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

1

Eur J Gen Pract

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. 2024 Dec;30(1):2343364.

doi: 10.1080/13814788.2024.2343364. Epub 2024 May 13.

[Effectiveness of the Assessment of Burden of Chronic Conditions \(ABCC\)-tool in patients with asthma, COPD, type 2 diabetes mellitus, and heart failure: A pragmatic clustered quasi-experimental study in the Netherlands](#)

[Esther A Boudewijns](#)¹, [Danny Claessens](#)¹, [Onno C P van Schayck](#)¹, [Mascha Twellaar](#)¹, [Bjorn Winkens](#)², [Manuela A Joore](#)³, [Lotte C E M Keijsers](#)¹, [Stijn Krol](#)¹, [Mathijs Urlings](#)¹, [Annerika H M Gidding-Slok](#)¹

Affiliations expand

- PMID: 38738695

- DOI: [10.1080/13814788.2024.2343364](https://doi.org/10.1080/13814788.2024.2343364)

Abstract

Background: The Assessment of Burden of Chronic Conditions (ABCC)-tool was developed to optimise chronic care.

Objectives: This study aimed to assess the effectiveness of the ABCC-tool in patients with COPD, asthma, type 2 diabetes, and/or heart failure in primary care in the Netherlands.

Methods: The study had a pragmatic, clustered, two-armed, quasi-experimental design. The intervention group (41 general practices; 176 patients) used the ABCC-tool during routine consultations and the control group (14 general practices; 61 patients) received usual care. The primary outcome was a change in perceived quality of care (PACIC; Patient Assessment of Chronic Illness Care) after 18 months. Secondary outcomes included change in the PACIC after 6 and 12 months, and in quality of life (EQ-5D-5L; EuroQol-5D-5L), capability well-being (ICECAP-A; ICEpop CAPability measure for Adults), and patients' activation (PAM; Patient Activation Measure) after 6, 12, and 18 months for the total group and conditions separately.

Results: We observed a significant difference in the PACIC after 6, 12, and 18 months (18 months: 0.388 points; 95%CI: 0.089-0.687; $p = 0.011$) for the total group and after 6 and 12 months for type 2 diabetes. After 18 months, we observed a significant difference in the PAM for the total group but not at 6 and 12 months, and not for type 2 diabetes. All significant effects were in favour of the intervention group. No significant differences were found for the EQ-5D-5L and the ICECAP-A.

Conclusion: Use of the ABCC-tool has a positive effect on perceived quality of care and patients' activation, which makes the tool ready for use in clinical practice. Healthcare providers (e.g. general practitioners and practice nurses) can use the tool to provide person-centred care. **Trial registration number:** ClinicalTrials.gov Registry ([NCT04127383](https://clinicaltrials.gov/ct2/show/study/NCT04127383)).

Keywords: Chronic conditions; general practice; person-centred care; self-management; shared decision making.

Plain language summary

The Assessment of Burden of Chronic Conditions (ABCC)-tool aims to support disease management for one or multiple chronic condition(s), currently COPD, asthma, type 2 diabetes, and heart failure. Statistically significant differences in patients' perceived quality of care and patient activation were found between the group that used the ABCC-tool and the care-as-usual group. No effect was found on generic quality of life or capability well-being. Healthcare providers can use the ABCC-tool in primary care.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Associated dataexpand

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Editorial

Thorax

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. 2024 May 17:thorax-2024-221544.

doi: 10.1136/thorax-2024-221544. Online ahead of print.

[Lifetime lung function trajectories: insights into risk factors, consequences and implications](#)

[Dinh S Bui](#)¹, [Nur S Idrose](#)¹, [Shyamali C Dharmage](#)²

Affiliations expand

- PMID: 38760169
- DOI: [10.1136/thorax-2024-221544](https://doi.org/10.1136/thorax-2024-221544)

No abstract available

Keywords: COPD epidemiology.

Conflict of interest statement

Competing interests: None declared. SD received research grants from AstraZeneca, GSK and Sanofi, which are not related to this work.

SUPPLEMENTARY INFO

Publication types [expand](#)

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ASAIO J

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. 2024 May 17.

doi: 10.1097/MAT.0000000000002241. Online ahead of print.

[Platelet Activation and Severe Bleeding During Extracorporeal Carbon Dioxide Removal in Chronic Obstructive Pulmonary Disease Patients](#)

[David M Smadja](#)^{1,2}, [Richard Chocron](#)^{3,4}, [Nadia Rivet](#)^{1,2}, [Sofia Ortuno](#)⁵, [Coralie L Guerin](#)^{1,6}, [Jean-Luc Diehl](#)^{1,5}

Affiliations [expand](#)

- PMID: 38753545

- DOI: [10.1097/MAT.0000000000002241](https://doi.org/10.1097/MAT.0000000000002241)

No abstract available

Conflict of interest statement

Disclosure: J.-L.D. reports grants and nonfinancial research support from ALung, nonfinancial research support from General Electric Healthcare, and personal fees and nonfinancial research support from Xenios/Novalung (Fresenius Medical Care), all outside the submitted work. D.M.S. reports personal fees from Carmat and Léo Pharma all outside the submitted work. The other authors have no conflicts of interest to report.

- [10 references](#)

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Review

Expert Rev Mol Diagn

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. 2024 May 17:1-13.

doi: 10.1080/14737159.2024.2344777. Online ahead of print.

Clinical utilization of airway inflammatory biomarkers in the prediction and monitoring of clinical

outcomes in patients with chronic obstructive pulmonary disease

[Dina Yehia](#)¹, [Clarus Leung](#)^{1,2}, [Don D Sin](#)^{1,2}

Affiliations expand

- PMID: 38635513
- DOI: [10.1080/14737159.2024.2344777](https://doi.org/10.1080/14737159.2024.2344777)

Abstract

Introduction: Chronic obstructive pulmonary disease (COPD) accounts for 545 million people living with chronic respiratory disorders and is the third leading cause of morbidity and mortality around the world. COPD is a progressive disease, characterized by episodes of acute worsening of symptoms such as cough, dyspnea, and sputum production.

Areas covered: Airway inflammation is a prominent feature of COPD. Chronic airway inflammation results in airway structural remodeling and emphysema. Persistent airway inflammation is a treatable trait of COPD and plays a significant role in disease development and progression. In this review, the authors summarize the current and emerging biomarkers that reveal the heterogeneity of airway inflammation subtypes, clinical outcomes, and therapeutic response in COPD.

Expert opinion: Airway inflammation can be broadly categorized as eosinophilic (type 2 inflammation) and non-eosinophilic (non-type 2 inflammation) in COPD. Currently, blood eosinophil counts are incorporated in clinical practice guidelines to identify COPD patients who are at a higher risk of exacerbations and lung function decline, and who are likely to respond to inhaled corticosteroids. As new therapeutics are being developed for the chronic management of COPD, it is essential to identify biomarkers that will predict treatment response.

Keywords: Airway inflammation; COPD; biomarkers; exacerbations; therapeutics.

SUPPLEMENTARY INFO

Publication types expand

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PLoS One



. 2024 May 16;19(5):e0303743.

doi: 10.1371/journal.pone.0303743. eCollection 2024.

[Association of smoking cessation with airflow obstruction in workers with silicosis: A cohort study](#)

[Shuyuan Yang](#)¹, [Chi Kuen Chan](#)², [Maggie Haitian Wang](#)¹, [Chi Chiu Leung](#)³, [Lai Bun Tai](#)², [Lap Ah Tse](#)¹

Affiliations expand

- PMID: 38753732
- PMCID: [PMC11098359](#)
- DOI: [10.1371/journal.pone.0303743](#)

Abstract

Background: Studies in general population reported a positive association between tobacco smoking and airflow obstruction (AFO), a hallmark of chronic obstructive pulmonary disease (COPD). However, this attempt was less addressed in silica dust-exposed workers.

Methods: This retrospective cohort study consisted of 4481 silicotic workers attending the Pneumoconiosis Clinic during 1981-2019. The lifelong work history and smoking habits of these workers were extracted from medical records. Spirometry was carried out at the

diagnosis of silicosis (n = 4177) and reperformed after an average of 9.4 years of follow-up (n = 2648). AFO was defined as forced expiratory volume in one second (FEV1)/force vital capacity (FVC) less than lower limit of normal (LLN). The association of AFO with smoking status was determined using multivariate logistics regression, and the effect of smoking cessation on the development of AFO was evaluated Cox regression.

Results: Smoking was significantly associated with AFO (current smokers: OR = 1.92, 95% CI 1.51-2.44; former smokers: OR = 2.09, 95% CI 1.65-2.66). The risk of AFO significantly increased in the first 3 years of quitting smoking (OR = 1.23, 95% CI 1.02-1.47) but decreased afterwards with increasing years of cessation. Smoking cessation reduced the risk of developing AFO no matter before or after the confirmation of silicosis (pre-silicosis cessation: HR = 0.58, 95% CI 0.46-0.74; post-silicosis cessation: HR = 0.62, 95% CI 0.48-0.79).

Conclusions: Smoking cessation significantly reduced the risk of AFO in the workers with silicosis, although the health benefit was not observed until 3 years of abstinence. These findings highlight the importance of early and long-term smoking cessation among silicotic or silica dust-exposed workers.

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Conflict of interest statement

The authors have declared that no competing interests exist.

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

SUPPLEMENTARY INFO

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

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Respir Res

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. 2024 May 15;25(1):207.

doi: 10.1186/s12931-024-02822-1.

Statins did not reduce the frequency of exacerbations in individuals with COPD and cardiovascular comorbidities in the COSYCONET cohort

[N Frantzi](#)¹, [X P Nguyen](#)¹, [C Herr](#)², [P Alter](#)³, [S Söhler](#)³, [D Soriano](#)¹, [H Watz](#)^{4,5}, [B Waschki](#)^{4,6,7}, [F Trinkmann](#)⁸, [M Eichenlaub](#)⁹, [F C Trudzinski](#)⁸, [J D Michels-Zetsche](#)⁸, [A Omlor](#)², [F Seiler](#)², [I Moneke](#)¹⁰, [F Biertz](#)¹¹, [G Rohde](#)¹², [D Stolz](#)¹, [T Welte](#)¹³, [H U Kauczor](#)¹⁴, [K Kahnert](#)¹⁵, [R A Jörres](#)¹⁶, [C F Vogelmeier](#)³, [R Bals](#)^{2,17}, [S Fährdrich](#)¹⁸; German COSYCONET Cohort

Collaborators, Affiliations expand

- PMID: 38750572
- PMCID: [PMC11097413](#)
- DOI: [10.1186/s12931-024-02822-1](#)

Abstract

Background: The evidence regarding effects of statins on exacerbation risk in COPD remains controversial. Previous studies often excluded patients with cardiovascular comorbidities despite their high prevalence in COPD and role for exacerbations. Based on the cardioprotective properties of statins, we hypothesised that statins may reduce the risk of exacerbations especially in patients with cardiovascular comorbidities.

Methods: One thousand eight hundred eighty seven patients of the German COPD cohort COSYCONET (COPD and Systemic Consequences Comorbidities Network) of GOLD grades 1-4 (37.8% female, mean age 64.78 ± 8.3) were examined at baseline and over a period of 4.5 years for the occurrence of at least one exacerbation or severe exacerbation per year in cross-sectional and longitudinal analyses adjusted for age, gender, BMI, GOLD grade and pack-years. Due to their collinearity, various cardiovascular diseases were tested in separate analyses, whereby the potential effect of statins in the presence of a specific comorbidity was tested as interaction between statins and comorbidity. We also identified patients who never took statins, always took statins, or initiated statin intake during the follow-up.

Results: One thousand three hundred six patients never took statins, 31.6% were statin user, and 12.9% initiated statins during the follow-up. Most cardiovascular diseases were significantly ($p < 0.05$) may associated with an increased risk of COPD exacerbations, but in none of them the intake of statins was a significant attenuating factor, neither overall nor in modulating the increased risk linked to the specific comorbidities. The results of the cross-sectional and longitudinal analyses were consistent with each other, also those regarding at least 1 exacerbation or at least 1 severe exacerbation per year.

Conclusion: These findings complement the existing literature and may suggest that even in patients with COPD, cardiovascular comorbidities and a statin therapy that targets these comorbidities, the effects of statins on exacerbation risk are either negligible or more subtle than a reduction in exacerbation frequency.

Trial registration: Trial registration ClinicalTrials.gov, Identifier: [NCT01245933](https://clinicaltrials.gov/study/NCT01245933). Other Study ID (BMBF grant): 01GI0881, registered 18 November 2010, study start 2010-11, primary completion 2013-12, study completion 2023-09.

<https://clinicaltrials.gov/study/NCT01245933?cond=COPD&term=COSYCONET&rank=3>.

Keywords: COPD; Cardiovascular comorbidities; Exacerbations; Statins.

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Conflict of interest statement

Robert Bals is a member of the Editorial Board at Respiratory Research.

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

SUPPLEMENTARY INFO

Publication types, MeSH terms, Associated data, Grants and funding expand

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Respir Res

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. 2024 May 15;25(1):208.

doi: 10.1186/s12931-024-02841-y.

[The prevalence and mortality risks of PRISm and COPD in the United States from NHANES 2007–2012](#)

[Christopher J Cadham](#)^{#1}, [Hayoung Oh](#)^{#2}, [MeiLan K Han](#)³, [David Mannino](#)^{4,5}, [Steven Cook](#)⁶, [Rafael Meza](#)⁷, [David T Levy](#)², [Luz María Sánchez-Romero](#)⁸

Affiliations expand

- PMID: 38750492
- PMCID: [PMC11096119](#)
- DOI: [10.1186/s12931-024-02841-y](#)

Abstract

Background: We estimated the prevalence and mortality risks of preserved ratio impaired spirometry (PRISm) and chronic obstructive pulmonary disease (COPD) in the US adult population.

Methods: We linked three waves of pre-bronchodilator spirometry data from the US National Health and Nutritional Examination Survey (2007-2012) with the National Death Index. The analytic sample included adults ages 20 to 79 without missing data on age, sex, height, BMI, race/ethnicity, and smoking status. We defined COPD (GOLD 1, 2, and 3-4) and PRISm using FEV₁/FVC cut points by the Global Initiative for Chronic Obstructive Lung Disease (GOLD). We compared the prevalence of GOLD stages and PRISm by covariates across the three waves. We estimated adjusted all-cause and cause-specific mortality risks by COPD stage and PRISm using all three waves combined.

Results: Prevalence of COPD and PRISm from 2007-2012 ranged from 13.1%-14.3% and 9.6%-10.2%, respectively. We found significant differences in prevalence by sex, age, smoking status, and race/ethnicity. Males had higher rates of COPD regardless of stage, while females had higher rates of PRISm. COPD prevalence increased with age, but not PRISm, which was highest among middle-aged individuals. Compared to current and never smokers, former smokers showed lower rates of PRISm but higher rates of GOLD 1. COPD prevalence was highest among non-Hispanic White individuals, and PRISm was notably higher among non-Hispanic Black individuals (range 31.4%-37.4%). We found associations between PRISm and all-cause mortality (hazard ratio [HR]: 2.3 95% CI: 1.9-2.9) and various cause-specific deaths (HR ranges: 2.0-5.3). We also found associations between GOLD 2 (HR: 2.1, 95% CI: 1.7-2.6) or higher (HR: 4.2, 95% CI: 2.7-6.5) and all-cause mortality. Cause-specific mortality risk varied within COPD stages but typically increased with higher GOLD stage.

Conclusions: The prevalence of COPD and PRISm remained stable from 2007-2012. Greater attention should be paid to the potential impacts of PRISm due to its higher prevalence in minority groups and its associations with mortality across various causes including cancer.

Keywords: Chronic obstructive pulmonary disease; Preserved ratio impaired spirometry.

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Conflict of interest statement

CJC received research support funding from Imvaria, Inc. for unrelated work.

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

SUPPLEMENTARY INFO

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

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BMJ Open Respir Res

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. 2024 May 15;11(1):e002245.

doi: 10.1136/bmjresp-2023-002245.

Facilitators and barriers to self-management in Iranian men with chronic obstructive pulmonary disease: a qualitative study

[Forough Rafii](#)¹, [Mona Alinejad-Naeini](#)², [Akbar Soleymani Babadi](#)³, [Elahe Shahriari](#)⁴, [Farshad Heidari Beni](#)⁵

Affiliations expand

- PMID: 38749535
- PMCID: [PMC11097885](#)
- DOI: [10.1136/bmjresp-2023-002245](#)

Abstract

Introduction: Self-management, as the most common method of chronic obstructive pulmonary disease (COPD) management, is not an isolated behaviour, but a set of physical, social, cultural, psychological and existential factors affecting it.

Aim: This study aimed to explore the facilitators and barriers to self-management in men with COPD in the unique social, cultural, political and economic context of Iran.

Methods: This paper reports part of the findings of a qualitative grounded theory study aimed at exploring the process of self-management in Iranian men with COPD, which was conducted in Iran from January 2019 to July 2023. Participants included men with COPD, their family members and pulmonologists. The selection of participants in this research began with the purposeful sampling method. Data was collected using semistructured interviews. Data collection continued until the data saturation was achieved. A total of 15 interviews were conducted with nine patients, three family members of patients and three pulmonologists. The data was analysed using the constant comparative analysis method.

Results: The findings of this study showed that knowledge, education, experience, family involvement and financial support are the factors that facilitate self-management. Factors related to deficits include lack of education, lack of treatment support, family cooperation deficit, financial problems, medication obtaining problems and factors related to disease impacts include specific nature of the disease, residual effect, comorbidity and factors related to negative patients characteristics include false beliefs, poor self-efficacy, feeling shame and non-adherence are barriers to self-management in men with COPD.

Conclusion: Based on results of this study, healthcare providers and health planners can strengthen the factors that facilitate self-management and weaken or remove the barriers to self-management, so that these patients use self-management strategies with maximum capacity to control the disease.

Keywords: Pulmonary Disease, Chronic Obstructive.

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Conflict of interest statement

Competing interests: None declared.

- [39 references](#)

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Eur Radiol

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. 2024 May 15.

doi: 10.1007/s00330-024-10800-w. Online ahead of print.

Assessment of pulmonary physiological changes caused by aging, cigarette smoking, and COPD with hyperpolarized ¹²⁹Xe magnetic resonance

[Qiuchen Rao](#) ^{#1}, [Haidong Li](#) ^{#1,2}, [Qian Zhou](#) ^{#1}, [Ming Zhang](#) ^{1,2}, [Xiuchao Zhao](#) ^{1,2}, [Lei Shi](#) ^{1,2}, [Junshuai Xie](#) ^{1,2}, [Li Fan](#) ³, [Yeqing Han](#) ^{1,2}, [Fumin Guo](#) ¹, [Shiyuan Liu](#) ³, [Xin Zhou](#) ^{4,5,6}

Affiliations expand

- PMID: 38748243
- DOI: [10.1007/s00330-024-10800-w](https://doi.org/10.1007/s00330-024-10800-w)

Abstract

Objective: To comprehensively assess the impact of aging, cigarette smoking, and chronic obstructive pulmonary disease (COPD) on pulmonary physiology using ¹²⁹Xe MR.

Methods: A total of 90 subjects were categorized into four groups, including healthy young (HY, n = 20), age-matched control (AMC, n = 20), asymptomatic smokers (AS, n = 28), and COPD patients (n = 22). ¹²⁹Xe MR was utilized to obtain pulmonary physiological parameters, including ventilation defect percent (VDP), alveolar sleeve depth (h), apparent diffusion coefficient (ADC), total septal wall thickness (d), and ratio of xenon signal from red blood cells and interstitial tissue/plasma (RBC/TP).

Results: Significant differences were found in the measured VDP ($p = 0.035$), h ($p = 0.003$), and RBC/TP ($p = 0.003$) between the HY and AMC groups. Compared with the AMC group, higher VDP ($p = 0.020$) and d ($p = 0.048$) were found in the AS group; higher VDP ($p < 0.001$), d ($p < 0.001$) and ADC ($p < 0.001$), and lower h ($p < 0.001$) and RBC/TP ($p < 0.001$) were found in the COPD group. Moreover, significant differences were also found in the measured VDP ($p < 0.001$), h ($p < 0.001$), ADC ($p < 0.001$), d ($p = 0.008$), and RBC/TP ($p = 0.032$) between the AS and COPD groups.

Conclusion: Our findings indicate that pulmonary structure and functional changes caused by aging, cigarette smoking, and COPD are various, and show a progressive deterioration with the accumulation of these risk factors, including cigarette smoking and COPD.

Clinical relevance statement: Pathophysiological changes can be difficult to comprehensively understand due to limitations in common techniques and multifactorial etiologies. ^{129}Xe MRI can demonstrate structural and functional changes caused by several common factors and can be used to better understand patients' underlying pathology.

Key points: Standard techniques for assessing pathophysiological lung function changes, spirometry, and chest CT come with limitations. ^{129}Xe MR demonstrated progressive deterioration with accumulation of the investigated risk factors, without these limitations. ^{129}Xe MR can assess lung changes related to these risk factors to stage and evaluate the etiology of the disease.

Keywords: Aging; Chronic obstructive pulmonary disease; Cigarette smoking; Lung; Magnetic resonance.

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- [44 references](#)

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Intern Med J

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. 2024 May 15.

doi: 10.1111/imj.16404. Online ahead of print.

Endoscopic lung volume reduction with endobronchial valves for severe chronic obstructive pulmonary disease: a coming of age in Australia

[Francis Ratnakumar](#)¹, [Paul Lilburn](#)^{1,2,3}, [Alvin Ing](#)³

Affiliations expand

- PMID: 38747482
- DOI: [10.1111/imj.16404](https://doi.org/10.1111/imj.16404)

No abstract available

- [19 references](#)

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Heliyon



. 2024 May 3;10(9):e30581.

doi: 10.1016/j.heliyon.2024.e30581. eCollection 2024 May 15.

[NT-proBNP point-of-care testing for predicting mortality in end-stage renal disease: A survival analysis](#)

[Chun Chen](#)¹, [Yin-Chen Hsu](#)^{2,3}, [Kuang-Wei Chou](#)^{1,4}, [Kuo-Song Chang](#)^{1,5}, [Ya-Hui Hsu](#)¹, [Wei-Huai Chiu](#)⁶, [Chun-Wei Lee](#)^{5,7,8,9}, [Po-Sheng Yang](#)^{7,10}, [Wen-Han Chang](#)^{1,4,7,11,12,13}, [Yao-Kuang Huang](#)^{3,14,15}, [Pang-Yen Chen](#)^{1,4,5}, [Chien-Wei Chen](#)^{2,3,4}, [Yu-Jang Su](#)^{1,4,5,7,16}

Affiliations expand

- PMID: 38742053
- PMCID: [PMC11089362](#)
- DOI: [10.1016/j.heliyon.2024.e30581](#)

Abstract

This study examines the predictive value of elevated N-terminal-pro brain natriuretic peptide (NT-pro BNP) levels for mortality among patients with end-stage renal disease (ESRD). Data from 768 ESRD patients, excluding those with cancer or lost follow-up, were analyzed using Kaplan-Meier curves and Cox proportional hazards models over three years. Results indicated that patients with very high NT-pro BNP levels had shorter average survival times and a significantly higher risk of mortality (hazard ratio 1.43). Advanced age, ICU admission, and comorbidities like cerebrovascular diseases and chronic obstructive pulmonary disease also contributed to increased mortality risks. Thus, elevated NT-pro BNP is an independent risk factor for mortality in ESRD patients.

Keywords: ESRD; End-stage renal disease; N-Terminal-pro brain natriuretic peptide; NT-Pro BNP; Survival analysis.

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Conflict of interest statement

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.

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

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Editorial

Am J Respir Crit Care Med

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. 2024 May 15;209(10):1177-1178.

doi: 10.1164/rccm.202401-0144ED.

[BEACON: A Missing Piece of the Puzzle for Chronic Obstructive Pulmonary Disease](#)

[Carrie L Pistenmaa](#)¹, [George R Washko](#)¹

Affiliations expand

- PMID: 38330311
- DOI: [10.1164/rccm.202401-0144ED](https://doi.org/10.1164/rccm.202401-0144ED)

No abstract available

Comment on

- [Structural Predictors of Lung Function Decline in Young Smokers with Normal Spirometry.](#)
Ritchie AI, Donaldson GC, Hoffman EA, Allinson JP, Bloom CI, Bolton CE, Choudhury G, Gerard SE, Guo J, Alves-Moreira L, McGarvey L, Sapey E, Stockley RA, Yip KP, Singh D, Wilkinson T, Fageras M, Ostridge K, Jöns O, Bucchioni E, Compton CH, Jones P, Mezzi K, Vestbo J, Calverley PMA, Wedzicha JA; British Early COPD Network (BEACON) Cohort Investigators. *Am J Respir Crit Care Med.* 2024 May 15;209(10):1208-1218. doi: 10.1164/rccm.202307-1203OC. PMID: 38175920

SUPPLEMENTARY INFO

Publication types, MeSH terms, Grants and funding [expand](#)

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Am J Respir Crit Care Med

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. 2024 May 15;209(10):1208-1218.

doi: 10.1164/rccm.202307-1203OC.

Structural Predictors of Lung Function Decline in Young Smokers with Normal Spirometry

[Andrew I Ritchie](#)^{1,2}, [Gavin C Donaldson](#)¹, [Eric A Hoffman](#)^{3,4}, [James P Allinson](#)^{1,5}, [Chloe I Bloom](#)¹, [Charlotte E Bolton](#)^{6,7}, [Gourab Choudhury](#)⁸, [Sarah E Gerard](#)⁴, [Junfeng Guo](#)³, [Luana Alves-Moreira](#)¹, [Lorcan McGarvey](#)^{9,10}, [Elizabeth Sapey](#)¹¹, [Robert A Stockley](#)¹¹, [K P Yip](#)¹¹, [Dave Singh](#)¹², [Tom Wilkinson](#)^{13,14}, [Malin Fageras](#)¹⁵, [Kristoffer Ostridge](#)^{13,15}, [Olaf Jöns](#)¹⁶, [Enrica Bucchioni](#)¹⁷, [Chris H Compton](#)¹⁸, [Paul Jones](#)¹⁸, [Karen Mezzi](#)¹⁹, [Jørgen Vestbo](#)¹², [Peter M A Calverley](#)²⁰, [Jadwiga A Wedzicha](#)¹; [British Early COPD Network \(BEACON\) Cohort Investigators](#)

Collaborators, Affiliations expand

- PMID: 38175920
- DOI: [10.1164/rccm.202307-1203OC](https://doi.org/10.1164/rccm.202307-1203OC)

Abstract

Rationale: Chronic obstructive pulmonary disease (COPD) due to tobacco smoking commonly presents when extensive lung damage has occurred. **Objectives:** We hypothesized that structural change would be detected early in the natural history of COPD and would relate to loss of lung function with time. **Methods:** We recruited 431 current smokers (median age, 39 yr; 16 pack-years smoked) and recorded symptoms using the COPD Assessment Test (CAT), spirometry, and quantitative thoracic computed tomography (QCT) scans at study entry. These scan results were compared with those from 67 never-smoking control subjects. Three hundred sixty-eight participants were followed every six months with measurement of postbronchodilator spirometry for a median of 32 months. The rate of FEV₁ decline, adjusted for current smoking status, age, and sex, was related to the initial QCT appearances and symptoms, measured using the CAT. **Measurements and Main Results:** There were no material differences in demography or subjective CT appearances between the young smokers and control subjects, but 55.7% of the former had CAT scores greater than 10, and 24.2% reported chronic bronchitis. QCT assessments of disease probability-defined functional small airway disease, ground-glass opacification, bronchovascular prominence, and ratio of small blood vessel volume to total pulmonary vessel volume were increased compared with control subjects and were all associated with a faster FEV₁ decline, as was a higher CAT score. **Conclusions:** Radiological abnormalities on CT are already established in young smokers with normal lung function and are associated with FEV₁ loss independently of the impact of symptoms. Structural abnormalities are present early in the natural history of

COPD and are markers of disease progression. Clinical trial registered with www.clinicaltrials.gov ([NCT03480347](https://doi.org/10.11857/00000000.2024010144)).

Keywords: FEV1; chronic obstructive pulmonary disease; early COPD; lung function; quantitative computed tomography.

Comment in

- [BEACON: A Missing Piece of the Puzzle for Chronic Obstructive Pulmonary Disease.](#) Pistenmaa CL, Washko GR. *Am J Respir Crit Care Med.* 2024 May 15;209(10):1177-1178. doi: 10.1164/rccm.202401-0144ED.PMID: 38330311 No abstract available.

SUPPLEMENTARY INFO

MeSH terms, Associated data, Grants and funding expand

FULL TEXT LINKS



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Heart Lung



. 2024 May 14;67:114-120.

doi: 10.1016/j.hrtlng.2024.05.001. Online ahead of print.

[Routine in-hospital interventions during acute exacerbation of COPD are associated with improved 30-day care](#)

[Ophir Freund](#)¹, [Levi Elhadad](#)², [Boaz Tiran](#)², [Ariel Melloul](#)², [Eyal Kleinhendler](#)², [Tal Moshe Perluk](#)², [Evgeni Gershman](#)², [Avraham Unterman](#)², [Avishay Elis](#)³, [Amir Bar-Shai](#)²

Affiliations expand

- PMID: 38749347
- DOI: [10.1016/j.hrtlng.2024.05.001](https://doi.org/10.1016/j.hrtlng.2024.05.001)

Abstract

Background: Implementing standard of care therapy for chronic obstructive pulmonary disease (COPD) has barriers. Hospitalization with an acute exacerbation of COPD (AECOPD) is a major adverse event that could also be an opportunity to improve patients' long-term care.

Objectives: To evaluate which in-hospital interventions during AECOPD are associated with improved 30-day care.

Methods: This was a prospective study that included patients from 10 medical centers across Israel, hospitalized with AECOPD between 2017 and 2019. Patients were approached during hospitalization in internal medicine departments. A semi-structured follow-up call was performed 30 days after discharge, and six COPD areas of care were assessed. Multivariate analyses were used to analyze predictors for each area of care.

Results: 234 patients were included (mean age 69 years and 34% females). A lower 30-day readmission rate was independently associated with smoking cessation and prescription of renin-angiotensin blockers. Initiating or continuing long acting bronchodilators (LABD) during admission was an independent predictor for their 30-day use. Among patients with prior LABD treatment, only 38% continued at 30-days if it was not prescribed during admission (OR 4, 95% CI 1.98-8.08, $p < 0.01$). In-hospital daily respiratory physiotherapy was an independent predictor for smoking cessation (AOR 5.1, 95% CI 1.1-23, $p = 0.04$), while smoking cessation recommendation was not ($p = 0.28$). Initiating a smoking cessation program (5%) or pulmonary rehabilitation (1%) after discharge was performed only by patients with a written referral.

Conclusion: Routine procedures during hospitalization for AECOPD could impact patients' long-term care in areas with proven effects on disease outcomes.

Keywords: COPD; Hospitalization; In-hospital interventions; Patient care; Therapy.

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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.

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Respir Care

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. 2024 May 14:respcare.11819.

doi: 10.4187/respcare.11819. Online ahead of print.

[Respiratory Assist Devices in Pulmonary Rehabilitation](#)

[Gerard J Criner](#)¹

Affiliations expand

- PMID: 38744478
- DOI: [10.4187/respcare.11819](https://doi.org/10.4187/respcare.11819)

Abstract

Patients with advanced lung disease, especially patients with COPD, suffer from dyspnea at rest that worsens during the performance of even limited physical activities. The causes of dyspnea are multifactorial and are related to structural changes found in the parenchymal compartment of the lung as well as the airway and pulmonary vasculature. Alterations in any of the lung compartments may have negative consequences for the physiological

performance of exercise. Respiratory assist devices that attenuate the pathophysiological derangements induced by the underlying lung disease, and/or unload the increased work of breathing, can enhance the performance of exercise, and help to produce more robust training effects in patients with lung disease. Herein we review the data that examines these approaches using respiratory assist devices to improve exercise outcomes in patients with COPD.

Keywords: COPD; rehabilitation; respiratory assist devices.

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Respir Care

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. 2024 May 14:respcare.11609.

doi: 10.4187/respcare.11609. Online ahead of print.

[Maintenance Pulmonary Rehabilitation: An Update and Future Directions](#)

[Marilyn L Moy](#)¹

Affiliations expand

- PMID: 38744473
- DOI: [10.4187/respcare.11609](https://doi.org/10.4187/respcare.11609)

Abstract

The Global Initiative for Chronic Obstructive Lung Disease guidelines recommend pulmonary rehabilitation (PR) for individuals with COPD to improve exercise capacity and health-related quality of life (HRQOL) and reduce symptoms of dyspnea. For cost-effectiveness in COPD care, PR is second only to smoking cessation. However, PR programs typically last 9-12 weeks. The benefits of PR in terms of exercise capacity and HRQOL often decrease toward pre-PR levels as early as 3-6 months after completing PR if patients do not continue to engage in exercise. This review will (1) briefly summarize the efficacy data that informed the 2023 American Thoracic Society (ATS) clinical practice guidelines for maintenance PR, (2) discuss exercise components of maintenance PR studied since 2020 when the last papers were included in the ATS guidelines, (3) explore future directions for delivery of maintenance PR using technology-mediated models, and (4) examine the need for behavior change techniques informed by theoretical models that underpin long-term behavior change. This review will focus on persons with COPD who have completed an out-patient core initial PR program as most of the data on maintenance PR have been published in this patient population. Core PR typically implies a facility-based initial intensive structured program. All patients who complete a core initial PR program should be counseled by PR staff at the discharge visit to engage in ongoing exercise. This usual care is equally as important as referral to a formal PR maintenance program. It is critical to emphasize that usual care after core initial PR means all patients should be supported to participate in regular ongoing exercise, regardless of whether supervised maintenance PR is available. Currently, the optimal frequency, exercise and/or physical activity content, and delivery mode for maintenance PR in persons with COPD and other chronic respiratory diseases remain unknown. Patient safety and degree of in-person supervision required due to the severity of the underlying lung disease need to be considered. Future research of maintenance PR should be underpinned by behavior change techniques. Finally, in the setting of finite resources, balancing the competing priorities of core initial programs with those of maintenance PR programs needs to be achieved.

Keywords: behavior change; delivery mode; efficacy; exercise; maintenance pulmonary rehabilitation; usual care.

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FULL TEXT LINKS



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. 2024 May 13;24(1):1300.

doi: 10.1186/s12889-024-18782-6.

Associations of obesity with chronic inflammatory airway diseases and mortality in adults: a population-based investigation

[Shanshan Liu](#)^{1,2}, [Hao Zhang](#)¹, [Zhihui Lan](#)³

Affiliations expand

- PMID: 38741199
- PMCID: [PMC11092153](#)
- DOI: [10.1186/s12889-024-18782-6](#)

Abstract

Background: The association between obesity and respiratory diseases has been confirmed. However, few studies have reported the relationship between obesity and the risk and mortality of chronic inflammatory airway disease (CIAD). The aim of this study was to reveal the association between obesity and the risk of CIAD, and mortality in patients with CIAD.

Methods: The study was conducted using data from the National Health and Nutrition Examination Survey (NHANES) 2013 to 2018 among adults aged 20 years and above. All participants were grouped according to body mass index (BMI) and waist circumference (WC) levels to study the relationship between obesity and CIAD. Multivariate logistic regression analysis was utilized to examine the connection between CIAD and obesity in a cross-sectional study. The association between obesity and all-cause mortality in

individuals with CIAD was examined using multiple cox regression models and smooth curve fitting in a prospective cohort study.

Results: When stratified based on BMI in comparison to the normal weight group, the ORs with 95% CIs of CIAD for underweight and obesity were 1.39 (1.01-1.93) and 1.42 (1.27-1.58), respectively. The OR with 95% CI of CIAD for obesity was 1.20 (1.09-1.31) when stratified according to WC. Additionally, underweight was associated with a higher mortality (HR = 2.44, 95% CI = 1.31-4.55), whereas overweight (HR = 0.58, 95% CI = 0.39-0.87) and obesity (HR = 0.59, 95% CI = 0.4-0.87) were associated with a lower mortality (P for trend < 0.05). There was a non-linear association between BMI and all-cause mortality (P for non-linear = 0.001). An analysis of a segmentation regression model between BMI and all-cause mortality revealed a BMI turning point value of 32.4 kg/m². The mortality of CIAD patients was lowest when BMI was 32.4 kg/m². When BMI ≤ 32.4 kg/m², BMI was inversely associated with all-cause mortality in patients with CIAD (HR: 0.92, 95% CI: 0.88-0.97). However, when BMI > 32.4 kg/m², there was no association between BMI and all-cause mortality (HR: 1.02, 95% CI: 0.97-1.06).

Conclusion: Compared to normal weight, underweight and obesity were associated with the increased risk of CIAD. Underweight was associated with increased all-cause mortality, while overweight was associated with reduced all-cause mortality. There was a non-linear association between BMI and all-cause mortality in patients with CIAD. The all-cause mortality was lowest when BMI was 32.4 kg/m².

Keywords: Asthma; COPD; Chronic bronchitis; Chronic inflammatory airway diseases; Mortality; NHANES; Obesity.

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Conflict of interest statement

The authors declare no competing interests.

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

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



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

1

PLoS One

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. 2024 May 16;19(5):e0300740.

doi: 10.1371/journal.pone.0300740. eCollection 2024.

Genetic effects and causal association analyses of 14 common conditions/diseases in multimorbidity patterns

[Ting Fu](#)^{1,2}, [Yi-Qun Yang](#)^{1,2}, [Chang-Hua Tang](#)³, [Pei He](#)^{1,2}, [Shu-Feng Lei](#)^{1,2,4}

Affiliations expand

- PMID: 38753827
- DOI: [10.1371/journal.pone.0300740](https://doi.org/10.1371/journal.pone.0300740)

Free article

Abstract

Background: Multimorbidity has become an important health challenge in the aging population. Accumulated evidence has shown that multimorbidity has complex association patterns, but the further mechanisms underlying the association patterns are largely unknown.

Methods: Summary statistics of 14 conditions/diseases were available from the genome-wide association study (GWAS). Linkage disequilibrium score regression analysis (LDSC) was applied to estimate the genetic correlations. Pleiotropic SNPs between two genetically correlated traits were detected using pleiotropic analysis under the composite null hypothesis (PLACO). PLACO-identified SNPs were mapped to genes by Functional

Mapping and Annotation of Genome-Wide Association Studies (FUMA), and gene set enrichment analysis and tissue differential expression were performed for the pleiotropic genes. Two-sample Mendelian randomization analyses assessed the bidirectional causality between conditions/diseases.

Results: LDSC analyses revealed the genetic correlations for 20 pairs based on different two-disease combinations of 14 conditions/diseases, and genetic correlations for 10 pairs were significant after Bonferroni adjustment ($P < 0.05/91 = 5.49E-04$). Significant pleiotropic SNPs were detected for 11 pairs of correlated conditions/diseases. The corresponding pleiotropic genes were differentially expressed in the brain, nerves, heart, and blood vessels and enriched in gluconeogenesis and drug metabolism, biotransformation, and neurons. Comprehensive causal analyses showed strong causality between hypertension, stroke, and high cholesterol, which drive the development of multiple diseases.

Conclusions: This study highlighted the complex mechanisms underlying the association patterns that include the shared genetic components and causal effects among the 14 conditions/diseases. These findings have important implications for guiding the early diagnosis, management, and treatment of comorbidities.

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Conflict of interest statement

The authors have declared that no competing interests exist.

SUPPLEMENTARY INFO

MeSH termsexpand

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PLoS One



. 2024 May 14;19(5):e0303599.

doi: 10.1371/journal.pone.0303599. eCollection 2024.

Mental-somatic multimorbidity in trajectories of cognitive function for middle-aged and older adults

[Siting Chen](#)¹, [Corey L Nagel](#)², [Ruotong Liu](#)³, [Anda Botosaneanu](#)^{4,5}, [Heather G Allore](#)^{6,7}, [Jason T Newsom](#)⁸, [Stephen Thielke](#)⁹, [Jeffrey Kaye](#)¹⁰, [Ana R Quiñones](#)^{1,3}

Affiliations expand

- PMID: 38743678
- PMCID: [PMC11093294](#)
- DOI: [10.1371/journal.pone.0303599](#)

Abstract

Introduction: Multimorbidity may confer higher risk for cognitive decline than any single constituent disease. This study aims to identify distinct trajectories of cognitive impairment probability among middle-aged and older adults, and to assess the effect of changes in mental-somatic multimorbidity on these distinct trajectories.

Methods: Data from the Health and Retirement Study (1998-2016) were employed to estimate group-based trajectory models identifying distinct trajectories of cognitive impairment probability. Four time-varying mental-somatic multimorbidity combinations (somatic, stroke, depressive, stroke and depressive) were examined for their association with observed trajectories of cognitive impairment probability with age. Multinomial logistic regression analysis was conducted to quantify the association of sociodemographic and health-related factors with trajectory group membership.

Results: Respondents (N = 20,070) had a mean age of 61.0 years (SD = 8.7) at baseline. Three distinct cognitive trajectories were identified using group-based trajectory modelling: (1) Low risk with late-life increase (62.6%), (2) Low initial risk with rapid increase

(25.7%), and (3) High risk (11.7%). For adults following along Low risk with late-life increase, the odds of cognitive impairment for stroke and depressive multimorbidity (OR:3.92, 95%CI:2.91,5.28) were nearly two times higher than either stroke multimorbidity (OR:2.06, 95%CI:1.75,2.43) or depressive multimorbidity (OR:2.03, 95%CI:1.71,2.41). The odds of cognitive impairment for stroke and depressive multimorbidity in Low initial risk with rapid increase or High risk (OR:4.31, 95%CI:3.50,5.31; OR:3.43, 95%CI:2.07,5.66, respectively) were moderately higher than stroke multimorbidity (OR:2.71, 95%CI:2.35, 3.13; OR: 3.23, 95%CI:2.16, 4.81, respectively). In the multinomial logistic regression model, non-Hispanic Black and Hispanic respondents had higher odds of being in Low initial risk with rapid increase and High risk relative to non-Hispanic White adults.

Conclusions: These findings show that depressive and stroke multimorbidity combinations have the greatest association with rapid cognitive declines and their prevention may postpone these declines, especially in socially disadvantaged and minoritized groups.

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Conflict of interest statement

The authors have declared that no competing interests exist.

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

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

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J Gerontol A Biol Sci Med Sci

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. 2024 May 14:glae122.

doi: 10.1093/gerona/glae122. Online ahead of print.

Revised Recommendations on Methods for Assessing Multimorbidity Changes over Time: Aligning the Method to the Purpose

[Corey L Nagel](#)^{1,2}, [Nicholas J Bishop](#)³, [Anda Botosaneanu](#)^{4,5}, [Heather G Allore](#)^{6,7}, [Jason T Newsom](#)⁸, [David A Dorr](#)⁹, [Ana R Quiñones](#)^{10,11}

Affiliations expand

- PMID: 38742711
- DOI: [10.1093/gerona/glae122](https://doi.org/10.1093/gerona/glae122)

Abstract

Background: The rapidly growing field of multimorbidity research demonstrates that changes in multimorbidity in mid- and late-life have far reaching effects on important person-centered outcomes, such as health-related quality of life. However, there are few organizing frameworks and comparatively little work weighing the merits and limitations of various quantitative methods applied to the longitudinal study of multimorbidity.

Methods: We identify and discuss methods aligned to specific research objectives with the goals of 1) establishing a common language for assessing longitudinal changes in multimorbidity, 2) illuminating gaps in our knowledge regarding multimorbidity progression and critical periods of change, and 3) informing research to identify groups that experience different rates and divergent etiological pathways of disease progression linked to deterioration in important health-related outcomes.

Results: We review practical issues in the measurement of multimorbidity, longitudinal analysis of health-related data, operationalizing change over time, and discuss methods that align with four general typologies for research objectives in the longitudinal study of multimorbidity: 1) examine individual change in multimorbidity, 2) identify sub-groups that follow similar trajectories of multimorbidity progression, 3) understand when, how, and

why individuals or groups shift to more advanced stages of multimorbidity, and 4) examine the co-progression of multimorbidity with key health domains.

Conclusion: This work encourages a systematic approach to the quantitative study of change in multimorbidity and provides a valuable resource for researchers working to measure and minimize the deleterious effects of multimorbidity on aging populations.

Keywords: Disease Progression; Methodology; Multiple Chronic Diseases.

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Review

ERJ Open Res

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. 2024 May 13;10(3):00134-2024.

doi: 10.1183/23120541.00134-2024. eCollection 2024 May.

[ERS International Congress 2023: highlights from the Epidemiology and Environment Assembly](#)

[Laura Delgado-Ortiz](#)^{1,2,3}, [Selin Çakmakçı Karakaya](#)⁴, [Parris J Williams](#)^{5,6}, [Emilie Pacheco Da Silva](#)⁷, [Beatrice Cornu Hewitt](#)⁸, [Orianne Dumas](#)⁷, [Howraman Meteran](#)^{9,10,11}

Affiliations expand

- PMID: 38746860
- PMCID: [PMC11089384](#)
- DOI: [10.1183/23120541.00134-2024](#)

Abstract

In this article, early career members of the Epidemiology and Environment Assembly of the European Respiratory Society (ERS) summarise a selection of four poster and oral sessions from the ERS 2023 Congress. The topics covered the following areas: micro- and macro-environments and respiratory health, occupational upper and lower airway diseases, selected tobacco and nicotine research, and multimorbidity in people with lung diseases. The topics and studies covered in this review illustrate the broad range of the multifaceted research taking place within Assembly 6, from the identification of indoor and outdoor environmental risk factors for the development and worsening of respiratory diseases to the concerning increasing use of nicotine products and their health consequences beyond respiratory health and comorbidity in respiratory diseases.

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Conflict of interest statement

Conflict of interest: H. Meteran reports receiving honoraria for lectures and advisory board meetings from GSK, Teva, Novartis, Airsonett AB and ALK-Abelló Nordic A/S, and writer's fees from Sanofi-Aventis, not related to this article, within the past 5 years. H. Meteran has received a research grant from ALK-Abelló A/S outside this study. All the other authors have nothing to disclose.

- [48 references](#)

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Editorial

Sociol Health Illn

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. 2024 May 13.

doi: 10.1111/1467-9566.13788. Online ahead of print.

[Multimorbidity: Inequalities, lived experience and the need for service redesign](#)

[Karen Lowton](#)¹

Affiliations expand

- PMID: 38738495
- DOI: [10.1111/1467-9566.13788](https://doi.org/10.1111/1467-9566.13788)

No abstract available

- [7 references](#)

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Publication types expand

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Br J Gen Pract

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. 2024 May 13:BJGP.2023.0437.

doi: 10.3399/BJGP.2023.0437. Online ahead of print.

Primary care transformation in Scotland: a qualitative evaluation of the views of patients

[Eddie Donaghy](#)¹, [Kieran Sweeney](#)¹, [David Henderson](#)¹, [Colin Angus](#)¹, [Morag Cullen](#)¹, [Mary Hemphill](#)¹, [Harry Hx Wang](#)², [Bruce Guthrie](#)¹, [Stewart W Mercer](#)¹

Affiliations expand

- PMID: 38228359
- DOI: [10.3399/BJGP.2023.0437](https://doi.org/10.3399/BJGP.2023.0437)

Abstract

Background: The new Scottish GP contract introduced in April 2018 aims to improve quality of care through expansion of the multidisciplinary team (MDT) to enable GPs to spend more time as expert medical generalists with patients with complex needs.

Aim: To explore patients' views on the changes in general practice in Scotland since the inception of the new contract.

Design and setting: Qualitative study with 30 patients (10 living in urban deprived areas, 10 living in urban affluent/mixed urban areas, and 10 living in remote and rural areas).

Method: In-depth semi-structured interviews with thematic analysis.

Results: Patients were generally unaware of the new GP contract, attributing recent changes in general practice to the COVID-19 pandemic. Ongoing concerns included access to GP consultations (especially face-to-face ones), short consultation length with GPs, and damage to continuity of care and the GP-patient relationship. Most patients spoke positively about consultations with MDT staff but still wanted to see a known GP for health concerns that they considered potentially serious. These issues were especially concerning for patients with multiple complex problems, particularly those from deprived areas.

Conclusion: Following the introduction of the new Scottish GP contract, patients in this study's sample were accepting of first contact care from the MDT but still wanted continuity of care and longer face-to-face consultations with GPs. These findings suggest that the expert generalist role of the GP is not being adequately supported by the new contract, especially in deprived areas, though further quantitative research is required to confirm this.

Keywords: GP contracts; health care reform; multimorbidity; primary care; qualitative research; social deprivation.

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FULL TEXT LINKS



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

1
Eur J Gen Pract

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. 2024 Dec;30(1):2343364.

doi: 10.1080/13814788.2024.2343364. Epub 2024 May 13.

[Effectiveness of the Assessment of Burden of Chronic Conditions \(ABCC\)-tool in patients with asthma, COPD,](#)

type 2 diabetes mellitus, and heart failure: A pragmatic clustered quasi-experimental study in the Netherlands

[Esther A Boudewijns¹](#), [Danny Claessens¹](#), [Onno C P van Schayck¹](#), [Mascha Twellaar¹](#), [Bjorn Winkens²](#), [Manuela A Joore³](#), [Lotte C E M Keijsers¹](#), [Stijn Krol¹](#), [Mathijs Urlings¹](#), [Annerika H M Gidding-Slok¹](#)

Affiliations expand

- PMID: 38738695
- DOI: [10.1080/13814788.2024.2343364](https://doi.org/10.1080/13814788.2024.2343364)

Abstract

Background: The Assessment of Burden of Chronic Conditions (ABCC)-tool was developed to optimise chronic care.

Objectives: This study aimed to assess the effectiveness of the ABCC-tool in patients with COPD, asthma, type 2 diabetes, and/or heart failure in primary care in the Netherlands.

Methods: The study had a pragmatic, clustered, two-armed, quasi-experimental design. The intervention group (41 general practices; 176 patients) used the ABCC-tool during routine consultations and the control group (14 general practices; 61 patients) received usual care. The primary outcome was a change in perceived quality of care (PACIC; Patient Assessment of Chronic Illness Care) after 18 months. Secondary outcomes included change in the PACIC after 6 and 12 months, and in quality of life (EQ-5D-5L; EuroQol-5D-5L), capability well-being (ICECAP-A; ICEpop CAPability measure for Adults), and patients' activation (PAM; Patient Activation Measure) after 6, 12, and 18 months for the total group and conditions separately.

Results: We observed a significant difference in the PACIC after 6, 12, and 18 months (18 months: 0.388 points; 95%CI: 0.089-0.687; $p = 0.011$) for the total group and after 6 and 12 months for type 2 diabetes. After 18 months, we observed a significant difference in the PAM for the total group but not at 6 and 12 months, and not for type 2 diabetes. All significant effects were in favour of the intervention group. No significant differences were found for the EQ-5D-5L and the ICECAP-A.

Conclusion: Use of the ABCC-tool has a positive effect on perceived quality of care and patients' activation, which makes the tool ready for use in clinical practice. Healthcare

providers (e.g. general practitioners and practice nurses) can use the tool to provide person-centred care. **Trial registration number:** ClinicalTrials.gov Registry ([NCT04127383](#)).

Keywords: Chronic conditions; general practice; person-centred care; self-management; shared decision making.

Plain language summary

The Assessment of Burden of Chronic Conditions (ABCC)-tool aims to support disease management for one or multiple chronic condition(s), currently COPD, asthma, type 2 diabetes, and heart failure. Statistically significant differences in patients' perceived quality of care and patient activation were found between the group that used the ABCC-tool and the care-as-usual group. No effect was found on generic quality of life or capability well-being. Healthcare providers can use the ABCC-tool in primary care.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Associated dataexpand

FULL TEXT LINKS



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Hosp Pediatr

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. 2024 May 17:e2023007627.

doi: 10.1542/hpeds.2023-007627. Online ahead of print.

[Azithromycin for Pediatric Critical Asthma: A Multicenter Retrospective Cohort Study](#)

[Alexa R Roberts](#)¹, [Nikhil Vallabhaneni](#)², [Brett Russi](#)¹, [Tisha L Spence](#)¹, [Jennifer W Leiding](#)³, [Anthony A Sochet](#)^{1,2,4}

Affiliations expand

- PMID: 38757173
- DOI: [10.1542/hpeds.2023-007627](https://doi.org/10.1542/hpeds.2023-007627)

Abstract

Objectives: To characterize the prescribing trends and clinical outcomes related to azithromycin (AZI) among children hospitalized for critical asthma (CA).

Methods: We performed a multicenter, retrospective cohort study using the Pediatric Health Information Systems registry of children 3 to 17 years of age hospitalized in a PICU for CA from January 2011 to December 2022. We excluded for alternative indications for AZI (eg, atypical pneumonia, B. pertussis infection, acute otitis media, acute sinusitis, pharyngitis/tonsillitis, and urethritis). The primary outcome was AZI prescribing rate by hospital and calendar year (trends assessed by Joinpoint regression). Cohorts with and without AZI exposure were further characterized by demographics, CA treatments, and inpatient outcomes using descriptive and comparative (ie, χ^2 and Wilcoxon rank tests) statistics.

Results: Of the 47 797 children studied, 9901 (20.7%) were prescribed AZI with a downward annual trend noted from 34.7% in 2011% to 12.4% in 2022 (-1.7% per year, $R^2 = 0.91$). Median institutional AZI prescribing rate was 19.2% (interquartile range [IQR] 11.7%-28%; total range 5.6%-60%). Compared with children not prescribed AZI, those prescribed AZI were older (median 8.3 [IQR 5.7-11.6] vs 7.3 [4.9-10.8] years, $P < .001$) and experienced a more severe clinical trajectory with greater rates of bilevel positive airway pressure ventilation (19.7% vs 12.6%, $P < .001$), invasive ventilation (22.1% vs 13.5%, $P < .001$), extracorporeal life support (0.8% vs 0.1%, $P < .001$), and median length of stay (4 [IQR 3-6] vs 3 [IQR 2-4] days, $P < .001$).

Conclusions: Between 2011 and 2022, 20.7% of children hospitalized for CA were prescribed AZI notwithstanding the absence of trial-derived efficacy or safety data for this indication and population.

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Conflict of interest statement

CONFLICT OF INTEREST DISCLOSURES: The authors have indicated they have no conflicts of interest relevant to this article to disclose.

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Observational Study

Arch Dis Child

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. 2024 May 17;109(6):468-475.

doi: 10.1136/archdischild-2023-326739.

[Analysis of guideline recommendations for treatment of asthma exacerbations in children: a Pediatric Emergency Research Networks \(PERN\) study](#)

[Simon Craig](#)^{1,2}, [Madeline Collings](#)³, [Charmaine Gray](#)^{4,5}, [Javier Benito](#)^{6,7}, [Roberto Velasco](#)^{8,9}, [Mark D Lyttle](#)^{10,11}, [Damian Roland](#)^{12,13}, [Suzanne Schuh](#)^{14,15}, [Bashar Shihabuddin](#)^{16,17}, [Maria Kwok](#)^{18,19}, [Prashant Mahajan](#)²⁰, [Mike Johnson](#)²¹, [Joseph Zorc](#)^{22,23}, [Kajal Khanna](#)²⁴, [Ricardo Fernandes](#)^{25,26}, [Adriana Yock-Corrales](#)²⁷, [Indumathy Santhanam](#)^{28,29}, [Baljit Cheema](#)³⁰, [Gene Yong-Kwang Ong](#)^{31,32}, [Thiagarajan Jaiganesh](#)³³, [Colin Powell](#)³⁴, [Gillian Nixon](#)^{3,35}, [Stuart Dalziel](#)^{36,37}, [Franz E Babl](#)^{3,38,39,40}, [Andis Gaudins](#)^{41,42}

Affiliations expand

- PMID: 38325912
- DOI: [10.1136/archdischild-2023-326739](https://doi.org/10.1136/archdischild-2023-326739)

Abstract

Rationale: There is significant practice variation in acute paediatric asthma, particularly severe exacerbations. It is unknown whether this is due to differences in clinical guidelines.

Objectives: To describe and compare the content and quality of clinical guidelines for the management of acute exacerbations of asthma in children between geographic regions.

Methods: Observational study of guidelines for the management of acute paediatric asthma from institutions across a global collaboration of six regional paediatric emergency research networks.

Measurements and main results: 158 guidelines were identified. Half provided recommendations for at least two age groups, and most guidelines provided treatment recommendations according to asthma severity. There were consistent recommendations for the use of inhaled short-acting beta-agonists and systemic corticosteroids. Inhaled anticholinergic therapy was recommended in most guidelines for severe and critical asthma, but there were inconsistent recommendations for its use in mild and moderate exacerbations. Other inhaled therapies such as helium-oxygen mixture (Heliox) and nebulised magnesium were inconsistently recommended for severe and critical illness. Parenteral bronchodilator therapy and epinephrine were mostly reserved for severe and critical asthma, with intravenous magnesium most recommended. There were regional differences in the use of other parenteral bronchodilators, particularly aminophylline. Guideline quality assessment identified high ratings for clarity of presentation, scope and purpose, but low ratings for stakeholder involvement, rigour of development, applicability and editorial independence.

Conclusions: Current guidelines for the management of acute paediatric asthma exacerbations have substantial deficits in important quality domains and provide limited and inconsistent guidance for severe exacerbations.

Keywords: emergency care; paediatrics; respiratory medicine.

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Conflict of interest statement

Competing interests: None declared.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

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Review

Arch Dis Child

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. 2024 May 17;109(6):462-467.

doi: 10.1136/archdischild-2023-325441.

[Asthma, classical conditioning, and the autonomic nervous system - a hypothesis for why children wheeze](#)

[Gary James Connett](#)¹

Affiliations expand

- PMID: 37648401
- DOI: [10.1136/archdischild-2023-325441](https://doi.org/10.1136/archdischild-2023-325441)

Free article

Abstract

Paediatric asthma is an increasing global healthcare problem for which current treatments are not always effective. This review explores how abnormal triggering of the autonomic diving reflex might be important in explaining research findings and the real-world experience of asthma. It hypothesises that the way in which stress during pregnancy is

associated with childhood asthma could be through effects on the developing nervous system. This results in increased parasympathetic responsiveness and specifically, excessive triggering of the diving reflex in response to wetting and cooling of the face and nose as occurs with upper airway infections and allergic rhinitis. In aquatic mammals the reflex importantly includes the contraction of airway smooth muscle to minimise lung volume and prevent nitrogen narcosis from diving at depth. Misfiring of this reflex in humans could result in the pathological airway narrowing that occurs in asthma. The diving reflex, and possibly also smooth muscle, is a vestigial remnant of our aquatic past. The hypothesis further suggests that classically conditioned reflex responses to neutral cues and contexts that were present at the same time as the stimuli that initially caused symptoms, become of themselves ongoing triggers of recurrent wheeze. Symptoms occurring in this way, irrespective of the presence of allergens and ongoing airway sensitisation, explain why allergen avoidance is poorly effective in alleviating wheeze and why asthma is made worse by stress. Interventions to suppress the diving reflex and to prevent reflex conditioned wheezing could result in more effective asthma management.

Keywords: Child Health; Respiratory Medicine.

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Conflict of interest statement

Competing interests: None declared.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

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Pediatr Pulmonol

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. 2024 May 16.

doi: 10.1002/ppul.27065. Online ahead of print.

Exploring the relationship between school-supervised asthma therapy and social determinants of health in pediatric asthma care

[Layana Al-Halbouni](#)¹, [Grace W Ryan](#)², [Sonia Radu](#)³, [Michelle Spano](#)⁴, [Reshma Sabnani](#)¹, [Wanda Phipatanakul](#)⁵, [Lynn B Gerald](#)⁶, [Arvin Garg](#)^{1,7}, [Lori Pbert](#)², [Michelle Trivedi](#)^{1,4,7}

Affiliations expand

- PMID: 38752604
- DOI: [10.1002/ppul.27065](https://doi.org/10.1002/ppul.27065)

Abstract

Background: Social determinants of health (SDoH), including access to care, economic stability, neighborhood factors, and social context, strongly influence pediatric asthma outcomes. School-supervised asthma therapy (SST) is an evidence-based strategy that improves asthma outcomes, particularly for historically marginalized children, by providing support for daily medication adherence in school. However, little is known about the relationship between these programs and the adverse SDoH commonly affecting underrepresented minority and marginalized children with asthma.

Methods: We examined qualitative data from interviews (n = 52) conducted between 2017 and 2020 with diverse multi-level partners involved in Asthma Link, a SST intervention. Participants included end-users (children and their parents), deliverers (school nurses and pediatric providers), and systems-level partners (e.g., insurers, legislators, and state officials). We used inductive coding to determine themes and subthemes and deductive coding using the Healthy People 2030 SDoH framework.

Results: Three themes emerged: (1) SST mitigates adverse SDoH (improves access to preventive healthcare and asthma health literacy), (2) SST benefits children experiencing specific adverse SDoH (provides a consistent medication routine to children with unstable family/housing situations) and (3) specific adverse SDoH impede SST implementation (economic instability, culture and language barriers).

Conclusion: This study suggests an important relationship between SDoH and SST that warrants further evaluation in our future work on this community-based asthma intervention. Moreover, our findings underscore the importance of measuring SDoH in the implementation and evaluation of pediatric asthma interventions, particularly given the strong influence of these social factors on child health outcomes.

Keywords: asthma; qualitative research; school-based health; social determinants of health.

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. 2024 May 16:1-31.

doi: 10.1017/S0007114524000953. Online ahead of print.

[**A 12 week double-blind randomised controlled trial investigating the effect of dietary supplementation with 5000 IU/day \(125 µg/day\) vitamin D in adults**](#)

with asthma, led to an improvement in the lung function parameter – FEV₁:FVC ratio

[Stephanie Watkins](#)¹, [Tanja Harrison](#)¹, [Sohail Mushtaq](#)¹

Affiliations expand

- PMID: 38751303
- DOI: [10.1017/S0007114524000953](https://doi.org/10.1017/S0007114524000953)

Abstract

Vitamin D deficiency has previously been linked to higher rates of exacerbation and reduced lung function in asthmatics. Previous randomised controlled trials (RCT) investigating the effect of vitamin D supplementation have mainly focussed on children with asthma. Trials involving adults have typically used bolus dosing regimes and the main outcomes have been patient focussed without investigating underlying inflammation. The present study aimed to conduct a 12-week placebo-controlled RCT administering a daily 5000 IU (125 µg) vitamin D3 supplement to adults with mild to moderate asthma. A total of 32 participants were randomised to receive either the 5000 IU vitamin D3 supplement or an identical matching placebo. The primary outcome of the study was lung function measured by ratio of FEV₁:FVC (effect size 2.5) with secondary outcomes including asthma symptoms and inflammatory biomarkers. There was a small but statistically significant higher increase in the mean (± SD) ratio of FEV₁: FVC from baseline to post-intervention in the vitamin D group (+ 0.05 ± 0.06) compared to the placebo group (+ 0.006 ± 0.04, p = 0.04). There was no effect of the intervention on asthma control test scores, or the inflammatory biomarkers measured. There was a moderate, significant association between baseline plasma 25(OH)D concentration and baseline plasma IL-10 (r = 0.527, p = 0.005) and TNF-α (r = -0.498, p = 0.008) concentrations. A daily vitamin D3 supplement led to slightly improved lung function in adult asthmatics and may be a useful adjunct to existing asthma control strategies, particularly for individuals with suboptimal vitamin D status.

Keywords: asthma; dietary supplementation; lung function; vitamin D.

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Intern Med

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. 2024 May 16.

doi: 10.2169/internalmedicine.3695-24. Online ahead of print.

[A Case of Dupilumab-Induced Diffuse Alveolar Hemorrhage](#)

[Tomoki Tamura](#)¹, [Hiroya Okano](#)¹, [Taisaku Koyanagi](#)¹, [Takahiro Umeno](#)¹, [Kazuya Nishii](#)¹, [Shoichi Kuyama](#)¹

Affiliations expand

- PMID: 38749726
- DOI: [10.2169/internalmedicine.3695-24](https://doi.org/10.2169/internalmedicine.3695-24)

Free article

Abstract

Eosinophilic pneumonia is a known side effect of dupilumab; however, diffuse alveolar hemorrhage has not yet been reported in association with dupilumab. We herein report a case of diffuse alveolar hemorrhage caused by dupilumab. A 57-year-old man with severe asthma was unable to discontinue oral steroids and thus was prescribed dupilumab. The patient was admitted to the hospital four weeks after treatment because of suspected eosinophilic pneumonia. Bronchoscopy revealed diffuse alveolar hemorrhage characterized by hemosiderin-phagocytic macrophages in the bronchoalveolar lavage fluid without eosinophils. The steroid dosage improved the respiratory status and resolved the infiltrate shadow. Dupilumab may thus cause diffuse alveolar hemorrhage, which can be differentiated using bronchoscopy.

Keywords: asthma; bronchoalveolar lavage; diffuse alveolar hemorrhage; dupilumab.

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J Asthma

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. 2024 May 16:1-10.

doi: 10.1080/02770903.2024.2349604. Online ahead of print.

[A meta-analysis investigating the efficacy and safety of allergen-specific immunotherapy in the management of respiratory allergies](#)

[Xue Li¹](#), [Juju Shang²](#), [Jian Liu¹](#), [Yong Zhu¹](#)

Affiliations expand

- PMID: 38687911
- DOI: [10.1080/02770903.2024.2349604](https://doi.org/10.1080/02770903.2024.2349604)

Abstract

Background: This meta-analysis aimed to evaluate the effectiveness and adverse effects of specific immunotherapy (SIT) in the management of respiratory allergens, including allergic asthma, rhinitis, and related disorders, based on a review of current literature up to November 8, 2022.

Methods: We conducted a search of databases, including PubMed, Embase, Cochrane, and Web of Science, to identify relevant randomized controlled trials (RCTs) assessing respiratory allergy-specific immunotherapy. We employed the Consolidated Standards of Reporting Trials (CONSORT) Statement to select RCTs that adhered to rigorous reporting standards. Specifically, we focused on double-blind placebo-controlled (DBPC) trials and open studies involving both adults and children, considering factors such as dosage, inclusion criteria, allergens, and primary outcome measurements.

Results: A total of 25 meta-analyses were included in this study. Among them, 14 evaluated sublingual-specific allergen immunotherapy (SLIT), 4 assessed subcutaneous allergen immunotherapy (SCIT), 4 explored both sublingual and subcutaneous immunotherapy, and 3 investigated intralymphatic immunotherapy. The outcomes of these meta-analyses indicated a reduction in medication scores in 20 cases and a decrease in symptom scores in 23 cases. Additionally, six studies reported on changes in IgE levels, seven studies focused on IgG4, four studies examined FEV1 (forced expiratory volume in 1 s), and eight studies reported on symptom and medication scores. Furthermore, 11 studies reported on differences in adverse reactions.

Conclusion: The results of our meta-analysis suggest that specific immunotherapy, while associated with some adverse effects, effectively reduces the symptoms of asthma and rhinitis. Therefore, we recommend its use in the treatment of respiratory allergies.

Keywords: Allergen-specific immunotherapy; adverse reaction; immunological proteins; respiratory allergy; symptom and medication scores.

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Eur Respir J

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. 2024 May 16;63(5):2400386.

doi: 10.1183/13993003.00386-2024. Print 2024 May.

Th2-skewed peripheral T-helper cells drive B-cells in allergic bronchopulmonary aspergillosis

Rong-Guang Luo^{1,2,3}, Yi-Fan Wu^{1,2,3}, Hai-Wen Lu^{1,2,3}, Dong Weng^{1,2,3}, Jia-Yan Xu^{1,2}, Le-Le Wang^{1,2}, Li-Sha Zhang^{1,2}, Cai-Qi Zhao^{1,2}, Jian-Xiong Li^{1,2}, Yong Yu⁴, Xin-Ming Jia⁵, Jin-Fu Xu^{6,2}

Affiliations expand

- PMID: 38514095
- PMCID: [PMC11096668](#)
- DOI: [10.1183/13993003.00386-2024](#)

Abstract

Introduction: Patients with allergic bronchopulmonary aspergillosis (ABPA) suffer from repeated exacerbations. The involvement of T-cell subsets remains unclear.

Methods: We enrolled ABPA patients, asthma patients and healthy controls. T-helper type 1 (Th1), 2 (Th2) and 17 (Th17) cells, regulatory T-cells (Treg) and interleukin (IL)-21⁺CD4⁺T-cells in total or sorted subsets of peripheral blood mononuclear cells and ABPA bronchoalveolar lavage fluid (BALF) were analysed using flow cytometry. RNA sequencing of subsets of CD4⁺T-cells was done in exacerbated ABPA patients and healthy controls. Antibodies of T-/B-cell co-cultures *in vitro* were measured.

Results: ABPA patients had increased Th2 cells, similar numbers of Treg cells and decreased circulating Th1 and Th17 cells. IL-5⁺IL-13⁺IL-21⁺CD4⁺T-cells were rarely detected in healthy controls, but significantly elevated in the blood of ABPA patients, especially the exacerbated ones. We found that IL-5⁺IL-13⁺IL-21⁺CD4⁺T-cells were mainly peripheral T-helper (Tph) cells (PD-1⁺CXCR5⁻), which also presented in the BALF of ABPA patients. The proportions of circulating Tph cells were similar among ABPA patients, asthma patients and healthy controls, while IL-5⁺IL-13⁺IL-21⁺ Tph cells significantly increased in ABPA patients. Transcriptome data showed that Tph cells of ABPA patients were Th2-skewed and exhibited signatures of follicular T-helper cells. When co-cultured *in vitro*, Tph cells of ABPA patients induced the differentiation of autologous B-cells into plasmablasts and significantly enhanced the production of IgE.

Conclusion: We identified a distinctly elevated population of circulating Th2-skewed Tph cells that induced the production of IgE in ABPA patients. It may be a biomarker and therapeutic target for ABPA.

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Conflict of interest statement

Conflict of interest: The authors have no potential conflicts of interest to disclose.

Comment in

- [T-cells and precision medicine for allergic bronchopulmonary aspergillosis.](#)
Moss RB. *Eur Respir J.* 2024 May 16;63(5):2400549. doi: 10.1183/13993003.00549-2024. Print 2024 May. PMID: 38754948 No abstract available.
- [49 references](#)
- [5 figures](#)

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J Allergy Clin Immunol Pract

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. 2024 May 15:S2213-2198(24)00518-X.

doi: 10.1016/j.jaip.2024.04.058. Online ahead of print.

Asthma is associated with increased sickness absence among young adults

[Sandra Ekström](#)¹, [Julio C Hernando-Rodriguez](#)², [Niklas Andersson](#)³, [Chantelle Murley](#)⁴, [Victoria Mailen Arfuch](#)⁵, [Anne-Sophie Merritt](#)⁶, [Christer Janson](#)⁷, [Theo Bodin](#)⁸, [Gun Johansson](#)⁹, [Inger Kull](#)¹⁰

Affiliations expand

- PMID: 38759791
- DOI: [10.1016/j.jaip.2024.04.058](https://doi.org/10.1016/j.jaip.2024.04.058)

Abstract

Background: There is limited knowledge about how asthma affects sickness absence in young adulthood.

Objective: To examine how asthma and different asthma phenotypes affect sickness absence among young adults and potential modifying factors. A secondary aim was to estimate productivity losses related to sickness absence for asthma.

Methods: The study included 2,391 participants from the Swedish population-based cohort BAMSE. Information on asthma, asthma phenotypes, and lifestyle factors were collected from questionnaires and clinical examinations at ~24 years of age (2016-2019). Information on sickness absence >14 days was obtained from a national register for the years 2020-2021. Associations between asthma, asthma phenotypes, and sickness absence were analyzed with logistic regression models adjusted for sex, birth year, education, and overweight status.

Results: At age 24 years, n=272 (11.4%) fulfilled the definition of asthma. Sickness absence was more common among those with asthma than those without (15.1% vs 8.7%, p=0.001, adjusted odds ratio 1.73, 95% confidence interval 1.19-2.51). Analyses of asthma phenotypes showed that the association tended to be stronger for persistent asthma, uncontrolled asthma, and asthma in combination with rhinitis; no consistent differences were observed across phenotypes related to allergic sensitization or inflammation. The association tended to be stronger among those with overweight than those with normal weight. Asthma, especially uncontrolled asthma was associated with higher productivity losses from sickness absence.

Conclusion: Asthma may be associated with higher sickness absence and productivity losses. Achieving better asthma control and reducing allergic symptoms may reduce sickness absence among individuals with asthma.

Keywords: Asthma; Lifestyle factors; Productivity losses; Sickness absence.

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Sports Med Open

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. 2024 May 15;10(1):54.

doi: 10.1186/s40798-024-00722-8.

[Physical and Psychosocial Benefits of Sports Participation Among Children and Adolescents with Chronic Diseases: A Systematic Review](#)

[Borja Sañudo](#)¹, [Antonio Jesús Sánchez-Oliver](#)², [Jesús Fernández-Gavira](#)¹, [Dominik Gaser](#)³, [Nicola Stöcker](#)⁴, [Miguel Peralta](#)^{5,6}, [Adilson Marques](#)^{5,6}, [Sofia Papakonstantinou](#)⁴, [Chiara Nicolini](#)⁷, [Christina Sitzberger](#)⁸

Affiliations expand

- PMID: 38750266
- PMCID: [PMC11096140](#)

- DOI: [10.1186/s40798-024-00722-8](https://doi.org/10.1186/s40798-024-00722-8)

Abstract

Background: This study aims to identify sports interventions for children and adolescents (CaA) with chronic diseases and evaluate their impact on physical, psychological, and social well-being. The findings of this study will contribute to our understanding of the potential benefits of sports interventions for CaA with chronic diseases and inform future interventions to promote their overall health and well-being.

Methods: A systematic review was conducted in eight databases. This systematic review followed PRISMA guidelines and utilized a comprehensive search strategy to identify studies on sport-based interventions for CaA with chronic diseases. The review included randomized controlled trials and observational studies that focused on physical and psychosocial outcomes.

Results: We screened 10,123 titles and abstracts, reviewed the full text of 622 records, and included 52 primary studies. A total of 2352 participants were assessed with an average of 45 ± 37 participants per study. Among the included studies involving CaA with chronic diseases with an age range from 3 to 18 years, 30% (n = 15) autism spectrum disorders, 21% (n = 11) cerebral palsy, 19% (n = 10) were attention deficit hyperactivity disorder, and 17% (n = 9) obesity. Other diseases included were cancer (n = 5), asthma (n = 1) and cystic fibrosis (n = 1). Interventions involved various sports and physical activities tailored to each chronic disease. The duration and frequency of interventions varied across studies. Most studies assessed physical outcomes, including motor performance and physical fitness measures. Psychosocial outcomes were also evaluated, focusing on behavioural problems, social competencies, and health-related quality of life.

Conclusion: Overall, sport-based interventions effectively improved physical and psychosocial outcomes in CaA with chronic diseases. Interventions are generally safe, and participants adhere to the prescribed protocols favorably. Despite that, there is little evidence that interventions are being implemented. Future studies should include interventions tailored to meet the common issues experienced by CaA with chronic conditions, providing a comprehensive understanding of the impact of sports interventions on those affected.

Registration: The methodology for this review was pre-determined and registered in the PROSPERO database (registration number: CRD42023397172).

Keywords: Children; Chronic diseases; Physical fitness; Psychosocial; Quality of life; Sports.

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Conflict of interest statement

The authors declare that they have no competing interests.

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

SUPPLEMENTARY INFO

Publication types, Grants and funding [expand](#)

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Multicenter Study

BMJ Open

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. 2024 May 15;14(5):e083112.

doi: 10.1136/bmjopen-2023-083112.

[Study protocol: the biologics in severe chronic rhinosinusitis with nasal polyps survey](#)

[Valentin Favier](#)¹, [Clémentine Daveau](#)², [Florent Carsuzaa](#)³, [Maxime Fieux](#)⁴, [Clair Vandersteen](#)⁵, [Laurent Castillo](#)⁵, [Jean Francois Papon](#)⁶, [Ludovic de Gabory](#)⁷, [Nicolas Saroul](#)⁸, [Benjamin Verillaud](#)⁹, [Cécile Rumeau](#)^{10,11}, [Roger Jankowski](#)¹⁰, [Justin Michel](#)¹², [Guillaume de Bonnacaze](#)¹³, [Jean-Baptiste Lecanu](#)¹⁴, [Andre Coste](#)^{15,16}, [Emilie Béquignon](#)¹⁷, [Olivier Malard](#)¹⁸, [Geoffrey Mortuaire](#)¹⁹

Affiliations [expand](#)

- PMID: 38749694
- PMCID: [PMC11097834](#)
- DOI: [10.1136/bmjopen-2023-083112](#)

Abstract

Introduction: Chronic rhinosinusitis with nasal polyps (CRSwNP) is a frequent condition affecting approximately 2% of the population. Medical treatment consists long-term use of intranasal corticosteroids and short-term use of oral corticosteroids, in adjunct with saline solution rinses. Surgical management is proposed in patients who failed after medical treatment. In France, two biologics are reimbursed in case of severe uncontrolled CRSwNP despite medical treatment and endoscopic sinus surgery. Waiting for head-to-head biologics comparison, studies should report the efficacy and safety of biologics in large real-life cohorts. This study protocol describes the aims and methods of a prospective, observational, national, multicentric cohort of patients with CRSwNP treated with biologics.

Methods and analysis: The BIOlogics in severe nasal POLyposis SurvEy is a French multicentre prospective observational cohort study. The main aim is to assess the efficacy and tolerance of biologics in patients with CRSwNP, with or without association with other type 2 diseases, and to determine the strategies in case of uncontrolled disease under biologics. Patients over 18 years old requiring biologics for CRSwNP in accordance with its marketing approval in France (ie, severe nasal polyposis, with lack of control under nasal corticosteroid, systemic corticosteroids and surgery) are invited to participate. Collected data include topical history of surgical procedures and biologics, medication and use of systemic corticosteroids, visual analogical scales for specific symptoms, Sino-Nasal Outcome Test-22 questionnaire, nasal polyp score, asthma control test, Lund-Mackay score on CT scan and IgE concentration and eosinophilic count on blood sample.

Trial registration: [NCT05228041](#)/DRI_2021/0030.

Keywords: Adult otolaryngology; Asthma; Endoscopic surgery; IMMUNOLOGY.

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Conflict of interest statement

Competing interests: All authors report personal fees as expert consultant for Sanofi and GlaxoSmithKline.

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

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Publication types, MeSH terms, Associated dataexpand

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BMJ Open

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. 2024 May 15;14(5):e083180.

doi: 10.1136/bmjopen-2023-083180.

[Study protocol of a prospective, interventional non-randomised trial investigating the impact of asthma education on specific disease understanding, health literacy and therapy outcome in childhood](#)

[Jan Bardelle](#) ^{#1}, [Hanna Abady](#) ^{#1}, [Michael Paulussen](#) ², [Peter Lampen-Eberle](#) ², [Hermann Kalhoff](#) ³, [Antje Pizzulli](#) ⁴, [Kirn Parasher](#) ⁵, [Patrick Brzoska](#) ⁶, [Malik Aydin](#) ^{#7}, [Claudia Kiessling](#) ^{#8}

Affiliations expand

- PMID: 38749686

- PMID: [PMC11097816](#)
- DOI: [10.1136/bmjopen-2023-083180](#)

Abstract

Introduction: Childhood asthma is a highly prevalent chronic disease. A failure to implement patient education programmes may result in increased morbidity, despite the availability of distinct diagnostic and therapeutic approaches. Patients with lower socioeconomic status (SES) tend to have a higher asthma prevalence. Moreover, the progression of asthma is significantly influenced by factors such as health literacy and the children's specific knowledge about the condition. With this trial, the primary objective is to evaluate whether asthma education enhances specific disease understanding in children with asthma (primary outcome). Secondary objectives include evaluating training effects on health literacy, retention rates of information, 'Children Asthma Control Test' (C-ACT) score, frequency of emergency room and physician visits (secondary outcomes) and whether SES influences training effects.

Methods and analysis: To address the research objectives, this study comprises two projects. The first subproject will investigate the influence of asthma training on the development of disease understanding and health literacy. The second subproject will analyse the influence of SES on the outcome of children participating in asthma training. This research is designed as a comparative, non-randomised study involving two paediatric groups between the ages of ≥ 7 and < 14 years. After being diagnosed with asthma, the intervention group undergoes standardised psychoeducational asthma training at a certified centre associated with paediatricians in private practice in Germany, following the recommendations of the 'Arbeitsgruppe Asthmaschulung im Kindes- und Jugendalter e.V.', a national association aiming to establish uniform and guideline-based standards for patient education in children and adolescents. The comparison group receives a significantly shorter period of education and instruction on the usage of asthma medication at outpatient clinics. Data will be collected from patients and their parents at three specific survey time points, based on standardised tools. To describe mean differences between the intervention and control group over time (subproject 1), a repeated-measures analysis of variance (ANOVA) will be conducted. In subproject 2, multivariate linear regression analysis will be used to analyse the variables determining the changes in specific disease understanding and health literacy, including SES. The sample size calculation is based on a mixed ANOVA model with two groups and two measurements resulting in a total of 126 participants.

Ethics and dissemination: All protocols and a positive ethics approval were obtained from the Witten/Herdecke University, Germany (S-159, 2023; application submission: 24 June

2023, final vote: 10 July 2023). Furthermore, the study was registered at the German Clinical Trials Register (DRKS), DRKS00032423. The application submission was on 3 August 2023, and the final approval was on 4 August 2023. The results will be disseminated among experts and participants and will be published in peer-reviewed, international journal with open access.

Trial registration number: DRKS00032423.

Keywords: Adolescents; Asthma; Health Literacy.

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Conflict of interest statement

Competing interests: None declared.

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

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



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14

Ann Am Thorac Soc

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. 2024 May 15.

doi: 10.1513/AnnalsATS.202311-928OC. Online ahead of print.

Evaluating Quality of Care for Patients with Asthma in the Readmission Penalty Era

[Sukarn Chokkara](#)¹, [Juan C Rojas](#)², [Mengqi Zhu](#)³, [Peter K Lindenauer](#)⁴, [Valerie G Press](#)⁵

Affiliations expand

- PMID: 38748912
- DOI: [10.1513/AnnalsATS.202311-928OC](https://doi.org/10.1513/AnnalsATS.202311-928OC)

Abstract

Rationale: Asthma poses a significant burden for US patients and health systems, yet inpatient care quality is understudied. National chronic obstructive lung disease (COPD) readmission policies may affect inpatient asthma care through hospital responses to these policies due to imprecise diagnosis and identification of patients with COPD and asthma.

Objectives: Evaluate inpatient care quality care for patients hospitalized with asthma and potential collateral effects of the Medicare COPD Hospital Readmissions Reduction Program (HRRP).

Methods: Retrospective cohort study of patients aged 18-54 years hospitalized for asthma across 924 US hospitals (Premier Healthcare Database).

Results: Care quality for patients with asthma was evaluated pre-HRRP implementation (n=20,820; January 2010-September 2014) and post-HRRP implementation (n=26,885; October 2014-December 2018) using adherence to inpatient care guidelines (recommended, non-recommended, and "ideal care" [all recommended with no non-recommended care]). Between 2010-2018, at least 80% of patients received recommended care annually. Recommended care decreased similarly (rate of 0.02%/month) post vs. pre-HRRP (p=0.8). Non-recommended care decreased more rapidly post-HRRP (rate of 0.29%/month) vs. pre-HRRP (rate of 0.17%/month; p<0.001) with changes driven largely by decreased antibiotic prescribing. Ideal care increased more rapidly post-HRRP (rate of 0.25%/month) vs. pre-HRRP (rate of 0.17%/month; p=0.02) with changes driven largely by non-recommended care improvements.

Conclusions: Post-HRRP trends suggest asthma care improved with increased rates of guideline concordance in non-recommended and ideal care. While federal policies (e.g.,

HRRP) may have had positive collateral effects such as with asthma care, parallel care efforts including antibiotic stewardship likely contributed to these improvements.

FULL TEXT LINKS



[Proceed to details](#)

Cite

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15

Am J Respir Cell Mol Biol



. 2024 May 15.

doi: 10.1165/rcmb.2024-0180ED. Online ahead of print.

[Unfolding the Role of Th17 Cells in Neutrophilic Lung Inflammation](#)

[T Parks Remcho](#)¹, [Jay K Kolls](#)²

Affiliations [expand](#)

- PMID: 38747688
- DOI: [10.1165/rcmb.2024-0180ED](https://doi.org/10.1165/rcmb.2024-0180ED)

No abstract available

Keywords: Th17, asthma, IL-23.

FULL TEXT LINKS



[Proceed to details](#)

Cite

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16

J Asthma



. 2024 May 15:1-14.

doi: 10.1080/02770903.2024.2355231. Online ahead of print.

"Detailed characterization and impact of small airway dysfunction in school-age asthma"

[Sanna Kjellberg](#)^{1,2}, [Anna-Carin Olin](#)², [Linus Schiöler](#)², [D Robinson Paul](#)^{3,4,5}

Affiliations expand

- PMID: 38747533
- DOI: [10.1080/02770903.2024.2355231](https://doi.org/10.1080/02770903.2024.2355231)

Abstract

Small airway dysfunction (SAD) is increasingly recognized as an important feature of pediatric asthma yet typically relies on spirometry-derived FEF_{25-75} to detect its presence. Multiple breath washout (MBW) and oscillometry potentially offer improved sensitivity for SAD detection, but their utility in comparison to FEF_{25-75} , and correlations with clinical outcomes remains unclear for school-age asthma. We investigated SAD occurrence using these techniques, between-test correlation and links to clinical outcomes in 57 asthmatic children aged 8-18 years. MBW and spirometry abnormality were defined as z-scores above/below ± 1.96 , generating MBW reference equations from contemporaneous controls (n = 69). Abnormal oscillometry was defined as $> 97.5^{\text{th}}$ percentile, also from contemporaneous controls (n = 146). Individuals with abnormal FEF_{25-75} , MBW, or oscillometry were considered to have SAD. Using these limits of normal, SAD was present on oscillometry in 63% (resistance at 5-20 Hz; R5-R20; $>97.5^{\text{th}}$ percentile), on MBW in 54% (S_{cond} ; z-scores $> +1.96$) and in spirometry FEF_{25-75} in 44% of participants (z-scores < -1.96).

SAD, defined by oscillometry and/or MBW abnormality, occurred in 77%. Among those with abnormal R5-R20, S_{cond} was abnormal in 71%. Correlations indicated both R5-R20 and S_{cond} were linked to asthma medication burden, baseline FEV₁ and reversibility. Additionally, S_{cond} correlated with FENO and magnitude of bronchial hyper-responsiveness. SAD, detected by oscillometry and/or MBW, occurred in almost 80% of school-aged asthmatic children, surpassing FEF₂₅₋₇₅ detection rates. Discordant oscillometry and MBW abnormality suggests they reflect different aspects of SAD, serving as complementary tools. Key asthma clinical features, like reversibility, had stronger correlation with MBW-derived S_{cond} than oscillometry-derived R5-R20.

Keywords: bronchial hyper-responsiveness; bronchodilation; multiple breath washout; oscillometry; pediatric asthma.

FULL TEXT LINKS



[Proceed to details](#)

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17

Am J Respir Crit Care Med

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. 2024 May 15;209(10):1268-1272.

doi: 10.1164/rccm.202308-1477LE.

[Mepolizumab-induced Changes in Nasal Methylome and Transcriptome to Predict Response in Asthma](#)

[Kamini Rakkar](#)^{1,2}, [Yik L Pang](#)^{1,3}, [Poojitha Rajasekar](#)^{1,2}, [Michael A Portelli](#)^{1,2}, [Robert J Hall](#)^{1,2}, [Rachel L Clifford](#)^{1,2}, [Dominick Shaw](#)^{1,3}, [Ian Sayers](#)^{1,2}

Affiliations expand

- PMID: 38386780

- DOI: [10.1164/rccm.202308-1477LE](https://doi.org/10.1164/rccm.202308-1477LE)

No abstract available

SUPPLEMENTARY INFO

Publication types, MeSH terms, Grants and funding [expand](#)

FULL TEXT LINKS



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Editorial

Am J Respir Crit Care Med

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. 2024 May 15;209(10):1175-1176.

doi: 10.1164/rccm.202312-2284ED.

[A Novel Computed Tomography Score Reveals More about Air Trapping in Asthma](#)

[Sarah Svenningsen](#)^{1,2}, [Miranda Kirby](#)³

Affiliations [expand](#)

- PMID: 38335179

- DOI: [10.1164/rccm.202312-2284ED](https://doi.org/10.1164/rccm.202312-2284ED)

No abstract available

Comment on

- [A Novel Air Trapping Segment Score Identifies Opposing Effects of Obesity and Eosinophilia on Air Trapping in Asthma.](#)

Leung C, Tang M, Huang BK, Fain SB, Hoffman EA, Choi J, Dunican EM, Mauger DT, Denlinger LC, Jarjour NN, Israel E, Levy BD, Wenzel SE, Sumino K, Hastie AT, Schirm J, McCulloch CE, Peters MC, Woodruff PG, Sorkness RL, Castro M, Fahy JV. *Am J Respir Crit Care Med.* 2024 May 15;209(10):1196-1207. doi: 10.1164/rccm.202305-0802OC.PMID: 38113166

SUPPLEMENTARY INFO

Publication types, MeSH terms, Grants and funding [expand](#)

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J Formos Med Assoc

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. 2024 May 14:S0929-6646(24)00244-4.

doi: 10.1016/j.jfma.2024.05.008. Online ahead of print.

[The applications of high-flow nasal cannulas in pediatric intensive care units in Taiwan](#)

[Jeng-Hung Wu](#)¹, [Ching-Chia Wang](#)², [Frank Leigh Lu](#)², [Shu-Chien Huang](#)³, [En-Ting Wu](#)⁴

Affiliations expand

- PMID: 38749900
- DOI: [10.1016/j.jfma.2024.05.008](https://doi.org/10.1016/j.jfma.2024.05.008)

Abstract

Background: /purpose: The use of high-flow nasal cannulas (HFNC) in patients admitted to the pediatric intensive care unit (PICU) has gradually increased worldwide; however, details on clinical efficacy remain limited in Taiwan. Therefore, we explored the clinical characteristics and outcomes of pediatric patients using HFNC in the PICU.

Methods: Medical records were retrospectively collected from pediatric patients (aged <18 years) who received HFNC support from December 2021 to January 2023 in the PICU of a medical center. Outcome parameters included treatment failure (defined as increased respiratory support to advanced non-invasive ventilators or intubations), duration of support from HFNC, and changes in clinical parameters after initiating HFNC.

Results: A total of 261 episodes of HFNC use were included, with a failure rate of 24.5% and a median support length of 4 days. Multivariable analysis showed that infant age (adjusted odds ratio [aOR]: 2.1, $p = 0.02$) and accompanying complex chronic disease (aOR: 4.4, $p = 0.014$) were risk factors for treatment failure and a diagnosis of asthma or bronchiolitis had a lower hazard of treatment failure (aOR: 0.29, $p = 0.025$) than other diagnoses did. Improvements in clinical parameters, including pulse rate, respiratory rate, SpO₂, and CO₂ levels, were observed 24 h after the initiation of HFNC.

Conclusion: The application of HFNC in the PICU in Taiwan is effective but should be performed with care in infants with accompanying complex chronic diseases. In addition to low treatment failure, HFNC utilizations stabilized the clinical parameters of children with asthma/bronchiolitis within one day.

Keywords: Asthma; Bronchiolitis; High-flow nasal cannula; Pediatric intensive care unit; Treatment failure.

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Conflict of interest statement

Declaration of competing interest Jeng-Hung Wu and En-Ting Wu participated in speakers bureaus of Fisher and Paykel.

FULL TEXT LINKS



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Review

Pediatr Pulmonol

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. 2024 May 14.

doi: 10.1002/ppul.27046. Online ahead of print.

[Telemonitoring of pediatric asthma in outpatient settings: A systematic review](#)

[Inês Pais-Cunha](#)^{1,2,3}, [José Fontoura Matias](#)^{1,2}, [Ana Laura Almeida](#)^{1,2}, [Manuel Magalhães](#)^{3,4}, [João A Fonseca](#)^{3,5}, [Inês Azevedo](#)^{1,2}, [Cristina Jácome](#)³

Affiliations expand

- PMID: 38742250
- DOI: [10.1002/ppul.27046](https://doi.org/10.1002/ppul.27046)

Abstract

Telemonitoring technologies are rapidly evolving, offering a promising solution for remote monitoring and timely management of asthma acute episodes. We aimed to describe current pediatric asthma telemonitoring technologies. A systematic review was conducted until September 2023 on Medline, Scopus, and Web of Science. We included studies of children (0-18 years) with asthma or recurrent wheezing whose respiratory condition was

telemonitored outside the healthcare setting. A narrative synthesis was performed. We identified 40 telemonitoring technologies described in 40 studies. The more frequently used technologies for telemonitoring were mobile applications (n = 21) and web-based systems (n = 14). Telemonitoring duration varied between 2 weeks and 32 months. Data collection included asthma symptoms (n = 30), patient-reported outcome measures (PROMs) (n = 11), spirometry/peak flow readings (n = 20), medication adherence (n = 17), inhaler technique (n = 3), air quality (n = 2), and respiratory sounds (n = 2). Both parents and children were the technology target users in most studies (n = 23). Technology training was reported in 23 studies of which 3 provided ongoing support. Automatic feedback was found in 30 studies, mostly related with asthma control. HCP were involved in data management in 27 studies. Technologies were tested in samples from 4 to 327 children, with most studies including school-aged children and/or adolescents (n = 38) and eight including preschool children. This review provides an overview of existing technologies for the outpatient telemonitoring of pediatric asthma. Specific technologies for preschool children represent a gap in the literature that needs to be specifically addressed in future research.

Keywords: adolescent; ambulatory; asthma; child; monitoring.

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- [111 references](#)

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[Proceed to details](#)

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21

ERJ Open Res

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. 2024 May 13;10(3):00430-2023.

Prevalence, incidence and healthcare burden of eosinophilic granulomatosis with polyangiitis in the UK

[Jeremiah Hwee](#)¹, [Lorraine Harper](#)², [Qinggong Fu](#)³, [Krishnarajah Nirantharakumar](#)², [George Mu](#)³, [Rupert W Jakes](#)⁴

Affiliations expand

- PMID: 38746859
- PMCID: [PMC11089387](#)
- DOI: [10.1183/23120541.00430-2023](#)

Abstract

Background: Eosinophilic granulomatosis with polyangiitis (EGPA) is a rare but serious disease characterised by the combination of small-to-medium vessel vasculitis, blood and tissue eosinophilia, and asthma and/or sinonasal disease. This study estimated the prevalence and incidence of diagnosed EGPA in the United Kingdom (UK), and described the demographics, clinical characteristics and healthcare resource utilisation (HCRU) of this population.

Methods: This retrospective longitudinal study of patients with newly diagnosed EGPA (index) (2005-2019) used the Clinical Practice Research Datalink AURUM and Hospital Episode Statistics databases. The primary outcomes were the annual prevalence (2005-2019) and incidence (2006-2019) of EGPA, and secondary outcomes included patient demographics and clinical characteristics, and HCRU in the year pre- and post-index (diagnosis).

Results: Populations of patients with EGPA comprised 940 prevalent cases and 502 incident cases, of which 377 were linked to Hospital Episode Statistics. EGPA prevalence increased from 22.7 to 45.6 cases per 1 000 000 (2005-2019), driven by patients aged ≥ 18 years. Incidence ranged from 2.3 to 4.0 per 1 000 000 person-years (2006-2019). Pre-index, the most common clinical symptoms were respiratory related, and the most common comorbidities were asthma (80.6%) and nasal polyps (32.1%). Post-index, 19.1% had an EGPA-related inpatient stay (median length of stay 11.0 days) and 38.7% had five or more

oral corticosteroid (OCS) prescriptions with a mean OCS possession ratio per patient of 47.0%.

Conclusions: Although EGPA incidence in the UK remains relatively stable, prevalence is increasing, and HCRU and OCS use remain frequent, suggesting considerable healthcare burden for patients with EGPA.

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Conflict of interest statement

Conflict of interest: J. Hwee, Q. Fu, G. Mu and R.W. Jakes are employees of GSK and own stocks/shares with GSK. L. Harper has received speaking fees, consulting fees or grant/research support from Viopharm, GSK, Roche and MSD. K. Nirantharakumar has been awarded academic institution research grants from NIHR, UKRI/MRC, Kennedy Trust for Rheumatology Research, Health Data Research UK, Wellcome Trust, European Regional Development Fund, Institute for Global Innovation, Boehringer Ingelheim, Action Against Macular Degeneration Charity, Midlands Neuroscience Teaching and Development Funds, South Asian Health Foundation, Vifor Pharma, College of Police, and CSL Behring; consulting fees from BI, Sanofi, CEGEDIM and MSD; and holds a leadership/fiduciary role with NICST, a charity, and OpenClinical, a social enterprise.

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

FULL TEXT LINKS



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22

BMC Public Health

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. 2024 May 13;24(1):1300.

doi: 10.1186/s12889-024-18782-6.

Associations of obesity with chronic inflammatory airway diseases and mortality in adults: a population-based investigation

[Shanshan Liu](#)^{1,2}, [Hao Zhang](#)¹, [Zhihui Lan](#)³

Affiliations expand

- PMID: 38741199
- PMCID: [PMC11092153](#)
- DOI: [10.1186/s12889-024-18782-6](#)

Abstract

Background: The association between obesity and respiratory diseases has been confirmed. However, few studies have reported the relationship between obesity and the risk and mortality of chronic inflammatory airway disease (CIAD). The aim of this study was to reveal the association between obesity and the risk of CIAD, and mortality in patients with CIAD.

Methods: The study was conducted using data from the National Health and Nutrition Examination Survey (NHANES) 2013 to 2018 among adults aged 20 years and above. All participants were grouped according to body mass index (BMI) and waist circumference (WC) levels to study the relationship between obesity and CIAD. Multivariate logistic regression analysis was utilized to examine the connection between CIAD and obesity in a cross-sectional study. The association between obesity and all-cause mortality in individuals with CIAD was examined using multiple cox regression models and smooth curve fitting in a prospective cohort study.

Results: When stratified based on BMI in comparison to the normal weight group, the ORs with 95% CIs of CIAD for underweight and obesity were 1.39 (1.01-1.93) and 1.42 (1.27-1.58), respectively. The OR with 95% CI of CIAD for obesity was 1.20 (1.09-1.31) when stratified according to WC. Additionally, underweight was associated with a higher mortality (HR = 2.44, 95% CI = 1.31-4.55), whereas overweight (HR = 0.58, 95% CI = 0.39-0.87) and obesity (HR = 0.59, 95% CI = 0.4-0.87) were associated with a lower mortality (P

for trend < 0.05). There was a non-linear association between BMI and all-cause mortality (P for non-linear = 0.001). An analysis of a segmentation regression model between BMI and all-cause mortality revealed a BMI turning point value of 32.4 kg/m². The mortality of CIAD patients was lowest when BMI was 32.4 kg/m². When BMI ≤ 32.4 kg/m², BMI was inversely associated with all-cause mortality in patients with CIAD (HR: 0.92, 95%CI:0.88-0.97). However, when BMI > 32.4 kg/m², there was no association between BMI and all-cause mortality (HR:1.02, 95%CI:0.97-1.06).

Conclusion: Compared to normal weight, underweight and obesity were associated with the increased risk of CIAD. Underweight was associated with increased all-cause mortality, while overweight was associated with reduced all-cause mortality. There was a non-linear association between BMI and all-cause mortality in patients with CIAD. The all-cause mortality was lowest when BMI was 32.4 kg/m².

Keywords: Asthma; COPD; Chronic bronchitis; Chronic inflammatory airway diseases; Mortality; NHANES; Obesity.

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Conflict of interest statement

The authors declare no competing interests.

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

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



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Review



Investigating Machine Learning Techniques for Predicting Risk of Asthma Exacerbations: A Systematic Review

[Widana Kankanamge Darsha Jayamini](#)^{1,2}, [Farhaan Mirza](#)³, [M Asif Naeem](#)⁴, [Amy Hai Yan Chan](#)⁵

Affiliations expand

- PMID: 38739297
- PMCID: [PMC11090925](#)
- DOI: [10.1007/s10916-024-02061-3](#)

Abstract

Asthma, a common chronic respiratory disease among children and adults, affects more than 200 million people worldwide and causes about 450,000 deaths each year. Machine learning is increasingly applied in healthcare to assist health practitioners in decision-making. In asthma management, machine learning excels in performing well-defined tasks, such as diagnosis, prediction, medication, and management. However, there remain uncertainties about how machine learning can be applied to predict asthma exacerbation. This study aimed to systematically review recent applications of machine learning techniques in predicting the risk of asthma attacks to assist asthma control and management. A total of 860 studies were initially identified from five databases. After the screening and full-text review, 20 studies were selected for inclusion in this review. The review considered recent studies published from January 2010 to February 2023. The 20 studies used machine learning techniques to support future asthma risk prediction by using various data sources such as clinical, medical, biological, and socio-demographic data sources, as well as environmental and meteorological data. While some studies

considered prediction as a category, other studies predicted the probability of exacerbation. Only a group of studies applied prediction windows. The paper proposes a conceptual model to summarise how machine learning and available data sources can be leveraged to produce effective models for the early detection of asthma attacks. The review also generated a list of data sources that other researchers may use in similar work. Furthermore, we present opportunities for further research and the limitations of the preceding studies.

Keywords: Asthma; Machine learning; Prediction; Risk of attack.

© 2024. The Author(s).

Conflict of interest statement

AC is the recipient of the Auckland Medical Research Foundation senior research fellowship, which investigates asthma attack prediction models. She has also received funding from the Health Research Council for research into asthma. AC also sits on the board of Asthma New Zealand, is affiliated with Asthma UK Centre of Applied Research, member of the Respiratory Effectiveness Group and is part of the European Respiratory Society CONNECT Clinical Research Collaboration. The authors have no relevant financial or non-financial interests to disclose.

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

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



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

1

Am J Rhinol Allergy

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. 2024 May 17:19458924241253642.

doi: 10.1177/19458924241253642. Online ahead of print.

Prevalence and Magnitude of Olfactory Dysfunction in Allergic Rhinitis

[Marco A Fornazieri](#)^{1,2,3,4}, [Ellen C D Garcia](#)¹, [Ricardo H Montero](#)¹, [Ricardo Borges](#)¹, [Thiago F P Bezerra](#)^{3,5}, [Fábio R Pinna](#)³, [Richard L Doty](#)⁴, [Richard L Voegels](#)³

Affiliations expand

- PMID: 38759958
- DOI: [10.1177/19458924241253642](https://doi.org/10.1177/19458924241253642)

Abstract

Background: Although allergic rhinitis (AR) can negatively impact the ability to smell, the degree to which this occurs is not clear and prevalence estimates vary among studies. This study had 4 main objectives: (1) To estimate the prevalence and the degree of olfactory dysfunction in AR patients; (2) To compare olfactory perception between AR patients with different persistence and severity of symptoms and determine if olfactory testing may aid in differentiating among Allergic Rhinitis and its Impact on Asthma (ARIA) groups; (3) To determine whether allergic reactions to different allergens differentially impact olfactory function, and (4) Verify possible changes in the olfactory epithelium (OE) caused by AR.

Methods: One hundred thirty-three patients with AR and one hundred controls were tested. The main outcome was the score in University of Pennsylvania Smell Identification Test (UPSIT®). The OE was examined using immunofluorescence markers for neuronal activity, apoptosis, oxidative stress, signal transduction, eosinophils, and epithelial thickness.

Results: Prevalence of olfactory dysfunction in the AR patients was higher (AR: 42.9% vs controls: 9%, $P < .001$). No difference was found either between intermittent and persistent disease cases ($P = .58$) or between cases with mild and those with moderate/severe symptomatology ($P = .33$). Lower olfactory capacity was not associated with the reaction to more ($P = .48$) or diverse types of allergens ($P_s > .05$). Although not significant, patients with AR had a greater amount of eosinophilia and a lower amount of cAMP (cyclic adenosine monophosphate) in the OE.

Conclusion: The study highlights a higher prevalence of olfactory dysfunction in AR patients compared to controls, but olfactory testing may not effectively differentiate AR severity or allergen sensitivities. Although trends suggest potential pathophysiological changes in the OE of AR patients, further research is needed to validate these findings.

Keywords: allergens; disease severity; eosinophils; microsmia; olfaction; olfactory dysfunction; olfactory epithelium; prevalence; rhinitis; smell perception.

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



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Meta-Analysis

Medicine (Baltimore)

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. 2024 May 17;103(20):e38197.

doi: 10.1097/MD.00000000000038197.

Correlation between allergic rhinitis or hay fever and lung cancer: A systematic review and meta-analysis

[Qudsia Umaira Khan](#)¹, [Muneeb Ur Rehman](#)², [Mohammad Ali Arshad Abbasi](#)³, [Rubina Rafique Shiekh](#)³, [Munazza Nazir](#)³, [Sohail Khan Raja](#)⁴, [Amna Akbar](#)⁵, [Sabahat Tasneem](#)⁶, [Sarosh Khan Jadoon](#)⁷, [Sarosh Alvi](#)⁸

Affiliations expand

- PMID: 38758849

- DOI: [10.1097/MD.00000000000038197](https://doi.org/10.1097/MD.00000000000038197)

Abstract

Background: The association between allergies and cancer is contradictory, whereas some forms of cancer have inverse associations with allergies. Allergic rhinitis (AR) is the most prevalent form of allergy, and lung cancer is one of the most prevalent forms of cancer with the highest mortality rate. Recent studies have reported a positive association between asthma and lung cancer; however, this association is inconclusive. Furthermore, AR is positively associated with asthma; therefore, our research question was to explore whether there is any correlation between AR and lung cancer epidemiologically.

Methods: After a rigorous search of PubMed, Google Scholar, and ScienceDirect, 7 eligible articles were included in this systematic review and meta-analysis, including 4724 cases and 9059 controls, 5 from the USA, and one each from Canada and Germany.

Results: Pooled analysis (OR, 0.55; 95% CI: 0.45-0.68; P value < .00001) showed a strong inverse relationship between AR and lung cancer.

Conclusion: The current meta-analysis suggests an inverse relationship between AR and lung cancer; however, new epidemiological studies are required to observe the current scenario more comprehensively.

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Conflict of interest statement

The authors have no funding and conflicts of interest to disclose.

- [31 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



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3

Ear Nose Throat J



. 2024 May 17:1455613241254434.

doi: 10.1177/01455613241254434. Online ahead of print.

Nasal Patency Across Seated, Supine, and Recumbent Postures in Individuals With and Without Allergic Rhinitis

[Sheng-Wei Lo](#)¹, [Yao-Te Tsai](#)^{1,2}, [Ming-Shao Tsai](#)^{1,2,3}, [Hsin-Yi Tsai](#)¹, [Geng-He Chang](#)^{1,2,3,4}

Affiliations expand

- PMID: 38757667
- DOI: [10.1177/01455613241254434](https://doi.org/10.1177/01455613241254434)

Abstract

Objectives: This study aimed to investigate the effects of seated, supine, and recumbent postures on nasal resistance in individuals with allergic rhinitis (AR) and healthy controls, which has not been investigated in the past. **Methods:** A visual analog scale (VAS) assessed subjective nasal obstruction, while acoustic rhinometry and video endoscopy provided objective measures. Sixty participants, comprising 30 AR patients and 30 healthy controls, were evaluated across 4 postures without decongestion: seated, supine, left recumbent, and right recumbent. **Results:** In patients with AR, we noted no significant changes in subjective nasal blockage under various postures (all $P > .18$). However, significant reductions of minimal cross-sectional area (mCSA) were found (seated vs supine, $P = .014$; seated vs left recumbent, $P = .001$; seated vs right recumbent, $P < .001$) and significant increases in the inferior turbinate hypertrophy were observed on the dependent side of the nose when in recumbent posture (right nose: seated vs right recumbent, $P = .013$; left nose: seated vs left recumbent, $P = .003$). On the contrary, healthy controls experienced increased subjective nasal obstruction (VAS scores: seated vs supine, $P < .001$; seated vs left recumbent, $P = .003$; seated vs right recumbent, $P < .001$), reductions in mCSA (seated vs supine, $P = .002$; seated vs right or left recumbent, both $P =$

.001), and increased inferior turbinate hypertrophy on the dependent side of the nose (right nose: seated vs right recumbent, $P = .003$; left nose: seated vs left recumbent, $P = .006$). **Conclusions:** Healthy controls reported better nasal patency when shifting from supine or recumbent to more upright or less gravity-dependent seated postures, which was further supported by objective examinations. On the contrary, despite patients with AR not subjectively perceiving increased nasal patency while adopting more upright postures, objective evaluations demonstrated an improvement in their nasal airflow in these less gravity-dependent postures. **Level of Evidence:** 4.

Keywords: allergic rhinitis; lateral; nasal obstruction; nasal patency; nasal resistance; position; posture; recumbent; supine.

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.

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[Review](#)

Arch Dis Child

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. 2024 May 17;109(6):462-467.

doi: 10.1136/archdischild-2023-325441.

[Asthma, classical conditioning, and the autonomic nervous system - a hypothesis for why children wheeze](#)

[Gary James Connett](#)¹

Affiliations expand

- PMID: 37648401
- DOI: [10.1136/archdischild-2023-325441](https://doi.org/10.1136/archdischild-2023-325441)

Free article

Abstract

Paediatric asthma is an increasing global healthcare problem for which current treatments are not always effective. This review explores how abnormal triggering of the autonomic diving reflex might be important in explaining research findings and the real-world experience of asthma. It hypothesises that the way in which stress during pregnancy is associated with childhood asthma could be through effects on the developing nervous system. This results in increased parasympathetic responsiveness and specifically, excessive triggering of the diving reflex in response to wetting and cooling of the face and nose as occurs with upper airway infections and allergic rhinitis. In aquatic mammals the reflex importantly includes the contraction of airway smooth muscle to minimise lung volume and prevent nitrogen narcosis from diving at depth. Misfiring of this reflex in humans could result in the pathological airway narrowing that occurs in asthma. The diving reflex, and possibly also smooth muscle, is a vestigial remnant of our aquatic past. The hypothesis further suggests that classically conditioned reflex responses to neutral cues and contexts that were present at the same time as the stimuli that initially caused symptoms, become of themselves ongoing triggers of recurrent wheeze. Symptoms occurring in this way, irrespective of the presence of allergens and ongoing airway sensitisation, explain why allergen avoidance is poorly effective in alleviating wheeze and why asthma is made worse by stress. Interventions to suppress the diving reflex and to prevent reflex conditioned wheezing could result in more effective asthma management.

Keywords: Child Health; Respiratory Medicine.

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Conflict of interest statement

Competing interests: None declared.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

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5

J Asthma



. 2024 May 16:1-10.

doi: 10.1080/02770903.2024.2349604. Online ahead of print.

[A meta-analysis investigating the efficacy and safety of allergen-specific immunotherapy in the management of respiratory allergies](#)

[Xue Li](#)¹, [Juju Shang](#)², [Jian Liu](#)¹, [Yong Zhu](#)¹

Affiliations expand

- PMID: 38687911
- DOI: [10.1080/02770903.2024.2349604](https://doi.org/10.1080/02770903.2024.2349604)

Abstract

Background: This meta-analysis aimed to evaluate the effectiveness and adverse effects of specific immunotherapy (SIT) in the management of respiratory allergens, including allergic asthma, rhinitis, and related disorders, based on a review of current literature up to November 8, 2022.

Methods: We conducted a search of databases, including PubMed, Embase, Cochrane, and Web of Science, to identify relevant randomized controlled trials (RCTs) assessing respiratory allergy-specific immunotherapy. We employed the Consolidated Standards of Reporting Trials (CONSORT) Statement to select RCTs that adhered to rigorous reporting standards. Specifically, we focused on double-blind placebo-controlled (DBPC) trials and open studies involving both adults and children, considering factors such as dosage, inclusion criteria, allergens, and primary outcome measurements.

Results: A total of 25 meta-analyses were included in this study. Among them, 14 evaluated sublingual-specific allergen immunotherapy (SLIT), 4 assessed subcutaneous allergen immunotherapy (SCIT), 4 explored both sublingual and subcutaneous immunotherapy, and 3 investigated intralymphatic immunotherapy. The outcomes of these meta-analyses indicated a reduction in medication scores in 20 cases and a decrease in symptom scores in 23 cases. Additionally, six studies reported on changes in IgE levels, seven studies focused on IgG4, four studies examined FEV1 (forced expiratory volume in 1 s), and eight studies reported on symptom and medication scores. Furthermore, 11 studies reported on differences in adverse reactions.

Conclusion: The results of our meta-analysis suggest that specific immunotherapy, while associated with some adverse effects, effectively reduces the symptoms of asthma and rhinitis. Therefore, we recommend its use in the treatment of respiratory allergies.

Keywords: Allergen-specific immunotherapy; adverse reaction; immunological proteins; respiratory allergy; symptom and medication scores.

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J Allergy Clin Immunol Pract



. 2024 May 15:S2213-2198(24)00518-X.

doi: 10.1016/j.jaip.2024.04.058. Online ahead of print.

[Asthma is associated with increased sickness absence among young adults](#)

[Sandra Ekström](#)¹, [Julio C Hernando-Rodriguez](#)², [Niklas Andersson](#)³, [Chantelle Murley](#)⁴, [Victoria Mailen Arfuch](#)⁵, [Anne-Sophie Merritt](#)⁶, [Christer Janson](#)⁷, [Theo Bodin](#)⁸, [Gun Johansson](#)⁹, [Inger Kull](#)¹⁰

Affiliations expand

- PMID: 38759791
- DOI: [10.1016/j.jaip.2024.04.058](https://doi.org/10.1016/j.jaip.2024.04.058)

Abstract

Background: There is limited knowledge about how asthma affects sickness absence in young adulthood.

Objective: To examine how asthma and different asthma phenotypes affect sickness absence among young adults and potential modifying factors. A secondary aim was to estimate productivity losses related to sickness absence for asthma.

Methods: The study included 2,391 participants from the Swedish population-based cohort BAMSE. Information on asthma, asthma phenotypes, and lifestyle factors were collected from questionnaires and clinical examinations at ~24 years of age (2016-2019). Information on sickness absence >14 days was obtained from a national register for the years 2020-2021. Associations between asthma, asthma phenotypes, and sickness absence were analyzed with logistic regression models adjusted for sex, birth year, education, and overweight status.

Results: At age 24 years, n=272 (11.4%) fulfilled the definition of asthma. Sickness absence was more common among those with asthma than those without (15.1% vs 8.7%, p=0.001, adjusted odds ratio 1.73, 95% confidence interval 1.19-2.51). Analyses of asthma phenotypes showed that the association tended to be stronger for persistent asthma, uncontrolled asthma, and asthma in combination with rhinitis; no consistent differences were observed across phenotypes related to allergic sensitization or inflammation. The association tended to be stronger among those with overweight than those with normal

weight. Asthma, especially uncontrolled asthma was associated with higher productivity losses from sickness absence.

Conclusion: Asthma may be associated with higher sickness absence and productivity losses. Achieving better asthma control and reducing allergic symptoms may reduce sickness absence among individuals with asthma.

Keywords: Asthma; Lifestyle factors; Productivity losses; Sickness absence.

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Multicenter Study

BMJ Open

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. 2024 May 15;14(5):e083112.

doi: 10.1136/bmjopen-2023-083112.

[Study protocol: the biologics in severe chronic rhinosinusitis with nasal polyps survey](#)

[Valentin Favier](#)¹, [Clémentine Daveau](#)², [Florent Carsuzaa](#)³, [Maxime Fieux](#)⁴, [Clair Vandersteen](#)⁵, [Laurent Castillo](#)⁵, [Jean Francois Papon](#)⁶, [Ludovic de Gabory](#)⁷, [Nicolas Saroul](#)⁸, [Benjamin Verillaud](#)⁹, [Cécile Rumeau](#)^{10,11}, [Roger Jankowski](#)¹⁰, [Justin Michel](#)¹², [Guillaume de Bonnecaze](#)¹³, [Jean-Baptiste Lecanu](#)¹⁴, [Andre Coste](#)^{15,16}, [Emilie Béquignon](#)¹⁷, [Olivier Malard](#)¹⁸, [Geoffrey Mortuaire](#)¹⁹

Affiliations expand

- PMID: 38749694
- PMCID: [PMC11097834](#)
- DOI: [10.1136/bmjopen-2023-083112](#)

Abstract

Introduction: Chronic rhinosinusitis with nasal polyps (CRSwNP) is a frequent condition affecting approximately 2% of the population. Medical treatment consists long-term use of intranasal corticosteroids and short-term use of oral corticosteroids, in adjunct with saline solution rinses. Surgical management is proposed in patients who failed after medical treatment. In France, two biologics are reimbursed in case of severe uncontrolled CRSwNP despite medical treatment and endoscopic sinus surgery. Waiting for head-to-head biologics comparison, studies should report the efficacy and safety of biologics in large real-life cohorts. This study protocol describes the aims and methods of a prospective, observational, national, multicentric cohort of patients with CRSwNP treated with biologics.

Methods and analysis: The BIOlogics in severe nasal POLyposis SurvEy is a French multicentre prospective observational cohort study. The main aim is to assess the efficacy and tolerance of biologics in patients with CRSwNP, with or without association with other type 2 diseases, and to determine the strategies in case of uncontrolled disease under biologics. Patients over 18 years old requiring biologics for CRSwNP in accordance with its marketing approval in France (ie, severe nasal polyposis, with lack of control under nasal corticosteroid, systemic corticosteroids and surgery) are invited to participate. Collected data include topical history of surgical procedures and biologics, medication and use of systemic corticosteroids, visual analogical scales for specific symptoms, Sino-Nasal Outcome Test-22 questionnaire, nasal polyp score, asthma control test, Lund-Mackay score on CT scan and IgE concentration and eosinophilic count on blood sample.

Trial registration: [NCT05228041](#)/DRI_2021/0030.

Keywords: Adult otolaryngology; Asthma; Endoscopic surgery; IMMUNOLOGY.

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Conflict of interest statement

Competing interests: All authors report personal fees as expert consultant for Sanofi and GlaxoSmithKline.

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

SUPPLEMENTARY INFO

Publication types, MeSH terms, Associated dataexpand

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Review

J Investig Allergol Clin Immunol

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. 2024 May 14:0.

doi: 10.18176/jiaci.0994. Online ahead of print.

[Contribution of MASK-air® as a mHealth tool for digitally-enabled person-centred care in rhinitis and asthma](#)

[B Sousa-Pinto](#)^{1,2}, [J A Fonseca](#)^{1,2}, [J Bousquet](#)^{3,4,5}

Affiliations expand

- PMID: 38745438
- DOI: [10.18176/jiaci.0994](https://doi.org/10.18176/jiaci.0994)

Abstract

In chronic diseases, mobile health apps may help to (i) improve clinical management and (ii) provide valuable real-world scientific evidence. In allergic rhinitis, a market research study has only identified four mHealth apps which were multilingual, resulted in scientific publications and displayed a comprehensive list of medications. Of those, MASK-air® was the app with the highest number of scientific publications. MASK-air® has been launched in 2015 and is currently available in 30 countries, having collected data from more than 30,000 users. It comprises a daily monitoring questionnaire, allowing patients to register (i) their daily allergy symptoms by means of visual analogue scales, and (ii) their medication use. The achievements of MASK-air® include the development of two digital biomarkers for daily monitoring of rhinitis and asthma (combined symptom-medication score and electronic daily asthma control score). In addition, MASK-air® data have allowed to assess patients' behaviours, suggesting that patients do not follow guideline recommendations, but rather treat themselves (and often use co-medication) whenever feeling worse. Using MASK-air® data, it has also been possible to quantify the impact of allergic diseases in quality-of-life, school and work productivity. MASK-air® real-world data is being used as a source of evidence for the Allergic Rhinitis and its Impact on Asthma 2024 guidelines, in an innovative process of incorporation of mobile health data into guidelines. This review discusses the clinical and scientific contributions of MASK-air® for person-centred care of rhinitis and asthma, providing an illustrative example on the use of mobile health in chronic diseases.

Keywords: Allergic rhinitis; Asthma; Mobile health; Patient-reported outcome measures.

SUPPLEMENTARY INFO

Publication types [expand](#)

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chronic cough



Clinical utilization of airway inflammatory biomarkers in the prediction and monitoring of clinical outcomes in patients with chronic obstructive pulmonary disease

[Dina Yehia](#)¹, [Clarus Leung](#)^{1,2}, [Don D Sin](#)^{1,2}

Affiliations expand

- PMID: 38635513
- DOI: [10.1080/14737159.2024.2344777](https://doi.org/10.1080/14737159.2024.2344777)

Abstract

Introduction: Chronic obstructive pulmonary disease (COPD) accounts for 545 million people living with chronic respiratory disorders and is the third leading cause of morbidity and mortality around the world. COPD is a progressive disease, characterized by episodes of acute worsening of symptoms such as cough, dyspnea, and sputum production.

Areas covered: Airway inflammation is a prominent feature of COPD. Chronic airway inflammation results in airway structural remodeling and emphysema. Persistent airway inflammation is a treatable trait of COPD and plays a significant role in disease development and progression. In this review, the authors summarize the current and emerging biomarkers that reveal the heterogeneity of airway inflammation subtypes, clinical outcomes, and therapeutic response in COPD.

Expert opinion: Airway inflammation can be broadly categorized as eosinophilic (type 2 inflammation) and non-eosinophilic (non-type 2 inflammation) in COPD. Currently, blood

eosinophil counts are incorporated in clinical practice guidelines to identify COPD patients who are at a higher risk of exacerbations and lung function decline, and who are likely to respond to inhaled corticosteroids. As new therapeutics are being developed for the chronic management of COPD, it is essential to identify biomarkers that will predict treatment response.

Keywords: Airway inflammation; COPD; biomarkers; exacerbations; therapeutics.

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OTO Open



. 2024 May 15;8(2):e143.

doi: 10.1002/oto2.143. eCollection 2024 Apr-Jun.

[Identifying Practice Gaps Among Otolaryngology Providers for the Treatment of Chronic Cough](#)

[Natalie L Demirjian](#)¹, [Austin Lever](#)^{1,2}, [Helena Yip](#)^{1,2}

Affiliations [expand](#)

- PMID: 38751425

- PMID: [PMC11094514](#)

- DOI: [10.1002/oto2.143](#)

Abstract

Objective: Increasing evidence over the last decade suggests that many cases of unexplained chronic cough (UCC) have a neurogenic etiology, with laryngeal hypersensitivity (LH) being identified as a key mechanism. Official guidelines since 2015 have adopted use of neuromodulators and adjuvant speech therapy as a result, but historically implementation of guidelines is slow. Our survey aimed to investigate gaps in diagnosis and management practices of otolaryngology providers in caring for patients with UCC.

Study design: Cross-sectional study.

Setting: Survey.

Methods: 12-item survey was distributed to 110 otolaryngology practitioners experienced in diagnosis and treatment of chronic cough at a regional otolaryngology continuing education conference. Statistical analysis included Kendall's Tau Rank Correlation to measure the ordinal association between responses to questions, and Fisher's exact test to determine if there were associations between responses and years of career experience.

Results: Forty eligible respondents underwent subsequent analysis. There was no association between frequency of identifying LH as a primary etiology and use of neuromodulators ($\tau = 0.23$, $P = .10$). However, there was a significant correlation between LH and referrals to speech therapy ($\tau = 0.27$, $P = .05$). Fisher's exact test did not reveal any significant differences among any responses based on practitioner experience.

Conclusion: Our results indicate a possible disparity in treatment of UCC with neuromodulators and the utilization of speech therapy despite guideline recommendations advocating for neuromodulators with adjuvant speech therapy. Further research with larger sample sizes and more specific inquiries is necessary to elucidate this association and control for any regional differences.

Keywords: chronic cough; laryngeal hypersensitivity; neuromodulators; speech therapy.

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Conflict of interest statement

None.

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

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3

Am J Clin Dermatol

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. 2024 May 14.

doi: 10.1007/s40257-024-00859-y. Online ahead of print.

[Dupilumab Safety and Efficacy up to 1 Year in Children Aged 6 Months to 5 Years with Atopic Dermatitis: Results from a Phase 3 Open-Label Extension Study](#)

[Amy S Paller](#)^{# 1 2}, [Elaine C Siegfried](#)^{# 3 4}, [Eric L Simpson](#)⁵, [Michael J Cork](#)^{6 7}, [Robert Sidbury](#)⁸, [Iris H Chen](#)⁹, [Faisal A Khokhar](#)¹⁰, [Jing Xiao](#)¹⁰, [Ariane Dubost-Brama](#)¹¹, [Ashish Bansal](#)¹⁰

Affiliations expand

- PMID: 38743155
- DOI: [10.1007/s40257-024-00859-y](https://doi.org/10.1007/s40257-024-00859-y)

Abstract

Background: Pediatric patients with moderate-to-severe atopic dermatitis (AD) often experience a high disease burden and have a high risk of persistent disease. Standard-of-care immunosuppressive systemic treatments have been used off-label for AD in pediatric patients despite concerns for suboptimal safety with continuous use and risk of relapse upon discontinuation. The biologic agent dupilumab is the first systemic treatment approved for moderate-to-severe AD in children as young as 6 months. Long-term safety and efficacy data in this patient population are needed to inform continuous AD management.

Objectives: The purpose of this work was to determine the long-term safety and efficacy of dupilumab treatment up to 1 year in an open-label extension (OLE) study [LIBERTY AD PED-OLE ([NCT02612454](#))] in children aged 6 months to 5 years with moderate-to-severe AD who previously participated in the 16-week, double-blind, phase 3 LIBERTY AD PRESCHOOL trial ([NCT03346434](#) part B; parent study) and were subsequently enrolled in PED-OLE.

Methods: In PED-OLE, patients received dupilumab every 4 weeks according to a weight-tiered regimen (body weight ≥ 5 kg to < 15 kg: 200 mg; ≥ 15 kg to < 30 kg: 300 mg).

Results: Data for 142 patients were analyzed, 60 of whom had completed the 52-week visit at time of database lock. Mean age at baseline was 4.1 y [SD, 1.13; range, 1.0-5.9 years]. A majority (78.2%) of patients reported ≥ 1 treatment-emergent adverse event (TEAE), most of which were mild or moderate and transient. The most frequently reported TEAEs were nasopharyngitis (19.7%), cough (15.5%), and pyrexia (14.1%). One TEAE led to treatment discontinuation (severe urticaria, which resolved in 1 day). By week 52, 36.2% of patients had achieved an Investigator's Global Assessment score of 0/1 (clear/almost clear skin), and 96.6%, 79.3%, and 58.6% had at least 50%, 75%, or 90% improvement, respectively, in Eczema Area and Severity Index scores.

Conclusions: Consistent with results seen in adults, adolescents, and older children (aged 6-11 years), treatment with dupilumab for up to 1 year in children aged 6 months to 5 years with inadequately controlled moderate-to-severe AD demonstrated an acceptable long-term safety profile and sustained efficacy. These results support the long-term continuous use of dupilumab in this patient population.

Trial registration: ClinicalTrials.gov Identifiers: [NCT02612454](#) and [NCT03346434](#) (part B).

Plain language summary

Atopic dermatitis (AD) is a chronic inflammatory skin disease that often results in a high disease burden in young children and their families. Patients often need long-term treatment to control their disease symptoms, including itch and rash. Dupilumab treatment

for 16 weeks has shown benefits in children aged 6 months to 5 years with moderate-to-severe AD, with an acceptable safety profile. As AD is likely to continue from childhood into adolescence and adulthood, there is a need for data supporting long-term use of dupilumab in young children. In this study, children who completed the 16-week study continued dupilumab treatment for up to 1 year, receiving 200 mg or 300 mg of dupilumab (depending on the child's bodyweight) every 4 weeks. Through the year of treatment, 78.2% of patients reported at least one side effect, most of which were mild or moderate. Only one patient interrupted treatment because of severe skin rash (hives), which was resolved in 1 day. At the end of the year, 36.2% of patients had clear or almost clear skin, and almost all (96.6%) achieved at least 50% improvement in their extent and severity of disease. Additionally, 79.3%, and 58.6% had at least 75% or 90% improvement in their extent and severity of disease. In summary, consistent with results seen in adults, adolescents, and older children, this study showed that 1-year dupilumab treatment provides continued benefits with an acceptable safety profile. These results support long-term continuous use of dupilumab in children aged 6 months to 5 years with moderate-to-severe AD. What is the long-term safety and efficacy profile in young children with moderate-to-severe atopic dermatitis treated with dupilumab?

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- [38 references](#)

SUPPLEMENTARY INFO

Associated data expand

FULL TEXT LINKS



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

1

Am J Respir Crit Care Med

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. 2024 May 16.

doi: 10.1164/rccm.202308-1403OC. Online ahead of print.

A Bispecific Monoclonal Antibody Targeting Psl and PcrV Enhances Neutrophil-Mediated Killing of *Pseudomonas aeruginosa* in Patients with Bronchiectasis

[Merete B Long](#)¹, [Amy Gilmour](#)¹, [Margaret Kehl](#)², [David Tabor](#)², [Ashley E Keller](#)², [Paul Warrener](#)², [Vancheswaran Gopalakrishnan](#)², [Sanna Rosengren](#)³, [Megan L Crichton](#)¹, [Eve McIntosh](#)¹, [Yan Hui Giam](#)¹, [Holly R Keir](#)⁴, [Wayne Brailsford](#)⁵, [Rod Hughes](#)⁶, [Maria G Belvisi](#)⁷, [Bret R Sellman](#)², [Antonio DiGiandomenico](#)⁸, [James D Chalmers](#)⁹

Affiliations expand

- PMID: 38754132
- DOI: [10.1164/rccm.202308-1403OC](https://doi.org/10.1164/rccm.202308-1403OC)

Abstract

Rationale and objectives: *Pseudomonas aeruginosa* infection is associated with worse outcomes in bronchiectasis. Impaired neutrophil antimicrobial responses contribute to bacterial persistence. Gremubamab is a bivalent, bispecific monoclonal antibody targeting Psl exopolysaccharide and the type 3 secretion system component PcrV. This study evaluated the efficacy of gremubamab to enhance killing of *P.aeruginosa* by neutrophils from bronchiectasis patients and to prevent *P.aeruginosa*-associated cytotoxicity.

Methods: *P.aeruginosa* isolates from a global bronchiectasis cohort (n=100) underwent whole-genome sequencing to determine target prevalence. Functional activity of gremubamab against selected isolates was tested *in-vitro* and *in-vivo*. Patients with bronchiectasis (n=11) and controls (n=10) were enrolled and the effect of gremubamab in peripheral-blood neutrophil opsonophagocytic killing (OPK) assays against *P.aeruginosa* was evaluated. Serum antibody titers to Psl and PcrV were determined (n=30; 19: chronic *P.aeruginosa* infection, 11: no-known *P.aeruginosa* infection), as was the effect of gremubamab treatment in OPK and anti-cytotoxic activity assays.

Measurements and results: Psl and PcrV were conserved in isolates from chronically-infected bronchiectasis patients. 73/100 isolates had a full *psl* locus and 99/100 contained the *pcrV* gene, with 20 distinct full-length PcrV protein subtypes identified. PcrV subtypes were successfully bound by gremubamab and the mAb mediated potent protective activity

against tested isolates. Gremubamab increased bronchiectasis patient neutrophil-mediated OPK (+34.6±8.1%) and phagocytosis (+70.0±48.8%), similar to effects observed in neutrophils from controls (OPK:+30.1±7.6%). No evidence of competition between gremubamab and endogenous antibodies was found, with protection against *P.aeruginosa*-induced cytotoxicity and enhanced OPK demonstrated with and without addition of patient serum.

Conclusion: Gremubamab enhanced bronchiectasis patient neutrophil phagocytosis and killing of *P.aeruginosa* and reduced virulence.

Keywords: antibody; bronchiectasis; infection; neutrophil.

FULL TEXT LINKS



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Review

[X-Linked Lymphoproliferative Disease](#)

[Lauren Meyer](#)¹, [Melissa Hines](#)², [Kejian Zhang](#)³, [Kim Nichols](#)⁴

[Margaret P Adam](#), [Jerry Feldman](#), [Ghayda M Mirzaa](#), [Roberta A Pagon](#), [Stephanie E Wallace](#), [Lora JH Bean](#), [Karen W Gripp](#), [Anne Amemiya](#)

, editors.

In: GeneReviews® [Internet]. Seattle (WA): University of Washington, Seattle; 1993.

2004 Feb 27 [updated 2024 May 16].

Affiliations expand

- PMID: 20301580

- Bookshelf ID: [NBK1406](#)

Excerpt

Clinical characteristics: X-linked lymphoproliferative disease (XLP) in general is characterized by an inappropriate immune response to Epstein-Barr virus (EBV) infection leading to hemophagocytic lymphohistiocytosis (HLH) or severe mononucleosis, dysgammaglobulinemia, and lymphoproliferative disease (malignant lymphoma). The condition primarily affects males. XLP has two recognizable subtypes, XLP1 (due to pathogenic variants in *SH2D1A*) and XLP2 (due to pathogenic variants in *XIAP*). HLH / fulminant infectious mononucleosis is the most common presentation regardless of subtype. HLH is characterized as an acute illness with prolonged and high fever, bi- or trilineage cytopenias, and hepatosplenomegaly, which is often severe or fatal. Death is generally secondary to liver failure or multisystem organ dysfunction. In those with XLP1, dys- or hypogammaglobulinemia can lead to varying degrees of humoral immune dysfunction associated with bronchiectasis and recurrent respiratory infections that, if untreated, may result in death. Lymphoproliferative disease (malignant lymphoma) and other lymphoproliferative diseases are specific to XLP1 and often develop in childhood, usually following EBV exposure. Rarer findings in those with XLP1 can include aplastic anemia, vasculitis, and lymphoid granulomatosis. Males with XLP2 are more likely to have HLH without EBV infection, recurrent episodes of HLH (which is not typically seen in those with XLP1), splenomegaly, and gastrointestinal disease, including enterocolitis and perirectal abscesses or fistulae. Rarely, individuals with XLP2 and inflammatory bowel disease have been reported to develop inflammatory liver disease, which can progress to fatal liver failure. Transient hypogammaglobulinemia has been rarely observed in those with XLP2. To date, neither lymphoproliferative disease nor common variable immunodeficiency has been reported in males with XLP2.

Heterozygous females rarely have symptoms. There are, however, increasing numbers of reports of affected females with unfavorable (skewed) X-chromosome inactivation favoring the X chromosome with the pathogenic variant who develop HLH, inflammatory bowel disease, and erythema nodosum.

Diagnosis/testing: The diagnosis of XLP1 or XLP2 can be established in a male proband who has a hemizygous germline pathogenic variant in *SH2D1A* (XLP1) or *XIAP* (XLP2) identified on molecular genetic testing. These males typically have low or absent SAP or XIAP protein expression, respectively, by flow cytometry. Female probands with a heterozygous pathogenic variant in *SH2D1A* or *XIAP* identified on molecular genetic testing and skewed X-chromosome inactivation toward expression of the chromosome with the pathogenic *SH2DA1* or *XIAP* variant have been reported; such individuals may be symptomatic.

Management: *Targeted therapy:* The only known curative therapy for XLP1 is allogeneic hematopoietic stem cell transplant (HSCT), which should be strongly considered in all males as early in life as is feasible, particularly in those who have not developed symptoms;

HSCT is not recommended for asymptomatic heterozygous females. For individuals with XLP2, many manifestations of disease can be improved with HSCT; however, there are more complications in these individuals.

Supportive care: Standard treatment for liver dysfunction/failure, hypogammaglobulinemia (IVIG or IgG), fulminant EBV infection / HLH (including etoposide and steroids and consideration of rituximab), lymphoma, colitis, aplastic anemia, and vasculitis.

Surveillance: At each visit, obtain history of any neurologic changes; physical exam for evidence of hepatosplenomegaly, lymphadenopathy, and neurologic changes; monitor for signs and symptoms of colitis and cholangitis in those with XLP2. Based on clinical status / evaluation for early evidence of HLH, monitor for liver dysfunction with hepatic profiles and coagulation; measurement of complete blood count; measurement of serum inflammatory markers (ferritin, soluble IL2R). As needed, measurement of serum IgG levels based on phenotype or in those with recurrent respiratory infections; EBV-PCR in blood for evidence of EBV infection if a person has symptoms of infection or HLH develops.

Agents/circumstances to avoid: Individuals with XLP who come into contact with EBV are at risk of developing HLH and/or lymphoproliferation. Individuals are also at risk of developing HLH or inflammatory problems secondary to other infections.

Genetic counseling: XLP is inherited in an X-linked manner. The risk to the sibs of a male proband depends on the genetic status of the mother: if the mother is heterozygous for an *SH2D1A* or *XIAP* pathogenic variant, the chance of transmitting the *SH2D1A* or *XIAP* pathogenic variant in each pregnancy is 50%. Male sibs who inherit the pathogenic variant will be affected; female sibs who inherit the pathogenic variant will be heterozygotes and will typically not be affected (in rare cases, heterozygous females may be symptomatic due to skewed X-chromosome inactivation). Genetic testing of at-risk female relatives is most informative if the pathogenic variant has been identified in the proband. Prenatal testing is possible for a pregnancy at increased risk if the familial pathogenic variant is known.

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Am J Respir Crit Care Med

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. 2024 May 15.

doi: 10.1164/rccm.202405-0923ED. Online ahead of print.

[Imaging to Advance Bronchiectasis Phenotyping](#)

[Diego J Maselli](#)¹, [Alejandro A Diaz](#)²

Affiliations expand

- PMID: 38747649
- DOI: [10.1164/rccm.202405-0923ED](https://doi.org/10.1164/rccm.202405-0923ED)

No abstract available

Keywords: bronchiectasis; lung imaging; phenotype.

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Am J Respir Crit Care Med

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. 2024 May 15.

doi: 10.1164/rccm.202405-0936ED. Online ahead of print.

The Heterogeneous World of Non-Tuberculous Mycobacteria in Bronchiectasis

[Miguel Angel Martinez-Garcia](#)¹

Affiliations expand

- PMID: 38747644
- DOI: [10.1164/rccm.202405-0936ED](https://doi.org/10.1164/rccm.202405-0936ED)

No abstract available

Keywords: Non-tuberculous mycobacteria; bronchiectasis; mortality.

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Am J Respir Crit Care Med

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. 2024 May 15;209(10):1246-1254.

doi: 10.1164/rccm.202303-0401OC.

Serum Cell-Free DNA-based Detection of *Mycobacterium avium* Complex Infection

[Lin Li](#)^{1,2}, [Emily Henkle](#)³, [Brady M Youngquist](#)², [Seungyeon Seo](#)⁴, [Kamal Hamed](#)⁵, [David Melnick](#)⁵, [Christopher J Lyon](#)², [Li Jiang](#)¹, [Adrian M Zelazny](#)⁴, [Tony Y Hu](#)^{2,6}, [Kevin L Winthrop](#)⁷, [Bo Ning](#)²

Affiliations expand

- PMID: 38190702
- DOI: [10.1164/rccm.202303-0401OC](https://doi.org/10.1164/rccm.202303-0401OC)

Abstract

Rationale: *Mycobacterium avium* complex (MAC) is the most common cause of nontuberculous mycobacterial (NTM) pulmonary disease (PD), which exhibits increasing global incidence. Current microbiologic methods routinely used in clinical practice lack sensitivity and have long latencies, leading to delays in diagnosis and treatment initiation and evaluation. A clustered regularly interspaced short palindromic repeats (CRISPR)-based assay that measures MAC cell-free DNA (cfDNA) concentrations in serum could provide a rapid means to detect MAC infection and monitor response to antimicrobial treatment. **Objectives:** To develop and optimize a CRISPR MAC assay for MAC infection detection and to evaluate its diagnostic and prognostic performance in two MAC disease cohorts. **Methods:** MAC cfDNA serum concentrations were measured in individuals with diagnoses of MAC disease or who had bronchiectasis or chronic obstructive pulmonary disease diagnoses without histories of NTM PD or NTM-positive sputum cultures. Diagnostic performance was analyzed using pretreatment serum from two cohorts. Serum MAC cfDNA changes during MAC PD treatment were evaluated in a subset of patients with MAC PD who received macrolide-based multidrug regimens. **Measurements and Main Results:** The CRISPR MAC assay detected MAC cfDNA in MAC PD with 97.6% (91.6-99.7%) sensitivity and 97.6% (91.5-99.7%) specificity overall. Serum MAC cfDNA concentrations markedly decreased after MAC-directed treatment initiation in patients with MAC PD who demonstrated MAC culture conversion. **Conclusions:** This study provides preliminary

evidence for the utility of a serum-based CRISPR MAC assay to rapidly detect MAC infection and monitor the response to treatment.

Keywords: Mycobacterium avium complex; clustered regularly interspaced short palindromic repeats; molecular diagnostics; pulmonary disease.

Comment in

- [Is It Time to Say Goodbye to Sputum?](#)
Grogono DM. Am J Respir Crit Care Med. 2024 May 15;209(10):1184-1185. doi: 10.1164/rccm.202401-0204ED. PMID: 38422477 No abstract available.

SUPPLEMENTARY INFO

MeSH terms, Grants and funding expand

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Case Reports

Intern Med

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. 2024 May 15;63(10):1433-1437.

doi: 10.2169/internalmedicine.2565-23. Epub 2023 Oct 6.

[FOXJ1 Variants Causing Primary Ciliary Dyskinesia with Hydrocephalus: A Case Report from Japan](#)

[Masashi Ito](#)¹, [Kozo Morimoto](#)^{1,2,3}, [Takashi Ohfuji](#)^{4,5}, [Akiko Miyabayashi](#)⁶, [Keiko Wakabayashi](#)⁶, [Hiroyuki Yamada](#)⁷, [Minako Hijikata](#)⁶, [Naoto Keicho](#)⁸

Affiliations expand

- PMID: 37813609
- DOI: [10.2169/internalmedicine.2565-23](https://doi.org/10.2169/internalmedicine.2565-23)

Free article

Abstract

Primary ciliary dyskinesia (PCD) is a genetic disease characterized by motile cilia dysfunction, mostly inherited in an autosomal recessive or X-linked manner. We herein report a 29-year-old woman with PCD caused by a heterozygous frameshift mutation due to a single nucleotide deletion in exon 3 of FOXJ1. Heterozygous de novo mutations in FOXJ1 have been reported as an autosomal-dominant cause of PCD. The patient had situs inversus, congenital heart disease, infertility, and hydrocephalus. However, the nasal nitric oxide level was normal. Long-term macrolide therapy was remarkably effective. This is the first case report of PCD caused by a FOXJ1 variant in Japan.

Keywords: FOXJ1; bronchiectasis; hydrocephalus; primary ciliary dyskinesia.

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Publication types, MeSH termsexpand

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Transplant Proc

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. 2024 May 14:S0041-1345(24)00199-4.

doi: 10.1016/j.transproceed.2024.03.034. Online ahead of print.

Combined Liver–Pancreas Transplantation as Novel Treatment for Patient With Cystic Fibrosis: A Case Report

[Damian Zienkiewicz](#)¹, [Paulina Kalman](#)¹, [Paweł Skrzypek](#)², [Paweł Ziemiański](#)³, [Marek Pacholczyk](#)², [Maciej Kosieradzki](#)², [Wojciech Lisik](#)²

Affiliations expand

- PMID: 38749862
- DOI: [10.1016/j.transproceed.2024.03.034](https://doi.org/10.1016/j.transproceed.2024.03.034)

Abstract

Background: A 21-year-old woman diagnosed with cystic fibrosis developed cirrhosis, exocrine pancreatic insufficiency, and insulin-dependent diabetes mellitus. The patient qualified for double organ liver-pancreas transplantation beyond typical indications. The respiratory symptoms of cystic fibrosis were moderate and well-treated. The patient was endangered mainly by liver insufficiency and recurrent hypoglycemia, which was due to the treatment of diabetes with high doses of insulin. Computed tomography showed mild bronchiectasis, cirrhotic liver, splenomegaly, and atrophy of the pancreas. *Pseudomonas aeruginosa* colonized the upper respiratory tract. Gastrointestinal complications were sufficient for the patient to be qualified for combined liver-pancreas transplantation.

Methods: First, a standard hepatectomy was performed. The liver was transplanted orthotopically. Subsequently, the team performed pancreas transplantation through a separate incision. The donor's duodenum was anastomosed to the recipient's jejunum, close to the ligament of Treitz.

Results: No serious complications were noted during the postoperative period. Transplanted organs started functioning without delay. The patient was discharged after 6 weeks in general good condition. Twenty months later, the patient felt well, and the grafts kept functioning properly.

Conclusion: Combined liver-pancreas transplantation in patients with CF restores exocrine and endocrine pancreatic function and minimizes the risk of life-threatening complications associated with liver insufficiency. Improvement of life quality coincides with the possibility of discontinuing insulin and pancreatic enzyme supplementation. The combination of liver and pancreas transplantation may prevent advanced pulmonary complications, extend the prognosis of survival, and improve the long-term life quality.

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Conflict of interest statement

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

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Multicenter Study

Eur J Med Res

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. 2024 May 14;29(1):286.

doi: 10.1186/s40001-024-01870-z.

[Correlating Reiff scores with clinical, functional, and prognostic factors: characterizing noncystic fibrosis](#)

bronchiectasis severity: validation from a nationwide multicenter study in Taiwan

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Affiliations expand

- PMID: 38745338
- PMCID: [PMC11092240](#)
- DOI: [10.1186/s40001-024-01870-z](#)

Abstract

Background: Our study aimed to confirm a simplified radiological scoring system, derived from a modified Reiff score, to evaluate its relationship with clinical symptoms and predictive outcomes in Taiwanese patients with noncystic fibrosis bronchiectasis (NCFB).

Methods: This extensive multicenter retrospective study, performed in Taiwan, concentrated on patients diagnosed with NCFB verified through high-resolution computed tomography (HRCT) scans. We not only compared the clinical features of various types of bronchiectasis (cylindrical, varicose, and cystic). Furthermore, we established relationships between the severity of clinical factors, including symptom scores, pulmonary function, pseudomonas aeruginosa colonization, exacerbation and admission rates, and HRCT parameters using modified Reiff scores.

Results: Data from 2,753 patients were classified based on HRCT patterns (cylindrical, varicose, and cystic) and severity, assessed by modified Reiff scores (mild, moderate, and severe). With increasing HRCT severity, a significant correlation was found with decreased forced expiratory volume in the first second (FEV1) ($p < 0.001$), heightened clinical symptoms ($p < 0.001$), elevated pathogen colonization (pseudomonas aeruginosa) ($p < 0.001$), and an increased annual hospitalization rate ($p < 0.001$). In the following

multivariate analysis, elderly age, pseudomonas aeruginosa pneumonia, and hospitalizations per year emerged as the only independent predictors of mortality.

Conclusion: Based on our large cohort study, the simplified CT scoring system (Reiff score) can serve as a useful adjunct to clinical factors in predicting disease severity and prognosis among Taiwanese patients with NCFB.

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Conflict of interest statement

No conflicts exist for the specified authors.

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

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[Review](#)

Expert Rev Respir Med

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. 2024 May 14.

doi: 10.1080/17476348.2024.2355155. Online ahead of print.

Targeting respiratory microbiomes in COPD and bronchiectasis

[Sanjay H Chotirmall](#)^{1,2}, [Micheál Mac Aogáin](#)^{3,4}, [Pei Yee Tiew](#)^{1,5,6}, [Tavleen Kaur Jaggi](#)¹, [Jayanth Kumar Narayana](#)¹, [Shivani Singh](#)⁷, [Philip M Hansbro](#)⁸, [Leopoldo N Segal](#)⁷

Affiliations expand

- PMID: 38743428
- DOI: [10.1080/17476348.2024.2355155](https://doi.org/10.1080/17476348.2024.2355155)

Abstract

Introduction: This review summarizes our current understanding of the respiratory microbiome in COPD and Bronchiectasis. We explore the interplay between microbial communities, host immune responses, disease pathology and treatment outcomes.

Areas covered: We detail the dynamics of the airway microbiome, its influence in chronic respiratory diseases, and analytical challenges. Relevant articles from PubMed and Medline searches between Jan 2010 and March 2024 were retrieved and summarized. The review examines clinical correlations of the microbiome in COPD and bronchiectasis, assessing how current therapies impact upon it. The potential of emerging immunotherapies, anti-inflammatories and antimicrobial strategies are discussed, with focus on the pivotal role of commensal taxa in maintaining respiratory health and the promising avenue of microbiome remodeling for disease management.

Expert opinion: Given the heterogeneity in microbiome composition and its pivotal role in disease development and progression, a shift toward microbiome-directed therapeutics is appealing. This transition, from traditional 'pathogen-centric' diagnostic and treatment modalities to those acknowledging the microbiome, can be enabled by evolving cross-disciplinary platforms which have the potential to accelerate microbiome-based interventions into routine clinical practice. Bridging the gap between comprehensive microbiome analysis and clinical application, however, remains challenging, necessitating continued innovation in research, diagnostics, trials and therapeutic development pipelines.

Keywords: Bronchiectasis; COPD; Immunopathology; Metagenomics; Microbiome.

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ERJ Open Res

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. 2024 May 13;10(3):00880-2023.

doi: 10.1183/23120541.00880-2023. eCollection 2024 May.

[ERS International Congress 2023: highlights from the Respiratory Infections Assembly](#)

[Francesco Bindo](#)^{1,2}, [Giovanni Fumagalli](#)^{3,4}, [Kiarina Myroniuk-Konstantynovych](#)⁵, [Efthymia Papadopoulou](#)⁶, [Dóra Paróczai](#)^{7,8}, [Lidia Perea](#)⁹, [Jennifer Pollock](#)¹⁰, [Oleksandra Popovych](#)⁵, [Chiara Premuda](#)^{1,2}, [Merete B Long](#)¹⁰, [Holly R Keir](#)¹⁰

Affiliations expand

- PMID: 38746858
- PMCID: [PMC11089386](#)
- DOI: [10.1183/23120541.00880-2023](#)

Abstract

The 2023 European Respiratory Society Congress took place on a hybrid platform, with participants joining online and in-person in Milan, Italy. The congress welcomed over 20

000 attendees, bringing together exciting updates in respiratory science and medicine from around the world. In this article, early career members of Assembly 10 (Respiratory Infections) summarise a selection of sessions across a broad range of topics, including presentations on bronchiectasis, nontuberculous mycobacteria, tuberculosis, cystic fibrosis and coronavirus disease 2019.

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Conflict of interest statement

Conflict of interest: F. Bindo reports no conflicts of interest. Conflict of interest: G. Fumagalli reports no conflicts of interest. Conflict of interest: K. Myroniuk-Konstantynowych reports no conflicts of interest. Conflict of interest: E. Papadopoulou reports no conflicts of interest. Conflict of interest: D. Paróczai reports no conflicts of interest. Conflict of interest: L. Perea reports no conflicts of interest. Conflict of interest: J. Pollock reports travel grants for conference attendance from Asthma+Lung UK, the American Thoracic Society, the European Respiratory Society and the British Association for Lung Research. Conflict of interest: O. Popovych reports no conflicts of interest. Conflict of interest: C. Premuda reports a European Respiratory Society Abstract Grant in Cystic Fibrosis. Conflict of interest: M.B. Long reports travel grants for conference attendance from Asthma+Lung UK, the British Thoracic Society and the American Thoracic Society. Conflict of interest: H.R. Keir reports honoraria received for lectures from Insmmed Inc. and travel grants from Asthma+Lung UK for conference attendance.

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