTR program consisted of high-intensity rehabilitation, coaching, social support, and technologies. Physical therapists delivered 12 individual and 20 group telerehabilitation sessions/participant. Participants in the education group started the MCTR program after 12 weeks.

Main outcome measures: The primary outcome was combined adherence (>75% of participants attending ≥80% sessions). Acceptability was measured by the Acceptability of Intervention Measure. Secondary outcomes included safety, participant surveys, and physical function. Patient-level outcomes were collected at baseline, 12 (primary time point), and 24 weeks.

Results: Of 50 participants, 39 adhered to total session attendance (0.78 [95% confidence interval: 0.64-0.88], $p = .76$), 45 adhered to individual sessions (0.90 [95% confidence interval: 0.78-0.97], $p = .01$), and 48 rated the program as acceptable (0.96 [95% confidence interval: 0.85-0.99], $p < .001$). Thirty-five participants reported 78 safety events, and 12 (15%) had some degree of relatedness to the protocol. Most patient-level outcomes were similar between groups at 12-weeks.

Conclusions: The MCTR program was feasible based on high adherence to individual sessions and high acceptability. Adherence results were consistent with previous exercise studies in older adults. Most in-session safety events were related to underlying medical conditions and consistent with in-person physical rehabilitation safety events. These results can inform use of telerehabilitation for similar populations.

Published 2025. This article is a U.S. Government work and is in the public domain in the USA.

- [75 references](#)

Supplementary info

Grants and fundingExpand

Full text links



[Proceed to details](#)

Cite

Share

7

J Gerontol Soc Work

-
-
-

. 2025 Jan 9:1-27.

doi: 10.1080/01634372.2025.2450208. Online ahead of print.

[Anxiety Contributes to Physical Health Among Older Adults Who Are Incarcerated in Prison](#)

[Katherine Mommaerts](#)¹, [Stephanie Grace Prost](#)², [Natalie Reznicek](#)¹

Affiliations Expand

- PMID: 39785384
- DOI: [10.1080/01634372.2025.2450208](#)

Abstract

This study explores links between anxiety and physical health among older adults (aged 45+) incarcerated in Kentucky state prisons. Using secondary data, independent sample t-tests, and hierarchical multiple linear regression, we identify disparities in anxiety and physical health among those with and without self-reported anxiety and the contribution of symptoms of anxiety to physical health in the sample. Findings show individuals with self-reported anxiety experienced increased impairment in daily activities, multimorbidity, and decreased physical health-related quality of life. Older adults are a large and growing proportion of prison populations, and addressing anxiety may improve physical health and reduce related costs.

Keywords: Older adults; anxiety; incarceration; physical health; prison.

Full text links



[Proceed to details](#)

Cite

Share

8

Acta Pharm

-
-
-

. 2025 Jan 9;74(4):693-708.

doi: 10.2478/acph-2024-0038. Print 2024 Dec 1.

[Prevalence and factors associated with potential clinically significant drug-drug interactions in patients with cardiovascular diseases at hospital admission](#)

[Iva Marović¹](#), [Mario Udovičić²](#), [Diana Rudan²](#), [Šime Manola²](#), [Ivana Samardžić¹](#), [Vesna Bačić Vrca³](#), [Maja Ortner Hadžiabdić³](#), [Ivana Marinović¹](#)

Affiliations Expand

- PMID: 39787625
- DOI: [10.2478/acph-2024-0038](https://doi.org/10.2478/acph-2024-0038)

Free article

Abstract

Cardiovascular diseases (CVDs) are the leading cause of mortality and morbidity globally. It is estimated that 17.9 million people died from CVDs in 2019, which represents 32 % of all deaths worldwide. Cardiovascular drugs are the most common medical intervention for the prevention of cardiovascular events. CV medications have many benefits however their application is often complicated by multimorbidity and polypharmacy. Drug-drug interactions (DDIs) can lead to adverse drug events, hospitalizations, prolonged hospital stays, increased healthcare costs, and increased risk of mortality. Hospital admission provides an opportunity for pharmacotherapy analysis and for identifying DDIs which can jeopardize medication safety. The aim of this study is to determine the type and prevalence of potential clinically significant DDIs in patients with CVD and to examine factors associated with exposure to DDIs. A prospective study was conducted at the Dubrava University Hospital at the Clinic of Cardiology during a 6-month period (September 2023 - February 2024). Demographic, clinical and pharmacotherapy data were collected for each patient. The first prescribed pharmacotherapy was analyzed. The research was approved by the Hospital's Ethics Committee and each patient involved in the study signed an informed consent. Lexicomp® Lexi-Interact™ Online (Lexi-Comp, Inc., USA) was used for DDI analysis. Poisson regression was used for regression analysis for determining risk factors associated with exposure to DDIs. Total of 151 patients admitted to Cardiology ward were included in the research, and the average age was 67 years. Patients had an average of 9 medications in their therapy and 8 diagnoses. Overall, 1268 potential clinically significant DDIs were determined, of which the most frequently determined interactions were grade C (90.9 %), then grade D (8.6 %) and grade X (0.6 %). CV medications were involved in 88 % DDIs. The most common interventions regarding identified DDIs included exclusion one of the drugs, dose adjustment, increased monitoring of signs of bleeding, cardiac disorders, hypoglycemia, CNS depression and rhabdomyolysis, blood pressure, markers of renal function and electrolyte status. Factors associated with the prevalence of potential clinically significant DDIs were decreased renal function, recent hospitalization, total number of comorbidities and polypharmacy. Specific comorbidities associated with DDIs were arrhythmia, heart failure, diabetes mellitus and disease of the respiratory system. A high prevalence of DDIs of CV medications in all categories of clinical significance was determined. Managing medication safety in specific patient groups with CVDs can represent a greater challenge regarding DDIs. Certain medical conditions, such as arrhythmia, heart failure, diabetes, and diseases of the respiratory system, multimorbidity, polypharmacy, impaired renal function and recent hospitalization are identified in this research as

additional factors associated with DDIs occurrence in patients with CVDs at hospital admission. Hospital admission is one of the crucial points for managing medication safety. Clinical pharmacists should regularly analyze DDIs in prescribed pharmacotherapy which enhances medication safety and also contributes to the quality of provided health care.

Keywords: cardiovascular disease; clinical pharmacist; drug-drug interactions; hospital admission.

© 2024 Iva Marović et al., published by Sciendo.

- [48 references](#)

Supplementary info

MeSH terms, SubstancesExpand

Full text links



[Proceed to details](#)

Cite

Share

9

J Appl Gerontol

-
-
-

. 2025 Jan 6:7334648241309734.

doi: 10.1177/07334648241309734. Online ahead of print.

[Identifying Challenges Related to the Management of Comorbidities in People with Dementia in Residential Care: Expert Delphi Consensus Exercise](#)

[Serena Sabatini](#)¹, [Frances Hawes](#)², [Kelechi Eluigwe](#)¹, [Eugene Y H Tang](#)³

Affiliations Expand

- PMID: 39760610
- DOI: [10.1177/07334648241309734](#)

Abstract

Improving early detection, management, and treatment of comorbid conditions to dementia in residential care could slow down cognitive and functional decline, and increase residents' quality of life. We conducted a Delphi study comprising three rounds (two surveys and an interview) to identify the most difficult dementia comorbidities to deal with in residential care and related issues. Participants were 15 UK-based experts including academics, residential care workers, geriatricians, and neuropsychologists. In the first-round of the Delphi, experts mentioned 15 comorbid health conditions to dementia and 19 issues. In the following rounds of the Delphi mental illnesses, delirium, and sensory impairments were identified as the most difficult comorbidities to dementia to deal with. Medication management, symptom management, shortage of staff, lack of training among staff, and limited resources from the broader healthcare system were identified as the most difficult issues when dealing with dementia comorbidities.

Keywords: Alzheimer's; care home; co-morbidity; health conditions; multimorbidity; nursing home.

Conflict of interest statement

Declaration of Conflicting InterestsThe authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Full text links

Sage Journals 

"asthma"[MeSH Terms] OR asthma[Text Word]

1

Review

Eur Respir Rev

-
-
-

. 2025 Jan 8;34(175):240088.

doi: 10.1183/16000617.0088-2024. Print 2025 Jan.

[Biologics in severe asthma: a state-of-the-art review](#)

[Bishal Gyawali](#)¹, [Steve N Georas](#)^{1,2}, [Sandhya Khurana](#)^{3,2}

Affiliations Expand

- PMID: 39778920
- PMCID: [PMC11707604](#)
- DOI: [10.1183/16000617.0088-2024](#)

Abstract

Asthma is considered severe if it remains uncontrolled despite optimal conventional therapy, characterised by poor symptom control, frequent exacerbations and increased exposure to systemic corticosteroids. This has a significant impact on morbidity, mortality and healthcare resource utilisation. Recent advances in the understanding of asthma heterogeneity and immunopathogenesis have helped delineate precise disease pathways. The discovery of these pivotal pathways has led to the development of highly effective biologic therapies. Currently available asthma biologics target immunoglobulin E, interleukin (IL)-5/IL-5R α , IL-4R α and thymic stromal lymphopoietin. Identification of specific asthma phenotypes, utilising easily measurable biomarkers, has paved the way towards personalised and precision asthma management. Biologic therapies play a significant role in reducing exacerbations, hospitalisations and the need for maintenance systemic steroids, while also improving the quality of life in patients with severe asthma. The evidence for their clinical efficacy comes from randomised controlled trials (RCTs), extension studies, meta-analyses and real-world data. This review synthesises findings from early, pivotal RCTs and subsequent studies following the approval of biologics for severe asthma. The safety and efficacy data from these studies, completed in a variety of settings, provide practical perspectives on their application and enhance their generalisability.

Copyright ©The authors 2025.

Conflict of interest statement

Conflict of interest: All authors report no conflicts of interest associated with the publication of this manuscript and there is no financial support for this work.
Outside of this work: B. Gyawali has nothing to disclose. S.N. Georas reports research grants from NIH, consulting fees from AstraZeneca, ARS Pharma, Chiesi inc, Amarin Pharma and GH Research, payment or honoraria for lectures, presentations, speakers' bureaus, manuscript writing or educational events from Exchange CME, and acts as Chair of PreciSE Asthma Network steering committee (NIH/NHLBI) and Chair of DSMB for COPD Gene study (NIH/NHLBI). S. Khurana reports research grants from the American Lung Association, royalties from Springer Nature, CME honoraria from CHEST/ACCP, European Respiratory Society, Healio, NYU, Cleveland Clinic, Thai Asthma Council, Eastern Pulmonary Conference, and serves as Regent-at-large for CHEST and Chair of DSMB for an NIH study.

- [176 references](#)
- [3 figures](#)

Supplementary info

Publication types, MeSH terms, SubstancesExpand

Full text links



[Proceed to details](#)

Cite

Share

2

Review

Eur Respir Rev

-
-
-

. 2025 Jan 8;34(175):240160.

doi: 10.1183/16000617.0160-2024. Print 2025 Jan.

[Machine learning-derived asthma and allergy trajectories in children: a systematic review and meta-analysis](#)

[Daniil Lisik](#)¹, [Saliha Selin Özuygur Ermis](#)², [Gregorio Paolo Milani](#)^{3,4}, [Giulia Carla Immacolata Spolidoro](#)³, [Selin Ercan](#)², [Michael Salisu](#)², [Faozyat Odetola](#)², [Daniele Giovanni Ghiglioni](#)⁵, [Danylo Pylov](#)², [Emma Goksör](#)⁶, [Rani Basna](#)^{2,7}, [Göran Wennergren](#)^{2,6}, [Hannu Kankaanranta](#)^{2,8,9}, [Bright I Nwaru](#)¹⁰

Affiliations Expand

- PMID: 39778923
- PMCID: [PMC11707603](#)
- DOI: [10.1183/16000617.0160-2024](#)

Abstract

Introduction: Numerous studies have characterised trajectories of asthma and allergy in children using machine learning, but with different techniques and mixed findings. The present work aimed to summarise the evidence and critically appraise the methodology.

Methods: 10 databases were searched. Screening, data extraction and quality assessment were performed in pairs. Trajectory characteristics were tabulated and visualised. Associated risk factor and outcome estimates were pooled using a random-effects meta-analysis.

Results: 89 studies were included. Early-onset (infancy) persistent, mid-onset (~2-5 years) persistent, early-onset early-resolving (within ~2 years) and early-onset mid-resolving (by ~3-6 years) wheezing and eczema, respectively, were the most commonly identified disease trajectories. Intermediate/transient trajectories were rare. Male sex was associated with a higher risk of most wheezing trajectories and possibly with early-resolving eczema, while being slightly protective against mid-onset persistent eczema. Parental disease/genetic markers were associated with persistent trajectories of wheezing and eczema, respectively. Prenatal (and less so postnatal) tobacco smoke exposure was associated with most wheezing trajectories, as were lower respiratory tract infections in infancy (particularly with the early-onset resolving patterns). Most studies (69%) were of low methodological quality (particularly in modelling approaches and reporting). Few studies investigated allergic multimorbidity, allergic rhinitis and food allergy.

Conclusions: Childhood asthma/wheezing and eczema can be characterised by a few relatively consistent trajectories, with some actionable risk factors such as pre-/postnatal smoke exposure. Improved computational methodology is warranted to better assess generalisability and elucidate the validity of intermediate/transient trajectories. Likewise, allergic multimorbidity and trajectories of allergic rhinitis and food allergy need to be further elucidated.

Copyright ©The authors 2025.

Conflict of interest statement

Conflict of interest: H. Kankaanranta reports personal fees for lectures and consulting from AstraZeneca, Boehringer-Ingelheim, Chiesi Pharma, GSK, MSD, Novartis, Orion Pharma, and Sanofi Genzyme outside the current work. The remaining authors report that they have no conflict of interest.

- [115 references](#)
- [5 figures](#)

Supplementary info

Publication types, MeSH termsExpand

Full text links



[Proceed to details](#)

Cite

Share

3

Editorial

Expert Rev Respir Med

-
-
-

. 2025 Jan 5:1-5.

doi: 10.1080/17476348.2024.2449080. Online ahead of print.

[Achieving sustained remission in severe asthma: goals, challenges, issues and opportunities](#)

[Alessandro Vatrella¹, Angelantonio Maglio¹](#)

Affiliations Expand

- PMID: 39749409
- DOI: [10.1080/17476348.2024.2449080](#)

No abstract available

Keywords: Severe asthma; asthma; asthma remission; asthma therapy; asthma treatment; biologics; remission; sustained remission.

Supplementary info

Publication typesExpand

Full text links



[Proceed to details](#)

Cite

Share

4

Allergy

-

-
-

. 2025 Jan 3.

doi: 10.1111/all.16445. Online ahead of print.

[The Role of WNT5a and TGF- \$\beta\$ 1 in Airway Remodelling and Severe Asthma](#)

[Tariq Daud](#)¹, [Sheree Roberts](#)¹, [Nazanin Zounemat Kermani](#)^{2,3}, [Matthew Richardson](#)¹, [Liam G Heaney](#)⁴, [Ian M Adcock](#)³, [Yassine Amrani](#)¹, [Peter Bradding](#)¹, [Salman Siddiqui](#)^{1,3}

Affiliations Expand

- PMID: 39749571
- DOI: [10.1111/all.16445](#)

Abstract

Background: Airway remodelling is a feature of severe asthma with airway epithelial damage observed frequently. We evaluated the role of WNT5a and TGF- β 1 in asthmatic airway biopsies and in sputum and bronchial brushings assessed their role in remodelling.

Methods: WNT5a and TGF- β 1 protein expression were assessed in the lamina propria epithelium of people with asthma (GINA 1-3, n=8 and GINA 4-5, n=14) and healthy subjects (n=9), alongside relevant remodelling markers. The effects of WNT5a and TGF- β 1 on BEAS-2B epithelial cell wound healing and differentiation were assessed in vitro. Replication was performed in the Unbiased Biomarkers for the Prediction of Respiratory Disease Outcomes (U-BIOPRED) study in sputum (n = 120) and bronchial brushes (n = 147).

Results: WNT5a and TGF- β 1 protein expression were significantly increased in the airway epithelium and lamina propria in asthma patients with concurrent airflow limitation or severe disease. Furthermore, WNT5a protein expression in the lamina propria correlated with tissue eosinophils and vascular remodelling. Airway epithelial WNT5a was co-localised predominantly to airway basal cells and correlated with Th17 gene expression ($r = 0.40$, $p = 0.025$) and both the % intact ($r_s = 0.54$, $p = 0.001$) and % denuded epithelium ($r_s = -0.39$, $p = 0.003$). Experiments in BEAS-2B cells confirmed that WNT5a at maximal physiological concentrations (1 μ g/mL), promoted epithelial wound healing, independently of TGF- β 1, as well as induction of EMT-like morphology. WNT5a mRNA was associated with severe asthma, airflow limitation, sputum eosinophilia and Th2, and Th17 and neutrophil activation transcriptomes in sputum in U-BIOPRED.

Conclusion: WNT5a is associated with both airway remodelling and severe asthma.

Trial registration: ClinicalTrials.gov identifier: [NCT01982162](#).

Keywords: TGF- β 1; WNT5a; airway remodelling; asthma.

© 2025 European Academy of Allergy and Clinical Immunology and John Wiley & Sons Ltd.

- [37 references](#)

Supplementary info

Associated data, Grants and fundingExpand

Full text links



[Proceed to details](#)

Cite

Share

5

J Asthma

-
-
-

. 2025 Jan 9:1-8.

doi: 10.1080/02770903.2025.2451691. Online ahead of print.

[Pre-biologic FeNO might predict anti-IL-5/IL-5R \$\alpha\$ response to treatment in severe asthmatics](#)

[Bruno Sposato](#)¹, [Marco Scalese](#)², [Gianna Camiciottoli](#)³, [Giovanna Elisiana Carpagnano](#)⁴, [Corrado Pelaia](#)⁵, [Pierachille Santus](#)⁶, [Girolamo Pelaia](#)⁷, [Paolo Cameli](#)⁸, [Elena Bargagli](#)⁸, [Leonardo Gianluca Lacerenza](#)⁹, [Dejan Radovanovic](#)^{6,10}, [Paola Rogliani](#)¹¹, [Mauro Maniscalco](#)¹², [Simonetta Masieri](#)¹³, [Carlo Cavaliere](#)¹⁴, [Angelo Guido Corsico](#)¹⁵, [Nicola Scichilone](#)¹⁶, [Stefano Baglioni](#)¹⁷, [Antonio Perrella](#)¹, [Pierluigi Paggiaro](#)¹⁸, [Alberto Ricci](#)¹⁹

Affiliations Expand

- PMID: 39783623
- DOI: [10.1080/02770903.2025.2451691](#)

Abstract

Objective: It remains unclear whether baseline FENO levels can predict response to anti-IL5/5R biologic treatment in patients with severe asthma.

Methods: We recruited 104 patients with severe eosinophilic asthma treated with anti-IL5/anti-IL5R for at least one year who had measured FeNO values before the beginning of anti-eosinophilic treatment. Population was divided into subjects with FeNO < 25 and ≥25 ppb. In each group we evaluated the changes in pulmonary function (FEV₁% and FEF₂₅₋₇₅%), clinical (ACT and exacerbations) and steroid-sparing effect, expressed as the modification of daily dosage of inhaled corticosteroids (ICS) and oral corticosteroids (OC), after anti-IL5/anti-IL5R.

Results: FEV₁ changes after treatment were 3.34 ± 15.97% in subjects with low baseline FeNO, whereas 11.2 ± 16.1% in individuals with FeNO ≥ 25 ppb (p = 0.012). Also, FEF₂₅₋₇₅% variations after treatment were different in the two groups: 2.1 ± 10.7% vs 9.6 ± 18% in individuals with FeNO < 25 and ≥25 respectively (p = 0.05). Conversely, ACT (4.4 ± 4.2 vs 5.9 ± 4.6; p = 0.147), exacerbation changes (-2.46 ± 1.5 vs 2.9 ± 1.6; p = 0.137) after treatment were similar in both groups where ICS dosages reduction was alike. On the contrary, the percentage of subjects that reduced/stopped OC treatment after anti-IL5/anti-IL5R was 71.7% in the group with FeNO < 25 ppb whereas 94.1% in individuals with FeNO ≥ 25 (p = 0.06). Multivariate analysis adjusted for all confounding factors also confirmed the relationship between FeNO ≥ 25 and improvement in FEV₁%/FEF₂₅₋₇₅% ((β = 8.372, p = 0.013 and β = 8.883; p = 0.062 respectively) and the increased probability of discontinuing/reducing OC use (OR:17.838[95%CI:3.159-100.730]; p = 0.001).

Conclusion: Pre-biologic FeNO might predict a greater response to treatment with anti-IL-5/5R especially in terms of lung function and OC sparing in subjects with severe eosinophilic/allergic asthma. This could likely be a biomarker that can better guide in choosing an anti-IL5/5R in severe overlapping asthma (eosinophilic/allergic) to maximize treatment effects.

Keywords: FeNO; anti-IL-5; anti-IL-5Rα; benralizumab; biologic; mepolizumab; real-life; response; severe asthma.

Full text links



[Proceed to details](#)

Cite

Share

6

Review

Expert Rev Respir Med

-
-

•
. 2025 Jan 9.

doi: 10.1080/17476348.2025.2451960. Online ahead of print.

[Respiratory manifestations of sickle cell disease in children: a comprehensive review for the pediatrician](#)

[Lisa Grigoli](#)¹, [Maria Maiocchi](#)¹, [Laura Venditto](#)², [Michele Piazza](#)¹, [Laura Tenero](#)³, [Giorgio Piacentini](#)¹, [Marco Zaffanello](#)¹, [Giuliana Ferrante](#)^{1,4}

Affiliations Expand

- PMID: 39783770
- DOI: [10.1080/17476348.2025.2451960](https://doi.org/10.1080/17476348.2025.2451960)

Abstract

Introduction: Sickle cell disease (SCD) is an inherited hemoglobinopathy characterized by the production of sickle hemoglobin, leading to red blood cells sickling and hemolysis in hypoxic conditions. The resulting acute and chronic endothelial inflammation leads to chronic organ damage. Respiratory manifestations in SCD usually start from childhood and represent the leading causes of morbidity and mortality. Nevertheless, they are generally poorly addressed or recognized later in life, often contributing to a more severe course and complications.

Areas covered: This narrative review aims to outline the significant acute and chronic respiratory manifestations in children with SCD, focusing on prevention and clinical management. Compelling issues that need to be addressed in the future are also discussed. We searched the PubMed database for original papers written in English. Age restrictions were set for children (birth to 18 years). No limitations were set for the date and study country.

Expert opinion: Early detection and treatment of respiratory manifestations in SCD should be central to follow-up with patients affected by SCD. Nonetheless, studies are lacking, especially in pediatric age, and there is still no consensus on their management. Further research is strongly needed to accomplish universally accepted guidelines to guarantee patients the best care possible.

Keywords: Sickle cell disease; acute chest syndrome; asthma; children; hypoxia; lung function tests; sleep-disordered breathing.

Supplementary info

Publication typesExpand

Full text links



[Proceed to details](#)

Cite

Share

7

J Clin Pharmacol

-
-
-

. 2025 Jan 7.

doi: 10.1002/jcph.6179. Online ahead of print.

[Pharmacokinetics and Pharmacodynamics of Intravenous Magnesium Sulfate in Pediatric Acute Asthma Exacerbations](#)

[Joseph E Rower](#)^{1,2}, [Michael D Johnson](#)³, [Joseph J Zorc](#)⁴, [Bashar Shihabuddin](#)⁵, [Mengtao Dai](#)⁶, [Bradley J Barney](#)⁶, [Yaron Finkelstein](#)⁷

Affiliations Expand

- PMID: 39775569
- DOI: [10.1002/jcph.6179](https://doi.org/10.1002/jcph.6179)

Abstract

Pediatric asthma exacerbations represent a significant cause of emergency department use and hospitalizations. Despite available treatment options, many children's exacerbations are refractory to standard therapies and require adjunct treatments. The Intravenous Magnesium: Prompt use for Asthma in Children Treated in the Emergency Department study investigated the pharmacology of intravenous magnesium sulfate (IVMg) in treating pediatric asthma exacerbations. Specifically, the objectives of the study included (1) externally validating a previously published population pharmacokinetic model and (2) linking serum magnesium concentrations with outcomes including asthma severity score (efficacy) and hypotension (safety). Data were obtained from 49 children prospectively treated with IVMg (placebo, 50 or 75 mg/kg) after presenting to the pediatric emergency department with an acute asthma exacerbation. Reductions in Pediatric Respiratory Assessment Measure scores were associated with both total and ionized serum magnesium area under the concentration-time curve (AUC_{0-2 h}). Despite frequent study-specific blood pressure monitoring, hypotension was uncommon in IVMg-treated participants (n = 2/31), and no concentration dependence was observed. The findings signal that IVMg may be an efficacious and safe option for treating moderate-severe pediatric acute asthma exacerbations in the ED. Importantly, this study is the first to suggest a serum exposure target (total serum magnesium AUC_{0-2 h} >63.1 mg h/L) reflective of effective IVMg dosing in

pediatric acute asthma. While further study in a larger clinical trial is needed to refine and validate this exposure target, these findings support the continued study of IVMg therapy as an adjunct therapeutic option in the setting of pediatric asthma exacerbations.

Keywords: Pediatric Respiratory Assessment Measure; blood pressure; magnesium sulfate; pediatric asthma; pharmacodynamics; pharmacokinetics.

© 2025 The Author(s). The Journal of Clinical Pharmacology published by Wiley Periodicals LLC on behalf of American College of Clinical Pharmacology.

- [44 references](#)

Supplementary info

Grants and funding [Expand](#)

Full text links



[Proceed to details](#)

Cite

Share

8

J Asthma

-
-
-

. 2025 Jan 4:1-19.

doi: 10.1080/02770903.2024.2449248. Online ahead of print.

[The relationship between MUC5AC levels in lung and asthma: a meta-analysis based on animal experiments](#)

[Ju Hui](#)¹, [Liwei Yang](#)¹, [Hang Xu](#)¹, [Ying Zhu](#)¹, [Liting Zhou](#)¹, [Lin Ye](#)¹

Affiliations [Expand](#)

- PMID: 39754519
- DOI: [10.1080/02770903.2024.2449248](#)

Abstract

Introduction: Asthma is one of the severe respiratory diseases and affects the health of people globally. Animal studies have found that the mucin 5ac (Muc5ac) levels in the lung are associated with asthma. This paper aimed to systematically evaluate the relationship between Muc5ac levels in lung and asthma by extracting relevant data from animal experiments.

Methods: Literatures published before September 2022 in PubMed, Web of Science, Embase and Cochrane databases were collected. Literatures screening and data extraction were performed according to the criteria and the risks of bias were assessed for the included literatures according to the SYRCLE tool. Type 2 inflammatory asthma model was applied in this paper. Meta-analysis was performed using Stata 16.0 software.

Results: A total of 40 publications containing 347 control mice and 337 mice with asthma were included in this study. Meta-analysis results showed the levels of Muc5ac in BALF of mice in asthma group were significantly higher than that in control group [SMD = 3.50, 95%CI(1.45, 5.54)], and the heterogeneity test results showed $I^2 = 93.0\%$, $P < 0.05$. The mRNA expression levels of Muc5ac in lung tissue of mice in asthma group showed a higher level than that in control group [SMD = 4.46, 95%CI (3.38, 5.55)], and the heterogeneity test results showed $I^2 = 84.3\%$, $P < 0.01$. The protein expression levels of Muc5ac in lung tissue of mice in asthma group were significantly higher than those in control group [SMD = 5.70, 95%CI (4.09,7.31)], and the heterogeneity test results showed $I^2 = 89.7\%$, $P < 0.01$.

Conclusion: The meta-analysis clarified the positive relationship between Muc5ac in lung and asthma.

Keywords: Muc5ac; animal experiments; asthma; meta-analysis.

Full text links



[Proceed to details](#)

Cite

Share

9

Int Arch Allergy Immunol

-
-
-

. 2025 Jan 7:1-24.

doi: 10.1159/000543023. Online ahead of print.

[Efficacy and Safety of Specific Immunotherapy Combined with Biologics in Allergic Rhinitis and Asthma: A Systematic Review and Network Meta-Analysis](#)

[Dayu Guan](#), [Yijun Liu](#), [Yue Gu](#), [Bowen Zheng](#), [Rong Sun](#), [Yang Shen](#), [Yucheng Yang](#)

- PMID: 39774036
- DOI: [10.1159/000543023](#)

Abstract

Introduction: Allergic diseases are common clinical diseases. Although allergen-specific immunotherapy (AIT) and biologics have been widely recognized, the clinical efficacy, safety, advantages and disadvantages of the combined application have not yet been sufficiently recognized. We aimed to investigate the efficacy and safety of AIT combined with biologics in patients with allergic rhinitis and asthma.

Methods: PubMed, EMBASE, the Cochrane Library, and Web of Science were systematically searched to identify RCTs investigating AIT combined with biologics for treating allergic rhinitis and asthma. The relevant outcome indicators, including incidences of emergency drugs use, severe nasal symptoms, severe adverse effects (AEs), local reactions at the site of administration, headache, and general AEs, were collected and extracted. Routine and network meta-analyses were conducted using RevMan-5.4 and STATA-MP-14 to assess efficacy and safety.

Results: Eight RCTs and a retrospective study involving 1494 patients aged 5 to 65 years with allergic rhinitis and asthma were included in this review. ① Routine meta-analysis revealed that AIT combined with biologics was significantly better than control treatment (placebo, AIT or biologics) in terms of the incidence of emergency drugs use, severe nasal symptoms, and severe AEs ($P=0.0002$; $P=0.01$; $P=0.02$). However, the differences in the incidence of local reactions at the site of administration, headache and general AEs were not significant. ② In the network meta-analysis, compared with AIT or placebo alone, AIT combined with biologics observably reduced the incidence of emergency drugs use and severe nasal symptoms (OR=0.32, 95% CI 0.14-0.73; OR=0.41, 95% CI 0.26-0.63). Furthermore, AIT combined with biologics yielded an evidently lower incidence of serious adverse reactions than AIT alone (OR=0.42, 95% CI 0.23-0.74).

Conclusion: The combined application of AIT and biologics has promising prospects in the clinical treatment of allergic rhinitis and asthma due to the improvement of both clinical efficacy and safety.

Trial registration: SYSTEMATIC REVIEW REGISTRATION (PROSPERO #CRD42024496277).

S. Karger AG, Basel.

Supplementary info

Publication typesExpand

Full text links

[Proceed to details](#)

Cite

Share

10

Review

Clin Ther

-
-
-

. 2025 Jan 4:S0149-2918(24)00374-6.

doi: 10.1016/j.clinthera.2024.12.001. Online ahead of print.

[Meta-Analysis of Randomized, Controlled Trials Assessing the Effectiveness and Safety of Biological Treatments in Chronic Obstructive Pulmonary Disease Patients](#)

[Khai-Chi Hu](#)¹, [Min-Hsiang Chuang](#)², [Chih-Cheng Lai](#)³, [Kuang-Ming Liao](#)⁴

Affiliations Expand

- PMID: 39757036
- DOI: [10.1016/j.clinthera.2024.12.001](https://doi.org/10.1016/j.clinthera.2024.12.001)

Free article

Abstract

Anti-interleukin-5 (IL-5), anti-IL-5 receptor and anti-interleukin-4 (IL-4) have emerged as potential treatments for severe eosinophilic asthma, yet their role in treating chronic obstructive pulmonary disease (COPD) is unclear. A literature review was conducted up to May 31, 2024. Only randomized controlled trials (RCTs) assessing the clinical efficacy and adverse effects of biological treatment (anti-IL-5/ anti-IL-5 receptor /anti-IL-4) in COPD patients were included in this meta-analysis. Primary outcomes focused on COPD exacerbation risk, with secondary outcomes examining lung function, quality of life, and adverse events. Four articles comprising 6 RCTs were analyzed. Among 2837 patients receiving anti-IL-5/anti-IL-5 receptor therapies, 468 receiving anti-IL-4 therapies, and 1913 receiving placebo. Overall, biological treatment therapies collectively demonstrated a reduced risk of COPD exacerbation compared to placebo (rate ratio, 0.88; 95% CI, 0.80-0.97, $I^2 = 53%$). Specifically,

dupilumab statistically significant reduction in exacerbation risk (rate ratio 0.70, 95% CI 0.58-0.84). Benralizumab showed a borderline reduction in exacerbation risk (rate ratio, 0.92; 95% CI, 0.85-1.00, $I^2 = 0\%$, while Mepolizumab exhibited a trend towards lower exacerbation risk that did not reach statistical significance (rate ratio 0.90, 95% CI 0.77-1.06, $I^2 = 62\%$). Subgroup analysis showed that patients with COPD and eosinophils ≥ 300 per cubic millimeter who received biological treatment may experience a reduced risk of acute exacerbation. Changes in lung function from baseline did not significantly differ between biological therapies and placebo. Analysis of St. George's Respiratory Questionnaire (SGRQ) scores indicated significant improvements with biological therapies compared to placebo (mean difference -1.30, 95% CI -2.46 to -0.14, $I^2 = 28\%$). Biological therapies showed comparable risks of adverse events compared to placebo. This meta-analysis suggests that biological therapies may reduce the risk of acute exacerbations and improve quality of life in COPD patients compared to placebo. However, these therapies did not demonstrate significant improvements in pulmonary function. Future studies are needed to delineate the role of these biologic therapies in managing COPD exacerbations.

Keywords: Benralizumab; Biological treatments; Chronic obstructive pulmonary disease; Dupilumab; Mepolizumab.

Copyright © 2024 The Authors. Published by Elsevier Inc. All rights reserved.

Conflict of interest statement

Declaration of competing interest The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Kuang-Ming Liao reports article publishing charges was provided by Chi Mei Medical Center, Chiali. Kuang-Ming Liao reports a relationship with Chi Mei Medical Center, Chiali that includes: employment. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Supplementary info

Publication typesExpand

Full text links



[Proceed to details](#)

Cite

Share

11

Adv Ther

•

-
-

. 2025 Jan 4.

doi: 10.1007/s12325-024-03071-w. Online ahead of print.

[Costs of Oral Corticosteroid Use in Patients with Severe Asthma With/Without Chronic Rhinosinusitis with Nasal Polyps: Data from the Italian SANI Registry](#)

[Enrico Heffler](#)^{1,2}, [Francesco Blasi](#)^{3,4}, [Pierluigi Paggiaro](#)⁵, [Giorgio Walter Canonica](#)^{6,7}

Affiliations Expand

- PMID: 39754702
- DOI: [10.1007/s12325-024-03071-w](https://doi.org/10.1007/s12325-024-03071-w)

Abstract

Introduction: The burden of severe asthma on patients, especially on those with concomitant chronic rhinosinusitis with nasal polyps (CRSwNP), is substantial. Treatment intensification with oral corticosteroids is a common strategy for managing severe asthma exacerbations; however, prolonged exposure to systemic corticosteroids is associated with multisystem toxicity. This study aimed to quantify the association between oral corticosteroid use and annual asthma-related costs in patients with severe asthma with or without CRSwNP.

Methods: This pharmacoeconomic analysis was based on data from the Severe Asthma Network in Italy (SANI) registry. Asthma-related costs were estimated in the context of the Italian healthcare system and included exacerbations requiring treatment intensification, unplanned visits, admissions to hospital and emergency/intensive care units, and lost workdays. For each item, the mean annual cost per patient was estimated based on national tariffs and the frequency of the event. To quantify the association between oral corticosteroid treatment and costs, the study cohort was stratified according to oral corticosteroid use in the 1-year preceding inclusion in the SANI registry.

Results: A total of 669 patients from the SANI registry were included in the present analysis, 255 of whom had concomitant CRSwNP. Corticosteroid use was associated with significantly higher annual disease-related costs per patient compared with no corticosteroid use. Compared with the overall study cohort and patients without CRSwNP, patients with CRSwNP had higher disease-related costs (higher by €1307 and €1869, respectively).

Conclusion: Use of corticosteroids, in particular systemic corticosteroids, is associated with an increase in asthma-related costs. The concomitant presence of CRSwNP impacts negatively on costs. This study suggests that a thorough analysis of costs, expected benefits, and occurrence of adverse events is required when selecting treatment intensification strategies for managing uncontrolled severe asthma.

Keywords: Asthma; Chronic rhinosinusitis with nasal polyps; Corticosteroid-sparing; Oral corticosteroids; Severe asthma.

© 2025. The Author(s).

Conflict of interest statement

Declarations. Conflict of Interest: Enrico Heffler reports receiving grants and personal fees from Sanofi, Regeneron, AstraZeneca, Novartis, GlaxoSmithKline, Chiesi, Stallergenes-Greer, Almirall, Celltrion Healthcare, and Bosch. Francesco Blasi reports receiving grants and personal fees from AstraZeneca, Insmmed, and Menarini, and personal fees from Chiesi, GlaxoSmithKline, Grifols, Om Pharma, Pfizer, Sanofi, Vertex, Viartis, and Zambon, all outside the submitted work. Pierluigi Paggiaro received in the last 2 years personal grants for educational activities from AstraZeneca, Chiesi, GSK, Guidotti and Sanofi, and for participation to advisory board from Chiesi and GSK. Giorgio Walter Canonica reports research or clinical trials grants paid to his Institution from Menarini, AstraZeneca, GSK, Sanofi Genzyme and fees for lectures or advisory board participation from Menarini, AstraZeneca, Chiesi, Faes Farma, Firma, Genentech, Guidotti-Malesci, GSK, HAL Allergy, Innovacaremd, Novartis, OM Pharma, Red Maple, Sanofi-Aventis, Sanofi-Genzyme, Stallergenes, and Uriach Pharma. **Ethical Approval:** The SANI registry study was performed in accordance with the Helsinki Declaration of 1964, and its later amendments. All patients signed an informed consent. The collected data were anonymized (all identifiers have been irreversibly removed). The protocol was approved by the Central Ethics Committee (Comitato Etico Area Vasta Nord-Ovest Toscana; protocol number: study number 1245/2016, protocol number: 73714) and all other centers' local ethics committees. The permission to access and use the data from the registry was granted by the registry owners.

- [38 references](#)

Full text links



[Proceed to details](#)

Cite

Share

12

J Allergy Clin Immunol

-
-
-

. 2025 Jan 8:S0091-6749(25)00007-7.

doi: 10.1016/j.jaci.2024.12.1089. Online ahead of print.

[Identification of Bronchial Epithelial Genes Associated with Type-2 Eosinophilic Inflammation in Asthma](#)

[Stephane Esnault](#)¹, [Kimberly A Dill-McFarland](#)², [Matthew C Altman](#)³, [Melissa A Rosenkranz](#)⁴, [Nizar N Jarjour](#)⁵, [William W Busse](#)⁶

Affiliations Expand

- PMID: 39793714
- DOI: [10.1016/j.jaci.2024.12.1089](https://doi.org/10.1016/j.jaci.2024.12.1089)

Abstract

Background: Airway inflammation has a critical role in asthma pathogenesis and pathophysiology. Yet, the molecular pathways contributing to airway inflammation are not fully known, particularly Type-2 (T2) inflammation characterized by both eosinophilia and higher FeNO levels.

Objective: To identify genes whose level of expression in epithelial brushing samples were associated with both bronchoalveolar lavage (BAL) eosinophilia and generation of FeNO.

Methods: We performed segmental allergen bronchoprovocation (SBP-Ag) in participants with asthma, and RNA-sequencing (RNA-seq) analyses of BAL cells and brushing samples before and 48 h after SBP-Ag to identify regulation of eosinophil recruitment and FeNO changes.

Results: Allergen bronchoprovocation increased FeNO levels, which correlated with eosinophilia. Thirteen genes were identified in brushing samples, whose expression changed in response to SBP-Ag and correlated with both airway eosinophilia and FeNO levels after SBP-Ag. Among these 13 genes, the epithelial cell product, CDH26/cadherin-26 contributed to the amplification of T2 inflammation, as reflected by eosinophilia and FeNO, and causal mediation analyses with pro-T2 and pro-eosinophilic cytokine mediators in BAL fluids. Among the genes associated with reduced eosinophilia and FeNO, HEY2 is known to enhance cell proliferation, migration, invasion, and epithelial-to-mesenchymal transition (EMT), as well as to reduce apoptosis.

Conclusion: This unbiased RNA-seq analysis in participants with allergic asthma revealed several epithelial cell genes, particularly CDH26, that may be critical for the development or augmentation of T2 inflammation in asthma.

Keywords: Asthma; CDH26; RNA-sequencing; allergic challenge; allergy; bronchial brushing; bronchoalveolar lavage; eosinophils; multiplex protein assay; nitric oxide; type-2 immune response.

Copyright © 2025. Published by Elsevier Inc.

Full text links



[Proceed to details](#)

Cite

Share

13

Immunotherapy

-
-
-

. 2025 Jan 9:1-10.

doi: 10.1080/1750743X.2024.2436829. Online ahead of print.

[Plain language summary of the SHAMAL study in patients with severe eosinophilic asthma treated with benralizumab](#)

[David J Jackson](#)¹, [Liam G Heaney](#)², [Marc Humbert](#)³, [Brian D Kent](#)⁴, [Anat Shavit](#)⁵, [Lina Hiljemark](#)⁶, [Lynda Olinger](#)^{7,8}, [David Cohen](#)⁹, [Andrew Menzies-Gow](#)¹⁰, [Stephanie Korn](#)^{11,12}

Affiliations Expand

- PMID: 39780731
- DOI: [10.1080/1750743X.2024.2436829](https://doi.org/10.1080/1750743X.2024.2436829)

No abstract available

Plain language summary

What is this summary about? This is a plain language summary of an article originally published in The Lancet, presenting results of the SHAMAL study. SHAMAL was the first study to investigate whether it is safe to lower the dose of inhaled corticosteroids, a type of medication used to control asthma, in people with severe eosinophilic asthma controlled with benralizumab (another type of medication that helps to control their asthma symptoms). High-dose inhaled corticosteroids increases the risk of several steroid-related side effects; therefore, asthma treatment guidelines recommend a reduction in inhaled corticosteroid doses in people who respond well to biologic medications such as benralizumab. However, there is currently no evidence to support how safe this is or what the best method is for doing this safely. **What were the main results of the SHAMAL study?** The group of patients who were chosen to reduce their inhaled corticosteroids/long-acting β 2-agonist (LABA) dose were called the 'reduction arm':

by Week 32, 9 out of every 10 participants in the reduction arm (92%) reduced their daily dose of inhaled corticosteroids/LABA without experiencing any worsening of asthma symptoms. Nearly all participants (96%) continued their Week 32 inhaled corticosteroids/LABA dose for another 16 weeks (until Week 48). Up to Week 32, 9 out of every 10 reduction arm participants (91%) did not experience an asthma flare-up/attack (exacerbation). Over the whole study there was no difference in the rate of exacerbations between the participants who reduced the dose of their inhaled corticosteroids/LABA and those who did not. What do the results of the SHAMAL study mean? The SHAMAL study showed that benralizumab treatment can enable people with severe eosinophilic asthma to reduce the amount of inhaled corticosteroids/LABA they receive per day, whilst controlling asthma symptoms. [Box: see text].

Full text links



[Proceed to details](#)

Cite

Share

14

Immunotherapy

-
-
-

. 2025 Jan 9:1-6.

doi: 10.1080/1750743X.2024.2439777. Online ahead of print.

[Lebrikizumab decreases type 2 inflammatory biomarker levels in patients with asthma: data from randomized phase 3 trials \(LAVOLTA I and II\)](#)

[Stanley Szeffler](#)¹, [Jonathan Corren](#)², [Jonathan I Silverberg](#)³, [Angela Okragly](#)⁴, [Zhe Sun](#)⁴, [Chitra R Natalie](#)⁴, [Ralph Zitnik](#)⁵, [Kimberly Siu](#)⁴, [Andrew Blauvelt](#)⁶

Affiliations Expand

- PMID: 39781908
- DOI: [10.1080/1750743X.2024.2439777](https://doi.org/10.1080/1750743X.2024.2439777)

Abstract

Aim: Lebrikizumab is an interleukin (IL)-13 inhibitor that specifically blocks IL-13 signaling. Here, we report the effects of lebrikizumab on asthma serum biomarkers in 2 phase 3 clinical studies.

Methods: LAVOLTA I and LAVOLTA II are replicate, double-blind, placebo-controlled trials with 52-week placebo-controlled treatment periods that evaluated lebrikizumab 37.5- and 125-mg doses every 4 weeks. Patients were aged 18-75 years with uncontrolled asthma on stable background therapy. Biomarkers assessed included immunoglobulin E (IgE), periostin, CC motif chemokine ligand (CCL)13, and CCL17. Statistical significance was assessed for difference in fold-change for lebrikizumab versus placebo using a mixed-effects model for repeated measures.

Results: At early time points in LAVOLTA I and II (weeks 1 and 4), decreases in periostin and CCL13 were statistically significant versus placebo (all $p < 0.001$) for both lebrikizumab doses. For the 125-mg lebrikizumab dose at week 1 in LAVOLTA I, the decrease in CCL17 was statistically significant ($p = 0.001$). Reductions in periostin, CCL13, and CCL17 were maintained throughout the trial duration. Significant decreases versus placebo ($p \leq 0.001$) were seen in IgE by weeks 12 and 24 in LAVOLTA I and LAVOLTA II, respectively.

Conclusion: Significant reductions in relevant inflammatory biomarkers were observed in the LAVOLTA I and LAVOLTA II studies.

Keywords: CCL13; CCL17; IL-13; IgE; Th2 asthma; eosinophilic asthma; lebrikizumab; periostin.

Plain language summary

This paper discusses how a medication called lebrikizumab leads to changes in certain blood markers in patients with asthma. Lebrikizumab targets a specific protein in the body that plays a role in asthma. The LAVOLTA I and II studies included patients with uncontrolled asthma who were given either lebrikizumab or a placebo (a substance with no active medication) every 4 weeks for 1 year. The studies looked at how lebrikizumab changed certain markers in the patients' blood that are linked to asthma inflammation. The researchers measured different markers in the blood, like immunoglobulin E (IgE), periostin, CC motif chemokine ligand (CCL)13, and CCL17, to see if there were any changes. The results showed that lebrikizumab lowered levels of periostin and CCL13 early in the treatment, while IgE levels dropped later in treatment. The effects on CCL17 were mixed. Overall, lebrikizumab reduced inflammation markers in the blood associated with asthma, suggesting it may help treat asthma.

Full text links



[Proceed to details](#)

Cite

Share

-
-
-

. 2025 Jan 4:237:107944.

doi: 10.1016/j.rmed.2025.107944. Online ahead of print.

[Background therapy in severe asthma on monoclonal antibody treatment in real life](#)

[Filippo F Cosini](#)¹, [Diego Bagnasco](#)², [Fulvio Braido](#)², [G Walter Canonica](#)³, [Giovanni Passalacqua](#)², [Elisa Testino](#)⁴, [Manlio Milanese](#)⁵

Affiliations Expand

- PMID: 39761733
- DOI: [10.1016/j.rmed.2025.107944](https://doi.org/10.1016/j.rmed.2025.107944)

Abstract

Background: Global Initiative for Asthma (GINA) recently recommends clinicians to reduce inhaled corticosteroid doses in patients with severe asthma who respond positively to monoclonal antibodies (MAbs).

Objective: As we operated this reduction even before the document, we analysed our cohort of subjects on treatment with a MAbs for at least 24 months.

Methods: Data stored in our electronic archive and at the 6-month follow-up (FU) were registered and patients' adherence to asthma therapy was derived by electronic pharmacy claim database.

Results: Sixty-three subjects were enrolled. A complete asthma remission and reduction to GINA Step 3 was obtained in 41 % and 61 % of them, respectively. Non-adherent subjects to inhaled and oral asthma therapy were 45 % of them, with a higher percentage among those in complete remission (59 % vs 33 %).

Conclusion: In our cohort, stepping down asthma therapy from 5 to 3 level in severe asthmatic patients on MAbs is without any negative consequences on asthma control, even in the case of non-adherence.

Keywords: Adherence; Monoclonal antibodies; background therapy.

Copyright © 2025. Published by Elsevier Ltd.

Conflict of interest statement

Declaration of competing interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Full text links



[Proceed to details](#)

Cite

Share

16

JCI Insight

-
-
-

. 2025 Jan 9;10(1):e181070.

doi: 10.1172/jci.insight.181070.

[Maternal high-fat diet programs offspring airway hyperinnervation and hyperresponsiveness](#)

[Kayla R Williams](#), [Hoyt Atk Bright](#), [Allison D Fryer](#), [David B Jacoby](#), [Zhenying Nie](#)

- PMID: 39782687
- PMCID: [PMC11721309](#)
- DOI: [10.1172/jci.insight.181070](#)

Abstract

The impact of diet-induced maternal obesity on offspring airway hyperresponsiveness was studied in a diversity outbred mouse model that mirrors human genetic diversity. Female mice were started on high-fat or regular diet 8 weeks before breeding and throughout pregnancy and lactation. After weaning, all offspring were fed a regular diet. By 12 weeks, body weight and fat were increased in offspring of high-fat diet-fed dams, which was accompanied by metabolic dysfunction and hyperinsulinemia. This was followed by increased epithelial sensory innervation and increased bronchoconstriction to inhaled 5-hydroxytryptamine at 16 weeks. Bronchoconstriction was nerve mediated and blocked by vagotomy or atropine. A high-fat diet before pregnancy exerted the most

influence on offspring airway physiology. Maternal obesity induced metabolic dysfunction and hyperinsulinemia, resulting in hyperinnervation and subsequent increased reflex-mediated hyperresponsiveness in their offspring. This is relevant to our understanding of asthma inheritance, considering the genetic diversity of humans.

Keywords: Asthma; Innervation; Insulin; Metabolism; Pulmonology.

Conflict of interest statement

Conflict of interest: The authors have declared that no conflict of interest exists.

- [53 references](#)
- [9 figures](#)

Supplementary info

MeSH terms[Expand](#)

Full text links



[Proceed to details](#)

Cite

Share

17

J Asthma

-
-
-

. 2025 Jan 9:1-14.

doi: 10.1080/02770903.2025.2450640. Online ahead of print.

[Real-world mepolizumab treatment in patients with severe asthma decreased exacerbations, oral corticosteroid use, and healthcare resource utilization and costs over 4 years: a retrospective analysis](#)

[Wendy C Moore](#)¹, [Alexandra Stach-Klysh](#)², [Thomas Corbridge](#)², [Elizabeth Packnett](#)³, [Donna McMorro](#)³, [Megan Richards](#)³, [Arijita Deb](#)⁴

Affiliations [Expand](#)

- PMID: 39786337

- DOI: [10.1080/02770903.2025.2450640](https://doi.org/10.1080/02770903.2025.2450640)

Abstract

Objective: Although the efficacy of mepolizumab in reducing exacerbations and oral corticosteroid (OCS) use in severe asthma is well-established, real-world long-term effectiveness data are limited. This study evaluated the real-world impact of mepolizumab treatment in patients with severe asthma over a 4-year follow-up period.

Methods: This was a retrospective cohort study of patients with asthma initiating mepolizumab (index date: first claim, November 2015-September 2019) using the Merative MarketScan Commercial and Medicare Databases. Outcomes included asthma exacerbations, OCS use, and exacerbation-related healthcare resource utilization (HCRU) and costs, assessed 12-months pre-index (baseline) and annually during the 4-year follow-up period.

Results: Among 189 eligible patients, mean asthma exacerbation rate (AER) declined progressively from baseline during follow-up: AER decreased by 53.8% at Year 1 and 73.8% by Year 4 ($p < 0.001$). The annual OCS prescription rate reduced from baseline by 41.1% at Year 1 and 62.2% at Year 4 ($p < 0.001$). The proportion of patients with both no exacerbations and no OCS use progressively increased from 6.4% at baseline to 18.5% at Year 1 and 41.8% at Year 4. Exacerbation-related HCRU including inpatient, emergency room, and outpatient office visits decreased from baseline (9.0%, 21.7%, and 78.8%, respectively), at Year 1 (3.2%, 12.2%, and 49.2%), and Year 4 (0.0%, 4.8%, and 31.8%). Exacerbation-related healthcare costs declined from \$4,635 at baseline to \$1,487 at Year 1 and \$217 at Year 4 ($p < 0.001$).

Conclusion: Patients treated with mepolizumab demonstrated progressive and sustained long-term, real-world reductions in exacerbation frequency, OCS dependency, and exacerbation-related HCRU and costs over 4 years.

Keywords: adherence; effectiveness; long-term; persistence.

Full text links



[Proceed to details](#)

Cite

Share

18

Clin Exp Allergy

-
-
-

. 2025 Jan 5.

doi: 10.1111/cea.14620. Online ahead of print.

[Hospitalisation Trends of Severe Paediatric Asthma in Tokyo 2015-2019](#)

[Kazu Ishikawa](#)^{1,2}, [Kiwako Yamamoto-Hanada](#)³, [Tatsuki Fukuie](#)³, [Akira Ishiguro](#)², [Yukihiro Ohya](#)³

Affiliations Expand

- PMID: 39757396
- DOI: [10.1111/cea.14620](https://doi.org/10.1111/cea.14620)

No abstract available

Keywords: asthma; hospitalisation; severe; special care needs.

Supplementary info

Grants and fundingExpand

Full text links



[Proceed to details](#)

Cite

Share

19

J Clin Invest

-
-
-

. 2025 Jan 7:e186937.

doi: 10.1172/JCI186937. Online ahead of print.

[Serum cAMP levels are increased in patients with asthma](#)

[Steven S An](#)¹, [Gaoyuan Cao](#)¹, [Kwangmi Ahn](#)², [Jordan Lee](#)¹, [Dae Young Jung](#)¹, [Loren Denlinger](#)³, [John Fahy](#)⁴, [Elliot Israel](#)⁵, [Wendy Moore](#)⁶, [Brenda Phillips](#)⁷, [David Mauger](#)⁷, [Sally Wenzel](#)⁸, [Reynold A Panettieri Jr](#)¹

Affiliations Expand

- PMID: 39774028

- DOI: [10.1172/JCI186937](https://doi.org/10.1172/JCI186937)

Free article

No abstract available

Keywords: Asthma; Cell biology; Cyclic nucleotides; G proteincoupled receptors; Pulmonology.

Full text links



[Proceed to details](#)

Cite

Share

20

J Asthma

-
-
-

. 2025 Jan 8:1-10.

doi: 10.1080/02770903.2024.2444319. Online ahead of print.

[Comparison of airway inflammation characteristics detected by lower exhaled nitric oxide in cough variant asthma, non-asthmatic eosinophilic bronchitis, and classic asthma](#)

[Li Zhang](#)¹, [Alimire Aierken](#)¹, [Ran Dong](#)¹, [Mengru Zhang](#)^{1,2}, [Qiang Chen](#)¹, [Zhongmin Qiu](#)¹

Affiliations Expand

- PMID: 39693523
- DOI: [10.1080/02770903.2024.2444319](https://doi.org/10.1080/02770903.2024.2444319)

Abstract

Objective: To investigate the inflammatory profiles of non-asthmatic eosinophilic bronchitis (NAEB), cough variant asthma (CVA), and classic asthma (CA) using

fractional exhaled nitric oxide (FeNO) analysis to identify their unique inflammatory phenotypes.

Methods: This study involved cough patients newly diagnosed, corticosteroid-naïve with CVA ($n = 68$), NAEB ($n = 53$), and CA ($n = 49$). FeNO measurements at exhalation flow rates of 50 mL/s (FeNO₅₀) and 200 mL/s (FeNO₂₀₀) were conducted. The concentration of alveolar nitric oxide (CaNO) was calculated using a two-compartment model. Inflammatory mediators in induced sputum were also analyzed across the groups.

Results: Significant differences in FeNO₅₀, FeNO₂₀₀, and CaNO levels were observed among the three groups (all $p < 0.001$). Compared to NAEB, CVA patients demonstrated significantly higher FeNO₅₀ levels (27.5 [interquartile range, IQR: 12.0-33.0] ppb vs. 16.0 [IQR: 12.5-22.0] ppb; $p = 0.008$) but lower CaNO levels (2.6 [IQR: 1.0-4.3] ppb vs. 3.7 [IQR: 2.3-6.1] ppb; $p = 0.009$). CA exhibited the highest levels of FeNO₅₀, FeNO₂₀₀, and CaNO compared to both NAEB and CVA (all $p < 0.01$). In CVA, FeNO₅₀ positively correlated with sputum eosinophils, IL-4, and LTC₄, whereas NAEB showed elevated CaNO levels with higher sputum eosinophils, IL-5, and PGE₂ (all $p < 0.05$).

Conclusions: Inflammation predominantly affects the central airways in CVA and the peripheral airways in NAEB, with a more uniform distribution across the airway in CA. These discrepancies in airway inflammation may suggest distinct cough mechanisms in CVA, NAEB, and CA.

Keywords: Airway inflammation; classic asthma; cough variant asthma; fractional exhaled nitric oxide; non-asthmatic eosinophilic bronchitis.

Full text links



[Proceed to details](#)

Cite

Share

21

Expert Rev Clin Immunol

-
-
-

. 2025 Jan 7:1-15.

doi: 10.1080/1744666X.2024.2448990. Online ahead of print.

[Type 2 inflammation: a Portuguese consensus using Web-Delphi and decision conferencing \(INFLAT2-PT\)](#)

[Suzete Costa](#)^{1,2}, [João Pedro Aguiar](#)^{1,2}, [Mónica D Oliveira](#)^{3,4}, [João Gonçalves](#)^{5,6}, [João Carlos Ribeiro](#)^{7,8}, [Luís Taborda-Barata](#)^{9,10}, [Helena Farinha](#)^{5,11}, [Pedro Escada](#)^{12,13}, [Samuel Fernandes](#)^{14,15}, [Luís Soares-de-Almeida](#)^{16,17}, [Maria João Paiva-Lopes](#)^{13,18}, [Cláudia Chaves Loureiro](#)^{19,20}, [Isabel Lourinho](#)^{21,22}, [João A Fonseca](#)^{23,24}, [Marta Drummond](#)^{25,26}, [Rui Tato Marinho](#)^{14,15}, [João Bana E Costa](#)²⁷, [António Vaz Carneiro](#)^{1,2}, [Carlos A Bana E Costa](#)^{3,28}

Affiliations Expand

- PMID: 39748205
- DOI: [10.1080/1744666X.2024.2448990](https://doi.org/10.1080/1744666X.2024.2448990)

Abstract

Objectives: Atopic/allergic diseases impose a growing burden on public health, affecting millions of patients worldwide. The main objective of this study was to develop a national expert consensus on relevant clinical questions related to type 2 inflammation.

Methods: We conducted: a comprehensive literature review with a qualitative analysis to identify the most repeated themes on the overlap of conditions; a modified 3-round Web-Delphi (or e-Delphi); and a final online decision conference.

Results: We included 51 studies. Following three Web-Delphi rounds, we ended up with 30 statements with a 76% overall full agreement rate, 16% agreement, 2% disagreement, and 0% full disagreement. The decision conference enabled adjustments, and the expert panel agreed unanimously on the final set of statements. The consensus used evidence synthesis, Web-Delphi, and decision conference to produce 30 statements on type 2 inflammation as a driver for multimorbidity in asthma, certain rhinitis phenotypes, atopic dermatitis, chronic rhinosinusitis with nasal polyps, and eosinophilic esophagitis grouped under five domains in underlying pathophysiology, multimorbidity, diagnosis and management, multidisciplinary management, and impact on mental health.

Conclusion: We expect the first Portuguese expert consensus INFLAT2-PT to promote understanding of type 2 inflammation diseases, multidisciplinary care, integrated care pathways, future research, and inform health authorities.

Keywords: Allergy; asthma; atopic dermatitis; chronic rhinosinusitis; consensus; eosinophilic esophagitis; type-2 inflammation.

Full text links



[Proceed to details](#)

Cite

Share

22

Allergy

-
-
-

. 2025 Jan 11.

doi: 10.1111/all.16471. Online ahead of print.

[Early Puberty and Risk of Asthma: Meta-Analysis and Systematic Review](#)

[Fu-Min Chang](#)¹, [Yung-Feng Lin](#)², [Hsiao-Chi Chuang](#)³, [Jhih-Wei Hsu](#)⁴, [Yang-Ching Chen](#)^{4 5 6}

Affiliations Expand

- PMID: 39797581
- DOI: [10.1111/all.16471](https://doi.org/10.1111/all.16471)

No abstract available

Supplementary info

Publication types, Grants and fundingExpand

Full text links



[Proceed to details](#)

Cite

Share

23

J Asthma

-
-
-

. 2025 Jan 11:1-9.

doi: 10.1080/02770903.2025.2450482. Online ahead of print.

[Assessing ChatGPT's accuracy and reliability in asthma general knowledge: implications for artificial intelligence use in public health education](#)

[Muhammad Thesa Ghozali](#)¹

Affiliations Expand

- PMID: 39773167
- DOI: [10.1080/02770903.2025.2450482](https://doi.org/10.1080/02770903.2025.2450482)

Abstract

Background: Integrating Artificial Intelligence (AI) into public health education represents a pivotal advancement in medical knowledge dissemination, particularly for chronic diseases such as asthma. This study assesses the accuracy and comprehensiveness of ChatGPT, a conversational AI model, in providing asthma-related information.

Methods: Employing a rigorous mixed-methods approach, healthcare professionals evaluated ChatGPT's responses to the Asthma General Knowledge Questionnaire for Adults (AGKQA), a standardized instrument covering various asthma-related topics. Responses were graded for accuracy and completeness and analyzed using statistical tests to assess reproducibility and consistency.

Results: ChatGPT showed notable proficiency in conveying asthma knowledge, with flawless success in the etiology and pathophysiology categories and substantial accuracy in medication information (70%). However, limitations were noted in medication-related responses, where mixed accuracy (30%) highlights the need for further refinement of ChatGPT's capabilities to ensure reliability in critical areas of asthma education. Reproducibility analysis demonstrated a consistent 100% rate across all categories, affirming ChatGPT's reliability in delivering uniform information. Statistical analyses further underscored ChatGPT's stability and reliability.

Conclusion: These findings underscore ChatGPT's promise as a valuable educational tool for asthma while emphasizing the necessity of ongoing improvements to address observed limitations, particularly regarding medication-related information.

Keywords: AGKQA; ChatGPT; artificial intelligence; asthma; health education; knowledge.

Full text links



[Proceed to details](#)

Cite

Share

24

Observational Study

Pulmonology

-
-
-

. 2025 Dec 31;31(1):2442662.

doi: 10.1080/25310429.2024.2442662. Epub 2025 Jan 6.

[Fractional exhaled nitric oxide in a respiratory healthy general population through the lifespan](#)

[Christina Bal](#)¹, [Caspar Schiffers](#)², [Marie-Kathrin Breyer](#)^{2,3}, [Sylvia Hartl](#)^{2,3,4}, [Alvar Agusti](#)^{2,4,5,6,7,8}, [Ahmad Karimi](#)^{2,4}, [Wolfgang Pohl](#)⁹, [Marco Idzko](#)¹, [Robab Breyer-Kohansal](#)^{2,10}

Affiliations Expand

- PMID: 39760541
- DOI: [10.1080/25310429.2024.2442662](https://doi.org/10.1080/25310429.2024.2442662)

Free article

Abstract

Introduction and objectives: The fractional exhaled fraction of nitric oxide (FeNO) is used in clinical practice for asthma diagnosis, phenotyping, and therapeutic management. Therefore, accurate thresholds are crucial. The normal FeNO values over lifespan in a respiratory healthy population and the factors related to them remain unclear.

Materials and methods: We determined FeNO levels in 2,251 respiratory healthy, non-atopic, and non-smoking participants from the Lung, hEart, sociAl, boDy (LEAD) cohort, a general population, observational cohort study of participants aged 6-82 years in Austria.

Results: The median FeNO value in the total study population was 13.0 [interquartile range: 9.0, 20.0] ppb, increases with age, and, except in young participants (<18 years: 9.0 [7.0, 12.0], ≥18 years: 15.0 [11.0, 22.0]), it was significantly lower in females versus males. Multiple regression analyses showed that body height and blood eosinophil counts were associated with higher FeNO levels, both in

children/adolescents and adults. In children/adolescents, FeNO values were positively associated with total IgE levels, FEV1/FVC ratio, and urban living. In adults, FeNO was positively associated with age and negatively associated with the presence of cardiovascular and ischaemic vascular disease.

Conclusions: We identified the normal FeNO ranges within a respiratory healthy population at different age ranges and associated factors. Collectively, they serve as a reference to frame FeNO values in clinical practice.

Keywords: Airway inflammation; associated factors; asthma; fraction of exhaled nitric oxide (FeNO); reference values.

Supplementary info

Publication types, MeSH terms, SubstancesExpand

Full text links



[Proceed to details](#)

Cite

Share

25

J Paediatr Child Health

-
-
-

. 2025 Jan 10.

doi: 10.1111/jpc.16776. Online ahead of print.

[A Retrospective Review of Children Admitted With Acute Severe Asthma to the Paediatric Intensive Care Unit, Red Cross War Memorial Children's Hospital Between 2009 and 2019](#)

[Moegamad Salie¹](#), [Shamiel Salie²](#)

Affiliations Expand

- PMID: 39797489
- DOI: [10.1111/jpc.16776](https://doi.org/10.1111/jpc.16776)

Abstract

Aim: There is limited data on the PICU outcomes of children with acute severe asthma (ASA) in South Africa. This study aims to describe the profiles and treatment of all children admitted to our PICU with ASA.

Methods: A retrospective audit of all children admitted with ASA to the PICU at Red Cross War Memorial Children's Hospital between 01 January 2009 and 31 December 2019.

Results: There were 14 592 PICU admissions over the 11-year period, of which 180 admissions (1.2%) were for ASA. The median, interquartile range (IQR) age on admission was 67 (37-93) months. Almost all children received nebulisations, steroids and magnesium sulphate before PICU admission. Half of the patients were loaded with intravenous salbutamol (n = 96; 53.3%) and about a third (n = 61; 34%) received a salbutamol infusion before PICU admission. Similar proportions received nebulisations and steroids in PICU, 34 children (19%) received magnesium sulphate again in PICU and a total of 130 children (72.2%) received a salbutamol infusion. Most children received non-invasive respiratory support (n = 167; 90.3%), and 18 children (9.7%) required mechanical ventilation for a median (IQR) of 3 (2-4) days. The median PICU stay was 1 (IQR 1-2) day and median hospital stay was 4 (IQR 3-6) days. No children died.

Conclusion: There has been an increasing number of children admitted to PICU with ASA over the 11-year period. There has been increased use of HFNC and the duration of PICU support is short.

© 2025 Paediatrics and Child Health Division (The Royal Australasian College of Physicians).

- [24 references](#)

Full text links



[Proceed to details](#)

Cite

Share

26

Ann Intern Med

-
-
-

. 2025 Jan 7.

doi: 10.7326/ANNALS-24-03437-JC. Online ahead of print.

[In severe asthma with an eosinophilic phenotype, depemokimab improved exacerbations, but not quality of life, at 52 wk](#)

[Christine F McDonald¹; ACP Journal Club Editorial Team at McMaster University](#)

Affiliations Expand

- PMID: 39761576
- DOI: [10.7326/ANNALS-24-03437-JC](#)

Abstract

GIM/FP/GP: [Formula: see text] Allerg & Immunol: [Formula: see text] Pulmonology: [Formula: see text].

Conflict of interest statement

Disclosures: Disclosure form is available with the article online.

Full text links



[Proceed to details](#)

Cite

Share

27

Allergy

-
-
-

. 2025 Jan 8.

doi: 10.1111/all.16468. Online ahead of print.

[Comorbid Bronchial Asthma, Atopic Dermatitis and Hashimoto's Thyroiditis Are Risk Factors for Early-Onset, Severe and Prolonged Alopecia Areata](#)

[Annika Friedrich¹, Marie-Therese Schmitz², Yasmina Gossmann¹, Silke Redler³, Bettina Blaumeiser⁴, Gerhard Lutz⁵, Ulrike Blume-Peytavi⁶, Markus M Nöthen¹, Regina C Betz¹, F Buket Basmanav¹](#)

Affiliations Expand

- PMID: 39775704

- DOI: [10.1111/all.16468](https://doi.org/10.1111/all.16468)

No abstract available

Supplementary info

Publication types, Grants and fundingExpand

Full text links



[Proceed to details](#)

Cite

Share

28

Published Erratum

NPJ Prim Care Respir Med

-
-
-

. 2025 Jan 9;35(1):2.

doi: [10.1038/s41533-024-00411-9](https://doi.org/10.1038/s41533-024-00411-9).

[Author Correction: Best practice advice for asthma exacerbation prevention and management in primary care: an international expert consensus](#)

[Neil Skolnik](#)^{1,2}, [Barbara P Yawn](#)³, [Jaime Correia de Sousa](#)⁴, [María Mar Martínez Vázquez](#)^{5,6}, [Amanda Barnard](#)^{6,7}, [Wendy L Wright](#)^{8,9}, [Austin Ulrich](#)¹⁰, [Tonya Winders](#)¹¹, [Stephen Brunton](#)¹²

Affiliations Expand

- PMID: 39788960
- PMCID: [PMC11718181](#)
- DOI: [10.1038/s41533-024-00411-9](https://doi.org/10.1038/s41533-024-00411-9)

No abstract available

Erratum for

- [Best practice advice for asthma exacerbation prevention and management in primary care: an international expert consensus.](#)

Skolnik N, Yawn BP, Correia de Sousa J, Vázquez MMM, Barnard A, Wright WL, Ulrich A, Winders T, Brunton S. NPJ Prim Care Respir Med. 2024 Nov 17;34(1):39. doi: 10.1038/s41533-024-00399-2. PMID: 39551807 Free PMC article. Review.

Supplementary info

Publication types [Expand](#)

Full text links

nature portfolio 

"rhinitis"[MeSH Terms] OR rhinitis[Text Word]

1

Review

Eur Respir Rev

-
-
-

. 2025 Jan 8;34(175):240160.

doi: 10.1183/16000617.0160-2024. Print 2025 Jan.

[Machine learning-derived asthma and allergy trajectories in children: a systematic review and meta-analysis](#)

[Daniil Lisik](#)¹, [Saliha Selin Özuygur Ermis](#)², [Gregorio Paolo Milani](#)^{3,4}, [Giulia Carla Immacolata Spolidoro](#)³, [Selin Ercan](#)², [Michael Salisu](#)², [Faozyat Odetola](#)², [Daniele Giovanni Ghiglioni](#)⁵, [Danylo Pylov](#)², [Emma Goksör](#)⁶, [Rani Basna](#)^{2,7}, [Göran Wennergren](#)^{2,6}, [Hannu Kankaanranta](#)^{2,8,9}, [Bright I Nwaru](#)¹⁰

Affiliations [Expand](#)

- PMID: 39778923
- PMCID: [PMC11707603](#)

- DOI: [10.1183/16000617.0160-2024](https://doi.org/10.1183/16000617.0160-2024)

Abstract

Introduction: Numerous studies have characterised trajectories of asthma and allergy in children using machine learning, but with different techniques and mixed findings. The present work aimed to summarise the evidence and critically appraise the methodology.

Methods: 10 databases were searched. Screening, data extraction and quality assessment were performed in pairs. Trajectory characteristics were tabulated and visualised. Associated risk factor and outcome estimates were pooled using a random-effects meta-analysis.

Results: 89 studies were included. Early-onset (infancy) persistent, mid-onset (~2-5 years) persistent, early-onset early-resolving (within ~2 years) and early-onset mid-resolving (by ~3-6 years) wheezing and eczema, respectively, were the most commonly identified disease trajectories. Intermediate/transient trajectories were rare. Male sex was associated with a higher risk of most wheezing trajectories and possibly with early-resolving eczema, while being slightly protective against mid-onset persistent eczema. Parental disease/genetic markers were associated with persistent trajectories of wheezing and eczema, respectively. Prenatal (and less so postnatal) tobacco smoke exposure was associated with most wheezing trajectories, as were lower respiratory tract infections in infancy (particularly with the early-onset resolving patterns). Most studies (69%) were of low methodological quality (particularly in modelling approaches and reporting). Few studies investigated allergic multimorbidity, allergic rhinitis and food allergy.

Conclusions: Childhood asthma/wheezing and eczema can be characterised by a few relatively consistent trajectories, with some actionable risk factors such as pre-/postnatal smoke exposure. Improved computational methodology is warranted to better assess generalisability and elucidate the validity of intermediate/transient trajectories. Likewise, allergic multimorbidity and trajectories of allergic rhinitis and food allergy need to be further elucidated.

Copyright ©The authors 2025.

Conflict of interest statement

Conflict of interest: H. Kankaanranta reports personal fees for lectures and consulting from AstraZeneca, Boehringer-Ingelheim, Chiesi Pharma, GSK, MSD, Novartis, Orion Pharma, and Sanofi Genzyme outside the current work. The remaining authors report that they have no conflict of interest.

- [115 references](#)
- [5 figures](#)

Supplementary info

Publication types, MeSH termsExpand

Full text links

[Proceed to details](#)

Cite

Share

2

Int Arch Allergy Immunol

-
-
-

. 2025 Jan 7:1-24.

doi: 10.1159/000543023. Online ahead of print.

[Efficacy and Safety of Specific Immunotherapy Combined with Biologics in Allergic Rhinitis and Asthma: A Systematic Review and Network Meta-Analysis](#)

[Dayu Guan](#), [Yijun Liu](#), [Yue Gu](#), [Bowen Zheng](#), [Rong Sun](#), [Yang Shen](#), [Yucheng Yang](#)

- PMID: 39774036
- DOI: [10.1159/000543023](#)

Abstract

Introduction: Allergic diseases are common clinical diseases. Although allergen-specific immunotherapy (AIT) and biologics have been widely recognized, the clinical efficacy, safety, advantages and disadvantages of the combined application have not yet been sufficiently recognized. We aimed to investigate the efficacy and safety of AIT combined with biologics in patients with allergic rhinitis and asthma.

Methods: PubMed, EMBASE, the Cochrane Library, and Web of Science were systematically searched to identify RCTs investigating AIT combined with biologics for treating allergic rhinitis and asthma. The relevant outcome indicators, including incidences of emergency drugs use, severe nasal symptoms, severe adverse effects (AEs), local reactions at the site of administration, headache, and general AEs, were collected and extracted. Routine and network meta-analyses were conducted using RevMan-5.4 and STATA-MP-14 to assess efficacy and safety.

Results: Eight RCTs and a retrospective study involving 1494 patients aged 5 to 65 years with allergic rhinitis and asthma were included in this review. ① Routine meta-analysis revealed that AIT combined with biologics was significantly better than control treatment (placebo, AIT or biologics) in terms of the incidence of emergency drugs use, severe nasal symptoms, and severe AEs (P=0.0002; P=0.01;

P=0.02). However, the differences in the incidence of local reactions at the site of administration, headache and general AEs were not significant. ② In the network meta-analysis, compared with AIT or placebo alone, AIT combined with biologics observably reduced the incidence of emergency drugs use and severe nasal symptoms (OR=0.32, 95% CI 0.14-0.73; OR=0.41, 95% CI 0.26-0.63). Furthermore, AIT combined with biologics yielded an evidently lower incidence of serious adverse reactions than AIT alone (OR=0.42, 95% CI 0.23-0.74).

Conclusion: The combined application of AIT and biologics has promising prospects in the clinical treatment of allergic rhinitis and asthma due to the improvement of both clinical efficacy and safety.

Trial registration: SYSTEMATIC REVIEW REGISTRATION (PROSPERO #CRD42024496277).

S. Karger AG, Basel.

Supplementary info

Publication typesExpand

Full text links



[Proceed to details](#)

Cite

Share

3

Review

Respir Med

-
-
-

. 2025 Jan 4:237:107942.

doi: 10.1016/j.rmed.2025.107942. Online ahead of print.

[Obstructive sleep apnoea-associated factors in children and adolescents diagnosed by polysomnography: A scoping review](#)

[Júlia M Saporiti](#)¹, [Thiago A de Holanda](#)¹, [Gabriela G Torino](#)¹, [Noéli Boscato](#)²

Affiliations Expand

- PMID: 39761731
- DOI: [10.1016/j.rmed.2025.107942](https://doi.org/10.1016/j.rmed.2025.107942)

Abstract

Purpose: This scoping review aimed to map research on factors associated with obstructive sleep apnoea (OSA) in children and adolescents undergoing overnight polysomnography (PSG) and questionnaire-based diagnostic assessments.

Methods: Searches were conducted in three electronic databases up to May 2023, including nine observational studies, including 3482 individuals.

Results: Among the included studies, nine reported on sex, six on obesity, five on tonsillar hypertrophy, three on mouth breathing, two on allergic rhinitis, and three on smoking exposure. The sample comprised 3482 children, with subsets analyzed for sex ($n = 3482$), obesity ($n = 2752$), and tonsillar hypertrophy ($n = 794$). Meta-analysis demonstrated a significantly higher prevalence of OSA in males compared to females [$P < 0.0001$; $I^2 = 49\%$], with a pooled relative risk (RR) of 1.15 (95% confidence interval [CI]: 1.07-1.23). Associations were found between obesity and OSA [RR: 1.42; 95% CI: 1.20-1.68; $P = 0.02$; $I^2 = 61\%$], and tonsillar size and OSA [RR: 1.61; 95% CI: 1.35-1.92; $P = 0.06$; $I^2 = 60\%$].

Conclusion: Considering the study's limitations, these findings underscore the importance of considering sex, obesity, and tonsillar size when evaluating OSA in children and adolescents.

Keywords: Children; Obesity; Obstructive sleep apnea; Polysomnography; Tonsillar hypertrophy.

Copyright © 2025 Elsevier Ltd. All rights reserved.

Conflict of interest statement

Declaration of competing interest The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Noeli Boscato reports financial support was provided by Coordination of Higher Education Personnel Improvement. Noeli Boscato reports was provided by National Council for Scientific and Technological Development. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Supplementary info

Publication types [Expand](#)

Full text links



[Proceed to details](#)

Cite

Share

4

Meta-Analysis

Cochrane Database Syst Rev

-
-
-

. 2025 Jan 7:1:CD013476.

doi: [10.1002/14651858.CD013476.pub2](https://doi.org/10.1002/14651858.CD013476.pub2).

[Oral and intranasal aspirin desensitisation for non-steroidal anti-inflammatory drug \(NSAID\)-exacerbated respiratory disease](#)

[Evelijn Lourijzen](#)¹, [Klementina Avdeeva](#)¹, [Kit Liang Gan](#)², [Wytske Fokkens](#)¹

Affiliations Expand

- PMID: 39775459
- DOI: [10.1002/14651858.CD013476.pub2](https://doi.org/10.1002/14651858.CD013476.pub2)

Abstract

Background: NSAID-exacerbated respiratory disease (N-ERD) is a hypersensitivity to non-steroidal anti-inflammatory drugs (NSAIDs), such as aspirin or ibuprofen, accompanied by chronic rhinosinusitis (with or without nasal polyps) or asthma. The prevalence of hypersensitivity to NSAIDs is estimated to be 2%. The first line of treatment is the avoidance of NSAIDs. Another treatment option is aspirin treatment after desensitisation (ATAD). Desensitisation can be induced by repeated administration of aspirin at fixed time intervals. The clinical benefit of aspirin might occur through inhibition of interleukin 4 and a reduction in prostaglandin D2. This therapy can be useful for people who have progressive airway disease and are in great need of medical intervention (mostly systemic corticosteroids) or surgery. An up-to-date Cochrane review is vital to investigate the effects of this therapy.

Objectives: To assess the effectiveness of oral or intranasal aspirin desensitisation, as monotherapy or as adjunctive therapy, in adults with NSAID-exacerbated respiratory disease.

Search methods: The Cochrane Ear Nose and Throat (ENT) Information Specialist searched the Cochrane ENT and Airways Trials Registers; Central Register of

Controlled Trials (CENTRAL); Ovid MEDLINE; Ovid Embase; Web of Science; ClinicalTrials.gov; International Clinical Trials Registry Platform and additional sources for published and unpublished trials. The date of the search was 10 February 2023.

Selection criteria: Randomised controlled trials that compared ATAD with placebo were eligible. We included studies of adults with NSAID-exacerbated respiratory disease (i.e. intolerance to NSAID established, e.g. by aspirin challenge test), with chronic rhinosinusitis or asthma, or both. Participants had to be followed up for at least three months.

Data collection and analysis: We used standard Cochrane methods. The primary outcomes were health-related quality of life, asthma control, and significant serious and non-serious adverse events. The secondary outcomes were changes in airway assessments, nasal endoscopy score, medication use, symptom scores, and chronic rhinosinusitis and asthma exacerbations (description of exacerbation for which systemic corticosteroid or sinus surgery was needed). We used the GRADE approach to rate the certainty of the evidence.

Main results: We included five studies with a total of 211 participants (146 analysed). All studies compared oral ATAD at different dosages with placebo and were performed in tertiary care centres. All participants had a diagnosis of chronic rhinosinusitis with nasal polyps. In four studies, participants also had a confirmed diagnosis of asthma and two studies reported that participants had previous surgery for nasal polyps. Outcomes were analysed at six and 36 months follow-up. However, only one study reported data for 36 months follow-up. All but one study reported source of funding. Mid-term follow-up (six months, ATAD versus placebo) ATAD may improve health-related quality of life, assessed with Sino-Nasal Outcome Test (SNOT) scores (mean difference (MD) -0.54, 95% confidence interval (CI) -0.76 to -0.31; 3 studies, 85 participants; minimum clinically important difference (MCID) 9.0 points for total score; low-certainty evidence). In this analysis, SNOT-22 scores were divided by 22 and SNOT-20 scores were divided by 20. The mean reduction (11.9 points) in SNOT score (based on SNOT-22) is larger than the MCID. It is uncertain if asthma control may be improved after ATAD. Asthma control was measured using the Asthma Control Test (ACT) in one study and the Asthma Control Questionnaire (ACQ) in another study, so data were not pooled. The MD on the ACQ was -2.00 (total score 0 to 6) (95% CI -4.30 to 0.30; 1 study, 15 participants; MCID 0.5 points; very low-certainty evidence). The MD on the ACT was 5.90 (total score 5 to 25) (95% CI 2.93 to 8.87; 1 study, 30 participants; MCID 3 points; very low-certainty evidence). All but one study reported on adverse events. Seven participants in the active treatment group developed a gastrointestinal disorder and dropped out (129 participants, very low-certainty evidence). We are uncertain of the effect of ATAD on nasal airflow, measured by peak nasal inspiratory flow scores (MD 32.90 L/min, 95% CI -12.44 to 78.24; 1 study, 15 participants; very low-certainty evidence). It is uncertain if the dosage of intranasal or inhaled corticosteroids may be reduced with ATAD (inhaled corticosteroids: -1197.60 µg, 95% CI -1744.93 to -650.27; intranasal corticosteroids: -120.50 µg, 95% CI -206.49 to -34.51; 1 study; 15 participants; very low-certainty evidence). Symptom scores may not differ between ATAD and placebo, but the evidence is very uncertain (sneezing: MD -0.70, 95% CI -1.45 to 0.05; smell: MD -2.20, 95% CI -4.74 to 0.34; nasal blockage: MD -0.90, 95% CI -1.90 to 0.10; 1 study, very low-certainty evidence). No study assessed nasal endoscopy at this time point. Long-term follow-up (36 months, ATAD versus

placebo) ATAD may improve quality of life, as measured with the Rhinosinusitis Disability Index (RSDI) score (MD-18.10, 95% CI -32.82 to -3.38; 1 study; 31 participants; low-certainty evidence). ATAD may result in little to no difference in the size of nasal polyps (MD -1.20, 95% CI -2.72 to 0.32; 1 study, 31 participants; very low-certainty evidence). No adverse events were reported in either group over the total study period of 36 months (1 study; 31 participants; very low-certainty evidence). Data on peak nasal inspiratory flow, changes in dosage of inhalation or intranasal corticosteroids and symptom scores were not reported at this time point.

Authors' conclusions: Aspirin treatment after desensitisation may improve health-related quality of life for people with N-ERD with a follow-up of six months. With respect to asthma control, adverse events, peak nasal inspiratory flow score, nasal endoscopy scores, changes in dosage of inhaled or intranasal corticosteroids, nasal and bronchial symptom scores, exacerbations or worsening of asthma and chronic rhinosinusitis (including the need for surgery), the evidence is inconclusive for the short-term and long-term. We did not find data on peak expiratory flow. It is difficult to interpret the results adequately, due to the potential influence of the use of any co-medications for chronic rhinosinusitis or asthma. Future research should emphasise longer duration of follow-up, report baseline disease characteristics and report on compliance and exacerbations for which additional medication or surgery is warranted.

Copyright © 2025 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

- [64 references](#)

Supplementary info

Publication types, MeSH terms, SubstancesExpand

Full text links



[Proceed to details](#)

Cite

Share

5

Int Forum Allergy Rhinol

-
-
-

. 2025 Jan 8.

doi: 10.1002/alr.23527. Online ahead of print.

[Tissue Eosinophils Threshold and its Association with Adult-Onset Asthma in Chronic Rhinosinusitis](#)

[Patlada Kowatanamongkon](#)^{1,2}, [Kornkiat Snidvongs](#)^{3,4}, [Potjanee Korrungruang](#)⁵, [Nutpacha Chotikawichean](#)⁶, [Dichapong Kanjanawasee](#)^{7,8}, [Kittichai Mongkolkul](#)^{1,2}, [Wirach Chitsuthipakorn](#)^{1,2}

Affiliations Expand

- PMID: 39776221
- DOI: [10.1002/alr.23527](https://doi.org/10.1002/alr.23527)

Abstract

Introduction: Tissue eosinophil counts (TEC) might serve as a biomarker linking chronic rhinosinusitis (CRS) and the presence of adult-onset asthma. This study aimed to determine if TEC in sinus mucosa/polyps in CRS patients is an independent indicator of asthma and to identify its optimal cut-off point.

Methods: This cross-sectional study was conducted on primary CRS patients scheduled for surgery. All patients were assessed by a pulmonologist for asthma diagnosis. Tissues were collected during surgery and evaluated for TEC. Logistic regression and receiver operating characteristic analysis were used to determine significant factors and the optimal cut-off points of TEC associated with asthma.

Results: A total of 103 CRS patients were included. Ten patients (9.7%) had underlying asthma, while 13 (12.6%) were first diagnosed by the pulmonologist. TEC ≥ 40 cells per high-powered field (HPF) exhibited a significant correlation with asthma (area under the curve = 0.71, $p < 0.001$). The sensitivity of this cut-off point was 0.70 (95% confidence interval [CI] = 0.47-0.87), and specificity was 0.66 (95% CI = 0.55-0.76). Positive predictive value and negative predictive value were 0.37 and 0.88, respectively. The cut-off point significantly associated with the presence of asthma, with an adjusted odds ratio of 3.13 (95% CI = 1.05-9.35, $p = 0.04$), controlling for polyps, allergic rhinitis, and computerized tomography (CT) score.

Conclusion: TEC in CRS patients can help determine the presence of adult-onset asthma, with an optimal threshold of ≥ 40 cells/HPF. This threshold is significantly associated with asthma independent of polyps, allergy, and CT score.

Keywords: asthma; chronic rhinosinusitis; diagnosis; eosinophil; nasal mucosa.

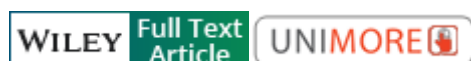
© 2025 ARS-AAOA, LLC.

- [38 references](#)

Supplementary info

Grants and fundingExpand

Full text links



[Proceed to details](#)

Cite

Share

6

Expert Rev Clin Immunol

-
-
-

. 2025 Jan 7:1-15.

doi: 10.1080/1744666X.2024.2448990. Online ahead of print.

[Type 2 inflammation: a Portuguese consensus using Web-Delphi and decision conferencing \(INFLAT2-PT\)](#)

[Suzete Costa](#)^{1,2}, [João Pedro Aguiar](#)^{1,2}, [Mónica D Oliveira](#)^{3,4}, [João Gonçalves](#)^{5,6}, [João Carlos Ribeiro](#)^{7,8}, [Luís Taborda-Barata](#)^{9,10}, [Helena Farinha](#)^{5,11}, [Pedro Escada](#)^{12,13}, [Samuel Fernandes](#)^{14,15}, [Luís Soares-de-Almeida](#)^{16,17}, [Maria João Paiva-Lopes](#)^{13,18}, [Cláudia Chaves Loureiro](#)^{19,20}, [Isabel Lourinho](#)^{21,22}, [João A Fonseca](#)^{23,24}, [Marta Drummond](#)^{25,26}, [Rui Tato Marinho](#)^{14,15}, [João Bana E Costa](#)²⁷, [António Vaz Carneiro](#)^{1,2}, [Carlos A Bana E Costa](#)^{3,28}

Affiliations Expand

- PMID: 39748205
- DOI: [10.1080/1744666X.2024.2448990](https://doi.org/10.1080/1744666X.2024.2448990)

Abstract

Objectives: Atopic/allergic diseases impose a growing burden on public health, affecting millions of patients worldwide. The main objective of this study was to develop a national expert consensus on relevant clinical questions related to type 2 inflammation.

Methods: We conducted: a comprehensive literature review with a qualitative analysis to identify the most repeated themes on the overlap of conditions; a modified 3-round Web-Delphi (or e-Delphi); and a final online decision conference.

Results: We included 51 studies. Following three Web-Delphi rounds, we ended up with 30 statements with a 76% overall full agreement rate, 16% agreement, 2% disagreement, and 0% full disagreement. The decision conference enabled adjustments, and the expert panel agreed unanimously on the final set of statements. The consensus used evidence synthesis, Web-Delphi, and decision

conference to produce 30 statements on type 2 inflammation as a driver for multimorbidity in asthma, certain rhinitis phenotypes, atopic dermatitis, chronic rhinosinusitis with nasal polyps, and eosinophilic esophagitis grouped under five domains in underlying pathophysiology, multimorbidity, diagnosis and management, multidisciplinary management, and impact on mental health.

Conclusion: We expect the first Portuguese expert consensus INFLAT2-PT to promote understanding of type 2 inflammation diseases, multidisciplinary care, integrated care pathways, future research, and inform health authorities.

Keywords: Allergy; asthma; atopic dermatitis; chronic rhinosinusitis; consensus; eosinophilic esophagitis; type-2 inflammation.

Full text links



[Proceed to details](#)

Cite

Share

7

Res Dev Disabil

-
-
-

. 2025 Jan 9:157:104907.

doi: 10.1016/j.ridd.2024.104907. Online ahead of print.

[Effect of comorbid allergic diseases on attention-deficit hyperactivity disorder symptoms and sleep: A cross-sectional study](#)

[Zhang Panpan](#)¹, [Liu Yang](#)¹, [Ma Tao](#)², [Tian Chong](#)¹, [Cao Fan](#)¹, [Sun Hao](#)¹, [Xiao Xuwu](#)³

Affiliations Expand

- PMID: 39793214
- DOI: [10.1016/j.ridd.2024.104907](https://doi.org/10.1016/j.ridd.2024.104907)

Abstract

Introduction: Recent studies have shown a close relationship between attention-deficit hyperactivity disorder (ADHD) and allergic diseases in children. Regrettably,

few studies have investigated the effect of comorbid allergies on ADHD symptoms and sleep, in particular, it is unclear whether comorbid allergic conditions further exacerbate sleep problems in children with ADHD.

Objective: To investigate the effect of comorbid allergic on symptoms and sleep in children with ADHD.

Methods: This was a cross-sectional study, 222 ADHD children (aged 6-14 years) were enrolled in, of whom 93 had allergic diseases and 129 without allergic diseases. Collected all ADHD symptom severity and functional impairment scales, including: Swanson, Nolan and Pelham (SNAP) scale, Integrated Visual and Auditory Continuous Performance Test (IVA-CPT), Conners Parents Symptom questionnaire (PSQ) and Weiss Functional Impairment Rating Scale-Parent Form (WFIRS-P). Every guardian of children diagnosed with ADHD is required to complete the Children's Sleep Habits Questionnaire (CSHQ).

Results: Compared to ADHD children without allergic diseases, we observed significantly higher hyperactivity and impulsivity scores on the SNAP-IV, higher hyperactivity index and impulsivity index on the PSQ, and higher risky activities on the WFIRS-P in ADHD children with comorbid allergic diseases (all $p < 0.05$). CSHQ total score and sleep disordered breathing were particularly prominent in ADHD children with comorbid allergic diseases (all $p < 0.05$), and changes in CSHQ correlate with ADHD symptoms and functional impairment. Further analyses revealed that ADHD symptoms and sleep did not worsen with increasing number of comorbid allergic diseases (all $p > 0.05$). The primary influence on ADHD symptoms and sleep was the type of allergic diseases, where food allergies predominantly influence ADHD symptoms, including attention deficit disorder and hyperactivity disorder (all $p < 0.05$); allergic rhinitis notably impacts parasomnias, sleep disordered breathing (all $p < 0.05$); and allergic asthma significantly affects sleep anxiety, daytime sleepiness, and sleep disordered breathing in children with ADHD (all $p < 0.05$).

Conclusion: The presence of comorbid allergic diseases affects both the hyperactivity and impulsivity symptoms of ADHD and sleep disordered breathing, predominantly influenced by the type of the allergic diseases.

Keywords: Allergy; Attention-deficit hyperactivity disorder; Sleep problem; Symptom.

Copyright © 2025 Elsevier Ltd. All rights reserved.

Conflict of interest statement

Declaration of Competing Interest The authors have no conflicts of interest to declare.

Full text links



[Proceed to details](#)

Cite

Share

8

J Allergy Clin Immunol Pract

-
-
-

. 2025 Jan 3:S2213-2198(25)00001-7.

doi: 10.1016/j.jaip.2024.12.038. Online ahead of print.

[Racial and Ethnic Disparities in Sublingual Immunotherapy Prescriptions for Allergic Rhinitis in the United States](#)

[Meghan Matheny](#)¹, [Gisoo Ghaffari](#)¹, [Taha Al-Shaikhly](#)²

Affiliations Expand

- PMID: 39756512
- DOI: [10.1016/j.jaip.2024.12.038](https://doi.org/10.1016/j.jaip.2024.12.038)

Abstract

Black patients with allergic rhinitis are under-prescribed sublingual immunotherapy tablets. Barriers to sublingual immunotherapy need to be explored and mitigated to ensure equitable access.

Keywords: Disparities in Health Care; Racial and Ethnic Disparities; SLIT; allergic rhinitis; sublingual immunotherapy.

Copyright © 2025. Published by Elsevier Inc.

Full text links



[Proceed to details](#)

Cite

Share

9

Int Forum Allergy Rhinol

-
-
-

. 2025 Jan 8.

doi: 10.1002/alr.23526. Online ahead of print.

[Unraveling Sex-Based Differences in Efficacy and Safety of Subcutaneous Immunotherapy for Allergic Rhinitis: A Propensity Score-Matched Cohort Study](#)

[Xuan Yuan](#)¹²³⁴, [Liyuan Liu](#)⁵, [Benjian Zhang](#)¹²³⁴, [Shaobing Xie](#)¹²³⁴, [Lai Meng](#)¹²³⁴, [Wei Zhong](#)¹²³⁴, [Jiaxin Jia](#)¹²³⁴, [Hua Zhang](#)¹²³⁴, [Weihong Jiang](#)¹²³⁴, [Zhihai Xie](#)¹²³⁴

Affiliations Expand

- PMID: 39778003
- DOI: [10.1002/alr.23526](#)

No abstract available

Keywords: adverse reaction; allergic rhinitis; efficacy; sex; subcutaneous immunotherapy.

- [10 references](#)

Supplementary info

Grants and fundingExpand

Full text links



chronic cough

1

Review

J Clin Med

-
-

-

. 2025 Jan 6;14(1):291.

doi: 10.3390/jcm14010291.

[Examining Cough's Role and Relief Strategies in Interstitial Lung Disease](#)

[Chee Yao Lim](#)^{1,2}, [Sanam Wasim Khan](#)³, [Tarek Alsibai](#)^{1,2}, [Gayathri Sathiyamoorthy](#)^{1,2}

Affiliations Expand

- PMID: 39797373

- DOI: [10.3390/jcm14010291](https://doi.org/10.3390/jcm14010291)

Abstract

Chronic cough is a distressing and prevalent symptom in interstitial lung disease (ILD), significantly impairing quality of life (QoL) and contributing to disease progression, particularly in idiopathic pulmonary fibrosis (IPF). It is associated with physical discomfort, psychological distress, and social isolation and is often refractory to conventional therapies. The pathophysiology of cough in ILD is complex and multifactorial, involving neural hypersensitivity, structural lung changes, inflammatory processes, and comorbid conditions such as gastroesophageal reflux disease (GERD). Evaluating cough in ILD relies on subjective and objective tools to measure its severity, frequency, and impact on daily life, although standardization of these measures remains challenging. Management strategies span pharmacological interventions, including neuromodulators such as opiates, antifibrotic agents, pharmacologic and surgical GERD treatments, and non-pharmacological approaches like behavioral therapies, cough suppression techniques, and pulmonary rehabilitation and physiotherapy. Emerging treatments, such as P2X3 receptor antagonists and airway hydration therapies, offer promising avenues but require further investigation through robust clinical trials. This review aims to demonstrate the importance of addressing cough in ILD as a significant symptom and present objective and subjective methods of quantifying coughs, while providing insights into effective and emerging therapeutic options. By highlighting these potential therapies, we hope to guide healthcare practitioners in considering them through a thorough evaluation of benefits and risks on a case-by-case basis, with relevance both in the U.S. and internationally.

Keywords: cough; idiopathic pulmonary fibrosis; interstitial lung disease; treatment; update.

Supplementary info

Publication typesExpand

Full text links



[Proceed to details](#)

Cite

Share

2

Observational Study

Sci Rep

-
-
-

. 2025 Jan 6;15(1):880.

doi: 10.1038/s41598-025-85341-3.

[Validation and accuracy of the Hyfe cough monitoring system: a multicenter clinical study](#)

[Carlos Chaccour](#)^{1,2,3}, [Isabel Sánchez-Olivieri](#)⁴, [Sarah Siegel](#)⁵, [Gina Megson](#)⁵, [Kevin L Winthrop](#)⁵, [Juan Berto Botella](#)⁴, [Juan P de-Torres](#)^{4,6}, [Lola Jover](#)⁷, [Joe Brew](#)⁷, [George Kafentzis](#)^{7,8}, [Mindaugas Galvosas](#)⁷, [Matthew Rudd](#)^{7,9}, [Peter Small](#)^{7,10}

Affiliations [Expand](#)

- PMID: 39762316
- PMCID: [PMC11704278](#)
- DOI: [10.1038/s41598-025-85341-3](#)

Abstract

Background: The ability to passively and continuously monitor coughing for prolonged periods of time would significantly improve cough management and research. To date there is no automated clinically validated cough monitor that can be routinely used in

clinical care and research. Here we describe the validation of such an automated cough monitor.

Methods: This multicenter observational study compared the results of the Hyfe CoughMonitor wrist-worn device with manually counted coughs in subjects with a variety of etiologies as they went about their usual daily activities. We collected 24 h of continuous sounds from subjects while they simultaneously wore a CoughMonitor and an audio recorder. Coughs were labelled by multiple trained annotators who listened to the continuous audio recordings using validated methodology. The time stamps of these human-detected coughs were compared to those of the CoughMonitor to determine the system's overall performance using event-to-event and hourly rate correlation analyses.

Results: Over the 546 h monitored, 4,454 cough events were recorded; The overall sensitivity was 90.4% (95% CI of 88.3-92.2%). The overall false positive rate was 1.03 false positives per hour (95% CI of 0.84 to 1.24). The overall correlation between manual and CoughMonitor measured hourly coughing was high (Pearson correlation coefficient of 0.99). Two case studies of long-term monitoring of patients with chronic cough are presented.

Conclusion: The present analysis of cough events demonstrated that the Hyfe CoughMonitor accurately reflects them with a high sensitivity and a low false positive rate. Future studies should focus on its potential role in the management of patients with cough in clinical practice. Registration Clinicaltrials.gov, [NCT05723159](https://clinicaltrials.gov/ct2/show/study/NCT05723159).

© 2025. The Author(s).

Conflict of interest statement

Declarations. Competing interests: MR, MG, LJ, MG, JB, GK and PS are employees of Hyfe, Inc and own equity in Hyfe Inc. CCh has received consultancy fees and owns equity in Hyfe Inc. All other authors declare no conflict of interest.

- [21 references](#)
- [5 figures](#)

Supplementary info

Publication types, MeSH terms, Associated data, Grants and fundingExpand

Full text links

nature portfolio 

[Proceed to details](#)

Cite

Share

3

Mult Scler

-
-
-

. 2025 Jan 3:13524585241310104.

doi: 10.1177/13524585241310104. Online ahead of print.

Post-acute sequela of COVID-19 infection in individuals with multiple sclerosis

[Amber Salter](#)^{1,2}, [Samantha Lancia](#)¹, [Gary R Cutter](#)³, [Robert J Fox](#)⁴, [Ruth Ann Marrie](#)^{5,6}

Affiliations Expand

- PMID: 39749575
- DOI: [10.1177/13524585241310104](https://doi.org/10.1177/13524585241310104)

Free article

Abstract

Background: Many common symptoms in post-acute sequelae following severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection (PASC) overlap with those of multiple sclerosis (MS). We examined symptoms and performance of the PASC score, developed in the general population, in MS based on infection history.

Methods: We surveyed North American Research Committee on Multiple Sclerosis (NARCOMS) registry participants regarding infections and categorized participants based on infection history. Symptoms experienced before, during, and after infection were used to identify persistent new symptoms. PASC was defined as a score ≥ 12 based on the National Institutes of Health (NIH) study RECOVER.

Results: Of 4787 participants surveyed, 2927 were included: 294 (10%) having recent COVID-19; 853 (29.1%) recent non-COVID-19 infection; 246 (8.4%) recent COVID-19 and non-COVID-19 infection; 1534 (52.4%) uninfected, defined as never having COVID-19 nor any infection within the past 6 months. Compared to those uninfected, infection groups reported at least a two-fold increase in fever, cough, loss of smell/taste, and shortness of breath. Based on persistent new symptoms, PASC was identified in only 1.5% of participants with COVID-19.

Conclusion: Our study suggests lower than expected prevalence of PASC in MS and a complex association between infections and development of new persistent symptoms following infections. The similar proportions classified with PASC across infection groups shows that symptoms of PASC are common and complicate assessment of PASC in MS.

Keywords: COVID-19; SARS-CoV-2; multiple sclerosis; post-acute sequela; symptoms.

Conflict of interest statement

Declaration of conflicting interestsThe author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: Amber Salter receives research funding from Multiple Sclerosis Society of Canada, National Multiple Sclerosis Society, CMSC and the Department of Defense Congressionally Directed Medical Research Program and is a member of editorial board for Neurology. She serves as a consultant for Gryphon Bio, LLC, Sora Neuroscience and Abata Therapeutics. She has equity in Owl Therapeutics. She is a member of the Data and Safety Monitoring Board for Premature Infants Receiving Milking or Delayed Cord Clamping (PREMOD2), Central Vein Sign: A Diagnostic Biomarker in Multiple Sclerosis (CAVS-MS), Video Telehealth Pulmonary Rehabilitation to Reduce Hospital Readmission in Chronic Obstructive Pulmonary Disease (Tele-COPD) and Methotrexate treatment of Arthritis caused by Chikungunya virus (MARCH). She is supported (in part) by a Biostatistics/Informatics Junior Faculty Award (BI-2105-37656) from the National Multiple Sclerosis Society. She holds the Kenney Marie Dixon-Pickens Distinguished Professorship in Multiple Sclerosis Research. Samantha Lancia has nothing to disclose. Gary Cutter serves on Data and Safety Monitoring Boards for Applied Therapeutics, AI therapeutics, AMO Pharma, Astra-Zeneca, Avexis Pharmaceuticals, Biolinerx, Brainstorm Cell Therapeutics, Bristol Meyers Squibb/Celgene, CSL Behring, Galmed Pharmaceuticals, Green Valley Pharma, Horizon Pharmaceuticals, Immunic, Karuna Therapeutics, Mapi Pharmaceuticals LTD, Merck, Mitsubishi Tanabe Pharma Holdings, Opko Biologics, Prothena Biosciences, Novartis, Regeneron, Sanofi-Aventis, Reata Pharmaceuticals, Teva Pharmaceuticals, NHLBI (Protocol Review Committee), University of Texas Southwestern, University of Pennsylvania, Visioneering Technologies, Inc., Consulting or Advisory Boards for Alexion, Antisense Therapeutics, Biogen, Clinical Trial Solutions LLC, Entelexo Biotherapeutics, Inc., Genzyme, Genentech, GW Pharmaceuticals, Immunic, Immunosis Pty Ltd, Klein-Buendel Incorporated, Merck/Serono, Novartis, Perception Neurosciences, Protalix Biotherapeutics, Regeneron, Roche, SAB Biotherapeutics. He is employed by the University of Alabama at Birmingham and President of Pythagoras, Inc. a private consulting company located in Birmingham AL. Robert Fox receives personal consulting fees from AB Science, Biogen, Bristol Myers Squibb, EMD Serono, Genentech, Genzyme, Greenwich Biosciences, Immunic, INmune Bio, Janssen, Lily, Novartis, Sanofi, Siemens, and TG Therapeutics; clinical trial contract and research grant funding from Biogen, Novartis, and Sanofi. Ruth Ann Marrie receives research funding from: CIHR, MS Canada, Crohn's and Colitis Canada, National Multiple Sclerosis Society, CMSC, the Arthritis Society, Pfizer Foundation and the US Department of Defense, and is a co-investigator on studies receiving funding from Biogen Idec and Roche Canada. She holds the Waugh Family Chair in Multiple Sclerosis and serves on the editorial board of Neurology.

"bronchiectasis"[MeSH Terms] OR bronchiectasis[Text Word]

1

Pediatr Pulmonol

-
-
-

. 2025 Jan 7:e27471.

doi: 10.1002/ppul.27471. Online ahead of print.

[Reconsidering the Diagnosis: Abnormal Sweat Chloride Tests in Non-CF Bronchiectasis](#)

[Reyna L Huang](#)¹, [Matthew T Snyder](#)², [Nuzhat Fahmida](#)³, [Dana P Albon](#)⁴

Affiliations Expand

- PMID: 39778078
- DOI: [10.1002/ppul.27471](https://doi.org/10.1002/ppul.27471)

Abstract

Introduction: While the diagnosis of cystic fibrosis (CF) is often straightforward and reliant on correlation between genetic testing and clinical signs and symptoms, there is a subset where the distinction is not nearly as clearcut. This has previously been reported in patients identified through newborn screening but not meeting full CF diagnostic criteria, earning the label of CF Screen Positive, Inconclusive Diagnosis (CFSPID) instead. A homologous diagnostic category in adults is named CF Transmembrane Conductance Regulator-Related Disorder (CFTR-RD).

Methods: Through a retrospective chart review, this study reports on a relatively large adult cohort (n = 23) that presented to pulmonology clinic at a single center with intermediate or positive sweat chloride tests but non-diagnostic full CFTR gene analysis.

Results: Median sweat chloride result was 48 mmol/L, and a majority of the cohort had chronic lung disease with atypical pathogens on sputum culture, including

Pseudomonas aeruginosa, non-tuberculous Mycobacteria, Acinetobacter species, amongst others.

Conclusions: This clinical picture suggests CFTR dysfunction or similar mechanism in the absence of an identified genetic cause. Alternate chloride channels and their respective genes or candidates of genetic modifiers to the CF-phenotype could be targets of further research in this cohort or similar patients. Such genetic modifiers include loci that have been implicated in inflammation, the CFTR interactome, and/or co-/post-translational modification of CFTR.

© 2025 The Author(s). Pediatric Pulmonology published by Wiley Periodicals LLC.

- [20 references](#)

Supplementary info

Grants and fundingExpand

Full text links



[Proceed to details](#)

Cite

Share

2

Observational Study

Lung

-
-
-

. 2025 Jan 3;203(1):15.

doi: 10.1007/s00408-024-00770-7.

[**The Contribution of Carbapenem-Resistant Pseudomonas Aeruginosa Isolation to Clinical Outcomes in Hospitalized Patients with Exacerbations of Bronchiectasis: A Retrospective Cohort Study**](#)

[**Jibo Sun**](#) ^{#12}, [**Xiang Tong**](#) ^{#12}, [**Xiu Li**](#) ¹², [**Lian Wang**](#) ¹², [**Dongguang Wang**](#) ¹², [**Qingqing Jia**](#) ¹², [**Shijie Zhang**](#) ¹², [**Sitong Liu**](#) ¹², [**Wenting Lv**](#) ¹², [**Ye Wang**](#) ³⁴, [**Hong Fan**](#) ⁵⁶

Affiliations Expand

- PMID: 39751969
- DOI: [10.1007/s00408-024-00770-7](https://doi.org/10.1007/s00408-024-00770-7)

Abstract

Background: The antibiotic resistance of *Pseudomonas aeruginosa* (PA) is increasingly severe in bronchiectasis patients. However, there is currently a lack of research on the clinical outcomes of carbapenem-resistant PA (CRPA) isolation in hospitalized exacerbations of bronchiectasis (HEB) patients. We investigated the incidence, risk factors, and clinical outcomes of PA and CRPA isolation in HEB patients.

Methods: This was an observational, retrospective cohort study of PA and CRPA isolated from sputum or bronchoalveolar lavage fluid cultures of HEB patients from January 1, 2018 to December 31, 2022. The primary outcomes were respiratory failure, mechanical ventilation, and length of hospital stay. The incidence, risk factors, and clinical outcomes of PA and CRPA isolation were analyzed using multivariate logistic and Poisson regression.

Results: Among 1,286 patients, the prevalence of PA, CRPA, and multi-drug resistant PA isolation was 20.61% (n = 265), 3.81% (n = 49), and 5.83% (n = 75), respectively. CRPA isolation was associated with an increased risk for respiratory failure (adjusted odds ratio (aOR) 2.56; 95% confidence interval (CI) [1.29, 5.11]; p = 0.007), mechanical ventilation (aOR 3.65; 95% CI [1.50, 8.92]; p = 0.004), and length of hospital stay (Coefficient (Coef) 0.27; 95% CI [0.18, 0.35]; p < 0.001) compared to non-CRPA. Antibiotic treatment decreased the risk of respiratory failure (aOR 0.37; 95% CI [0.17, 0.80]; p = 0.011), mechanical ventilation (aOR 0.36; 95% CI [0.13, 0.99]; p = 0.047), and length of hospital stay (Coef - 0.23; 95% CI [- 0.33, - 0.14]; p < 0.001).

Conclusions: CRPA isolation was identified in more severe bronchiectasis patients and significantly increased the risk of respiratory failure, mechanical ventilation and length of hospital stay, while antibiotic treatment reduced this risk.

Keywords: Bronchiectasis; CRPA; Clinical outcomes; Hospitalized exacerbations; PA.

© 2024. The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature.

Conflict of interest statement

Declarations. Competing Interests: The authors declare no competing interests.
Ethical Approval and Consent to Participate: The study was approved by the Ethics Committee on Biomedical Research at the West China Hospital of Sichuan University (No. 2022455). Individual consent for this retrospective analysis was waived. **Consent for Publication:** Not applicable.

- [30 references](#)

Supplementary info

Publication types, MeSH terms, Substances, Grants and fundingExpand

Full text links

