

LIBRA JOURNAL CLUB

2-11-FEB-2024

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

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

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

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

1

Ann Am Thorac Soc

•
•
•

. 2024 Feb 9.

doi: 10.1513/AnnalsATS.202305-417OC. Online ahead of print.

Peripheral Blood Mononuclear Cell Gene Expression Associated with Pulmonary Microvascular Perfusion: The Multi-Ethnic Study of Atherosclerosis Chronic Obstructive Pulmonary Disease Study

[Kristina L Buschur](#)^{1,2}, [Tess D Pottinger](#)¹, [Jens Vogel-Claussen](#)^{3,4}, [Charles A Powell](#)⁵, [Francois Aguet](#)⁶, [Norrina B Allen](#)⁷, [Kristin Ardlie](#)⁶, [David A Bluemke](#)⁸, [Peter Durda](#)⁹, [Emilia A Hermann](#)¹, [Eric A Hoffman](#)¹⁰, [João A C Lima](#)¹¹, [Yongmei Liu](#)¹², [Daniel Malinsky](#)¹³, [Ani Manichaikul](#)¹⁴, [Amin Motahari](#)¹⁵, [Wendy S Post](#)¹⁶, [Martin R Prince](#)¹⁷, [Stephen S Rich](#)¹⁴, [Jerome I Rotter](#)¹⁸, [Benjamin M Smith](#)^{19,20}, [Russell P Tracy](#)²¹, [Karol Watson](#)²², [Hinrich B Winther](#)³, [Tuuli Lappalainen](#)^{23,24,25}, [R Graham Barr](#)^{1,26}

Affiliations expand

- PMID: 38335160
- DOI: [10.1513/AnnalsATS.202305-417OC](https://doi.org/10.1513/AnnalsATS.202305-417OC)

Abstract

Rationale Chronic obstructive pulmonary disease (COPD) and emphysema are associated with endothelial damage and altered pulmonary microvascular perfusion. Molecular mechanisms underlying these changes are poorly understood in patients due, in part, to the inaccessibility of the pulmonary vasculature. Peripheral blood mononuclear cells (PBMC) interact with the pulmonary endothelium. **Objective** To test the association between gene expression in PBMCs and pulmonary microvascular perfusion in COPD. **Methods** The Multi-Ethnic Study of Atherosclerosis (MESA) COPD Study recruited two independent samples of COPD cases and controls with 10 or more pack-years. In both samples, pulmonary microvascular blood flow, pulmonary microvascular blood volume (PMBV), and mean transit time were assessed on contrast-enhanced MRI, and PBMC gene expression was assessed by microarray. Additional replication was performed in a third sample with PMBV measures on contrast-enhanced, dual-energy CT. Differential expression analyses were adjusted for age, gender, race-ethnicity, educational attainment, height, weight, smoking status, and pack-years. **Results** The 79 participants in the discovery sample had mean age of 69 ± 6 years, 44% were female, 25% were non-white, 34% were current smokers and 66% had COPD. There were large PBMC gene expression signatures associated with pulmonary microvascular perfusion traits, with several replicated in the replication sets with MRI (n=47) or dual-energy CT scan (n=157) measures. Many of the identified genes are involved in inflammatory processes, including NF- κ B and chemokine signaling pathways. **Conclusions** PBMC gene expression in NF- κ B, inflammatory and chemokine signaling pathways was associated pulmonary microvascular perfusion in COPD, potentially offering new targetable candidates for novel therapies.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share



. 2024 Feb 9:1-13.

doi: 10.1080/07399332.2024.2310068. Online ahead of print.

Being met as a person and not as a diagnosis - Meanings of healthcare encounters for women with chronic obstructive pulmonary disease stage III or IV

[Ann Ekdahl](#)¹, [Siv Söderberg](#)¹, [Malin Holmström Rising](#)¹

Affiliations expand

- PMID: 38334989
- DOI: [10.1080/07399332.2024.2310068](https://doi.org/10.1080/07399332.2024.2310068)

Abstract

Our study seeks to elucidate meanings of healthcare encounters for women with chronic obstructive pulmonary disease stage III or IV. We conducted 12 narrative interviews which were analyzed using phenomenological hermeneutic interpretation. Our analysis revealed one theme; being met as a person and not as a diagnosis with three subthemes: getting sufficient time and feeling involved in care; fulfillment of personal needs; and experiencing disrespect and injustice. We found that meanings of healthcare encounters center on the expectation of being seen as a person. Feeling disrespected and unjust leaves women unsupported and could pose serious health risks.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

3

Clin Pharmacol Ther



. 2024 Feb 9.

doi: 10.1002/cpt.3194. Online ahead of print.

[SGLT-2 Inhibitor Use and Cause-Specific Hospitalization Rates: An Outcome-Wide Study to Identify Novel Associations of SGLT-2 Inhibitors](#)

[George S Q Tan](#)^{1,2}, [Jedidiah I Morton](#)^{1,2}, [Stephen Wood](#)¹, [Jonathan E Shaw](#)^{2,3}, [Dianna J Magliano](#)^{#2,3}, [Jenni Ilomäki](#)^{#1}

Affiliations expand

- PMID: 38333984
- DOI: [10.1002/cpt.3194](https://doi.org/10.1002/cpt.3194)

Abstract

Sodium-glucose co-transporter 2 inhibitors (SGLT2is) have demonstrated multifaceted pharmacological effects. In addition to type 2 diabetes, they are now indicated for heart failure and chronic kidney disease. This study aimed to identify novel associations between SGLT2i use and health outcomes using real-world data. Using linked data from a nationwide diabetes registry in Australia, we compared hospitalization rates in people living with type 2 diabetes commencing treatment with SGLT2i and dipeptidyl peptidase-4 inhibitor (DPP4i) between December 1, 2013, and June 30, 2019. Cause-specific hospitalizations were categorized across three hierarchies of diagnoses (first, first three, and first four digits of International Classification of Diseases, Tenth Version, Australian Modification codes). Incidence rate ratio (IRR) and 95% confidence interval (95% CI) for each cause-specific hospitalization were estimated using negative binomial regression. In the first hierarchy, hospitalization rates were lower across most diagnosis groups among

SGLT2i initiators (n = 99,569) compared with DPP4i initiators (n = 186,353). In the second and third hierarchies, there were lower hospitalization rates relating to infections, anemias, and obstructive airway diseases among SGLT2i initiators compared with DPP4i initiators. These included sepsis (IRR: 0.60, 95% CI: 0.51-0.72) anemia (IRR: 0.55, 95% CI: 0.46-0.66), and chronic obstructive pulmonary diseases (IRR: 0.52, 95% CI: 0.40-0.68), as well as for previously known associations (e.g., heart failure (IRR: 0.63, 95% CI: 0.56-0.70)). SGLT2is have previously uncharacterized associations on a range of important clinical outcomes; validation of these associations requires further study, some of which may suggest novel benefits or new indications for SGLT2is.

© 2024 The Authors. Clinical Pharmacology & Therapeutics published by Wiley Periodicals LLC on behalf of American Society for Clinical Pharmacology and Therapeutics.

- [49 references](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

4

ERJ Open Res

-
-
-

. 2024 Feb 5;10(1):00595-2023.

doi: 10.1183/23120541.00595-2023. eCollection 2024 Jan.

[Sputum microbiome \$\alpha\$ -diversity is a key feature of the COPD frequent exacerbator phenotype](#)

[Alexa A Pragman](#)¹, [Shane W Hodgson](#)², [Tianhua Wu](#)³, [Allison Zank](#)², [Cavan S Reilly](#)³, [Chris H Wendt](#)¹

Affiliations expand

- PMID: 38333651
- PMCID: [PMC10851948](#)
- DOI: [10.1183/23120541.00595-2023](#)

Abstract

Background: The lung microbiome is an inflammatory stimulus whose role in COPD pathogenesis is incompletely understood. We hypothesised that the frequent exacerbator phenotype is associated with decreased α -diversity and increased lung inflammation. Our objective was to assess correlations between the frequent exacerbator phenotype, the microbiome and inflammation longitudinally during exacerbation-free periods.

Methods: We conducted a case-control longitudinal observational study of the frequent exacerbator phenotype and characteristics of the airway microbiome. 81 subjects (41 frequent and 40 infrequent exacerbators) provided nasal, oral and sputum microbiome samples at two visits over 2-4 months. Exacerbation phenotype, relevant clinical factors and sputum cytokine values were associated with microbiome findings.

Results: The frequent exacerbator phenotype was associated with lower sputum microbiome α -diversity ($p=0.0031$). This decrease in α -diversity among frequent exacerbators was enhanced when the sputum bacterial culture was positive ($p<0.001$). Older age was associated with decreased sputum microbiome α -diversity ($p=0.0030$). Between-visit β -diversity was increased among frequent exacerbators and those who experienced a COPD exacerbation between visits ($p=0.025$ and $p=0.014$, respectively). Sputum cytokine values did not differ based on exacerbation phenotype or other clinical characteristics. Interleukin (IL)-17A was negatively associated with α -diversity, while IL-6 and IL-8 were positively associated with α -diversity ($p=0.012$, $p=0.012$ and $p=0.0496$, respectively). IL-22, IL-17A and IL-5 levels were positively associated with *Moraxella* abundance ($p=0.027$, $p=0.0014$ and $p=0.0020$, respectively).

Conclusions: Even during exacerbation-free intervals, the COPD frequent exacerbator phenotype is associated with decreased sputum microbiome α -diversity and increased β -diversity. Decreased sputum microbiome α -diversity and *Moraxella* abundance are associated with lung inflammation.

The content of this work is not subject to copyright. Design and branding are copyright ©ERS 2024.

Conflict of interest statement

Conflict of interest: A. Pragman reports support for attending meetings and/or travel from the US Department of Veterans Affairs outside the submitted work. Conflict of interest: S.W. Hodgson has nothing to disclose. Conflict of interest: T. Wu has nothing to disclose. Conflict of interest: A. Zank has nothing to disclose. Conflict of interest: C.S. Reilly reports grants or contracts from NIH, outside the submitted work; and participation on a data safety monitoring or advisory board for the Mayo Clinic and Washington University, outside the submitted work. Conflict of interest: C.H. Wendt has nothing to disclose.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

5

ERJ Open Res

-
-
-

. 2024 Feb 5;10(1):00793-2023.

doi: 10.1183/23120541.00793-2023. eCollection 2024 Jan.

[Clinical relevance of lung function trajectory clusters in middle-aged and older adults](#)

[Xander Bertels](#)^{1,2}, [James C Ross](#)³, [Rosa Faner](#)^{4,5,6}, [Michael H Cho](#)^{7,8}, [M Arfan Ikram](#)², [Guy G Brusselle](#)^{2,9,10}, [Lies Lahousse](#)^{1,2}

Affiliations expand

- PMID: 38333649
- PMCID: [PMC10851953](#)

- DOI: [10.1183/23120541.00793-2023](https://doi.org/10.1183/23120541.00793-2023)

Abstract

Background: The determinants and health outcomes of lung function trajectories in adults among the general population are poorly understood. We aimed to identify and characterise clusters of lung function trajectories in adults aged ≥ 45 years.

Methods: Gaussian finite-mixture modelling was applied to baseline and annualised change of forced expiratory volume in 1 s (FEV_1), forced vital capacity (FVC) and FEV_1/FVC ratio z-scores in participants of the Rotterdam Study, a prospective population-based cohort study, with repeated spirometry ($n=3884$; mean \pm sd age 64.7 ± 8.9 years). Longitudinal outcomes were all-cause mortality, respiratory outcomes (symptoms, COPD ($FEV_1/FVC < 0.7$ in absence of asthma), preserved ratio impaired spirometry (PRISm; $FEV_1/FVC \geq 0.7$ and FEV_1 or FVC $< 80\%$)), smoking cessation and weight changes. Independent risk factors, including genetics, were identified by multiple logistic regression.

Results: We identified eight trajectory clusters, with the reference group having persistently normal spirometry (prevalence 42.8%). Three clusters showed higher mortality, adjusted for confounders: 1) the persistently low FEV_1 cluster (prevalence 6.8%, hazard ratio (HR) 1.71, 95% CI 1.37-2.13); 2) rapid FEV_1 decliners (prevalence 4.6%, HR 1.48, 95% CI 1.10-1.99); and 3) FVC decliners (prevalence 3.7%, HR 1.49, 95% CI 1.09-2.03). In contrast, FVC improvers (prevalence 6.7%, HR 0.61, 95% CI 0.41-0.90) and persistently high FEV_1 (prevalence 29.2%, HR 0.82, 95% CI 0.69-0.98) were protective trajectory clusters. Clusters were characterised by differences in genetic predisposition (polygenic scores of FEV_1 and FEV_1/FVC), demographics, cigarette smoking, respiratory symptoms (chronic cough, wheezing and dyspnoea), cardiovascular factors (body mass index, hypertension and heart failure) and serum C-reactive protein levels. Frailty, weight changes and the development of respiratory symptoms, COPD and PRISm were significantly associated with trajectory clusters.

Conclusions: This study reveals clinically relevant lung function trajectory clusters in older adults of the general population.

Copyright ©The authors 2024.

Conflict of interest statement

Conflict of interest: X. Bertels reports BOF.SIP.2020 funding for international mobility in relation to the submitted work. Conflict of interest: R. Faner reports grants from the Serra Húnter Program, Instituto de Salud Carlos III (PI21/00735) and European Research Council under the Horizon Europe research and innovation programme (101044387) outside the submitted work. Conflict of interest: M.H. Cho reports NHLBI funding (R01HL153248, R01HL149861 and R01HL147148), grants from Bayer and GSK, consulting fees from

Genentech, AstraZeneca and Illumina, and honoraria for lectures from Genentech, AstraZeneca and Illumina outside the submitted work. Conflict of interest: G.G. Brusselle reports fees for advisory boards and/or lectures from AstraZeneca, Boehringer Ingelheim, Chiesi, GSK, Merck Sharp & Dohme, Novartis and Sanofi Regeneron outside the submitted work. Conflict of interest: L. Lahousse reports BOF.SIP.2020 funding for international mobility in relation to the submitted work, consulting fees from AstraZeneca, and speaking/lecture fees from Chiesi and IPSA (non-profit) outside the submitted work. Conflict of interest: J.C. Ross and M.A. Irfan declare no conflicts of interest.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

6

ERJ Open Res



. 2024 Feb 5;10(1):00697-2023.

doi: 10.1183/23120541.00697-2023. eCollection 2024 Jan.

[Chronic cough associated with COPD exacerbation, pneumonia and death in the general population](#)

[Eskild M Landt](#)¹, [Yunus Çolak](#)^{2,3}, [Børge G Nordestgaard](#)^{3,4,5}, [Peter Lange](#)^{2,3,5,6}, [Morten Dahl](#)^{1,3,5}

Affiliations expand

- PMID: 38333647
- PMCID: [PMC10851932](#)

- DOI: [10.1183/23120541.00697-2023](https://doi.org/10.1183/23120541.00697-2023)

Abstract

Background: Chronic cough affects up to 10% of the general population and was previously perceived as a comorbidity of underlying conditions, but is nowadays classified as a disease in its own entity that could confer increased risk of morbidity and mortality. We tested the hypothesis that chronic cough is associated with increased risk of COPD exacerbation, pneumonia and all-cause mortality in the general population.

Methods: We identified 2801 individuals with chronic cough, defined as cough lasting >8 weeks, among 44 756 randomly selected individuals from the Copenhagen General Population Study, and recorded COPD exacerbations, pneumonia and all-cause mortality during follow-up.

Results: During up to 5.9 years of follow-up (median 3.4 years), 173 individuals experienced COPD exacerbation, 767 experienced pneumonia and 894 individuals died. Individuals with chronic cough *versus* those without had cumulative incidences at age 80 years of 12% *versus* 3% for COPD exacerbation, 30% *versus* 15% for pneumonia, and 25% *versus* 13% for death from all causes. After adjustment for age, sex and smoking, individuals with chronic cough *versus* those without had adjusted hazard ratios of 4.6 (95% CI 2.9-7.2) for COPD exacerbation, 2.2 (1.7-2.7) for pneumonia and 1.7 (1.4-2.0) for all-cause mortality. Among current smokers aged >60 years with airflow limitation, those with *versus* without chronic cough had an absolute 5-year risk of 10% *versus* 4% for COPD exacerbation, 16% *versus* 8% for pneumonia and 19% *versus* 12% for all-cause mortality.

Conclusion: Chronic cough is associated with higher risks of COPD exacerbation, pneumonia and death, independent of airflow limitation and smoking.

Copyright ©The authors 2024.

Conflict of interest statement

Conflict of interest: B.G. Nordestgaard has consultancies with Amarin, Akcea, Amgen, AstraZeneca, Denka Seiken, Kowa, Novartis, Novo Nordisk and Silence Therap. No conflicts of interest exist for E.M. Landt, Y. Çolak, P. Lange and M. Dahl

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

7

ERJ Open Res



. 2024 Feb 5;10(1):00615-2023.

doi: 10.1183/23120541.00615-2023. eCollection 2024 Jan.

Adjustments to maintenance therapy and the reasoning behind them among COPD outpatients in Austria: the STEP study

[Florian Vafai-Tabrizi](#)¹, [Ulrich Schwab](#)², [Stephan Brecht](#)², [Georg-Christian Funk](#)¹

Affiliations expand

- PMID: 38333644
- PMCID: [PMC10851946](#)
- DOI: [10.1183/23120541.00615-2023](#)

Abstract

Background: Adjustments to COPD maintenance treatment are based on different guidelines. In Austria, there is a lack of real-world data on treatment adjustments of COPD outpatients and their underlying rationale. The STEP study characterised change patterns of pharmacological maintenance therapy in COPD outpatients in predefined categories of step-up, step-down and switch, the underlying reasons, and predictors in clinical routine in Austria.

Methods: STEP was a single-visit non-interventional study in Austria. 77 pulmonologists based in outpatient clinics documented previous and adapted COPD therapy, reason for

change, patient characteristics, COPD phenotype, and lung function. Patients' COPD symptom burden was assessed by using the COPD Assessment Test (CAT). Predictors for therapy changes were identified.

Results: 1137 patients were studied (mean±sd age 67±10 years; 56.9% male; mean forced expiratory volume in 1 s 56.3% predicted; Global Initiative for Chronic Obstructive Lung Disease B and E stages 66% and 19%, respectively; mean CAT score 17.5). Therapy step-up was observed in 59.3%, treatment switch in 21.7% and step-down in 19.0% of patients. Triple therapy comprised the biggest proportion of inhalation treatment (53.3%). Physicians reported lung function, symptom burden and exacerbations as the main reasons for step-up or step-down, whereas switches within the same treatment class were predominantly caused by device issues. Predictors for step-up were comorbid asthma and exacerbations among others.

Conclusions: STEP was the first study to investigate COPD therapy changes in clinical routine in Austria. The most frequent treatment adjustment was step-up, followed by treatment switch and step-down. Symptom burden, stable or improved lung function and inhalation device handling were the most frequently given reasons for adjustments.

Copyright ©The authors 2024.

Conflict of interest statement

Conflict of interest: F. Vafai-Tabrizi reports support for the present manuscript from A. Menarini Pharma GmbH; consulting fees from A. Menarini Pharma GmbH, outside the submitted work; payment for lectures from Chiesi Pharma, AstraZeneca and Boehringer Ingelheim, outside the submitted work; and participation on a data safety monitoring board or advisory board for A. Menarini Pharma GmbH and Boehringer Ingelheim, outside the submitted work. U. Schwab reports support for the present manuscript from A. Menarini Pharma GmbH and is an employee of the medical department of A. Menarini Pharma GmbH. S. Brecht reports support for the present manuscript from A. Menarini Pharma GmbH and is an employee of the medical department of A. Menarini Pharma GmbH. G-C. Funk reports support for the present manuscript from A. Menarini Pharma GmbH; consulting fees from A. Menarini Pharma GmbH, Chiesi, AstraZeneca, Boehringer Ingelheim, CSL Behring and Novartis, outside the submitted work; payment or honoraria for lectures, presentations, speakers' bureaus, manuscript writing or educational events for Menarini, Chiesi, AstraZeneca, Boehringer Ingelheim, CSL Behring and Novartis, outside the submitted work; support for attending meetings and/or travel from Boehringer Ingelheim, outside the submitted work; and participation on a data safety monitoring or advisory board for A. Menarini Pharma GmbH, outside the submitted work.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

8

Thorax



. 2024 Feb 8:thorax-2023-220455.

doi: 10.1136/thorax-2023-220455. Online ahead of print.

[Lower airway microbiota in COPD and healthy controls](#)

[Solveig Tangedal](#)^{1,2}, [Rune Nielsen](#)^{3,2}, [Marianne Aanerud](#)^{3,2}, [Christine Drengenes](#)², [Gunnar R Husebø](#)³, [Sverre Lehmann](#)^{3,2}, [Kristel S Knudsen](#)³, [Pieter S Hiemstra](#)⁴, [Tomas MI Eagan](#)^{3,2}

Affiliations expand

- PMID: 38331579
- DOI: [10.1136/thorax-2023-220455](https://doi.org/10.1136/thorax-2023-220455)

Abstract

Background: The lower airway microbiota in patients with chronic obstructive pulmonary disease (COPD) are likely altered compared with the microbiota in healthy individuals. Information on how the microbiota is affected by smoking, use of inhaled corticosteroids (ICS) and COPD severity is still scarce.

Methods: In the MicroCOPD Study, participant characteristics were obtained through standardised questionnaires and clinical measurements at a single centre from 2012 to 2015. Protected bronchoalveolar lavage samples from 97 patients with COPD and 97 controls were paired-end sequenced with the Illumina MiSeq System. Data were analysed in QIIME 2 and R.

Results: Alpha-diversity was lower in patients with COPD than controls (Pielou evenness: COPD=0.76, control=0.80, $p=0.004$; Shannon entropy: COPD=3.98, control=4.34, $p=0.01$). Beta-diversity differed with smoking only in the COPD cohort (weighted UniFrac: permutational analysis of variance $R^2=0.04$, $p=0.03$). Nine genera were differentially abundant between COPD and controls. Genera enriched in COPD belonged to the *Firmicutes* phylum. Pack years were linked to differential abundance of taxa in controls only (ANCOM-BC (Analysis of Compositions of Microbiomes with Bias Correction) log-fold difference/q-values: *Haemophilus* -0.05/0.048; *Lachnoanaerobaculum* -0.04/0.03). *Oribacterium* was absent in smoking patients with COPD compared with non-smoking patients (ANCOM-BC log-fold difference/q-values: -1.46/0.03). We found no associations between the microbiota and COPD severity or ICS.

Conclusion: The lower airway microbiota is equal in richness in patients with COPD to controls, but less even. Genera from the *Firmicutes* phylum thrive particularly in COPD airways. Smoking has different effects on diversity and taxonomic abundance in patients with COPD compared with controls. COPD severity and ICS use were not linked to the lower airway microbiota.

Keywords: COPD Pathology; COPD epidemiology; Respiratory Infection.

© Author(s) (or their employer(s)) 2024. No commercial re-use. See rights and permissions. Published by BMJ.

Conflict of interest statement

Competing interests: TMLE—support for the present manuscript; grant from Bergen Medical Research Fund and Helse-Vest (Western Norway Regional Health Authorities; no award/grant number available); other unrelated grants: GlaxoSmithKline. RN—support for the present manuscript: Novartis, Boehringer Ingelheim, GlaxoSmithKline, AstraZeneca and Timber Merchant Delphin's Endowment; other grants: AstraZeneca. MA—payment for lectures and support for attending meetings: Roche, AstraZeneca and Pfizer. GH—payment for lectures: Boehringer Ingelheim; participation in advisory board for AstraZeneca. KSK—payment for lectures: AstraZeneca and Boehringer Ingelheim. PSH—other grants (paid to department): Boehringer Ingelheim; payment for lectures: AstraZeneca; licensed patent on synthetic antimicrobial peptides.

FULL TEXT LINKS



[Proceed to details](#)

[Cite](#)

Share

9

Am J Respir Crit Care Med

-
-
-

. 2024 Feb 8.

doi: 10.1164/rccm.202401-0144ED. Online ahead of print.

BEACON: A Missing Piece of the Puzzle for COPD

[Carrie L Pistenmaa](#)¹, [George R Washko](#)²

Affiliations expand

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

No abstract available

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

10

Ann Am Thorac Soc

-
-
-

. 2024 Feb 8.

doi: 10.1513/AnnalsATS.202311-949RL. Online ahead of print.

The National Prevalence of Supplemental Oxygen Use in Persons with Chronic Obstructive Pulmonary Disease: A Comparison of Claims-based and Self-reported Supplemental Oxygen Use

[Angela O Suen](#)¹, [Irena Cencer](#)², [Anand S Iyer](#)³, [Leah J Witt](#)⁴, [Alexander K Smith](#)^{5,6}, [Ashwin Kotwal](#)⁷

Affiliations expand

- PMID: 38330174
- DOI: [10.1513/AnnalsATS.202311-949RL](https://doi.org/10.1513/AnnalsATS.202311-949RL)

No abstract available

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

11

Am J Respir Crit Care Med

-
-
-

. 2024 Feb 8.

doi: 10.1164/rccm.202310-1751LE. Online ahead of print.

Biomarkers Associated with Lung Function Decline and Dupilumab Response in Patients with Asthma

[Ian D Pavord](#)¹, [Lucia de Prado Gómez](#)², [Guy Brusselle](#)^{3,4}, [Daniel J Jackson](#)⁵, [Christopher E Brightling](#)⁶, [Alberto Papi](#)⁷, [Jorge F Maspero](#)⁸, [Klaus F Rabe](#)^{9,10}, [Stephanie Korn](#)¹¹, [Mei Zhang](#)¹², [Xavier Soler](#)¹³, [Juby A Jacob-Nara](#)¹², [Megan Hardin](#)¹⁴, [QUEST Lung Function Decline Study Group](#)

Affiliations expand

- PMID: 38329781
- DOI: [10.1164/rccm.202310-1751LE](https://doi.org/10.1164/rccm.202310-1751LE)

No abstract available

Keywords: asthma; biomarkers; dupilumab; lung function decline; predictive.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

12

Review

COPD

-
-
-

. 2024 Dec;21(1):2307618.

doi: 10.1080/15412555.2024.2307618. Epub 2024 Feb 8.

The Role of Bioactive Small Molecules in COPD Pathogenesis

[Sha Liao](#)¹, [Yahong Chen](#)¹

Affiliations expand

- PMID: 38329475
- DOI: [10.1080/15412555.2024.2307618](https://doi.org/10.1080/15412555.2024.2307618)

Abstract

Chronic obstructive pulmonary disease (COPD) is recognized as a predominant contributor to mortality worldwide, which causes significant burdens to both society and individuals. Given the limited treatment options for COPD, there lies a critical realization: the imperative for expeditious development of novel therapeutic modalities that can effectively alleviate disease progression and enhance the quality of life experienced by COPD patients. Within the intricate field of COPD pathogenesis, an assortment of biologically active small molecules, encompassing small protein molecules and their derivatives, assumes crucial roles through diverse mechanisms. These mechanisms relate to the regulation of redox balance, the inhibition of the release of inflammatory mediators, and the modulation of cellular functions. Therefore, the present article aims to explore and elucidate the distinct roles played by different categories of biologically active small molecules in contributing to the pathogenesis of COPD.

Keywords: Bioactive small molecules; COPD; pathogenesis.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

COPD

-
-
-

. 2024 Dec;21(1):2292613.

doi: 10.1080/15412555.2023.2292613. Epub 2024 Feb 8.

Guidelines for the Pharmacologic Treatment of COPD 2023: Canada versus GOLD

[Samy Suissa](#)^{1,2}

Affiliations expand

- PMID: 38329461
- DOI: [10.1080/15412555.2023.2292613](https://doi.org/10.1080/15412555.2023.2292613)

No abstract available

SUPPLEMENTARY INFO

Publication types expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share



Perceptions on Use of Opioids in Palliative Care of Dyspnoea in Patients with Fibrotic interstitial lung disease and Chronic Obstructive Pulmonary Disease: A Qualitative Study

[Camilla Yde Hvelplund](#)^{1,2}, [Birgit Refsgaard](#)³, [Elisabeth Bendstrup](#)^{1,2,4}

Affiliations expand

- PMID: 38326740
- DOI: [10.1177/10499091241227556](https://doi.org/10.1177/10499091241227556)

Abstract

Background: Many patients with chronic obstructive pulmonary disease and fibrotic interstitial lung disease suffer from severe dyspnea and reduced quality of life, despite receiving optimal disease-modifying treatment for their illness. Studies have suggested that these patients may benefit from treatment with low-dose opioids. However, many patients decline opioid treatment. This has led to patients not receiving proper palliative treatment of their lung disease.

Aim: To identify potential barriers that prevent patients from receiving adequate palliative care with opioids and enable doctors to address patients' concerns.

Design: A qualitative study based on semi-structured interviews. Interviews were transcribed and thematic analysis was done using NVivo.

Setting/participants: Patients were recruited when scheduled for out-patient follow-up at Center for Rare Lung Diseases or at the COPD clinic, Aarhus University Hospital. Eligible

patients were 18 years of age, did not currently receive opioids or had ever received opioids for dyspnea.

Results: A total of 28 patients participated. One patient was excluded before final analysis of 27 patients. Four themes were identified: Fear of side-effects, Need for more information, Stigma of opioids association with severe illness and dying, and No discernible barriers. Furthermore, three sub-themes to Fear of side-effects were identified: Fear of addiction, concern for sedative effect, and fear for loss of mobility due to inability to drive a car. The most expressed concern was Fear of side-effects, especially addiction.

Conclusions: Pre-conceived notions about opioids prevent some patients with chronic obstructive lung disease or interstitial lung disease from receiving palliative care for breathlessness.

Keywords: analgesics; chronic conditions; chronic obstructive pulmonary disease; dyspnea; interstitial*; lung disease; opioid*/therapeutic use; palliative care; qualitative research.

Conflict of interest statement

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

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

15

[Review](#)

Nat Rev Cardiol

-
-
-

. 2024 Feb 7.

doi: 10.1038/s41569-024-00988-1. Online ahead of print.

Iron deficiency and supplementation in heart failure

[Samira Lakhal-Littleton](#)¹, [John G F Cleland](#)²

Affiliations expand

- PMID: 38326440
- DOI: [10.1038/s41569-024-00988-1](https://doi.org/10.1038/s41569-024-00988-1)

Abstract

Non-anaemic iron deficiency (NAID) is a strategic target in cardiovascular medicine because of its association with a range of adverse effects in various conditions. Endeavours to tackle NAID in heart failure have yielded mixed results, exposing knowledge gaps in how best to define 'iron deficiency' and the handling of iron therapies by the body. To address these gaps, we harness the latest understanding of the mechanisms of iron homeostasis outside the erythron and integrate clinical and preclinical lines of evidence. The emerging picture is that current definitions of iron deficiency do not assimilate the multiple influences at play in patients with heart failure and, consequently, fail to identify those with a truly unmet need for iron. Additionally, current iron supplementation therapies benefit only certain patients with heart failure, reflecting differences in the nature of the unmet need for iron and the modifying effects of anaemia and inflammation on the handling of iron therapies by the body. Building on these insights, we identify untapped opportunities in the management of NAID, including the refinement of current approaches and the development of novel strategies. Lessons learned from NAID in cardiovascular disease could ultimately translate into benefits for patients with other chronic conditions such as chronic kidney disease, chronic obstructive pulmonary disease and cancer.

© 2024. Springer Nature Limited.

- [307 references](#)

SUPPLEMENTARY INFO

Publication types expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

16

BMJ Open



. 2024 Feb 7;14(2):e072361.

doi: 10.1136/bmjopen-2023-072361.

Treatment pathways, economic burden and clinical outcomes in new users of inhaled corticosteroid/long-acting B₂-agonist dual therapy with chronic obstructive pulmonary disease in a primary care setting in England: a retrospective cohort study

[Alexandrosz Czira](#)¹, [Victoria Banks](#)², [Gema Requena](#)³, [Robert Wood](#)², [Theo Tritton](#)², [Rosie Wild](#)², [Chris Compton](#)¹, [Afisi Ismaila](#)^{4,5}

Affiliations expand

- PMID: 38326272
- DOI: [10.1136/bmjopen-2023-072361](https://doi.org/10.1136/bmjopen-2023-072361)

Free article

Abstract

Objective: Management of chronic obstructive pulmonary disease (COPD) with inhaled corticosteroid/long-acting β_2 -agonist (ICS/LABA) improves lung function and health status and reduces COPD exacerbation risk versus monotherapy. This study described treatment use, healthcare resource utilisation (HCRU), healthcare costs and outcomes following initiation of single-device ICS/LABA as initial maintenance therapy (IMT).

Design: Retrospective cohort study.

Setting: Primary care, England.

Data sources: Linked data from the Clinical Practice Research Datalink Aurum and Hospital Episode Statistics datasets.

Participants: Patients with COPD and ≥ 1 single-device ICS/LABA prescription between July 2015 and December 2018 were included.

Primary and secondary outcome measures: Treatment pathways, COPD-related HCRU and healthcare costs, COPD exacerbations, time to triple therapy, medication adherence (proportion of days covered $\geq 80\%$) and indexed treatment time to discontinuation. Data for patients without prior maintenance therapy history (IMT users) and non-triple users were assessed over a 12-month follow-up period.

Results: Of 13 451 new ICS/LABA users, 5162 were IMT users (budesonide/formoterol, $n=1056$; beclomethasone dipropionate/formoterol, $n=2427$; other ICS/LABA, $n=1679$), for whom at 3 and 12 months post-index, 45.6% and 39.4% were still receiving any ICS/LABA. At >6 to ≤ 12 months, the proportion of IMT users with ≥ 1 outpatient visit (10.1%) and proportion with ≥ 1 inpatient stay (12.6%) had increased from those at 3 months (9.0% and 7.4%, respectively). Inpatient stays contributed most to total COPD-related healthcare costs. For non-triple IMT users, at 3 and 12 months post-index, 4.5% and 13.7% had ≥ 1 moderate-to-severe COPD exacerbation. Time to triple therapy initiation and time to discontinuation of index medication ranged from 45.9 to 50.2 months and 2.3 to 2.8 months between treatments. Adherence was low across all time points (21.5-27.6%). Results were similar across indexed therapies.

Conclusions: In the year following treatment initiation, ICS/LABA adherence was poor and many patients discontinued or switched therapies, suggesting that more consideration and optimisation of treatment is required in England for patients initiating single-device ICS/LABA therapy.

Keywords: Chronic airways disease; EPIDEMIOLOGY; GENERAL MEDICINE (see Internal Medicine); RESPIRATORY MEDICINE (see Thoracic Medicine).

© Author(s) (or their employer(s)) 2024. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

Conflict of interest statement

Competing interests: AC, GR, CC and AI are employees of GSK and hold stock and shares at GSK. AI is also an unpaid part-time Professor at McMaster University. TT, RWood and RWild are employees of Adelphi Real World, which received funding from GSK to conduct the study, but not for manuscript development. VLB was an employee of Adelphi Real World at the time of the study and is currently an employee of Bayer AG UK, and holds stock and shares in Bayer AG UK. Adelphi Real World is a business that provides consulting and other research services to pharmaceutical, device, government and non-government organisations. Adelphi Real World employees work with a variety of companies and organisations and are expressly prohibited from receiving any payment or honoraria directly from these organisations for services rendered.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

17

Editorial

Rev Mal Respir

-
-
-

. 2024 Feb 6:S0761-8425(24)00028-7.

doi: 10.1016/j.rmr.2024.01.003. Online ahead of print.

[\[Position paper of the French Language Society of Respiratory Diseases\]](#)

regarding the GOLD 2023 classification: Capital E]

[Article in French]

[L Regard](#)¹, [G Deslée](#)², [M Zysman](#)³, [O Le Rouzic](#)⁴, [N Roche](#)⁵; [Au nom du Groupe BPCO de la SPLF](#)

Affiliations expand

- PMID: 38326191
- DOI: [10.1016/j.rmr.2024.01.003](https://doi.org/10.1016/j.rmr.2024.01.003)

No abstract available

Keywords: BPCO; COPD; Classification; Exacerbation; FEV1; GOLD; VEMS.

SUPPLEMENTARY INFO

Publication typesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

18

Rev Clin Esp (Barc)

-
-
-

. 2024 Feb 5:S2254-8874(24)00018-3.

doi: 10.1016/j.rceng.2024.01.007. Online ahead of print.

Prognostic impact of chronic obstructive pulmonary disease and bronchial asthma in patients with heart failure

[E Barge-Caballero](#)¹, [J Sieira-Hermida](#)², [G Barge-Caballero](#)³, [D Couto-Mallón](#)³, [Ma J Paniagua-Martín](#)³, [D Enríquez-Vázquez](#)³, [P J Marcos-Rodríguez](#)⁴, [J Rodríguez-Capitán](#)⁵, [J M Vázquez-Rodríguez](#)³, [M G Crespo-Leiro](#)⁶

Affiliations expand

- PMID: 38325624
- DOI: [10.1016/j.rceng.2024.01.007](https://doi.org/10.1016/j.rceng.2024.01.007)

Abstract

Purpose: To analyze the impact of chronic obstructive pulmonary disease (COPD) and bronchial asthma on therapeutic management and prognosis of patients with heart failure (HF).

Methods: Analysis of the information collected in a clinical registry of patients referred to a specialized HF unit from January-2010 to June-2012. Clinical profile, treatment and prognosis of patients was evaluated, according to the presence of COPD or asthma. Survival analyses were conducted by means of Kaplan-Meier and Cox's methods. Median follow-up was 1493 days.

Results: We studied 2577 patients, of which 251 (9.7%) presented COPD and 96 (3.7%) bronchial asthma. Significant differences among study groups were observed regarding to the prescription of beta-blockers (COPD = 89.6%; asthma = 87.5%; no bronchopathy = 94.1%; $p = 0.002$) and SGLT2 inhibitors (COPD = 35.1%; asthma = 50%; no bronchopathy = 38.3%; $p = 0.036$). Also, patients with bronchial disease received less frequently a defibrillator (COPD = 20.3%; asthma = 20.8%; no bronchopathy = 29%; $p = 0.004$). COPD was independently associated with increased risk of all-cause mortality (HR = 1.64; 95% CI 1.33-2.02), all-cause death or HF admission (HR = 1.47; 95% CI 1.22-1.76) and cardiovascular death or heart transplantation (HR = 1.39; 95% CI 1.08-1.79) as compared with patients with no bronchopathy. Bronchial asthma was not significantly associated with increased risk of adverse outcomes.

Conclusions: COPD, but not asthma, is an adverse independent prognostic factor in patients with HF.

Keywords: COPD; EPOC; Heart failure; Insuficiencia cardiaca; asma; bronchial asthma; prognosis; pronóstico; tratamiento; treatment.

Copyright © 2024. Published by Elsevier España, S.L.U.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

19

Respir Res

-
-
-

. 2024 Feb 7;25(1):79.

doi: 10.1186/s12931-024-02674-9.

[Elevated pulmonary vascular resistance is associated with increased lung transplant waitlist mortality among patients with chronic obstructive pulmonary disease and pulmonary hypertension: a retrospective cohort analysis](#)

[Shameek K Gayen](#)¹, [Mary Zulty](#)², [Gerard J Criner](#)²

Affiliations [expand](#)

- PMID: 38321451
- DOI: [10.1186/s12931-024-02674-9](https://doi.org/10.1186/s12931-024-02674-9)

Free article

Abstract

Background: The latest European Society of Cardiology and European Respiratory Society guidelines have changed the definition of both pre-capillary pulmonary hypertension (PH) and severe PH in chronic lung disease. The clinical significance of these new criteria are unclear among patients with chronic obstructive pulmonary disease (COPD)-PH. We aim to examine the clinical significance of the new PH definitions with regards to lung transplant waitlist mortality amongst patients with COPD-PH.

Methods: This was a retrospective cohort study of adult patients with COPD-PH listed for lung transplantation. Kaplan-Meier survival analyses were performed comparing patients with newly defined pre-capillary PH to those without pre-capillary PH and comparing patients with severe PH, defined as pulmonary vascular resistance (PVR) > 5 WU, to those without severe PH. Both mean pulmonary artery pressure (mPAP) and PVR were analyzed for potential cut-off points associated with increased waitlist mortality. Predictors of waitlist mortality were identified via Cox regression.

Results: Among 6495 patients with COPD-PH listed for lung transplantation, pre-capillary PH was not associated with increased waitlist mortality (logrank $p = 0.43$), while severe PH was (logrank $p < 0.001$). Both severe PH (HR 1.79, 95% CI 1.22-2.60, $p = 0.003$) and PVR > 3.9 WU (HR 1.49, 95% CI 1.14-1.95, $p = 0.004$) were independently and significantly associated with increased waitlist mortality.

Conclusions: PVR may serve as a strong predictor of lung transplant waitlist mortality among patients with COPD-PH as compared to other pulmonary hemodynamic parameters when predicting transplant waitlist mortality.

Keywords: COPD; Lung transplant; Pulmonary hypertension; Pulmonary vascular resistance.

© 2024. The Author(s).

- [24 references](#)

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

20

Lung



. 2024 Feb 6.

doi: 10.1007/s00408-024-00677-3. Online ahead of print.

[Cardiovascular Events with the Use of Long-Acting Muscarinic Receptor Antagonists: An Analysis of the FAERS Database 2020-2023](#)

[Maria Gabriella Matera](#)¹, [Luigino Calzetta](#)², [Paola Rogliani](#)³, [Nicola Hanania](#)⁴, [Mario Cazzola](#)⁵

Affiliations expand

- PMID: 38321329
- DOI: [10.1007/s00408-024-00677-3](https://doi.org/10.1007/s00408-024-00677-3)

Abstract

Purpose: This study aimed to examine reports of cardiovascular adverse events (CV AEs) observed in the real-world during treatment with aclidinium, tiotropium, glycopyrronium, and umeclidinium alone or in combination with a LABA and, in the context of triple therapy, with the addition of an ICS, and submitted to the food and drug administration adverse event reporting system (FAERS).

Methods: A retrospective disproportionality analysis was conducted utilizing CV AE reports submitted to the FAERS from January 2020 to 30 September 2023. Disproportionality was measured by calculating the reporting odds ratio.

Results: Compared with ipratropium, tiotropium was associated with fewer reports of CV AEs. Compared with tiotropium, other LAMAs were more likely to be associated with reports of CV AEs. Combinations of glycopyrronium with indacaterol or formoterol and umeclidinium with vilanterol significantly reduced reports of CV AEs compared with the respective LAMA. The addition of an ICS to these combinations further reduced the risk of CV AE reports.

Conclusion: Our study suggests that inhaled LAMAs are not free from cardiac AE risks. This risk may be more evident when the newer LAMAs are used, but it is generally significantly reduced when COPD patients are treated with dual bronchodilators or triple therapy. However, these results do not prove that LAMAs cause CV AEs, as FAERS data alone are not indicative of a drug's safety profile. Given the frequency with which COPD and cardiovascular disease co-exist, a large study in the general population could shed light on this very important issue.

Keywords: Cardiovascular adverse events; Dual bronchodilation; FAERS; LAMAs; Triple therapy.

© 2024. The Author(s).

- [44 references](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

21

Sci Rep

-
-
-

. 2024 Feb 6;14(1):3018.

doi: 10.1038/s41598-024-53583-2.

Smartphone application-based rehabilitation in patients with chronic respiratory and cardiovascular diseases

[Chiwook Chung](#)^{1,2}, [Ah-Ram Kim](#)³, [Dongbum Kim](#)⁴, [Hee Kwon](#)⁴, [Seong Ho Lee](#)¹, [Il-Young Jang](#)⁵, [Min-Woo Jo](#)⁶, [Do-Yoon Kang](#)^{#7}, [Sei Won Lee](#)^{#8}

Affiliations expand

- PMID: 38321153
- DOI: [10.1038/s41598-024-53583-2](https://doi.org/10.1038/s41598-024-53583-2)

Free article

Abstract

Rehabilitation improves symptoms, quality of life, and survival in patients with chronic respiratory or cardiovascular disease. We evaluated smartphone application-based rehabilitation programs for patients with chronic respiratory or cardiovascular diseases. This was a single-center prospective single arm study. Participants underwent smartphone application-based pulmonary or cardiac rehabilitation for 12 weeks. A total of 93 participants were recruited, and 75 visited after rehabilitation. Their median age was 67.0 (interquartile range, 60.0-70.8) years, and 60 (80.0%) were men. For patients with chronic respiratory disease (n = 41), VO₂peak (median 13.7 to 15.4 ml/kg/min, P = 0.049), chronic obstructive pulmonary disease assessment test (median 14 to 6, P < 0.001), Euro-QoL 5-Dimension 5-Level (EQ-5D-5L) index (median 0.795 to 0.862, P = 0.001), and Health-related Quality of Life Instrument with 8 Items (HINT-8) index (median 0.784 to 0.855, P < 0.001) were significantly improved. For patients with chronic cardiovascular disease (n = 34), VO₂peak (median 21.8 to 23.3, P = 0.007), EQ-5D-5L index (median 0.871 to 1.000, P = 0.037), and HINT-8 index (median 0.890 to 0.903, P < 0.001) were significantly improved. The smartphone application-based rehabilitation program improved exercise capacity and quality of life in patients with chronic respiratory or cardiovascular disease. Trial registration: <https://clinicaltrials.gov/ct2/show/NCT05383950> (20/05/2022).

© 2024. The Author(s).

- [61 references](#)

SUPPLEMENTARY INFO

MeSH terms, Associated data, Grants and fundingexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

22

J Assoc Nurses AIDS Care



. 2024 Feb 6.

doi: 10.1097/JNC.0000000000000452. Online ahead of print.

[Symptomatology and Quality of Life of Older People With HIV and Comorbid Chronic Obstructive Pulmonary Diseases From an HIV Clinic in Birmingham, Alabama](#)

[Jun Y Byun](#)¹²³⁴⁵⁶, [Crystal Chapman Lambert](#)¹²³⁴⁵⁶, [Pariya L Fazeli](#)¹²³⁴⁵⁶, [Anand S Iyer](#)¹²³⁴⁵⁶, [D Scott Batey](#)¹²³⁴⁵⁶, [David E Vance](#)¹²³⁴⁵⁶

Affiliations expand

- PMID: 38319887
- DOI: [10.1097/JNC.0000000000000452](https://doi.org/10.1097/JNC.0000000000000452)

Abstract

Psychological symptomatology and quality of life (QoL) have been studied in older people with HIV (PWH) and those with chronic obstructive pulmonary disease (COPD), respectively, but there is a dearth of studies in older PWH with COPD. Our study compared depressive symptoms, anxiety, and QoL between older PWH with and without COPD using data from an HIV clinic in Birmingham, Alabama, from January 2018 to February 2020. Data on depressive symptoms (Patient Health Questionnaire-9), anxiety (Patient Health Questionnaire-5 Anxiety), and QoL (EuroQoL-5 Dimension) were analyzed. Among 690 PWH aged 50 years or older, 102 individuals (14.8%) had COPD. Significant differences were found between the two groups in depressive symptoms and components of QoL (e.g., mobility, self-care, usual activities, and pain/discomfort), but not in anxiety and general health. Experiencing COPD may worsen depressive symptomatology and QoL in older PWH, highlighting the need for tailored health care and research for this population.

Copyright © 2024 Association of Nurses in AIDS Care.

- [56 references](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

23

Am J Respir Crit Care Med

-
-
-

. 2024 Feb 6.

doi: 10.1164/rccm.202310-1769LE. Online ahead of print.

[Ultrasound Evaluation of Parasternal Intercostal, Diaphragm Activity and Their Ratio in Male Patients with COPD](#)

[Nuttapol Rittayamai](#)¹, [Vilasinee Marinpong](#)², [Benjamas Chuaychoo](#)², [Jamsak Tscheikuna](#)², [Laurent J Brochard](#)^{3,4}

Affiliations expand

- PMID: 38319129
- DOI: [10.1164/rccm.202310-1769LE](https://doi.org/10.1164/rccm.202310-1769LE)

No abstract available

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

24

BMC Pulm Med

-
-
-

. 2024 Feb 5;24(1):71.

doi: 10.1186/s12890-024-02884-3.

[The triad of physiological challenges: investigating the intersection of sarcopenia, malnutrition, and malnutrition-sarcopenia syndrome in patients with COPD - a cross-sectional study](#)

[M Yogesh](#)¹, [Jenish Patel](#)², [Naresh Makwana](#)¹, [Mansi Mody](#)³

Affiliations expand

- PMID: 38317093
- DOI: [10.1186/s12890-024-02884-3](https://doi.org/10.1186/s12890-024-02884-3)

Free article

Abstract

Background: One of the most prevalent respiratory disorders in modern society is chronic obstructive pulmonary disease (COPD). Frequent comorbidities in patients with COPD are abnormal nutritional status and body composition variations. Malnutrition-sarcopenia syndrome, which occurs when the 2 conditions - malnutrition and sarcopenia - coexist, raises the risk of death more than either condition alone. The current study sought to determine the prevalence of malnutrition, sarcopenia, and malnutrition-sarcopenia syndrome in patients with COPD as well as the association between these diseases and the severity of COPD.

Methods: The study was an analytical cross-sectional study conducted on hospitalized patients with COPD. The sample size of the study was calculated to be 160. A self-structured questionnaire was used to collect the data, containing sociodemographic characteristics, clinical profiles, anthropometric assessment, and bioimpedance indices. Sarcopenia was diagnosed with low muscle strength and muscle mass by the EWGSOP2 recommendations. Muscle mass is measured by BIA and muscle strength (Handgrip) was measured by a Hand Dynamometer. Assessment of the risk of malnutrition was performed using the Mini Nutritional Assessment-Short Form questionnaire and was confirmed by GLIM criteria. The COPD assessment test (CAT) tool determined the severity of the condition. For the data analysis, comparisons were made using Student's t test and Mann-Whitney test in bivariate analysis. Multivariate logistic regression analyses were performed considering the outcomes of patients with COPD by CAT scores, prolonged length of stay, and hospital readmission 6 months after discharge.

Results: The mean age of the participants was 48 ± 5 years. Approximately 61.9% were found to be sarcopenic. Approximately 45.6% of participants had malnutrition. Malnutrition sarcopenia syndrome was diagnosed in 32.5% of patients. The study analysis revealed that patients with COPD with malnutrition-sarcopenia syndrome had more than twice the odds of prolonged hospital stay, re-admission within 6 months, and higher CAT scores.

Conclusion: The study revealed a high prevalence of sarcopenia, malnutrition, and malnutrition sarcopenia syndrome in patients with COPD. These conditions were found to be statistically significant with prolonged length of stay, re-admission within 6 months, and CAT scores. The findings highlight the importance of addressing these conditions as part of the management of the patients.

Keywords: Chronic obstructive pulmonary disease; Malnutrition; Malnutrition-sarcopenia syndrome; Sarcopenia.

© 2024. The Author(s).

- [44 references](#)

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

25

Sci Rep

-
-
-

. 2024 Feb 5;14(1):2936.

doi: 10.1038/s41598-024-51593-8.

[Diffusing capacity as an independent predictor of acute exacerbations in chronic obstructive pulmonary disease](#)

[Heemoon Park](#)¹, [Hyo Jin Lee](#)¹, [Jung-Kyu Lee](#)¹, [Tae Yun Park](#)¹, [Kwang Nam Jin](#)², [Eun Young Heo](#)¹, [Deog Kyeom Kim](#)^{1,3}, [Hyun Woo Lee](#)^{4,5}

Affiliations expand

- PMID: 38316813

- DOI: [10.1038/s41598-024-51593-8](https://doi.org/10.1038/s41598-024-51593-8)

Free article

Abstract

A weak correlation between diffusing capacity of the lung for carbon monoxide (DL_{CO}) and emphysema has been reported. This study investigated whether impaired DL_{CO} in chronic obstructive pulmonary disease (COPD) is associated with increased risk of acute exacerbation independent of the presence or extent of emphysema. This retrospective cohort study included patients with COPD between January 2004 and December 2019. The participants were divided into four groups based on visually detected emphysema and impaired DL_{CO}. Among 597 patients with COPD, 8.5% had no emphysema and impaired DL_{CO} whereas 36.3% had emphysema without impaired DL_{CO}. Among the four groups, patients with impaired DL_{CO} and emphysema showed a higher risk of moderate-to-severe or severe exacerbation than those with normal DL_{CO}. Impaired DL_{CO} was an independent risk factor for severe exacerbation (hazard ratio, 1.524 [95% confidence interval 1.121-2.072]), whereas the presence of emphysema was not. The risk of moderate-to-severe or severe exacerbation increases with the severity of impaired DL_{CO}. After propensity-score matching for the extent of emphysema, impaired DL_{CO} was significantly associated with a higher risk of moderate-to-severe (p = 0.041) or severe exacerbation (p = 0.020). In patients with COPD and heterogeneous parenchymal abnormalities, DL_{CO} can be considered an independent biomarker of acute exacerbation.

© 2024. The Author(s).

- [29 references](#)

SUPPLEMENTARY INFO

MeSH terms, Substances [expand](#)

FULL TEXT LINKS

nature portfolio **UNIMORE** 

[Proceed to details](#)

Cite

Share

26

Am J Respir Crit Care Med



. 2024 Feb 5.

doi: 10.1164/rccm.202306-1060OC. Online ahead of print.

Accelerated Lung Function Decline and Mucus–Microbe Evolution in Chronic Obstructive Pulmonary Disease

[Oliver W Meldrum](#)¹, [Gavin C Donaldson](#)^{2,3}, [Jayanth Kumar Narayana](#)⁴, [Fransiskus Xaverius Ivan](#)⁴, [Tavleen K Jaggi](#)⁴, [Micheál Mac Aogáin](#)^{5,6}, [Lydia J Finney](#)⁷, [James P Allinson](#)², [Jadwiga A Wedzicha](#)², [Sanjay H Chotirmall](#)^{4,8}

Affiliations expand

- PMID: 38315959
- DOI: [10.1164/rccm.202306-1060OC](https://doi.org/10.1164/rccm.202306-1060OC)

Abstract

Rationale: Progressive lung function loss is recognized in COPD; however, no study concurrently evaluates how accelerated lung function decline relates to mucus properties and the microbiome in COPD.

Objective: Longitudinal assessment of mucus and microbiome changes accompanying accelerated lung function decline in COPD patients.

Methods: Prospective, longitudinal assessment of the London COPD cohort exhibiting the greatest FEV₁ decline (n=30; "accelerated decline"; 156 mL/year FEV₁ loss) and with no FEV₁ decline (n=28; "non-decline"; 49 mL/year FEV₁ gain) over time. Lung microbiomes from "paired" sputum (total 116 specimens) were assessed by shotgun metagenomics and corresponding mucus profiles evaluated for biochemical and biophysical properties.

Results: Biochemical and biophysical mucus properties are significantly altered in the accelerated decline group. Unsupervised principal component analysis showed clear separation, with mucus biochemistry associated with accelerated decline, while biophysical mucus characteristics contributed to inter-individual variability. When mucus and microbes are considered together, an accelerated decline mucus-microbiome association emerges, characterized by increased mucin (MUC5AC and MUC5B) concentration and the presence

of *Achromobacter* and *Klebsiella*. As COPD progresses, mucus-microbiome shifts occur, initially characterized by low mucin concentration and transition from viscous to elastic dominance accompanied by the commensals *Veillonella*, *Gemella*, *Rothia* and *Prevotella* (GOLD A and B) before transition to increased mucus viscosity, mucins, and DNA concentration along with the emergence of pathogenic microorganisms including *Haemophilus*, *Moraxella* and *Pseudomonas* (GOLD E).

Conclusion: Mucus-microbiome associations evolve over time with accelerated lung function decline, symptom progression and exacerbations affording fresh therapeutic opportunities for early intervention.

Keywords: COPD; Lung function decline; Metagenomics; Mucins; Mucus.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

27

Am J Respir Cell Mol Biol



. 2024 Feb 5.

doi: 10.1165/rcmb.2023-0296OC. Online ahead of print.

[Alternative Splicing Is a Major Factor Shaping Transcriptome Diversity in Mild and Severe COPD](#)

[Dmitry Khalenkov](#)^{1,2,3}, [Corry-Anke Brandsma](#)^{4,3}, [Wim Timens](#)^{4,3}, [David F Choy](#)⁵, [Michele A Grimaldeston](#)⁵, [Carrie M Rosenberger](#)⁵, [Dirk-Jan Slebos](#)⁶, [Huib A M Kerstjens](#)⁷, [Alen Faiz](#)⁸, [Gerard H Koppelman](#)^{9,3}, [Martijn C Nawijn](#)^{10,3}, [Maarten van den Berge](#)^{11,3}, [Victor Guryev](#)^{3,12}

Affiliations expand

- PMID: 38315810

- DOI: [10.1165/rcmb.2023-0296OC](https://doi.org/10.1165/rcmb.2023-0296OC)

Abstract

The role of alternative splicing in Chronic Obstructive Pulmonary Disease (COPD) is still largely unknown. We aimed to investigate the differences in alternatively splicing events between patients with mild-to-moderate and severe COPD compared to non-COPD controls and to identify splicing factors associated with aberrant alternative splicing in COPD. For this purpose, we performed genome-wide RNA-seq analysis of bronchial brushings from 23 mild-to-moderate, 121 severe COPD patients, and 23 non-COPD controls. We found a significant difference in the frequency of alternative splicing events in mild-to-moderate and severe COPD compared to non-COPD controls. There were from 2x to 8x (depending on event type) more differential alternative splicing events in the severe than in the mild-to-moderate stage. The samples from severe COPD patients showed less intron retention and more exon skipping. Interestingly, the transcript levels of the top 10 differentially expressed splicing factors were significantly correlated with the percentage of many alternatively spliced transcripts in severe COPD. The aberrant alternative splicing in severe COPD was predicted to increase the overall protein-coding capacity of gene products. In conclusion, we observed large and significant differences in alternative splicing between bronchial samples of COPD and control individuals, with more events observed in severe than in mild-to-moderate COPD. The changes in the expression of several splicing factors correlated with prevalence of alternative splicing in severe COPD. Alternative splicing can indirectly impact gene expression by changing the relative abundance of protein-coding isoforms potentially influencing pathophysiological changes. The presented results provide a better understanding of COPD-related alternative splicing changes.

Keywords: COPD; Lung Diseases; RNA Splicing; Sequence Analysis.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

28

[Case Reports](#)

Cureus



. 2024 Feb 2;16(2):e53443.

doi: 10.7759/cureus.53443. eCollection 2024 Feb.

Vanishing Lung Syndrome: A Case Report and Systematic Review of the Literature

[Meghan Mansour](#)¹, [Steven Kessler](#)¹, [Ali Khreisat](#)², [Jacob Morton](#)², [Ramona Berghea](#)²

Affiliations expand

- PMID: 38314388
- PMCID: [PMC10838376](#)
- DOI: [10.7759/cureus.53443](#)

Free PMC article

Abstract

Vanishing lung syndrome (VLS), also known as idiopathic giant bullous emphysema, is defined by the emergence of sizable bullae causing compression on healthy lung tissue. The elusive etiology of VLS mandates a diagnosis based on radiographic evidence showcasing giant bullae occupying at least one-third of the hemithorax in one or both lungs. This report presents a case of VLS in a 36-year-old female smoker devoid of any prior medical history. Additionally, we conducted a systematic review to discern the demographics, risk factors, and treatment modalities for individuals diagnosed with VLS.

Keywords: acute vanishing lung syndrome; copd; emphysema; giant pulmonary bullae; pneumothorax.

Copyright © 2024, Mansour et al.

Conflict of interest statement

The authors have declared that no competing interests exist.

- [53 references](#)

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

29

Adv Ther

-
-
-

. 2024 Feb 4.

doi: 10.1007/s12325-023-02776-8. Online ahead of print.

Outcomes of Patients with COPD Treated with ICS/LABA Before and After Initiation of Single-Inhaler Triple Therapy with Fluticasone Furoate/Umeclidinium/Vilanterol (FF/UMEC/VI)

[Meredith McCormack](#)¹, [Rosirene Paczkowski](#)², [Noelle N Gronroos](#)³, [Stephen G Noorduy](#)^{4,5}, [Lydia Lee](#)^{6,7}, [Phani Veeranki](#)³, [Mary G Johnson](#)³, [Emmeline Igboekwe](#)⁸, [Kristin Kahle-Wroblewski](#)⁶, [Reynold Panettieri](#)⁹

Affiliations expand

- PMID: 38310193
- DOI: [10.1007/s12325-023-02776-8](https://doi.org/10.1007/s12325-023-02776-8)

Abstract

Introduction: Triple therapy (fluticasone furoate/umeclidinium/vilanterol; FF/UMEC/VI) has been shown to improve symptoms and reduce exacerbations in patients with chronic obstructive pulmonary disease (COPD) and a history of exacerbations. This real-world study compared exacerbation rates and healthcare resource utilization (HCRU) before and after initiation of FF/UMEC/VI in patients with COPD previously treated with inhaled corticosteroid (ICS)/long-acting β_2 -agonist (LABA).

Methods: This retrospective cohort study included commercial and Medicare Advantage with Part D administrative claims data from September 01, 2016, to March 31, 2020, of patients diagnosed with COPD. The index date was the date of the first FF/UMEC/VI claim (September 2017-March 2019). The 12 months prior to index (baseline) were used to assess patient characteristics and outcomes; the 12 months following index (follow-up) were used to assess study outcomes. All patients had ≥ 30 consecutive days' supply of any ICS/LABA dual therapy during the 12 months prior to FF/UMEC/VI initiation. Subgroup analyses included patients with ≥ 30 consecutive days' supply of budesonide/formoterol (BUD/FORM) during baseline. Analyses of patients with ≥ 1 COPD exacerbation during baseline were reported as well.

Results: The overall population included 1449 patients (mean age 70.75 years; 54.18% female), of whom 540 were patients in the BUD/FORM subgroup. Significantly fewer patients experienced any exacerbation during follow-up versus baseline (overall population 53.49% vs 62.59%; $p < 0.001$; BUD/FORM subgroup 55.00% vs 62.41%; $p = 0.004$). Effects on exacerbation reduction were more pronounced among patients with ≥ 1 exacerbation during baseline. Lower COPD-related HCRU was observed during the follow-up compared with baseline for both the overall population and the BUD/FORM subgroup.

Conclusion: Patients with COPD treated with ICS/LABA during baseline, including patients specifically treated with BUD/FORM and those with a history of ≥ 1 exacerbation, had fewer COPD exacerbations and lower COPD-related HCRU after initiating FF/UMEC/VI.

Keywords: COPD; Dual therapy; Exacerbations; FF/UMEC/VI; HCRU; ICS/LABA; Single-inhaler triple therapy.

© 2024. The Author(s).

- [24 references](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

30

J Am Geriatr Soc

-
-
-

. 2024 Feb 2.

doi: 10.1111/jgs.18770. Online ahead of print.

[Dying with dementia in nursing homes: A population-based study of decedents and their families](#)

[Caroline E Stephens](#)¹, [Rebecca Utz](#)², [Djin Tay](#)¹, [Eli Jacob](#)¹, [Michael Hollingshaus](#)³, [Rebecca Goodwin](#)^{1,4}, [Timothy W Farrell](#)^{5,6}, [Erin Bouldin](#)⁷, [Linda Edelman](#)¹, [Lynn F Reinke](#)¹, [Ken Smith](#)⁸, [Lee Ellington](#)¹, [Katherine Ornstein](#)⁹

Affiliations expand

- PMID: 38308399
- DOI: [10.1111/jgs.18770](https://doi.org/10.1111/jgs.18770)

Abstract

Background: Families play a critical role in end-of-life (EOL) care for nursing home (NH) residents with dementia. Despite the important role of family, little is known about the availability and characteristics of families of persons with dementia who die in NHs.

Methods: This is a retrospective cohort study of 18,339 individuals 65 years and older with dementia who died in a Utah NH between 1998 and 2016, linked to their first-degree family (FDF) members (n = 52,566; spouses = 11.3%; children = 58.3%; siblings = 30.3%). Descriptive statistics, chi-square tests, and t-tests were used to describe the study cohort and their FDF members and to compare sociodemographic and death characteristics of NH decedents with (n = 14,398; 78.5%) and without FDF (n = 3941; 21.5%).

Results: Compared with NH decedents with FDF, NH decedents with dementia without FDF members were more likely to be older (mean age 86.5 vs 85.5), female (70.5% vs 59.3%), non-White/Hispanic (9.9% vs 3.2%), divorced/separated/widowed (84.4% vs 61.1%), less educated (<12th grade; 42.2% vs 33.7%), have Medicare and Medicaid (20.8% vs 12.5%), and die in a rural/frontier NH (25.0% vs 23.4%). NH decedents who did not have FDF were also more likely to die from cancer (4.2% vs 3.9%), chronic obstructive pulmonary disease (COPD; 3.9% vs 2.5%), and dementia (40.5% vs 38.4%) and were less likely to have 2+ inpatient hospitalizations at EOL (13.9% vs 16.2%), compared with NH decedents with FDF.

Conclusions: Findings highlight differences in social determinants of health (e.g., sex, race, marital status, education, insurance, rurality) between NH decedents with dementia who do and do not have FDF-factors that may influence equity in EOL care. Understanding the role of family availability and familial characteristics on EOL care outcomes for NH residents with dementia is an important next step to informing NH dementia care interventions and health policies.

Keywords: dementia; end of life; family; nursing home.

© 2024 The American Geriatrics Society.

- [30 references](#)

SUPPLEMENTARY INFO

Grants and fundingexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share



. 2024 Feb 2;19(2):e0297125.

doi: 10.1371/journal.pone.0297125. eCollection 2024.

Characteristics of alpha-1 antitrypsin deficiency related lung disease exacerbations using a daily symptom diary and urinary biomarkers

[Paul Ellis](#)^{1,2}, [Gita Parekh](#)³, [Annelise Duvoix](#)³, [Lynne Watson](#)³, [Alex Sharp](#)¹, [Farah Mobeen](#)¹, [Anita Pye](#)¹, [Robert Stockley](#)⁴, [Alice Turner](#)^{1,2}

Affiliations expand

- PMID: 38306339
- PMCID: [PMC10836691](#)
- DOI: [10.1371/journal.pone.0297125](#)

Free PMC article

Abstract

Background: Pulmonary exacerbations in alpha-1 antitrypsin deficiency (AATD) related lung disease are a significant contributor to disease burden, as with usual COPD. Separating the early stages of an exacerbation from the day-to-day variation in stable COPD is central to the concerns of both clinicians and patients and has been identified as a research priority by NIHR. Clinical tools that distinguish baseline symptoms from those of an exacerbation could allow early and appropriate treatment of AECOPD to reduce the impact and potentially may slow disease progression thereby improving survival and quality of life. Candidate tools include symptom diaries and biomarkers of infection and acute inflammation. Urinary biomarkers of AECOPD have yet to be explored in AATD related COPD.

Methods: 55 patients with AATD related lung disease with a history of 2 or more AECOPD in the preceding year were prospectively followed for 18 months. Each patient recorded symptom scores daily via an electronic symptom diary (eDiary) based on Bronkotest. Urinary biomarkers for AAT, NE, CRP, TIMP1 and desmosine were measured weekly using a home urinary lateral flow device. During self-reported AECOPD patients were asked to perform urine analysis on the first 7 consecutive days.

Results: Type I Anthonisen exacerbations and episodes occurring in autumn/winter lasted longer than Type II/III exacerbations and spring/summer episodes respectively. Median urinary CRP concentration across all study participants increased during Type I AECOPD. eDiary adherence was 68% over a median of 17.8 months (IQR 15.7 to 18.5).

Conclusions: Use of an eDiary and urinary biomarkers to detect and characterise AECOPD remotely in AATD related lung disease is feasible over a prolonged period and paves the way for precision detection of exacerbations.

Copyright: © 2024 Ellis et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Conflict of interest statement

The authors have declared that no competing interests exist.

- [28 references](#)

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

32

Chin Med J (Engl)

-
-

. 2024 Feb 5;137(3):356-358.

doi: 10.1097/CM9.0000000000002929. Epub 2024 Jan 12.

Omics methods predict the prognosis and treatment efficacy of chronic obstructive pulmonary disease

[Yan Huang](#)¹, [Juanjuan Xu](#)², [Guangzhou Ma](#)², [Sufei Wang](#)², [Xiaojuan Yan](#)¹, [Yang Jin](#)², [Jiafu He](#)¹

Affiliations expand

- PMID: 38214333
- PMCID: [PMC10836873](#)
- DOI: [10.1097/CM9.0000000000002929](#)

Free PMC article

No abstract available

- [7 references](#)

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

33

Thorax

•
•
•

. 2024 Feb 8:thorax-2023-220972.

doi: 10.1136/thorax-2023-220972. Online ahead of print.

Type-2 inflammation and lung function decline in chronic airway disease in the general population

[Yunus Çolak](#)^{1 2 3}, [Shoaib Afzal](#)^{2 3 4}, [Jacob Louis Marott](#)⁵, [Jørgen Vestbo](#)⁶, [Børge Grønne Nordestgaard](#)^{2 3 4 5}, [Peter Lange](#)^{7 2 3 5 8}

Affiliations expand

- PMID: 38195642
- DOI: [10.1136/thorax-2023-220972](https://doi.org/10.1136/thorax-2023-220972)

Free article

Abstract

Background: It is unclear if type-2 inflammation is associated with accelerated lung function decline in individuals with asthma and chronic obstructive pulmonary disease (COPD). We tested the hypothesis that type-2 inflammation indicated by elevated blood eosinophils (BE) and fraction of exhaled nitric oxide (FeNO) is associated with accelerated lung function decline in the general population.

Methods: We included adults from the Copenhagen General Population Study with measurements of BE (N=15 605) and FeNO (N=2583) from a follow-up examination and assessed forced expiratory volume in 1 s (FEV₁) decline in the preceding 10 years. Based on pre- and post-bronchodilator lung function, smoking history and asthma at follow-up examination, participants were assigned as not having airway disease, asthma with full reversibility (AR), asthma with persistent obstruction (APO), COPD, and not classifiable airflow limitation (NAL).

Results: FEV₁ decline in mL/year increased with 1.0 (95% CI 0.6 to 1.4, p<0.0001) per 100 cells/μL higher BE and with 3.2 (95% CI 2.0 to 4.5, p<0.0001) per 10 ppb higher FeNO. Adjusted FEV₁ decline in mL/year was 18 (95% CI 17 to 20) in those with BE<300 cells/μL and FeNO<20 ppb, 22 (19-25) in BE≥300 cells/μL or FeNO≥20 ppb, and 27 (21-33) in those

with $BE \geq 300$ cells/ μ L and $FeNO \geq 20$ ppb (p for trend < 0.0001). Corresponding FEV_1 declines were 24 (19-29), 33 (25-40) and 44 (31-56) in AR (0.002), 26 (14-37), 36 (12-60) and 56 (24-89) in APO (0.07), 32 (27-36), 31 (24-38) and 44 (24-65) in COPD (0.46), and 27 (21-33), 35 (26-45), and 37 (25-49) in NAL (0.10), respectively.

Conclusions: Type-2 inflammation indicated by elevated BE and FeNO is associated with accelerated FEV_1 decline in individuals with chronic airway disease in the general population, and this association was most pronounced in an asthma-like phenotype.

Keywords: Asthma Epidemiology; Asthma Mechanisms; COPD Pathology; COPD epidemiology; Clinical Epidemiology.

© Author(s) (or their employer(s)) 2024. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

Conflict of interest statement

Competing interests: YÇ reports grants from Sanofi and personal fees from AstraZeneca, Boehringer Ingelheim, GlaxoSmithKline and Sanofi outside the submitted work. JV reports personal fees from ALK, AstraZeneca, Boehringer-Ingelheim, Chiesi, GlaxoSmithKline and Teva outside the submitted work. PL reports grants and personal fees from AstraZeneca and Sanofi and personal fees from AstraZeneca, Boehringer Ingelheim, GlaxoSmithKline, and Sanofi outside the submitted work. SA, JLM and BGN have nothing to disclose.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

34

Eur J Public Health

-
-
-

. 2024 Feb 5;34(1):150-155.

doi: 10.1093/eurpub/ckad199.

The impact of air pollution on hospitalization for COPD patients in China

[Chen Chen](#)¹, [Yi Wang](#)¹, [Jinglin Song](#)², [Juanjuan Yan](#)³

Affiliations expand

- PMID: 37968236
- PMCID: [PMC10843963](#)
- DOI: [10.1093/eurpub/ckad199](#)

Free PMC article

Abstract

Background: With the rapid development of the global economy and the acceleration of urbanization, air pollution has become a major environmental problem threatening human health. There is limited evidence on the acute effects of air pollution on chronic obstructive pulmonary disease (COPD).

Methods: From 2014 to 2019, we collected data on daily admissions for COPD patients from a city in China. We used the generalized additive model together with distributed lag models to fit the associations of air pollutants with hospital admissions.

Results: We observed significant increments in the number of daily admissions (0.086-0.109%) for COPD for a unit range increase in air quality index, PM_{2.5} and PM₁₀ over four lag days. The impact of air pollution on the number of daily admissions was mainly reflected in the COPD patients who were hospitalized through outpatient departments and tertiary hospitals.

Discussion: Short-term exposure to outdoor air pollution may induce the occurrence or exacerbation of COPD patients; therefore, government departments should strengthen the management of air pollution, improve supervision and control mechanisms, pay attention to the quality of medical services, and reduce the adverse effects of air pollution on patients' health.

© The Author(s) 2023. Published by Oxford University Press on behalf of the European Public Health Association.

- [33 references](#)

SUPPLEMENTARY INFO

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

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

35

Occup Environ Med

-
-
-

. 2024 Feb 2;81(2):59-65.

doi: 10.1136/oemed-2023-109146.

[Chronic respiratory symptoms following deployment-related occupational and environmental exposures among US veterans](#)

[Eric Garshick](#)^{1,2}, [Carrie A Redlich](#)³, [Anna Korpak](#)⁴, [Andrew K Timmons](#)⁴, [Nicholas L Smith](#)^{4,5}, [Karen Nakayama](#)⁴, [Coleen P Baird](#)⁶, [Paul Ciminera](#)⁷, [Farrah Kheradmand](#)^{8,9}, [Vincent S Fan](#)^{10,11}, [Jaime E Hart](#)^{2,12}, [Petros Koutrakis](#)¹², [Ware Kuschner](#)^{13,14}, [Octavian Ioachimescu](#)^{15,16}, [Michael Jerrett](#)¹⁷, [Phillipe R Montgrain](#)^{18,19}, [Susan P Proctor](#)^{20,21}, [Emily S Wan](#)^{22,2}, [Christine H Wendt](#)^{23,24}, [Cherry Wongtrakool](#)^{25,26}, [Paul D Blanc](#)^{27,28}

Affiliations [expand](#)

- PMID: 37968126

- DOI: [10.1136/oemed-2023-109146](https://doi.org/10.1136/oemed-2023-109146)

Abstract

Objectives: Characterise inhalational exposures during deployment to Afghanistan and Southwest Asia and associations with postdeployment respiratory symptoms.

Methods: Participants (n=1960) in this cross-sectional study of US Veterans (Veterans Affairs Cooperative Study 'Service and Health Among Deployed Veterans') completed an interviewer-administered questionnaire regarding 32 deployment exposures, grouped a priori into six categories: burn pit smoke; other combustion sources; engine exhaust; mechanical and desert dusts; toxicants; and military job-related vapours gas, dusts or fumes (VGDF). Responses were scored ordinally (0, 1, 2) according to exposure frequency. Factor analysis supported item reduction and category consolidation yielding 28 exposure items in 5 categories. Generalised linear models with a logit link tested associations with symptoms (by respiratory health questionnaire) adjusting for other covariates. OR were scaled per 20-point score increment (normalised maximum=100).

Results: The cohort mean age was 40.7 years with a median deployment duration of 11.7 months. Heavy exposures to multiple inhalational exposures were commonly reported, including burn pit smoke (72.7%) and VGDF (72.0%). The prevalence of dyspnoea, chronic bronchitis and wheeze in the past 12 months was 7.3%, 8.2% and 15.6%, respectively. Burn pit smoke exposure was associated with dyspnoea (OR 1.22; 95% CI 1.06 to 1.47) and chronic bronchitis (OR 1.22; 95% CI 1.13 to 1.44). Exposure to VGDF was associated with dyspnoea (OR 1.29; 95% CI 1.14 to 1.58) and wheeze (OR 1.18; 95% CI 1.02 to 1.35).

Conclusion: Exposures to burn pit smoke and military occupational VGDF during deployment were associated with an increased odds of chronic respiratory symptoms among US Veterans.

Keywords: air pollution; occupational health; respiratory system.

© Author(s) (or their employer(s)) 2024. No commercial re-use. See rights and permissions. Published by BMJ.

Conflict of interest statement

Competing interests: None declared.

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

36

J Asthma

-
-
-

. 2024 Mar;61(3):212-221.

doi: 10.1080/02770903.2023.2263071. Epub 2024 Feb 8.

[Machine learning-based prediction of in-hospital mortality in patients with pneumonic chronic obstructive pulmonary disease exacerbations](#)

[Lin Yu](#)^{1,2}, [Xia Ruan](#)^{1,2}, [Wenbo Huang](#)², [Na Huang](#)^{1,2}, [Jun Zeng](#)^{1,2}, [Jie He](#)^{1,2}, [Rong He](#)^{1,2}, [Kai Yang](#)^{1,2}

Affiliations expand

- PMID: 37738216
- DOI: [10.1080/02770903.2023.2263071](https://doi.org/10.1080/02770903.2023.2263071)

Abstract

Objective: While linear regression and LASSO models have been established for predicting in-hospital mortality, there is currently no validated clinical prediction algorithm to predict in-hospital mortality for patients with chronic obstructive pulmonary disease (COPD) exacerbations using machine learning. Thus, we will evaluate the BAP-65 and CURB-65, and construct a novel prediction model using the random forest (RF) technique.

Methods: A dataset of 1,418 patients with COPD exacerbations was collected. Age, gender, mental status, vital signs, and laboratory results were all taken into account for predictors. The categorical outcome variable was hospital-based mortality of people over 65 years. The dataset was divided randomly into a training dataset (70%) and a testing dataset (30%). We trained three prediction models, BAP-65, CURB-65, and the RF model, estimated the area under the receiver operating characteristic curve (AUROC) for the entire dataset. We also conducted a comparison of the AUROC values using the Delong test.

Results: A total of 658 individuals with COPD acute exacerbations were enrolled. Our analysis using the receiver operating characteristic curve demonstrated that the RF model exhibited excellent performance, with an AUROC of 0.80 (95% confidence interval: 0.75-0.84). In comparison, the BAP-65 prediction model yielded an AUROC of 0.72 (0.68-0.75), while the CURB-65 prediction model achieved an AUROC of 0.69 (0.67-0.73).

Conclusions: The RF model demonstrated superior predictive capabilities than the BAP-65 and CURB-65 models in predicting in-hospital mortality. The results further highlighted significant factors for predicting in-hospital mortality, including blood eosinophil count, systolic blood pressure, and prior history of asthma.

Keywords: Chronic obstructive pulmonary disease; machine learning; mortality; random forest.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



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

1

Review

J Multimorb Comorb

-
-
-

. 2024 Feb 7:14:26335565241231403.

Childhood and adolescence physical activity and multimorbidity later in life: A systematic review

[Luc Souilla](#)^{1,2}, [Anders C Larsen](#)³, [Carsten B Juhl](#)^{3,4}, [Søren T Skou](#)^{3,5}, [Alessio Bricca](#)^{3,5}

Affiliations expand

- PMID: 38333053
- PMCID: [PMC10851728](#)
- DOI: [10.1177/26335565241231403](#)

Abstract

Background: No systematic summary exists on childhood physical activity and later-life multimorbidity risks. We primarily investigated the association of physical activity in childhood and adolescence and the development of multimorbidity in adulthood. Secondly, we examined whether physical activity level differ in children and adolescents with and without multimorbidity and whether there is a cross-sectional association between physical activity and multimorbidity.

Methods: Following Cochrane Handbook guidelines and adhering to PRISMA recommendations, we included cross-sectional, case-control and longitudinal studies that investigated the association between physical activity in children and adolescents and development of multimorbidity. Results were summarized narratively and we assessed the certainty of the evidence using the GRADE approach. The protocol was registered in PROSPERO, CRD42023407063.

Results: Of 9064 studies identified, 11 were included in 13 papers. Longitudinal studies suggested that being physically active in childhood and adolescence was associated with a lower risk of multimorbidity in adulthood. Three out of five studies reported lower physical activity level in children and adolescents with multimorbidity compared to those without, and two did not find a between-group difference. Cross-sectional evidence on the association between multimorbidity and lower physical activity was uncertain. Overall, the evidence certainty for all outcomes was considered low due to the indirectness and inconsistency in findings.

Conclusions: Childhood and adolescence physical activity appeared to be linked with a reduced risk of later-life multimorbidity but the certainty of the evidence is low. These results support the promotion of physical activity during childhood and adolescence.

Keywords: adolescent; child; chronic disease; multimorbidity; physical activity.

© The Author(s) 2024.

Conflict of interest statement

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: STS is an associate editor of the Journal of Orthopaedic & Sports Physical Therapy; has received personal fees from Munksgaard, Nestlé Health Science and TrustMe-Ed outside the submitted work; and is a cofounder of GLA:D, a not-for-profit initiative hosted at the University of Southern Denmark aimed at implementing clinical guidelines for osteoarthritis in clinical practice. AB has received personal fees from PhisioVit S.r.l. outside of the submitted work. None of the authors had other financial relationships or activities that might have an interest in the submitted work.

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

2

Am J Med

-
-
-

. 2024 Feb 6:S0002-9343(24)00059-7.

doi: 10.1016/j.amjmed.2024.01.028. Online ahead of print.

Re-analyses of 8 Historical Trials in Cardiovascular Medicine Assessing Multimorbidity Burden and its Association with Treatment Response

[Andrew J Foy](#)¹, [Eric W Schaefer](#)², [Mohammed Ruzieh](#)³, [Matthew Nudy](#)⁴, [Omaima Ali](#)⁴, [Vernon M Chinchilli](#)², [Gerald V Naccarelli](#)⁴

Affiliations expand

- PMID: 38331136
- DOI: [10.1016/j.amjmed.2024.01.028](https://doi.org/10.1016/j.amjmed.2024.01.028)

Abstract

Objective: To examine the multimorbidity burden of clinical trial participants and assess its association with treatment response.

Methods: Reanalysis of patient level data. There were 29,954 participants from 8 clinical trials containing 11 comparisons between an intervention and control condition. Patients were classified by Charlson Comorbidity Index (CCI) score. The primary outcomes were the primary study endpoints as originally specified for each trial. A Cox model that included the CCI score groups, the randomized group and their interaction was used to compare the primary outcome between randomized groups. The interaction term between randomized group and comorbidity index allowed the treatment effect to differ by level of comorbidity index and comprised the primary effect of interest. Hazard ratios (HR) and risk differences (RD) were reported for all comparisons.

Results: The mean CCI scores of trial populations ranged from 2.1 to 3.9 points and the percentage of patients with scores ≥ 5 from 3% to 39%. Tests of interaction terms in models yielded p values ≤ 0.10 for 4/11 comparisons and ≤ 0.05 for 2/11 comparisons. In 3 additional comparisons, potentially important treatment variation on an absolute scale was observed despite interaction tests with p values > 0.10 on the relative scale.

Conclusions: These trials were mainly composed of patient populations with CCI scores ≤ 4 . Despite this, biologically plausible treatment interactions were commonly suggested. These results are hypothesis generating; confirmation of results would require larger studies or studies targeted specifically toward patients with higher levels of multimorbidity.

Keywords: Charlson Comorbidity Index; Multimorbidity; Treatment Effect Heterogeneity.

Copyright © 2024. Published by Elsevier Inc.

Conflict of interest statement

Declaration of competing interest Authors Andrew Foy, Eric Schaefer, Mohammed Ruzieh, Matthew Nudy, Omaima Ali, and Vernon Chinchilli have no conflicts of interest to disclose.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

3

Br J Gen Pract



. 2024 Feb 7:BJGP.2023.0026.

doi: 10.3399/BJGP.2023.0026. Online ahead of print.

[Disease patterns in high-cost individuals with multimorbidity: a retrospective cross-sectional study in primary care](#)

[Marina Soley-Bori](#)¹, [Mark Ashworth](#)¹, [Alice McGreevy](#)¹, [Yanzhong Wang](#)¹, [Stevo Durbaba](#)¹, [Hitendra Dodhia](#)¹, [Julia Fox-Rushby](#)²

Affiliations expand

- PMID: 38325891

- DOI: [10.3399/BJGP.2023.0026](https://doi.org/10.3399/BJGP.2023.0026)

Abstract

Background: 'High-cost' individuals with multimorbidity account for a disproportionately large share of healthcare costs and are at most risk of poor quality of care and health outcomes.

Aim: To compare high-cost with lower-cost individuals with multimorbidity and assess whether these populations can be clustered based on similar disease patterns.

Design and setting: A cross-sectional study based on 2019/2020 electronic medical records from adults registered to primary care practices ($n = 41$) in a London borough.

Method: Multimorbidity is defined as having ≥ 2 long-term conditions (LTCs). Primary care costs reflected consultations, which were costed based on provider and consultation types. High cost was defined as the top 20% of individuals in the cost distribution. Descriptive analyses identified combinations of 32 LTCs and their contribution to costs. Latent class analysis explored clustering patterns.

Results: Of 386 238 individuals, 101 498 (26%) had multimorbidity. The high-cost group ($n = 20 304$) incurred 53% of total costs and had 6833 unique disease combinations, about three times the diversity of the lower-cost group ($n = 81 194$). The trio of anxiety, chronic pain, and depression represented the highest share of costs (5%). High-cost individuals were best grouped into five clusters, but no cluster was dominated by a single LTC combination. In three of five clusters, mental health conditions were the most prevalent.

Conclusion: High-cost individuals with multimorbidity have extensive heterogeneity in LTCs, with no single LTC combination dominating their primary care costs. The frequent presence of mental health conditions in this population supports the need to enhance coordination of mental and physical health care to improve outcomes and reduce costs.

Keywords: electronic health records; high cost; long-term conditions; multimorbidity; primary care.

© The Authors.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

4

Alzheimers Res Ther



. 2024 Feb 6;16(1):28.

doi: 10.1186/s13195-024-01396-w.

Associations between cardiometabolic multimorbidity and cerebrospinal fluid biomarkers of Alzheimer's disease pathology in cognitively intact adults: the CABLE study

[Qiong-Yao Li](#)^{#1}, [He-Ying Hu](#)^{#1}, [Gao-Wen Zhang](#)^{#2}, [Hao Hu](#)¹, [Ya-Nan Ou](#)¹, [Liang-Yu Huang](#)¹, [An-Yi Wang](#)¹, [Pei-Yang Gao](#)¹, [Li-Yun Ma](#)¹, [Lan Tan](#)³, [Jin-Tai Yu](#)⁴

Affiliations expand

- PMID: 38321520
- DOI: [10.1186/s13195-024-01396-w](https://doi.org/10.1186/s13195-024-01396-w)

Free article

Abstract

Background: Cardiometabolic multimorbidity is associated with an increased risk of dementia, but the pathogenic mechanisms linking them remain largely undefined. We aimed to assess the associations of cardiometabolic multimorbidity with cerebrospinal fluid (CSF) biomarkers of Alzheimer's disease (AD) pathology to enhance our understanding of the underlying mechanisms linking cardiometabolic multimorbidity and AD.

Methods: This study included 1464 cognitively intact participants from the Chinese Alzheimer's Biomarker and Lifestyle (CABLE) database. Cardiometabolic diseases (CMD) are a group of interrelated disorders such as hypertension, diabetes, heart diseases (HD), and stroke. Based on the CMD status, participants were categorized as CMD-free, single CMD,

or CMD multimorbidity. CMD multimorbidity is defined as the coexistence of two or more CMDs. The associations of cardiometabolic multimorbidity and CSF biomarkers were examined using multivariable linear regression models with demographic characteristics, the APOE ϵ 4 allele, and lifestyle factors as covariates. Subgroup analyses stratified by age, sex, and APOE ϵ 4 status were also performed.

Results: A total of 1464 individuals (mean age, 61.80 years; age range, 40-89 years) were included. The markers of phosphorylated tau-related processes (CSF P-tau181: $\beta = 0.165$, $P = 0.037$) and neuronal injury (CSF T-tau: $\beta = 0.065$, $P = 0.033$) were significantly increased in subjects with CMD multimorbidity (versus CMD-free), but not in those with single CMD. The association between CMD multimorbidity with CSF T-tau levels remained significant after controlling for A β 42 levels. Additionally, significantly elevated tau-related biomarkers were observed in patients with specific CMD combinations (i.e., hypertension and diabetes, hypertension and HD), especially in long disease courses.

Conclusions: The presence of cardiometabolic multimorbidity was associated with tau phosphorylation and neuronal injury in cognitively normal populations. CMD multimorbidity might be a potential independent target to alleviate tau-related pathologies that can cause cognitive impairment.

Keywords: Alzheimer's disease; Biomarkers; Cardiometabolic multimorbidity; Cerebrospinal fluid; Phosphorylated tau; Tau.

© 2024. The Author(s).

- [66 references](#)

SUPPLEMENTARY INFO

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

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

5

BMC Med

-

. 2024 Feb 7;22(1):58.

doi: 10.1186/s12916-024-03263-9.

Co-designing care for multimorbidity: a systematic review

[Jennifer Sumner](#)¹, [Celeste Wen Ting Ng](#)², [Kimberly Ee Lin Teo](#)², [Adena Li Tyin Peh](#)², [Yee Wei Lim](#)^{2,3}

Affiliations expand

- PMID: 38321495
- DOI: [10.1186/s12916-024-03263-9](https://doi.org/10.1186/s12916-024-03263-9)

Free article

Abstract

Background: The co-design of health care enables patient-centredness by partnering patients, clinicians and other stakeholders together to create services.

Methods: We conducted a systematic review of co-designed health interventions for people living with multimorbidity and assessed (a) their effectiveness in improving health outcomes, (b) the co-design approaches used and (c) barriers and facilitators to the co-design process with people living with multimorbidity. We searched MEDLINE, EMBASE, CINAHL, Scopus and PsycINFO between 2000 and March 2022. Included experimental studies were quality assessed using the Cochrane risk of bias tool (ROB-2 and ROBINS-I).

Results: We screened 14,376 reports, with 13 reports meeting the eligibility criteria. Two reported health and well-being outcomes: one randomised clinical trial (n = 134) and one controlled cohort (n = 1933). Outcome measures included quality of life, self-efficacy, well-being, anxiety, depression, functional status, healthcare utilisation and mortality. Outcomes favouring the co-design interventions compared to control were minimal, with only 4 of 17 outcomes considered beneficial. Co-design approaches included needs assessment/ideation (12 of 13), prototype (11 of 13), pilot testing (5 of 13) (i.e. focus on usability) and health and well-being evaluations (2 of 13). Common challenges to the co-design process include poor stakeholder interest, passive participation, power imbalances and a lack of representativeness in the design group. Enablers include flexibility in approach, smaller group work, advocating for stakeholders' views and commitment to the process or decisions made.

Conclusions: In this systematic review of co-design health interventions, we found that few projects assessed health and well-being outcomes, and the observed health and well-being benefits were minimal. The intensity and variability in the co-design approaches were substantial, and challenges were evident. Co-design aided the design of novel services and interventions for those with multimorbidity, improving their relevance, usability and acceptability. However, the clinical benefits of co-designed interventions for those with multimorbidity are unclear.

Keywords: Chronic disease; Co-design; Multimorbidity; Systematic review.

© 2024. The Author(s).

- [60 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

6

BMJ Open

-
-
-

. 2024 Feb 2;14(2):e077441.

doi: 10.1136/bmjopen-2023-077441.

[Effectiveness of an adaptive, multifaceted intervention to enhance care for patients with complex multimorbidity in general practice:](#)

protocol for a pragmatic cluster randomised controlled trial (the MM600 trial)

[Anne Holm](#)¹, [Anna Bernhardt Lyhnebeck](#)², [Maarten Rozing](#)², [Sussi Friis Buhl](#)³, [Tora Grauers Willadsen](#)², [Anders Prior](#)⁴, [Ann-Kathrin Lindahl Christiansen](#)², [Jette Kristensen](#)⁵, [John Sahl Andersen](#)², [Frans Boch Waldorff](#)², [Volkert Siersma](#)², [John Brandt Brodersen](#)^{2,6,7}, [Susanne Reventlow](#)²; [MM600 project team](#)

Collaborators, Affiliations expand

- PMID: 38309759
- PMCID: [PMC10840032](#)
- DOI: [10.1136/bmjopen-2023-077441](#)

Free PMC article

Abstract

Introduction: Patients with complex multimorbidity face a high treatment burden and frequently have low quality of life. General practice is the key organisational setting in terms of offering people with complex multimorbidity integrated, longitudinal, patient-centred care. This protocol describes a pragmatic cluster randomised controlled trial to evaluate the effectiveness of an adaptive, multifaceted intervention in general practice for patients with complex multimorbidity.

Methods and analysis: In this study, 250 recruited general practices will be randomly assigned 1:1 to either the intervention or control group. The eligible population are adult patients with two or more chronic conditions, at least one contact with secondary care within the last year, taking at least five repeat prescription drugs, living independently, who experience significant problems with their life and health due to their multimorbidity. During 2023 and 2024, intervention practices are financially incentivised to provide an extended consultation based on a patient-centred framework to eligible patients. Control practices continue care as usual. The primary outcome is need-based quality of life. Outcomes will be evaluated using linear and logistic regression models, with clustering considered. The analysis will be performed as intention to treat. In addition, a process evaluation will be carried out and reported elsewhere.

Ethics and dissemination: The trial will be conducted in compliance with the protocol, the Helsinki Declaration in its most recent form and good clinical practice recommendations, as well as the regulation for informed consent. The study was submitted to the Danish Capital Region Ethical Committee (ref: H-22041229). As defined by Section 2 of the Danish Act on Research Ethics in Research Projects, this project does not constitute a health research project but is considered a quality improvement project that does not require formal ethical approval. All results from the study (whether positive, negative or inconclusive) will be published in peer-reviewed journals.

Trial registration number: [NCT05676541](#).

Keywords: PUBLIC HEALTH; Patient-Centered Care; Primary Health Care; Quality of Life; Randomized Controlled Trial.

© Author(s) (or their employer(s)) 2024. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

Conflict of interest statement

Competing interests: FBW declares having had received funding for research from the Novo Nordisk Foundation and the Velux Foundation. SR declares being a member of the steering committee for the Steno Diabetes Center in Region Zealand on behalf of the institute, without receiving any financial compensation. All other authors declare that they do not have any conflicts of interest.

- [46 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Associated dataexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

7

[Review](#)



Understanding the conditions included in data-driven patterns of multimorbidity: a scoping review

[Luxsena Sukumaran](#)^{1,2}, [Alan Winston](#)³, [Caroline A Sabin](#)^{1,2}

Affiliations expand

- PMID: 37837614
- PMCID: [PMC10843942](#)
- DOI: [10.1093/eurpub/ckad179](#)

Free PMC article

Abstract

Background: Despite the growing utilization of data-driven methods to investigate multimorbidity patterns, there is currently no consensus or guidance on the conditions to include when identifying patterns. This scoping review aims to systematically examine the nature of conditions included in existing studies using data-driven techniques.

Methods: A comprehensive search of three electronic databases (MEDLINE, Web of Science and Scopus) was conducted to identify relevant publications from inception to 28 February 2022 using predefined search terms and inclusion/exclusion criteria. The reference lists and citations of relevant papers were also searched.

Results: Among 7326 search results, 5444 relevant articles were identified. After screening against the eligibility criteria, 60 articles were included in the review. Half of the reviewed studies reported selection criteria for conditions, with prevalence in the population of interest being the most common criterion (40%). Most studies included at least one

neurological [59 (98.3%)], musculoskeletal [58 (96.7%)], respiratory [57 (95.0%)] or mental health [56 (93.3%)] condition. In contrast, only a small proportion of studies included skin [17 (28.3%)], infections [14 (23.3%)] or autoimmune conditions [10 (16.7%)]. Nine conditions (hypertension, diabetes, cancer, arthritis, COPD, asthma, depression, stroke and osteoporosis) were included by more than half of the studies.

Conclusions: This review highlights the considerable heterogeneity among the conditions included in analyses of multimorbidity patterns. Researchers should provide a clear rationale for the selection of conditions to facilitate comparisons across studies and ensure reproducibility, as well as consider selecting a diverse range of conditions to capture the complexity of multimorbidity.

© The Author(s) 2023. Published by Oxford University Press on behalf of the European Public Health Association.

- [Cited by 1 article](#)
- [18 references](#)

SUPPLEMENTARY INFO

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

FULL TEXT LINKS



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

1
Am J Respir Crit Care Med

-
-
-

. 2024 Feb 9.

doi: 10.1164/rccm.202312-2284ED. Online ahead of print.

[A Novel CT Score Reveals More About Air Trapping in Asthma](#)

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

Affiliations expand

- PMID: 38335179
- DOI: [10.1164/rccm.202312-2284ED](https://doi.org/10.1164/rccm.202312-2284ED)

No abstract available

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

2

J Investig Allergol Clin Immunol

-
-
-

. 2024 Feb 9:0.

doi: [10.18176/jiaci.0975](https://doi.org/10.18176/jiaci.0975). Online ahead of print.

[The use of triple therapy in asthma. The GEMA-FORUM V task force](#)

[V Plaza](#)¹, [J A Trigueros](#)², [J A Carretero](#)³, [I Ojanguren Arranz](#)⁴, [J M Vega Chicote](#)⁵, [C Almonacid Sánchez](#)⁶, [J Bartra Tomás](#)⁷, [C Cisneros Serrano](#)⁸, [L Domínguez Juncal](#)⁹, [J Domínguez-Ortega](#)¹⁰, [J Figueroa Rivero](#)¹¹, [J G Soto Campos](#)¹², [E Macías Fernández](#)¹³, [S Martínez](#)¹⁴, [J Montoro Lacomba](#)¹⁵, [S Quirce](#)¹⁰; [GEMAFORUM task force](#)

Affiliations expand

- PMID: 38334050
- DOI: [10.18176/jiaci.0975](https://doi.org/10.18176/jiaci.0975)

No abstract available

Keywords: Dose; Inhalation Device; LABA; LAMA; Triple Therapy.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

3

ERJ Open Res



. 2024 Feb 5;10(1):00793-2023.

doi: 10.1183/23120541.00793-2023. eCollection 2024 Jan.

[Clinical relevance of lung function trajectory clusters in middle-aged and older adults](#)

[Xander Bertels](#)^{1,2}, [James C Ross](#)³, [Rosa Faner](#)^{4,5,6}, [Michael H Cho](#)^{7,8}, [M Arfan Ikram](#)², [Guy G Brusselle](#)^{2,9,10}, [Lies Lahousse](#)^{1,2}

Affiliations expand

- PMID: 38333649
- PMCID: [PMC10851953](#)
- DOI: [10.1183/23120541.00793-2023](#)

Abstract

Background: The determinants and health outcomes of lung function trajectories in adults among the general population are poorly understood. We aimed to identify and characterise clusters of lung function trajectories in adults aged ≥ 45 years.

Methods: Gaussian finite-mixture modelling was applied to baseline and annualised change of forced expiratory volume in 1 s (FEV_1), forced vital capacity (FVC) and FEV_1/FVC ratio z-scores in participants of the Rotterdam Study, a prospective population-based cohort study, with repeated spirometry ($n=3884$; mean \pm sd age 64.7 ± 8.9 years). Longitudinal outcomes were all-cause mortality, respiratory outcomes (symptoms, COPD ($FEV_1/FVC < 0.7$ in absence of asthma), preserved ratio impaired spirometry (PRISm; $FEV_1/FVC \geq 0.7$ and FEV_1 or FVC $< 80\%$)), smoking cessation and weight changes. Independent risk factors, including genetics, were identified by multiple logistic regression.

Results: We identified eight trajectory clusters, with the reference group having persistently normal spirometry (prevalence 42.8%). Three clusters showed higher mortality, adjusted for confounders: 1) the persistently low FEV_1 cluster (prevalence 6.8%, hazard ratio (HR) 1.71, 95% CI 1.37-2.13); 2) rapid FEV_1 decliners (prevalence 4.6%, HR 1.48, 95% CI 1.10-1.99); and 3) FVC decliners (prevalence 3.7%, HR 1.49, 95% CI 1.09-2.03). In contrast, FVC improvers (prevalence 6.7%, HR 0.61, 95% CI 0.41-0.90) and persistently high FEV_1 (prevalence 29.2%, HR 0.82, 95% CI 0.69-0.98) were protective trajectory clusters. Clusters were characterised by differences in genetic predisposition (polygenic scores of FEV_1 and FEV_1/FVC), demographics, cigarette smoking, respiratory symptoms (chronic cough, wheezing and dyspnoea), cardiovascular factors (body mass index, hypertension and heart failure) and serum C-reactive protein levels. Frailty, weight changes and the development of respiratory symptoms, COPD and PRISm were significantly associated with trajectory clusters.

Conclusions: This study reveals clinically relevant lung function trajectory clusters in older adults of the general population.

Copyright ©The authors 2024.

Conflict of interest statement

Conflict of interest: X. Bertels reports BOF.SIP.2020 funding for international mobility in relation to the submitted work. Conflict of interest: R. Faner reports grants from the Serra Húnter Program, Instituto de Salud Carlos III (PI21/00735) and European Research Council under the Horizon Europe research and innovation programme (101044387) outside the submitted work. Conflict of interest: M.H. Cho reports NHLBI funding (R01HL153248, R01HL149861 and R01HL147148), grants from Bayer and GSK, consulting fees from Genentech, AstraZeneca and Illumina, and honoraria for lectures from Genentech, AstraZeneca and Illumina outside the submitted work. Conflict of interest: G.G. Brusselle reports fees for advisory boards and/or lectures from AstraZeneca, Boehringer Ingelheim, Chiesi, GSK, Merck Sharp & Dohme, Novartis and Sanofi Regeneron outside the submitted work. Conflict of interest: L. Lahousse reports BOF.SIP.2020 funding for international

mobility in relation to the submitted work, consulting fees from AstraZeneca, and speaking/lecture fees from Chiesi and IPSA (non-profit) outside the submitted work. Conflict of interest: J.C. Ross and M.A. Irfan declare no conflicts of interest.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

4

ERJ Open Res



. 2024 Feb 5;10(1):00615-2023.

doi: 10.1183/23120541.00615-2023. eCollection 2024 Jan.

[Adjustments to maintenance therapy and the reasoning behind them among COPD outpatients in Austria: the STEP study](#)

[Florian Vafai-Tabrizi](#)¹, [Ulrich Schwab](#)², [Stephan Brecht](#)², [Georg-Christian Funk](#)¹

Affiliations expand

- PMID: 38333644
- PMCID: [PMC10851946](#)
- DOI: [10.1183/23120541.00615-2023](#)

Abstract

Background: Adjustments to COPD maintenance treatment are based on different guidelines. In Austria, there is a lack of real-world data on treatment adjustments of COPD outpatients and their underlying rationale. The STEP study characterised change patterns of pharmacological maintenance therapy in COPD outpatients in predefined categories of step-up, step-down and switch, the underlying reasons, and predictors in clinical routine in Austria.

Methods: STEP was a single-visit non-interventional study in Austria. 77 pulmonologists based in outpatient clinics documented previous and adapted COPD therapy, reason for change, patient characteristics, COPD phenotype, and lung function. Patients' COPD symptom burden was assessed by using the COPD Assessment Test (CAT). Predictors for therapy changes were identified.

Results: 1137 patients were studied (mean±sd age 67±10 years; 56.9% male; mean forced expiratory volume in 1 s 56.3% predicted; Global Initiative for Chronic Obstructive Lung Disease B and E stages 66% and 19%, respectively; mean CAT score 17.5). Therapy step-up was observed in 59.3%, treatment switch in 21.7% and step-down in 19.0% of patients. Triple therapy comprised the biggest proportion of inhalation treatment (53.3%). Physicians reported lung function, symptom burden and exacerbations as the main reasons for step-up or step-down, whereas switches within the same treatment class were predominantly caused by device issues. Predictors for step-up were comorbid asthma and exacerbations among others.

Conclusions: STEP was the first study to investigate COPD therapy changes in clinical routine in Austria. The most frequent treatment adjustment was step-up, followed by treatment switch and step-down. Symptom burden, stable or improved lung function and inhalation device handling were the most frequently given reasons for adjustments.

Copyright ©The authors 2024.

Conflict of interest statement

Conflict of interest: F. Vafai-Tabrizi reports support for the present manuscript from A. Menarini Pharma GmbH; consulting fees from A. Menarini Pharma GmbH, outside the submitted work; payment for lectures from Chiesi Pharma, AstraZeneca and Boehringer Ingelheim, outside the submitted work; and participation on a data safety monitoring board or advisory board for A. Menarini Pharma GmbH and Boehringer Ingelheim, outside the submitted work. U. Schwab reports support for the present manuscript from A. Menarini Pharma GmbH and is an employee of the medical department of A. Menarini Pharma GmbH. S. Brecht reports support for the present manuscript from A. Menarini Pharma GmbH and is an employee of the medical department of A. Menarini Pharma GmbH. G-C. Funk reports support for the present manuscript from A. Menarini Pharma

GmbH; consulting fees from A. Menarini Pharma GmbH, Chiesi, AstraZeneca, Boehringer Ingelheim, CSL Behring and Novartis, outside the submitted work; payment or honoraria for lectures, presentations, speakers' bureaus, manuscript writing or educational events for Menarini, Chiesi, AstraZeneca, Boehringer Ingelheim, CSL Behring and Novartis, outside the submitted work; support for attending meetings and/or travel from Boehringer Ingelheim, outside the submitted work; and participation on a data safety monitoring or advisory board for A. Menarini Pharma GmbH, outside the submitted work.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

5

BMJ Open



. 2024 Feb 8;14(2):e069516.

doi: 10.1136/bmjopen-2022-069516.

[Personal strategies to reduce the effects of landscape fire smoke on asthma-related outcomes: a protocol for systematic review and meta-analysis](#)

[Tesfalidet Beyene](#)^{1,2}, [Peter G Gibson](#)^{1,2,3}, [V E Murphy](#)^{1,2}, [Megan E Jensen](#)^{1,2}, [Vanessa M McDonald](#)^{4,3,5}

Affiliations expand

- PMID: 38331860
- DOI: [10.1136/bmjopen-2022-069516](https://doi.org/10.1136/bmjopen-2022-069516)

Free article

Abstract

Introduction: Landscape fire smoke (LFS) contains several hazardous air pollutants that are known to be detrimental to human health. People with asthma are more vulnerable to the health impact of LFS than general populations. The aim of this review is to investigate the effectiveness of personal strategies to reduce the effect of LFS on asthma-related outcomes.

Methods and analysis: We will electronically search databases such as Medline, Embase, CINAHL and Cochrane Clinical Trials Register to identify eligible articles for the review. Screening of search results and data extraction from included studies will be completed by two independent reviewers. The risk of bias (RoB 2) will be assessed using the Risk of Bias Assessment Tool for Non-Randomised Studies for observational studies, the Cochrane Collaboration tool for assessing the RoB 2 for randomised controlled trials (RCTs) and the Risk Of Bias In Nonrandomized Studies of Interventions tool for non-RCTs. A random-effect meta-analysis will be performed to determine the pooled summary of findings of the included studies. If meta-analysis is not possible, we will conduct a narrative synthesis. Findings will be reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement.

Ethics and dissemination: This study will synthesise the available evidence obtained from published studies and as such, no ethical approval is required. The review will be disseminated through peer-reviewed publications and conference presentations.

Prospero registration number: CRD42022341120.

Keywords: Asthma; PUBLIC HEALTH; Respiratory infections.

© Author(s) (or their employer(s)) 2024. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

Conflict of interest statement

Competing interests: None declared.

FULL TEXT LINKS



[Proceed to details](#)

[Cite](#)

Share

6

Review

Allergy Asthma Clin Immunol

-
-
-

. 2024 Feb 8;20(1):12.

doi: 10.1186/s13223-024-00869-9.

Prevalence of asthma in people with type 1 diabetes mellitus: a scoping review

[Júlia Marchatto Kamei](#)¹, [Raissa Dias Maués](#)², [Gabriel de Oliveira Silva](#)², [Alessandra Helena Machado](#)², [Erika Megumi Hoshino](#)², [Fabiana Menezes Bacchiega](#)², [Laís Mota Furtado Sena](#)², [Carlos Antonio Negrato](#)²

Affiliations expand

- PMID: 38331806
- DOI: [10.1186/s13223-024-00869-9](https://doi.org/10.1186/s13223-024-00869-9)

Abstract

Background: According to the Th1/Th2 paradigm, the expansion of Th1-type clones in individuals with type 1 diabetes results in reduced Th2-type clones, preventing the development of atopic diseases and vice versa. However, there is no consensus regarding the direct or inverse relationship between autoimmune and atopic diseases.

Objective: The aim of this scoping review was to examine the knowledge gap about the possibility of coexistence of asthma and type 1 diabetes and determine the prevalence of this association.

Methods: A scoping review was conducted, following the proposal of the Joanna Briggs Institute. The Population, Concept, and Context strategy was used to formulate the guiding

question. The proposed question was: "What is the prevalence of asthma in people with T1DM?" After excluding duplicate articles, analyzing titles and abstracts, and excluding articles that did not answer the guiding question, 17 articles remained and were included in this review.

Results: Most of the articles selected conformed to the Th1/Th2 hypothesis, as the prevalence of asthma was lower in individuals with T1DM. However, similar or higher prevalence of asthma was found between cases and controls in few articles.

Conclusion: The prevalence of asthma in people with T1DM ranged from 1.7% to 23.1%. Maybe the mechanisms that characterizes the Th1/Th2 paradigm aren't as simple as just the interaction of certain cytokines, since Th1-mediated autoimmune diseases and Th2-mediated atopy can coexist.

Keywords: Asthma; Atopy; Autoimmunity; Prevalence; TH1/TH2; Type 1 diabetes mellitus.

© 2024. The Author(s).

- [28 references](#)

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

7

BMC Pulm Med

-
-
-

. 2024 Feb 8;24(1):74.

doi: 10.1186/s12890-024-02868-3.

Monoclonal antibodies in idiopathic chronic eosinophilic pneumonia: a scoping review

[Andrea Dionelly Murillo](#)^{1,2}, [Ana Isabel Castrillon](#)³, [Carlos Daniel Serrano](#)^{1,2}, [Liliana Fernandez-Trujillo](#)^{4,5}

Affiliations [expand](#)

- PMID: 38331769
- DOI: [10.1186/s12890-024-02868-3](https://doi.org/10.1186/s12890-024-02868-3)

Abstract

Background: Idiopathic chronic eosinophilic pneumonia (ICEP) is a rare disease characterized by pulmonary radiological alterations, peripheral eosinophilia, and demonstrated pulmonary eosinophilia. Oral steroids (OSs) are the standard management, but relapses occur in up to 50% of patients during the decrease or suspension of steroids, usually requiring reinitiation of treatment, exposing patients to secondary events derived from the management. Management with monoclonal antibodies has been proposed in these cases to control the disease and limit the secondary effects. The objective is to describe the extent and type of evidence regarding the use of monoclonal antibodies for ICEP.

Methods: A panoramic review of the literature was performed. Observational and experimental studies of pediatric and adult populations that managed recurrent ICEP with monoclonal antibodies were included. Data search, selection, and extraction were performed by two independent reviewers.

Results: 937 studies were found. After applying the inclusion and exclusion criteria, 37 titles remained for the final analysis: a retrospective, observational, real-life study, two case series publications, and 34 case reports published in academic poster sessions and letters to the editor. In general, the use of monoclonal antibodies approved for severe asthma could be useful for the control of ICEP, since most of the results show a good response for clinical and radiological outcomes. Biological drugs seem to be a safer option for controlling relapses in ICEP, allowing lowering/suspension of OSs, and sometimes replacing them in patients intolerant to them, patients with significant comorbidities, and patients who have already developed adverse events.

Conclusion: The extent of the evidence supporting management of ICEP with monoclonal antibodies against IL-5 and IgE (omalizumab) is limited, but it could be promising in patients who present frequent relapses, in cortico-dependent individuals, or in patients in whom the use of steroids is contraindicated. The extent of the evidence for management with dupilumab is more limited. Studies with better design and structure are needed to evaluate quality of life and outcomes during a clear follow-up period. To our knowledge, this is the first scoping review of the literature showing the extent of the evidence for the management of ICEP with monoclonal antibodies.

Keywords: Carrington syndrome; Eosinophilic pneumonia; Idiopathic chronic eosinophilic pneumonia; Monoclonal antibodies; Pulmonary eosinophilia; Systemic corticosteroids.

© 2024. The Author(s).

- [60 references](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

8

Am J Respir Crit Care Med

-
-
-

. 2024 Feb 8.

doi: 10.1164/rccm.202310-1751LE. Online ahead of print.

[Biomarkers Associated with Lung Function Decline and Dupilumab Response in Patients with Asthma](#)

[Ian D Pavord](#)¹, [Lucia de Prado Gómez](#)², [Guy Brusselle](#)^{3,4}, [Daniel J Jackson](#)⁵, [Christopher E Brightling](#)⁶, [Alberto Papi](#)⁷, [Jorge F Maspero](#)⁸, [Klaus F Rabe](#)^{9,10}, [Stephanie Korn](#)¹¹, [Mei Zhang](#)¹², [Xavier Soler](#)¹³, [Juby A Jacob-Nara](#)¹², [Meghan Hardin](#)¹⁴, [QUEST Lung Function Decline Study Group](#)

Affiliations expand

- PMID: 38329781
- DOI: [10.1164/rccm.202310-1751LE](https://doi.org/10.1164/rccm.202310-1751LE)

No abstract available

Keywords: asthma; biomarkers; dupilumab; lung function decline; predictive.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

9

J Eur Acad Dermatol Venereol

-
-
-

. 2024 Feb 8.

doi: 10.1111/jdv.19862. Online ahead of print.

[Upadacitinib improves symptoms of concomitant allergic rhinitis or allergic asthma in patients with severe atopic dermatitis: A 16-week multicentre retrospective study](#)

[L Gargiulo](#)^{1,2}, [L Ibba](#)^{1,2}, [F Piscazzi](#)^{1,2}, [F Amoroso](#)³, [A Balato](#)⁴, [F Barei](#)⁵, [M Bertello](#)⁶, [A G Burrone](#)⁷, [S Caccavale](#)⁴, [S M Ferrucci](#)⁵, [C Foti](#)⁸, [F M Gaiani](#)⁹, [G Girolomoni](#)¹⁰, [P Malagoli](#)⁹, [A V Marzano](#)⁵, [M Maurelli](#)¹⁰, [M Napolitano](#)¹¹, [E Nettis](#)¹², [M Ortoncelli](#)⁶, [C Patrino](#)¹³, [E Pezzolo](#)^{14,15}, [S Ribero](#)⁶, [P Romita](#)⁸, [M T Rossi](#)¹⁶, [I Zaza](#)¹², [A Costanzo](#)^{1,2}, [A Narcisi](#)¹

Affiliations expand

- PMID: 38329235
- DOI: [10.1111/jdv.19862](https://doi.org/10.1111/jdv.19862)

No abstract available

- [10 references](#)

SUPPLEMENTARY INFO

Publication types expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

10

Thorax

-
-
-

. 2024 Feb 7:thorax-2023-220953.

doi: 10.1136/thorax-2023-220953. Online ahead of print.

[Not all wheeze is asthma](#)

[Kher Lik Ng](#)¹, [John Park](#)², [Elizabeth Belcher](#)³, [Alastair J Moore](#)²

Affiliations expand

- PMID: 38326024

- DOI: [10.1136/thorax-2023-220953](https://doi.org/10.1136/thorax-2023-220953)

No abstract available

Keywords: Asthma; Bronchoscopy; COVID-19; Child; Imaging/CT MRI etc.

Conflict of interest statement

Competing interests: None declared.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

11

Arch Dis Child

-
-
-

. 2024 Feb 7:archdischild-2023-326739.

doi: 10.1136/archdischild-2023-326739. Online ahead of print.

[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.

© Author(s) (or their employer(s)) 2024. No commercial re-use. See rights and permissions. Published by BMJ.

Conflict of interest statement

Competing interests: None declared.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

12

Respir Med

-
-
-

. 2024 Feb 5:107539.

doi: 10.1016/j.rmed.2024.107539. Online ahead of print.

[Improving asthma control and quality of life via a smartphone self-management app: A randomized controlled trial](#)

[Mehrdad Farzandipour](#)¹, [Marzieh Heidarzadeh Arani](#)², [Reihane Sharif](#)³, [Ehsan Nabovati](#)¹, [Hossein Akbari](#)⁴, [Shima Anvari](#)¹

Affiliations expand

- PMID: 38325663
- DOI: [10.1016/j.rmed.2024.107539](https://doi.org/10.1016/j.rmed.2024.107539)

Abstract

Background: Mobile phone applications (apps) show promise for enhancing asthma self-management, but their effectiveness varies. This study examined the effect of a smartphone asthma app on asthma control and quality of life.

Methods: Using block randomization, 60 patients with asthma were allocated to an intervention group (n = 30) or control group (n = 30) for this single-blind randomized controlled trial. At baseline, both groups completed the Asthma Control Test (ACT) and Asthma Quality of Life Questionnaire-Marks (AQLQ-M). The intervention group used a smartphone-based asthma self-management app plus their regular treatment, while the control group received only usual care. Follow-up ACT and AQLQ-M assessments occurred at 3 and 6 months. SPSS version 26 was used for analysis, including descriptive statistics, non-parametric tests (Wilcoxon and Mann-Whitney U), and analysis of variance with repeated measurements.

Results: Both groups showed improved asthma control and quality of life at 3 and 6 months compared to baseline. However, after 6 months the intervention group had significantly greater improvement than controls ($p < 0.05$). Repeated measures ANOVA revealed divergent changes in ACT and AQLQ-M scores over time, with the intervention group demonstrating greater enhancement of asthma control and quality of life ($p < 0.001$).

Conclusion: This study demonstrated that use of a smartphone-based asthma self-management app improved asthma control and quality of life after 6 months compared to usual care alone. These findings indicate that guideline-based asthma apps can positively impact outcomes.

Keywords: Asthma; Asthma control; Mobile applications; Quality of life; mHealth.

Copyright © 2024 Elsevier Ltd. All rights reserved.

Conflict of interest statement

Declaration of competing interest There is no conflict of interest.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

13

Rev Clin Esp (Barc)

•

•
•

. 2024 Feb 5:S2254-8874(24)00018-3.

doi: 10.1016/j.rceng.2024.01.007. Online ahead of print.

Prognostic impact of chronic obstructive pulmonary disease and bronchial asthma in patients with heart failure

[E Barge-Caballero](#)¹, [J Sieira-Hermida](#)², [G Barge-Caballero](#)³, [D Couto-Mallón](#)³, [Ma J Paniagua-Martín](#)³, [D Enríquez-Vázquez](#)³, [P J Marcos-Rodríguez](#)⁴, [J Rodríguez-Capitán](#)⁵, [J M Vázquez-Rodríguez](#)³, [M G Crespo-Leiro](#)⁶

Affiliations expand

- PMID: 38325624
- DOI: [10.1016/j.rceng.2024.01.007](https://doi.org/10.1016/j.rceng.2024.01.007)

Abstract

Purpose: To analyze the impact of chronic obstructive pulmonary disease (COPD) and bronchial asthma on therapeutic management and prognosis of patients with heart failure (HF).

Methods: Analysis of the information collected in a clinical registry of patients referred to a specialized HF unit from January-2010 to June-2012. Clinical profile, treatment and prognosis of patients was evaluated, according to the presence of COPD or asthma. Survival analyses were conducted by means of Kaplan-Meier and Cox's methods. Median follow-up was 1493 days.

Results: We studied 2577 patients, of which 251 (9.7%) presented COPD and 96 (3.7%) bronchial asthma. Significant differences among study groups were observed regarding to the prescription of beta-blockers (COPD = 89.6%; asthma = 87.5%; no bronchopathy = 94.1%; $p = 0.002$) and SGLT2 inhibitors (COPD = 35.1%; asthma = 50%; no bronchopathy = 38.3%; $p = 0.036$). Also, patients with bronchial disease received less frequently a defibrillator (COPD = 20.3%; asthma = 20.8%; no bronchopathy = 29%; $p = 0.004$). COPD was independently associated with increased risk of all-cause mortality (HR = 1.64; 95% CI 1.33-2.02), all-cause death or HF admission (HR = 1.47; 95% CI 1.22-1.76) and

cardiovascular death or heart transplantation (HR = 1.39; 95% CI 1.08-1.79) as compared with patients with no bronchopathy. Bronchial asthma was not significantly associated with increased risk of adverse outcomes.

Conclusions: COPD, but not asthma, is an adverse independent prognostic factor in patients with HF.

Keywords: COPD; EPOC; Heart failure; Insuficiencia cardiaca; asma; bronchial asthma; prognosis; pronóstico; tratamiento; treatment.

Copyright © 2024. Published by Elsevier España, S.L.U.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

14

J Asthma



. 2024 Feb 7:1-12.

doi: 10.1080/02770903.2024.2316726. Online ahead of print.

[Digitally monitored inhaled therapy: A 'Smart' way to manage severe asthma?](#)

[Dominic L Sykes](#)^{1,2}, [Yee Yong See](#)², [Evon C Y Chow](#)², [Michael G Crooks](#)^{1,2}, [Helena Cummings](#), [Mandy Robinson](#)², [Karen Watkins](#)², [Joanne Thompson](#)², [Kylie Overton](#)², [Charlotte Riches](#)², [Shoaib Faruqi](#)^{1,2}

Affiliations expand

- PMID: 38323583

- DOI: [10.1080/02770903.2024.2316726](https://doi.org/10.1080/02770903.2024.2316726)

Abstract

One of the fundamental challenges of managing patients with severe asthma is treatment adherence, particularly with inhaled corticosteroids. Adherence is difficult to measure objectively and poor adherence is associated with worse outcomes. In this study, assess the ability of a 'smart' inhaler to record adherence in severe asthma patients and measure the impact of this on asthma control. Consecutive consenting patients meeting criteria for biologics had their existing high-dose ICS/LABA//LAMA combination inhaler/s switched to mometasone/indacaterol/glycopyrronium (114/46/136). Routine clinical data, including blood eosinophils, FeNO, and ACQ-6 scores were collected at baseline and at 4 weeks. Adherence was then checked on the Propeller Health app, and good adherence was defined as >80% of prescribed usage. Participants were then followed-up at 12 months to record the proportion of patients who were initiated on biologics. 77 patients (mean [SD] age = 50.4 [15.7] years, 67.5% female [n = 52]) participated. 71 participants were able to use the device and 65% (n = 46) of these attained good asthma control and were not initiated on biologics at 12-month follow-up. Both groups demonstrated a significant reduction in ACQ6 score at follow-up (2.81 vs 1.92, $p < 0.001$ and 3.05 vs 2.60, $p < 0.001$, respectively), but there was no statistically significant difference in improvement between groups. Patients with optimal adherence also demonstrated a significant reduction in median FeNO at follow-up (47ppb vs 40ppb, $p = 0.003$). In severe asthma patients, 'smart' inhalers may represent an effective management tool to improve adherence and asthma control, therefore avoiding the need for patients to commence biological therapies.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

15

J Allergy Clin Immunol Pract

-
-
-

. 2024 Feb 4:S2213-2198(24)00146-6.

doi: 10.1016/j.jaip.2024.01.044. Online ahead of print.

Targeting asthma remission as the next therapeutic step towards improving disease control

[William W Busse](#)¹, [Geoffrey Chupp](#)², [Thomas Corbridge](#)³, [Alexandra Stach-Klysh](#)³, [John Oppenheimer](#)⁴

Affiliations expand

- PMID: 38320720
- DOI: [10.1016/j.jaip.2024.01.044](https://doi.org/10.1016/j.jaip.2024.01.044)

Abstract

The long-term goal of asthma management is to achieve disease control, comprised of the assessment of two main domains: 1) symptom control and 2) future risk of adverse outcomes. Decades of progress in asthma management have correlated with increasingly ambitious disease control targets. Moreover, introduction of precision medicines, such as biologics, has further expanded the limits of what can be achieved in terms of disease control. It is now believed that clinical remission, a term rarely associated with asthma, may be an achievable treatment goal. An expert framework published in 2020 took the first step towards developing a commonly accepted definition of clinical remission in asthma. However, there remains widespread discussion about the clinical parameters and thresholds that should be included in a standardized definition of clinical remission. This review aims to discuss on-treatment clinical remission as an aspirational outcome in asthma management, drawing on experiences from other chronic diseases where remission has long been a goal. We also highlight the integral role of shared decision-making between patients and healthcare professionals and the need for a common understanding of the individual patient journey to remission as foundational elements in reducing disease burden and improving outcomes for patients with asthma.

Keywords: asthma; clinical remission; exacerbations; lung function; patient journey; symptom control; treatment goal.

Copyright © 2024. Published by Elsevier Inc.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

16

Clin Exp Allergy



. 2024 Feb 5.

doi: 10.1111/cea.14459. Online ahead of print.

Effects of air purifiers on rhinitis quality of life and perception of sleep quality in people with asthma: Randomised controlled trial

[Latha Kadalayil](#)¹, [Scott Lowther](#)², [Wei Chern Gavin Fong](#)^{1,3}, [Frédéric Nicolas](#)², [Stephen Potter](#)³, [Maria Larsson](#)³, [Ramesh Kurukulaaratchy](#)^{1,3,4}, [Syed Hasan Arshad](#)^{1,3,4}

Affiliations expand

- PMID: 38317332
- DOI: [10.1111/cea.14459](https://doi.org/10.1111/cea.14459)

No abstract available

Keywords: DYSON air purifier; clinical trial; quality of life; repeated measures; rhinitis; sleep.

- [9 references](#)

SUPPLEMENTARY INFO

Grants and funding expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

17

Korean J Intern Med

-
-
-

. 2024 Feb 6.

doi: 10.3904/kjim.2023.299. Online ahead of print.

[New targets for type 2-low asthma](#)

[Quang Luu Quoc](#)^{1,2}, [Youngwoo Choi](#)³, [Gyu-Young Hur](#)⁴, [Hae-Sim Park](#)^{1,2}

Affiliations expand

- PMID: 38317271
- DOI: [10.3904/kjim.2023.299](https://doi.org/10.3904/kjim.2023.299)

Free article

Abstract

Asthma is characterized by airway obstruction and inflammation, and presents significant diagnostic and treatment challenges. The concept of endotypes has improved understanding of the mechanisms of asthma and has stimulated the development of effective treatment strategies. Sputum profiles may be used to classify asthma into two major inflammatory types: type 2-high (T2H) and type 2-low (T2L) asthma. T2H, characterized by elevated type 2 inflammation, has been extensively studied and several effective biologic treatments have been developed. However, managing T2L is more difficult due to the lack of reliable biomarkers for accurate diagnosis and classification. Additionally, conventional anti-inflammatory therapy does not completely control the

symptoms of T2L; therefore, further research is needed to identify effective biologic treatments. This review provides new insights into the clinical characteristics and underlying mechanisms of severe T2L and investigates potential therapeutic approaches to control the disease.

Keywords: Asthma; Biomarker; Mechanism; Neutrophil; Therapeutics.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

18

Eur Respir J

-
-
-

. 2024 Feb 5;63(1):24E6301.

doi: 10.1183/13993003.E6301-2024. Print 2024 Jan.

[ERJ Podcast January 2024: The microbiome in early life and childhood asthma](#)

No authors listed

- PMID: 38316441
- DOI: [10.1183/13993003.E6301-2024](https://doi.org/10.1183/13993003.E6301-2024)

No abstract available

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

19

J Allergy Clin Immunol Pract

-
-
-

. 2024 Feb 3:S2213-2198(24)00145-4.

doi: 10.1016/j.jaip.2024.01.043. Online ahead of print.

[The use of albuterol/budesonide as reliever therapy to reduce asthma exacerbations](#)

[Reynold A Panettieri Jr](#)¹, [Bradley Chipps](#)², [Neil Skolnik](#)³, [Maureen George](#)⁴, [Kevin Murphy](#)⁵, [Njira Lugogo](#)⁶

Affiliations expand

- PMID: 38316182
- DOI: [10.1016/j.jaip.2024.01.043](https://doi.org/10.1016/j.jaip.2024.01.043)

Abstract

Prevention of asthma exacerbations and reduction of systemic corticosteroid burden remain unmet needs in asthma. US asthma guidelines recommend concomitant short-acting β_2 -agonist (SABA) and inhaled corticosteroid (ICS) as alternative reliever at Step 2. The FDA approved a pressurized metered-dose inhaler containing albuterol and budesonide for as-needed treatment or prevention of bronchoconstriction and to reduce exacerbation risk in patients with asthma aged ≥ 18 years. This combination is approved for

use as a reliever with or without maintenance therapy but it is not indicated for maintenance therapy (or for single maintenance and reliever therapy). Intervening with as-needed SABA-ICS during the window-of-opportunity to reduce inflammation during loss of asthma control can reduce exacerbation risk, by exerting both genomic and nongenomic anti-inflammatory effects. We propose that use of albuterol-budesonide rather than albuterol as reliever to manage episodic symptoms driven by acute bronchoconstriction and airway inflammation can improve outcomes. This combination approach, shown to decrease asthma exacerbations and oral corticosteroid burden in patients with moderate-to-severe asthma, represents a paradigm shift for asthma treatment in the US. Further safety and efficacy studies should provide evidence that this type of reliever should be standard of care.

Keywords: Anti-inflammatory reliever; As-needed; Flares; Inhaled corticosteroids; Nongenomic; Reliever; Rescue; Short-acting beta-2-agonist.

Copyright © 2024. Published by Elsevier Inc.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

20

Review

Expert Rev Respir Med

-
-
-

. 2024 Feb 5:1-11.

doi: 10.1080/17476348.2024.2314535. Online ahead of print.

[Mild asthma is not mild: risk factors and predictive biomarkers for severe](#)

acute exacerbations and progression in mild asthma

[Lingling Wang](#)¹, [Ling Zhou](#)¹, [Pengdou Zheng](#)¹, [Zhenyu Mao](#)¹, [Huiguo Liu](#)¹

Affiliations expand

- PMID: 38315090
- DOI: [10.1080/17476348.2024.2314535](https://doi.org/10.1080/17476348.2024.2314535)

Abstract

Introduction: Asthma is a common chronic respiratory disease characterized by chronic airway inflammation, airway hyperresponsiveness, reversible airflow limitation, and airway remodeling. Mild asthma is the most common type of asthma, but it is the most neglected. Sometimes mild asthma can lead to acute severe exacerbations or even death.

Areas covered: This article reviews the epidemiology, risk factors, and possible predictors of acute severe exacerbations and disease progression in mild asthma to improve the understanding of mild asthma and its severe acute exacerbations and progression.

Expert opinion: There is a necessity to improve asthma patient categorization and redefine mild asthma's concept to heighten patient and physician attention. Identifying mild asthma patients that are highly vulnerable to severe acute exacerbations and researching the mechanisms are future prioritizations.

Keywords: Mild asthma; Overuse of short-acting beta-agonis; Risk factors; biomarkers; severe acute exacerbations.

SUPPLEMENTARY INFO

Publication typesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

21

Review

Allergy

-
-
-

. 2024 Feb 4.

doi: 10.1111/all.16041. Online ahead of print.

[The impact of outdoor pollution and extreme temperatures on asthma-related outcomes: A systematic review for the EAACI guidelines on environmental science for allergic diseases and asthma](#)

[Ioana Agache](#)¹, [Carlos Canelo-Aybar](#)², [Isabella Annesi-Maesano](#)³, [Lorenzo Cecchi](#)⁴, [David Rigau](#)², [L Yesenia Rodríguez-Tanta](#)², [Wendy Nieto-Gutierrez](#)², [Yang Song](#)², [Yahveth Cantero-Fortiz](#)^{2 5}, [Marta Roqué](#)^{2 5}, [Juan Carlos Vasquez](#)², [Ivan Sola](#)⁵, [Benedetta Biagioni](#)⁶, [Fan Chung](#)⁷, [Gennaro D'Amato](#)⁸, [Athanasios Damialis](#)⁹, [Stefano Del Giacco](#)¹⁰, [Leticia de Las Vecillas](#)¹¹, [Javier Dominguez-Ortega](#)¹¹, [Carmen Galàn](#)¹², [Stefanie Gilles](#)¹³, [Mattia Giovannini](#)^{14 15}, [Stephen Holgate](#)¹⁶, [Mohamed Jeebhay](#)¹⁷, [Kari Nadeau](#)¹⁸, [Nikos Papadopoulos](#)^{19 20}, [Santiago Quirce](#)¹¹, [Joaquin Sastre](#)²¹, [Claudia Traidl-Hoffmann](#)^{22 23 24}, [Jolanta Walusiak-Skorupa](#)²⁵, [Bernardo Sousa-Pinto](#)²⁶, [Pablo Alonso-Coello](#)^{2 5}, [Josefina Salazar](#)², [Marek Jutel](#)²⁷, [Cezmi Akdis](#)²⁸

Affiliations expand

- PMID: 38311978
- DOI: [10.1111/all.16041](https://doi.org/10.1111/all.16041)

Abstract

Air pollution is one of the biggest environmental threats for asthma. Its impact is augmented by climate change. To inform the recommendations of the EAACI Guidelines on the environmental science for allergic diseases and asthma, a systematic review (SR) evaluated the impact on asthma-related outcomes of short-term exposure to outdoor air pollutants (PM_{2.5}, PM₁₀, NO₂, SO₂, O₃, and CO), heavy traffic, outdoor pesticides, and extreme temperatures. Additionally, the SR evaluated the impact of the efficacy of interventions reducing outdoor pollutants. The risk of bias was assessed using ROBINS-E tools and the certainty of the evidence by using GRADE. Short-term exposure to PM_{2.5}, PM₁₀, and NO₂ probably increases the risk of asthma-related hospital admissions (HA) and emergency department (ED) visits (moderate certainty evidence). Exposure to heavy traffic may increase HA and deteriorate asthma control (low certainty evidence). Interventions reducing outdoor pollutants may reduce asthma exacerbations (low to very low certainty evidence). Exposure to fumigants may increase the risk of new-onset asthma in agricultural workers, while exposure to 1,3-dichloropropene may increase the risk of asthma-related ED visits (low certainty evidence). Heatwaves and cold spells may increase the risk of asthma-related ED visits and HA and asthma mortality (low certainty evidence).

Keywords: GRADE; asthma; extreme temperatures; outdoor pollution; systematic review.

© 2024 European Academy of Allergy and Clinical Immunology and John Wiley & Sons Ltd.

- [118 references](#)

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

22

Adv Ther

-
-
-

. 2024 Feb 4.

The Association Between Short-Acting β_2 -Agonist Over-Prescription, and Patient-Reported Acquisition and Use on Asthma Control and Exacerbations: Data from Australia

[David Price](#)^{1,2,3,4}, [Christine Jenkins](#)⁵, [Kerry Hancock](#)^{6,7}, [Rebecca Vella](#)⁸, [Florian Heraud](#)⁹, [Porsche Le Cheng](#)⁸, [Ruth Murray](#)¹⁰, [Maarten Beekman](#)¹¹, [Sinthia Bosnic-Anticevich](#)^{12,13}, [Fabio Botini](#)⁸, [Victoria Carter](#)¹⁰, [Angelina Catanzariti](#)¹⁴, [Joe Doan](#)¹⁵, [Kirsty Fletton](#)¹⁰, [Ata Kichkin](#)¹⁶, [Thao Le](#)¹⁷, [Chantal Le Lievre](#)⁸, [Chi Ming Lau](#)¹⁸, [Dominique Novic](#)¹⁹, [John Pakos](#)²⁰, [Kanchanamala Ranasinghe](#)^{21,22}, [Alexander Roussos](#)⁸, [Josephine Samuel-King](#)²³, [Anita Sharma](#)²⁴, [Deb Stewart](#)²⁵, [Bruce Willet](#)²⁶, [Eric Bateman](#)²⁷; [OPCA Improving Asthma Outcomes in Australia Research Group](#)

Collaborators, Affiliations expand

- PMID: 38310584
- DOI: [10.1007/s12325-023-02746-0](https://doi.org/10.1007/s12325-023-02746-0)

Abstract

Introduction: In Australia, short-acting β_2 -agonists (SABA) are available both over the counter (OTC) and on prescription. This ease of access may impact SABA use in the Australian population. Our aim was to assess patterns and outcome associations of prescribed, acquired OTC and reported use of SABA by Australians with asthma.

Methods: This was a cross-sectional study, using data derived from primary care electronic medical records (EMRs) and patient completed questionnaires within Optimum Patient Care Research Database Australia (OPCRDA). A total of 720 individuals aged ≥ 12 years with an asthma diagnosis in their EMRs and receiving asthma therapy were included. The annual number of SABA inhalers authorised on prescription, acquired OTC and reported, and the association with self-reported exacerbations and asthma control were investigated.

Results: 92.9% (n = 380/409) of individuals issued with SABA prescription were authorised ≥ 3 inhalers annually, although this differed from self-reported usage. Of individuals reporting SABA use (n = 546) in the last 12 months, 37.0% reported using ≥ 3 inhalers. These patients who reported SABA overuse experienced 2.52 (95% confidence interval [CI] 1.73-3.70) times more severe exacerbations and were 4.51 times (95% CI 3.13-6.55) more

likely to have poor asthma control than those who reported using 1-2 SABA inhalers. Patients who did not receive SABA on prescription (43.2%; n = 311/720) also experienced 2.71 (95% CI 1.07-7.26) times more severe exacerbations than those prescribed 1-2 inhalers. Of these patients, 38.9% reported using OTC SABA and other prescription medications, 26.4% reported using SABA OTC as their only asthma medication, 13.2% were prescribed other therapies but not SABA OTC and 14.5% were not using any medication.

Conclusion: Both self-reported SABA overuse and zero SABA prescriptions were associated with poor asthma outcomes. The disconnect between prescribing authorisation, OTC availability and actual use, make it difficult for clinicians to quantify SABA use.

Keywords: Asthma management; Asthma outcomes; Over-the-counter medication; Prescription patterns; Short-acting β 2-agonists.

© 2024. The Author(s).

- [32 references](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

23

Meta-Analysis

BMC Pulm Med

-
-
-

. 2024 Feb 3;24(1):70.

doi: 10.1186/s12890-024-02885-2.

[Adverse events of anti-IL-5 drugs in patients with eosinophilic asthma: a](#)

meta-analysis of randomized controlled trials and real-world evidence-based assessments

[Wen Li](#) ^{#1}, [Shi-Chao Tang](#) ^{#2}, [Lei Jin](#) ^{3,4}

Affiliations expand

- PMID: 38308249
- PMCID: [PMC10837872](#)
- DOI: [10.1186/s12890-024-02885-2](#)

Free PMC article

Abstract

Background: We aimed to clarify comprehensively the safety profiles of anti-IL-5 drugs and pinpoint potential safety concerns that may arise in their post-marketing phase.

Methods: Two researchers conducted comprehensive searches of PubMed, EMBASE, Web of Science, and the Cochrane Library from inception to September 2022. Additionally, we investigated the FDA AE Reporting System for post-marketing adverse event (AE) reports related to anti-IL-5 drugs. The outcomes fulfilled the proportional reporting rate criteria and the Bayesian confidence propagation neural network.

Results: We included 24 published studies in our analysis. The anti-IL-5 treatment group showed an incidence of AEs comparable to the placebo group, and it exhibited a significantly lower frequency of serious AEs. Common AEs were asthma, nasopharyngitis, headache, upper respiratory tract infection (URTI), and bronchitis. The post-marketing data included 28,478 case reports associated with the suspect drugs and 75 suspect safety observations affecting 16 system organ classes. New suspect observations included incomplete therapeutic product effect, URIs, and pulmonary mass in reports related to mepolizumab. Reports associated with mepolizumab and benralizumab also indicated issues with incorrect technique in device usage and product issues.

Conclusions: Individual anti-IL-5 drugs' safety profiles largely matched their product inserts. We identified issues like improper device usage, product issue, and URIs as

potential concerns for mepolizumab and benralizumab. Additionally, all anti-IL-5 drugs showed signs of incomplete therapeutic effects.

Keywords: Adverse events; Anti-interleukin-5; Benralizumab; Eosinophilic asthma; Mepolizumab; Reslizumab.

© 2024. The Author(s).

- [47 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

24

BMJ Open Respir Res

-
-
-

. 2024 Feb 2;11(1):e001505.

doi: 10.1136/bmjresp-2022-001505.

[What if... your research is suddenly affiliated with a tobacco manufacturing company?](#)

[Wytse Bastiaan van den Bosch](#)^{1,2}, [Noortje Jacobs](#)³, [Harm Tiddens](#)^{1,2,4}, [Suzanne van de Vathorst](#)⁵

Affiliations expand

- PMID: 38307629

- PMID: [PMC10840048](#)
- DOI: [10.1136/bmjresp-2022-001505](#)

Free PMC article

Abstract

The tobacco industry is accountable for an annual global death toll of approximately 8 million people and cigarette smoking is the foremost risk factor for several types of cancer. In addition, the tobacco industry has a long and controversial history of trying to influence scientific research and of engaging in other morally problematic practices. In September 2021, the respiratory community was alarmed by the takeover of Vectura Group (Vectura) by Philip Morris International. As a reaction to this acquisition, strict measures were imposed by the International Respiratory Societies to prohibit the involvement of Vectura in respiratory research and its participation in societies' activities. International Respiratory Societies argued that Vectura had become part of the tobacco industry due to this takeover and is, therefore, subject to the same rules and restrictions. From a healthcare and historical perspective, the reaction and imposed measures are very understandable. However, for researchers that were already affiliated with Vectura through long-standing agreements and for research that was funded by Vectura, the imposed measures have serious consequences. With this article, we provide an example of these consequences. By reflecting on this issue, we would like to start a conversation regarding the current measures and to encourage the respiratory community to begin thinking of a way to avoid these consequences in the future. In addition, we hope that with this conversation the Respiratory Societies can set an example for other medical societies on how to cope with possible morally tainted affiliations (eg, fast food companies, alcohol manufacturing companies) in the future.

Keywords: Asthma; Asthma Mechanisms; Lung Physiology; Paediatric asthma; Tobacco and the lung.

© Author(s) (or their employer(s)) 2024. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

Conflict of interest statement

Competing interests: NJ has nothing to disclose. WBvdB has nothing to disclose. WBvdB reports grants from Vectura Group Plc (research agreement was signed in 2018 for the duration of 4 years, Vectura Group was taken over by Philip Morris International in 2021), outside the submitted work. HT reports other grants and other from Novartis, grants from

CFF, grant from Vectura, outside the submitted work; In addition, Erasmus MC and Telethon Kids Institute have licensed the use of PRAGMA-CF to Thirona and Resonance Health. Unconditional research grants from Novartis, and Vectura. Research grants by IMI, CFF, ECFS, Sophia foundation. Honoraria and travel expenses for lectures and participation in expert panels from Novartis, Insmad and Vertex. He is heading the Erasmus MC core laboratory Lung Analysis which is a not-for-profit core image analysis laboratory. The financial aspects of the laboratory are handled by the Erasmus MC.

- [13 references](#)

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

25

Telemed J E Health

-
-
-

. 2024 Feb 2.

doi: 10.1089/tmj.2023.0631. Online ahead of print.

[Telemedicine Use Among Adults with Asthma in the United States, 2021-2022](#)

[Chun-Tse Hung](#)¹, [Yu-Chien Hung](#)²

Affiliations expand

- PMID: 38301206

- DOI: [10.1089/tmj.2023.0631](https://doi.org/10.1089/tmj.2023.0631)

Abstract

Introduction: While previous studies have mainly focused on the impact of telemedicine on asthma management, little is known about the disparities in the use of telemedicine among individuals with asthma. This study aimed to investigate the factors associated with telemedicine use among adults with asthma in the United States using a nationally representative survey. **Methods:** Data from the 2021 and 2022 National Health Interview Survey were used. The multivariable logistic regression model was conducted to identify the factors associated with telemedicine use among adults with asthma. **Results:** In 2021-2022, the prevalence of telemedicine use among adults with asthma was 47.7%. Females, individuals who were obese, current smokers, those with educational levels of college and higher, health insurance coverage, a usual place for care, a history of asthma attacks, and coronavirus disease 2019 were more likely to use telemedicine. Non-Hispanic blacks, residents in the Midwest, South, and nonmetropolitan areas were less likely to use telemedicine. **Conclusions:** Disparities in telemedicine use were found among several characteristics in adults with asthma. It is crucial to identify the vulnerable populations in accessing telemedicine and ensure equality in telemedicine use among patients with asthma.

Keywords: National Health Interview Survey; asthma; telecare; telehealth; telemedicine.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

26

Thorax

-
-
-

. 2024 Feb 8;thorax-2023-220972.

doi: 10.1136/thorax-2023-220972. Online ahead of print.

Type-2 inflammation and lung function decline in chronic airway disease in the general population

[Yunus Çolak](#)^{1,2,3}, [Shoaib Afzal](#)^{2,3,4}, [Jacob Louis Marott](#)⁵, [Jørgen Vestbo](#)⁶, [Børge Grønne Nordestgaard](#)^{2,3,4,5}, [Peter Lange](#)^{7,2,3,5,8}

Affiliations expand

- PMID: 38195642
- DOI: [10.1136/thorax-2023-220972](https://doi.org/10.1136/thorax-2023-220972)

Free article

Abstract

Background: It is unclear if type-2 inflammation is associated with accelerated lung function decline in individuals with asthma and chronic obstructive pulmonary disease (COPD). We tested the hypothesis that type-2 inflammation indicated by elevated blood eosinophils (BE) and fraction of exhaled nitric oxide (FeNO) is associated with accelerated lung function decline in the general population.

Methods: We included adults from the Copenhagen General Population Study with measurements of BE (N=15 605) and FeNO (N=2583) from a follow-up examination and assessed forced expiratory volume in 1 s (FEV₁) decline in the preceding 10 years. Based on pre- and post-bronchodilator lung function, smoking history and asthma at follow-up examination, participants were assigned as not having airway disease, asthma with full reversibility (AR), asthma with persistent obstruction (APO), COPD, and not classifiable airflow limitation (NAL).

Results: FEV₁ decline in mL/year increased with 1.0 (95% CI 0.6 to 1.4, p<0.0001) per 100 cells/μL higher BE and with 3.2 (95% CI 2.0 to 4.5, p<0.0001) per 10 ppb higher FeNO. Adjusted FEV₁ decline in mL/year was 18 (95% CI 17 to 20) in those with BE<300 cells/μL and FeNO<20 ppb, 22 (19-25) in BE≥300 cells/μL or FeNO≥20 ppb, and 27 (21-33) in those with BE≥300 cells/μL and FeNO≥20 ppb (p for trend<0.0001). Corresponding FEV₁ declines were 24 (19-29), 33 (25-40) and 44 (31-56) in AR (0.002), 26 (14-37), 36 (12-60) and 56 (24-89) in APO (0.07), 32 (27-36), 31 (24-38) and 44 (24-65) in COPD (0.46), and 27 (21-33), 35 (26-45), and 37 (25-49) in NAL (0.10), respectively.

Conclusions: Type-2 inflammation indicated by elevated BE and FeNO is associated with accelerated FEV₁ decline in individuals with chronic airway disease in the general population, and this association was most pronounced in an asthma-like phenotype.

Keywords: Asthma Epidemiology; Asthma Mechanisms; COPD Pathology; COPD epidemiology; Clinical Epidemiology.

© Author(s) (or their employer(s)) 2024. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

Conflict of interest statement

Competing interests: YÇ reports grants from Sanofi and personal fees from AstraZeneca, Boehringer Ingelheim, GlaxoSmithKline and Sanofi outside the submitted work. JV reports personal fees from ALK, AstraZeneca, Boehringer-Ingelheim, Chiesi, GlaxoSmithKline and Teva outside the submitted work. PL reports grants and personal fees from AstraZeneca and Sanofi and personal fees from AstraZeneca, Boehringer Ingelheim, GlaxoSmithKline, and Sanofi outside the submitted work. SA, JLM and BGN have nothing to disclose.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

27

JCI Insight

-
-
-

. 2024 Feb 8;9(3):e174124.

doi: 10.1172/jci.insight.174124.

[Persistent mucus plugs in proximal airways are consequential for airflow limitation in asthma](#)

[Brendan K Huang](#)¹, [Brett M Elicker](#)², [Travis S Henry](#)³, [Kimberly G Kallianos](#)², [Lewis D Hahn](#)⁴, [Monica Tang](#)¹, [Franklin Heng](#)⁵, [Charles E McCulloch](#)⁶, [Nirav R Bhakta](#)¹, [Sharmila Majumdar](#)², [Jiwoong Choi](#)⁷, [Loren C Denlinger](#)⁸, [Sean B Fain](#)⁹, [Annette T Hastie](#)¹⁰, [Eric A Hoffman](#)⁹, [Elliot Israel](#)¹¹, [Nizar N Jarjour](#)⁸, [Bruce D Levy](#)¹¹, [Dave T Mauger](#)¹², [Kaharu Sumino](#)¹³, [Sally E Wenzel](#)¹⁴, [Mario Castro](#)⁷, [Prescott G Woodruff](#)¹⁵, [John V Fahy](#)¹⁵, [For The Nhlbi Severe Asthma Research Program Sarp](#)¹⁵

Affiliations expand

- PMID: 38127464
- DOI: [10.1172/jci.insight.174124](https://doi.org/10.1172/jci.insight.174124)

Free article

Abstract

BACKGROUNDInformation about the size, airway location, and longitudinal behavior of mucus plugs in asthma is needed to understand their role in mechanisms of airflow obstruction and to rationally design muco-active treatments.**METHODS**CT lung scans from 57 patients with asthma were analyzed to quantify mucus plug size and airway location, and paired CT scans obtained 3 years apart were analyzed to determine plug behavior over time. Radiologist annotations of mucus plugs were incorporated in an image-processing pipeline to generate size and location information that was related to measures of airflow.**RESULTS**The length distribution of 778 annotated mucus plugs was multimodal, and a 12 mm length defined short ("stubby", ≤ 12 mm) and long ("stringy", > 12 mm) plug phenotypes. High mucus plug burden was disproportionately attributable to stringy mucus plugs. Mucus plugs localized predominantly to airway generations 6-9, and 47% of plugs in baseline scans persisted in the same airway for 3 years and fluctuated in length and volume. Mucus plugs in larger proximal generations had greater effects on spirometry measures than plugs in smaller distal generations, and a model of airflow that estimates the increased airway resistance attributable to plugs predicted a greater effect for proximal generations and more numerous mucus plugs.**CONCLUSION**Persistent mucus plugs in proximal airway generations occur in asthma and demonstrate a stochastic process of formation and resolution over time. Proximal airway mucus plugs are consequential for airflow and are in locations amenable to treatment by inhaled muco-active drugs or bronchoscopy.**TRIAL**

REGISTRATIONClinicaltrials.gov; [NCT01718197](#), [NCT01606826](#), [NCT01750411](#), [NCT01761058](#), [NCT01761630](#), [NCT01716494](#), and [NCT01760915](#).**FUNDING**AstraZeneca, Boehringer-Ingelheim, Genentech, GlaxoSmithKline, Sanofi-Genzyme-Regeneron, and TEVA provided financial support for study activities at the Coordinating and Clinical Centers beyond the third year of patient follow-up. These companies had no role in study design or data analysis, and the only restriction on the funds was that they be used to support the SARP initiative.

Keywords: Asthma; Clinical practice; Diagnostic imaging; Pulmonology.

SUPPLEMENTARY INFO

Associated dataexpand

FULL TEXT LINKS

VIEW ARTICLE
FULL TEXT

UNIMORE 

[Proceed to details](#)

Cite

Share

28

Review

Eur J Public Health

•
•
•

. 2024 Feb 5;34(1):35-43.

doi: 10.1093/eurpub/ckad179.

[Understanding the conditions included in data-driven patterns of multimorbidity: a scoping review](#)

[Luxsena Sukumaran](#)^{1,2}, [Alan Winston](#)³, [Caroline A Sabin](#)^{1,2}

Affiliations expand

- PMID: 37837614
- PMCID: [PMC10843942](#)

- DOI: [10.1093/eurpub/ckad179](https://doi.org/10.1093/eurpub/ckad179)

Free PMC article

Abstract

Background: Despite the growing utilization of data-driven methods to investigate multimorbidity patterns, there is currently no consensus or guidance on the conditions to include when identifying patterns. This scoping review aims to systematically examine the nature of conditions included in existing studies using data-driven techniques.

Methods: A comprehensive search of three electronic databases (MEDLINE, Web of Science and Scopus) was conducted to identify relevant publications from inception to 28 February 2022 using predefined search terms and inclusion/exclusion criteria. The reference lists and citations of relevant papers were also searched.

Results: Among 7326 search results, 5444 relevant articles were identified. After screening against the eligibility criteria, 60 articles were included in the review. Half of the reviewed studies reported selection criteria for conditions, with prevalence in the population of interest being the most common criterion (40%). Most studies included at least one neurological [59 (98.3%)], musculoskeletal [58 (96.7%)], respiratory [57 (95.0%)] or mental health [56 (93.3%)] condition. In contrast, only a small proportion of studies included skin [17 (28.3%)], infections [14 (23.3%)] or autoimmune conditions [10 (16.7%)]. Nine conditions (hypertension, diabetes, cancer, arthritis, COPD, asthma, depression, stroke and osteoporosis) were included by more than half of the studies.

Conclusions: This review highlights the considerable heterogeneity among the conditions included in analyses of multimorbidity patterns. Researchers should provide a clear rationale for the selection of conditions to facilitate comparisons across studies and ensure reproducibility, as well as consider selecting a diverse range of conditions to capture the complexity of multimorbidity.

© The Author(s) 2023. Published by Oxford University Press on behalf of the European Public Health Association.

- [Cited by 1 article](#)
- [18 references](#)

SUPPLEMENTARY INFO

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

FULL TEXT LINKS

[Proceed to details](#)

Cite

Share

29

J Asthma



. 2024 Mar;61(3):212-221.

doi: 10.1080/02770903.2023.2263071. Epub 2024 Feb 8.

[Machine learning-based prediction of in-hospital mortality in patients with pneumonic chronic obstructive pulmonary disease exacerbations](#)

[Lin Yu](#)^{1,2}, [Xia Ruan](#)^{1,2}, [Wenbo Huang](#)², [Na Huang](#)^{1,2}, [Jun Zeng](#)^{1,2}, [Jie He](#)^{1,2}, [Rong He](#)^{1,2}, [Kai Yang](#)^{1,2}

Affiliations expand

- PMID: 37738216

- DOI: [10.1080/02770903.2023.2263071](https://doi.org/10.1080/02770903.2023.2263071)

Abstract

Objective: While linear regression and LASSO models have been established for predicting in-hospital mortality, there is currently no validated clinical prediction algorithm to predict in-hospital mortality for patients with chronic obstructive pulmonary disease (COPD) exacerbations using machine learning. Thus, we will evaluate the BAP-65 and CURB-65, and construct a novel prediction model using the random forest (RF) technique.

Methods: A dataset of 1,418 patients with COPD exacerbations was collected. Age, gender, mental status, vital signs, and laboratory results were all taken into account for predictors. The categorical outcome variable was hospital-based mortality of people over 65 years.

The dataset was divided randomly into a training dataset (70%) and a testing dataset (30%). We trained three prediction models, BAP-65, CURB-65, and the RF model, estimated the area under the receiver operating characteristic curve (AUROC) for the entire dataset. We also conducted a comparison of the AUROC values using the Delong test.

Results: A total of 658 individuals with COPD acute exacerbations were enrolled. Our analysis using the receiver operating characteristic curve demonstrated that the RF model exhibited excellent performance, with an AUROC of 0.80 (95% confidence interval: 0.75-0.84). In comparison, the BAP-65 prediction model yielded an AUROC of 0.72 (0.68-0.75), while the CURB-65 prediction model achieved an AUROC of 0.69 (0.67-0.73).

Conclusions: The RF model demonstrated superior predictive capabilities than the BAP-65 and CURB-65 models in predicting in-hospital mortality. The results further highlighted significant factors for predicting in-hospital mortality, including blood eosinophil count, systolic blood pressure, and prior history of asthma.

Keywords: Chronic obstructive pulmonary disease; machine learning; mortality; random forest.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

30

Multicenter Study

J Asthma

-
-
-

. 2024 Mar;61(3):232-237.

doi: 10.1080/02770903.2023.2263078. Epub 2024 Feb 8.

Safety and efficacy of benralizumab in elderly subjects with severe asthma

[Marcela Valverde-Monge^{1,2}](#), [Remedios Cárdenas³](#), [Ismael García-Moguel^{4,5}](#), [Ana Rosado⁶](#), [Mar Gandolfo-Cano^{7,8}](#), [Teresa Robledo Echarren^{9,10}](#), [María Del Mar Moro-Moro¹¹](#), [María Del Mar Reaño Martos¹²](#), [Rafael Pineda-Pineda¹³](#), [Cristina Martín-Arriscado Arroba¹⁴](#), [Javier Domínguez-Ortega¹⁵](#); [AIRE Group](#)

Affiliations [expand](#)

- PMID: 37737844
- DOI: [10.1080/02770903.2023.2263078](https://doi.org/10.1080/02770903.2023.2263078)

Abstract

Introduction: The prevalence of asthma in adults >65 years old is approximately 12-14%, and 10% have severe asthma. A higher mortality rate is observed in subjects with asthma >65 years old and especially >80 years old.

Objective: To analyze the effectiveness and safety of at least three doses of benralizumab in a subgroup of elderly subjects (>65 years old) with uncontrolled severe eosinophilic asthma in real-life conditions.

Methods: This was a retrospective multicenter study (AUTOBENRA study) conducted in 9 hospitals that included 72 patients aged >18 years old with uncontrolled severe asthma based on the Spanish Asthma Guidelines who were treated with at least three doses of benralizumab, self-administered at home since before April 30, 2021. The recruitment period ended on October 1, 2021. Written consent was obtained before the study commencement. In this subanalysis, we compared the results between patients >65 years old and patients <65 years old.

Results: A total of 72 subjects with severe asthma were screened, and 54 were included (*MD*: 57.3 ± 10 years old). There were 12 subjects aged >65 years old [*MD*: 69.8 ± 4.3 years old (minimum: 65 years old; maximum: 83 years old)]. Subjects >65 years old experienced statistically significant improvement in lung function, ACT and mini-AQLQ with benralizumab. Additionally, 9 patients (75%) experienced no asthma exacerbation ($p = 0.0047$), half (3/6) were able to stop OCS ($p = 0.08$), and no adverse effects with benralizumab were reported during the 20 months of follow-up.

Conclusions: In patients aged >65 years old, benralizumab was an effective and safe therapy for severe eosinophilic asthma in our study, with no significant differences from

the younger subgroup. This is especially important since they are a group with numerous comorbidities, medications and worse quality of life.

Keywords: >65 years old; Benralizumab; elderly; safety; self-administration; severe eosinophilic asthma.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

31

Am J Epidemiol



. 2024 Feb 5;193(2):235-237.

doi: 10.1093/aje/kwad187.

[Inge F. Goldstein, DrPH, Epidemiologist Who Identified Causes of Asthma's Unequal Toll on Urban Poor, Dies at 91](#)

[Judith S Jacobson](#), [Aviva Goldstein](#)

- PMID: 37727962
- DOI: [10.1093/aje/kwad187](https://doi.org/10.1093/aje/kwad187)

No abstract available

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



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

1

Review

Respir Res

-
-
-

. 2024 Feb 8;25(1):83.

doi: 10.1186/s12931-024-02702-8.

[The airway neuro-immune axis as a therapeutic target in allergic airway diseases](#)

[Wanhua Wu](#)¹, [Jianing Li](#)¹, [Su Chen](#)², [Suidong Ouyang](#)^{3,4}

Affiliations expand

- PMID: 38331782
- DOI: [10.1186/s12931-024-02702-8](https://doi.org/10.1186/s12931-024-02702-8)

Abstract

Recent evidence has increasingly underscored the importance of the neuro-immune axis in mediating allergic airway diseases, such as allergic asthma and allergic rhinitis. The intimate spatial relationship between neurons and immune cells suggests that their interactions

play a pivotal role in regulating allergic airway inflammation. Upon direct activation by allergens, neurons and immune cells engage in interactions, during which neurotransmitters and neuropeptides released by neurons modulate immune cell activity. Meanwhile, immune cells release inflammatory mediators such as histamine and cytokines, stimulating neurons and amplifying neuropeptide production, thereby exacerbating allergic inflammation. The dynamic interplay between the nervous and immune systems suggests that targeting the neuro-immune axis in the airway could represent a novel approach to treating allergic airway diseases. This review summarized recent evidence on the nervous system's regulatory mechanisms in immune responses and identified potential therapeutic targets along the peripheral nerve-immune axis for allergic asthma and allergic rhinitis. The findings will provide novel perspectives on the management of allergic airway diseases in the future.

Keywords: Airway neuro-immune axis; Allergic rhinitis; Asthma; Therapeutic target.

© 2024. The Author(s).

- [80 references](#)

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

2

J Eur Acad Dermatol Venereol

-
-
-

. 2024 Feb 8.

doi: 10.1111/jdv.19862. Online ahead of print.

Upadacitinib improves symptoms of concomitant allergic rhinitis or allergic asthma in patients with severe atopic dermatitis: A 16-week multicentre retrospective study

[L Gargiulo](#)^{1,2}, [L Ibba](#)^{1,2}, [F Piscazzi](#)^{1,2}, [F Amoruso](#)³, [A Balato](#)⁴, [F Barei](#)⁵, [M Bertello](#)⁶, [A G Burrone](#)⁷, [S Caccavale](#)⁴, [S M Ferrucci](#)⁵, [C Foti](#)⁸, [F M Gaiani](#)⁹, [G Girolomoni](#)¹⁰, [P Malagoli](#)⁹, [A V Marzano](#)⁵, [M Maurelli](#)¹⁰, [M Napolitano](#)¹¹, [E Nettis](#)¹², [M Ortoncelli](#)⁶, [C Patrino](#)¹³, [E Pezzolo](#)^{14,15}, [S Ribero](#)⁶, [P Romita](#)⁸, [M T Rossi](#)¹⁶, [I Zaza](#)¹², [A Costanzo](#)^{1,2}, [A Narcisi](#)¹

Affiliations expand

- PMID: 38329235
- DOI: [10.1111/jdv.19862](https://doi.org/10.1111/jdv.19862)

No abstract available

- [10 references](#)

SUPPLEMENTARY INFO

Publication typesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

3

Sci Transl Med

-
-

. 2024 Feb 7;16(733):eadi0944.

doi: 10.1126/scitranslmed.adi0944. Epub 2024 Feb 7.

Type 2-polarized memory B cells hold allergen-specific IgE memory

[Joshua F E Koenig](#)¹, [Niels Peter H Knudsen](#)², [Allyssa Phelps](#)¹, [Kelly Bruton](#)¹, [Ilka Hoof](#)², [Gitte Lund](#)², [Danielle Della Libera](#)¹, [Anders Lund](#)², [Lars Harder Christensen](#)², [David R Glass](#)³, [Tina D Walker](#)¹, [Allison Fang](#)¹, [Susan Wasserman](#)¹, [Manel Jordana](#)¹, [Peter S Andersen](#)²

Affiliations expand

- PMID: 38324637
- DOI: [10.1126/scitranslmed.adi0944](https://doi.org/10.1126/scitranslmed.adi0944)

Abstract

Allergen-specific immunoglobulin E (IgE) antibodies mediate pathology in diseases such as allergic rhinitis and food allergy. Memory B cells (MBCs) contribute to circulating IgE by regenerating IgE-producing plasma cells upon allergen encounter. Here, we report a population of type 2-polarized MBCs defined as CD23^{hi}, IL-4R α ^{hi}, and CD32^{low} at both the transcriptional and surface protein levels. These MBC2s are enriched in IgG1- and IgG4-expressing cells while constitutively expressing germline transcripts for IgE. Allergen-specific B cells from patients with allergic rhinitis and food allergy were enriched in MBC2s. Furthermore, MBC2s generated allergen-specific IgE during sublingual immunotherapy, thereby identifying these cells as a major reservoir for IgE. The identification of MBC2s provides insights into the maintenance of IgE memory, which is detrimental in allergic diseases but could be beneficial in protection against venoms and helminths.

SUPPLEMENTARY INFO

MeSH terms, Substances expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

4

J Nanobiotechnology

•
•
•

. 2024 Feb 6;22(1):51.

doi: 10.1186/s12951-024-02306-w.

Long-acting anti-inflammatory injectable DEX-Gel with sustained release and self-healing properties regulates T_H1/T_H2 immune balance for minimally invasive treatment of allergic rhinitis

[Li Dai](#)¹, [Bin Liu](#)², [Jiangtao Lin](#)², [Yongquan Jiang](#)¹, [Yuanyuan Li](#)², [Zhuowei Yao](#)¹, [Silin Shen](#)¹, [Yiming Jiang](#)¹, [Yourong Duan](#)³, [Jiping Li](#)⁴

Affiliations expand

- PMID: 38321547
- DOI: [10.1186/s12951-024-02306-w](https://doi.org/10.1186/s12951-024-02306-w)

Free article

Abstract

Background: Allergic rhinitis (AR) is a prevalent immune-related allergic disease, and corticosteroid nasal sprays serve as the primary treatment for this patient population. However, their short duration of efficacy and frequent administration pose challenges, leading to drug wastage and potential adverse effects. To overcome these limitations, we devised a novel approach to formulate DEX-Gel by incorporating dexamethasone (DEX)

into a blend of Pluronic F127, stearic acid (SA), and polyethylene glycol 400 (PEG400) to achieve sustained-release treatment for AR.

Results: Following endoscopic injection into the nasal mucosa of AR rats, DEX-Gel exhibited sustained release over a 14-day period. In vivo trials employing various assays, such as flow cytometry (FC), demonstrated that DEX-Gel not only effectively managed allergic symptoms but also significantly downregulated helper T-cells (T_H) 2 and T_H 2-type inflammatory cytokines (e.g., interleukins 4, 5, and 13). Additionally, the T_H1/T_H2 cell ratio was increased.

Conclusion: This innovative long-acting anti-inflammatory sustained-release therapy addresses the T_H1/T_H2 immune imbalance, offering a promising and valuable approach for the treatment of AR and other inflammatory nasal diseases.

Keywords: Allergic rhinitis; Injectable gel; Minimally invasive treatment; Sustained-release anti-inflammatory; TH1/TH2 immune balance.

© 2024. The Author(s).

- [62 references](#)

SUPPLEMENTARY INFO

MeSH terms, Substances expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

5

Allergy

-
-
-

. 2024 Feb 5.

doi: 10.1111/all.16029. Online ahead of print.

Heterogeneity of sensitization profiles and clinical phenotypes among patients with seasonal allergic rhinitis in Southern European countries–The @IT.2020 multicenter study

[S Dramburg](#)¹, [U Grittner](#)², [E Potapova](#)¹, [A Travaglini](#)^{3,4}, [S Tripodi](#)^{5,6}, [S Arasi](#)^{1,7}, [S Pelosi](#)⁸, [A Acar Şahin](#)⁹, [X Aggelidis](#)¹⁰, [A Barbalace](#)¹¹, [A Bourgoïn](#)¹², [B Bregu](#)¹³, [M A Brighetti](#)³, [E Caeiro](#)^{14,15}, [S Caglayan Sozmen](#)¹⁶, [L Caminiti](#)¹¹, [D Charpin](#)¹², [M Couto](#)¹⁷, [L Delgado](#)^{18,19,20}, [A Di Rienzo Businco](#)⁵, [C Dimier](#)¹², [M V Dimou](#)²¹, [J A Fonseca](#)^{19,20,22}, [O Goksel](#)²³, [D Hernandez](#)²⁴, [C J Hernandez Toro](#)^{1,2}, [T M Hoffmann](#)¹, [D T Jang](#)²⁵, [F Kalpaklioglu](#)²⁶, [B Lame](#)¹³, [R Llusar](#)²⁵, [M Makris](#)¹⁰, [A Mazon](#)²⁵, [E Mesonjesi](#)¹³, [A Nieto](#)²⁵, [A B Öztürk](#)²⁷, [L Pahus](#)²⁸, [G Pajno](#)¹¹, [I Panasiti](#)¹¹, [N G Papadopoulos](#)^{21,29}, [E Pellegrini](#)³⁰, [A M Pereira](#)^{20,22}, [M Pereira](#)^{18,19}, [N M Pinar](#)⁹, [A Priftanji](#)¹³, [F Psarros](#)³¹, [C Sackesen](#)³², [I Sfika](#)⁵, [J Suarez](#)³³, [M Thibaudon](#)³⁴, [U Uguz](#)³⁵, [V Verdier](#)¹², [V Villella](#)⁵, [P Xepapadaki](#)³⁶, [D Yazici](#)^{37,38}, [P M Matricardi](#)¹

Affiliations expand

- PMID: 38311961
- DOI: [10.1111/all.16029](https://doi.org/10.1111/all.16029)

Abstract

Background: Pollen allergy poses a significant health and economic burden in Europe. Disease patterns are relatively homogeneous within Central and Northern European countries. However, no study broadly assessed the features of seasonal allergic rhinitis (SAR) across different Southern European countries with a standardized approach.

Objective: To describe sensitization profiles and clinical phenotypes of pollen allergic patients in nine Southern European cities with a uniform methodological approach.

Methods: Within the @IT.2020 multicenter observational study, pediatric and adult patients suffering from SAR were recruited in nine urban study centers located in seven countries. Clinical questionnaires, skin prick tests (SPT) and specific IgE (sIgE) tests with a customized multiplex assay (Euroimmun Labordiagnostika, Lübeck, Germany) were performed.

Results: Three hundred forty-eight children (mean age 13.1 years, SD: 2.4 years) and 467 adults (mean age 35.7 years SD: 10.0 years) with a predominantly moderate to severe,

persistent phenotype of SAR were recruited. Grass pollen major allergenic molecules (Phl p 1 and/or Phl p 5) ranged among the top three sensitizers in all study centers. Sensitization profiles were very heterogeneous, considering that patients in Rome were highly polysensitized (sIgE to 3.8 major allergenic molecules per patient), while mono-sensitization was prominent and heterogeneous in other cities, such as Marseille (sIgE to Cup a 1: n = 55/80, 68.8%) and Messina (sIgE to Par j 2: n = 47/82, 57.3%). Co-sensitization to perennial allergens, as well as allergic comorbidities also broadly varied between study centers.

Conclusions: In Southern European countries, pollen allergy is heterogeneous in terms of sensitization profiles and clinical manifestations. Despite the complexity, a unique molecular, multiplex, and customized in-vitro IgE test detected relevant sensitization in all study centers. Nevertheless, this geographical diversity in pollen allergic patients imposes localized clinical guidelines and study protocols for clinical trials of SAR in this climatically complex region.

Keywords: IgE; allergic rhinitis; component-resolved diagnostics; phenotypes; pollen allergy; sensitization.

© 2024 The Authors. Allergy published by European Academy of Allergy and Clinical Immunology and John Wiley & Sons Ltd.

- [29 references](#)

SUPPLEMENTARY INFO

Grants and funding [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

6

Chin Med J (Engl)

-
-
-

. 2024 Feb 5;137(3):353-355.

doi: 10.1097/CM9.0000000000002925. Epub 2024 Jan 11.

Decreased FEF 50 as an indicator of comorbid asthma and persistent airflow limitation in patients with chronic rhinosinusitis with nasal polyps: A cross-sectional study

Xuechen Wang¹, Fangyuan Li¹, Chengshuo Wang^{2,3}, Kai Huang¹, Shen Shen^{2,3}, Ming Wang^{2,3}, Jianmin Jin^{1,3}, Luo Zhang^{2,3,4,5}

Affiliations expand

- PMID: 38200653
- PMCID: [PMC10836898](#)
- DOI: [10.1097/CM9.0000000000002925](#)

Free PMC article

No abstract available

- [6 references](#)

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



chronic cough

1

ERJ Open Res



. 2024 Feb 5;10(1):00793-2023.

doi: 10.1183/23120541.00793-2023. eCollection 2024 Jan.

Clinical relevance of lung function trajectory clusters in middle-aged and older adults

[Xander Bertels](#)^{1,2}, [James C Ross](#)³, [Rosa Faner](#)^{4,5,6}, [Michael H Cho](#)^{7,8}, [M Arfan Ikram](#)², [Guy G Brusselle](#)^{2,9,10}, [Lies Lahousse](#)^{1,2}

Affiliations expand

- PMID: 38333649
- PMCID: [PMC10851953](#)
- DOI: [10.1183/23120541.00793-2023](#)

Abstract

Background: The determinants and health outcomes of lung function trajectories in adults among the general population are poorly understood. We aimed to identify and characterise clusters of lung function trajectories in adults aged ≥ 45 years.

Methods: Gaussian finite-mixture modelling was applied to baseline and annualised change of forced expiratory volume in 1 s (FEV_1), forced vital capacity (FVC) and FEV_1/FVC ratio z-scores in participants of the Rotterdam Study, a prospective population-based cohort study, with repeated spirometry ($n=3884$; mean \pm sd age 64.7 \pm 8.9 years). Longitudinal outcomes were all-cause mortality, respiratory outcomes (symptoms, COPD ($FEV_1/FVC < 0.7$ in absence of asthma), preserved ratio impaired spirometry (PRISm; $FEV_1/FVC \geq 0.7$ and FEV_1 or FVC $< 80\%$)), smoking cessation and weight changes. Independent risk factors, including genetics, were identified by multiple logistic regression.

Results: We identified eight trajectory clusters, with the reference group having persistently normal spirometry (prevalence 42.8%). Three clusters showed higher mortality, adjusted for confounders: 1) the persistently low FEV_1 cluster (prevalence 6.8%, hazard ratio

(HR) 1.71, 95% CI 1.37-2.13); 2) rapid FEV₁ decliners (prevalence 4.6%, HR 1.48, 95% CI 1.10-1.99); and 3) FVC decliners (prevalence 3.7%, HR 1.49, 95% CI 1.09-2.03). In contrast, FVC improvers (prevalence 6.7%, HR 0.61, 95% CI 0.41-0.90) and persistently high FEV₁ (prevalence 29.2%, HR 0.82, 95% CI 0.69-0.98) were protective trajectory clusters. Clusters were characterised by differences in genetic predisposition (polygenic scores of FEV₁ and FEV₁/FVC), demographics, cigarette smoking, respiratory symptoms (chronic cough, wheezing and dyspnoea), cardiovascular factors (body mass index, hypertension and heart failure) and serum C-reactive protein levels. Frailty, weight changes and the development of respiratory symptoms, COPD and PRISm were significantly associated with trajectory clusters.

Conclusions: This study reveals clinically relevant lung function trajectory clusters in older adults of the general population.

Copyright ©The authors 2024.

Conflict of interest statement

Conflict of interest: X. Bertels reports BOF.SIP.2020 funding for international mobility in relation to the submitted work. Conflict of interest: R. Faner reports grants from the Serra Hünter Program, Instituto de Salud Carlos III (PI21/00735) and European Research Council under the Horizon Europe research and innovation programme (101044387) outside the submitted work. Conflict of interest: M.H. Cho reports NHLBI funding (R01HL153248, R01HL149861 and R01HL147148), grants from Bayer and GSK, consulting fees from Genentech, AstraZeneca and Illumina, and honoraria for lectures from Genentech, AstraZeneca and Illumina outside the submitted work. Conflict of interest: G.G. Brusselle reports fees for advisory boards and/or lectures from AstraZeneca, Boehringer Ingelheim, Chiesi, GSK, Merck Sharp & Dohme, Novartis and Sanofi Regeneron outside the submitted work. Conflict of interest: L. Lahousse reports BOF.SIP.2020 funding for international mobility in relation to the submitted work, consulting fees from AstraZeneca, and speaking/lecture fees from Chiesi and IPSA (non-profit) outside the submitted work. Conflict of interest: J.C. Ross and M.A. Irfan declare no conflicts of interest.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share



Chronic cough associated with COPD exacerbation, pneumonia and death in the general population

[Eskild M Landt](#)¹, [Yunus Çolak](#)^{2,3}, [Børge G Nordestgaard](#)^{3,4,5}, [Peter Lange](#)^{2,3,5,6}, [Morten Dahl](#)^{1,3,5}

Affiliations expand

- PMID: 38333647
- PMCID: [PMC10851932](#)
- DOI: [10.1183/23120541.00697-2023](#)

Abstract

Background: Chronic cough affects up to 10% of the general population and was previously perceived as a comorbidity of underlying conditions, but is nowadays classified as a disease in its own entity that could confer increased risk of morbidity and mortality. We tested the hypothesis that chronic cough is associated with increased risk of COPD exacerbation, pneumonia and all-cause mortality in the general population.

Methods: We identified 2801 individuals with chronic cough, defined as cough lasting >8 weeks, among 44 756 randomly selected individuals from the Copenhagen General Population Study, and recorded COPD exacerbations, pneumonia and all-cause mortality during follow-up.

Results: During up to 5.9 years of follow-up (median 3.4 years), 173 individuals experienced COPD exacerbation, 767 experienced pneumonia and 894 individuals died. Individuals with chronic cough *versus* those without had cumulative incidences at age 80 years of 12% *versus* 3% for COPD exacerbation, 30% *versus* 15% for pneumonia, and 25% *versus* 13% for death from all causes. After adjustment for age, sex and smoking,

individuals with chronic cough *versus* those without had adjusted hazard ratios of 4.6 (95% CI 2.9-7.2) for COPD exacerbation, 2.2 (1.7-2.7) for pneumonia and 1.7 (1.4-2.0) for all-cause mortality. Among current smokers aged >60 years with airflow limitation, those with *versus* without chronic cough had an absolute 5-year risk of 10% *versus* 4% for COPD exacerbation, 16% *versus* 8% for pneumonia and 19% *versus* 12% for all-cause mortality.

Conclusion: Chronic cough is associated with higher risks of COPD exacerbation, pneumonia and death, independent of airflow limitation and smoking.

Copyright ©The authors 2024.

Conflict of interest statement

Conflict of interest: B.G. Nordestgaard has consultancies with Amarin, Akcea, Amgen, AstraZeneca, Denka Seiken, Kowa, Novartis, Novo Nordisk and Silence Therap. No conflicts of interest exist for E.M. Landt, Y. Çolak, P. Lange and M. Dahl

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

3

HNO

-
-
-

. 2024 Feb 6.

doi: 10.1007/s00106-023-01412-9. Online ahead of print.

[Chronic cough in adult patients – evidence-based approach]

[Article in German]

[Karen Krüger](#)¹, [Felix Holzinger](#)²

Affiliations expand

- PMID: 38319354
- DOI: [10.1007/s00106-023-01412-9](https://doi.org/10.1007/s00106-023-01412-9)

Abstract

in [English](#), [German](#)

Approximately 10% of the population suffer from a cough lasting longer than 8 weeks. Compared to acute cough, which usually occurs in the context of banal respiratory tract infections, the differential diagnoses of chronic cough require an increased use of diagnostic tests and thus a structured, evidence-based approach according to current international guidelines. A targeted history (smoking status, medication, previous diseases) and ENT status are always followed by chest x-ray and pulmonary function tests before extended diagnostics. In the case of angiotensin-converting enzyme (ACE) inhibitor use and unremarkable physical examination, a drug discontinuation test can be carried out first. In case of inconspicuous findings, a disease entity that can be treated empirically such as upper airway cough syndrome is most likely. If the cough remains unexplained, cough suppression techniques, physiotherapy or speech therapy should be sought before off-label-use of medication.

Keywords: Chronic obstructive lung disease; Evidence-based medicine; Persistent cough; Physiotherapy, techniques; Respiratory tract diseases.

© 2024. The Author(s), under exclusive licence to Springer Medizin Verlag GmbH, ein Teil von Springer Nature.

- [22 references](#)

SUPPLEMENTARY INFO

Publication typesexpand

FULL TEXT LINKS



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

1

Case Reports

Adolesc Health Med Ther

-
-
-

. 2024 Feb 2:15:19-29.

doi: 10.2147/AHMT.S451251. eCollection 2024.

Cystic Fibrosis in an Adolescent: A "Miranda Warning" Against Blaming TB—A Case-Based Scholarly Update

[Amanuel Yegnanew Adela](#)^{1,2,3}, [Assefa Getachew Kebede](#)¹, [Daniel Zewdneh](#)⁴, [Mahlet Kifle](#)¹, [Adriano Basso Dias](#)⁵

Affiliations expand

- PMID: 38328573
- PMCID: [PMC10849877](#)
- DOI: [10.2147/AHMT.S451251](#)

Free PMC article

Abstract

Cystic fibrosis (CF) is a multisystem disorder that occurs as a result of autosomal recessive congenital transmission of CF transmembrane conductance regulator (CFTR) gene mutation on chromosome 7. Because it is considered a disease of the Caucasian pediatric

population or due to lack of awareness, it is rarely considered in developing countries like ours. This case report presents the first case of cystic fibrosis ever reported in Ethiopia and possibly East Africa, that of a 17-year-old female diagnosed with the disease following a CT scan of her abdomen and chest. She was initially misdiagnosed and treated for tuberculosis (TB) as she was a chronic cougher. Perhaps due to epidemiological evidence, there is an obstinate tendency of blaming tuberculosis (TB) for almost every case of chronic cough with fibro-bronchiectatic lung parenchymal changes in Ethiopia. Once a diagnosis of TB is posted on such patients, their diagnosis remains in the circle of TB reinfection, relapse or resistance, followed by multiple phases of anti-mycobacterial drugs. This could lead to hazardous implications, including unnecessary prolonged anti-mycobacterial treatments, possibility of developing drug resistance, and mismanagement-related patient morbidity. This patient's chest and abdominal CT findings, including bronchiectasis, hepatic steatosis, pancreatic lipomatosis, micro-gallbladder and proximal colonic wall thickening, led to the diagnosis of CF. This article, presenting the first documented case of CF in the region, is meant to be a helpful reminder for clinicians and radiologists to also consider presumably "rare" illnesses like CF rather than blaming TB for every chronic cough and highlights the importance of abdominal CT features in the diagnosis of CF.

Keywords: CFTR; Ethiopia; bronchiectasis; colonic wall thickening; cystic fibrosis; hepatic steatosis; micro-gallbladder; pancreatic lipomatosis.

© 2024 Adela et al.

Conflict of interest statement

The authors report no conflicts of interest in this work.

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

2

Tuberc Respir Dis (Seoul)



. 2024 Feb 6.

doi: 10.4046/trd.2023.0194. Online ahead of print.

Proposed Etiotypes for COPD: Controversial issues

[Sang Hyuk Kim](#)¹, [Ji-Yong Moon](#)², [Kyung Hoon Min](#)³, [Hyun Lee](#)²

Affiliations expand

- PMID: 38317417
- DOI: [10.4046/trd.2023.0194](https://doi.org/10.4046/trd.2023.0194)

Free article

Abstract

The 2023 Global Initiative for Chronic Obstructive Lung Disease (GOLD) revised the definition of chronic obstructive pulmonary disease (COPD) to broadly include a variety of etiologies. A new taxonomy, composed of etiotypes, aims to highlight the heterogeneity in causes and pathogenesis of COPD, allowing more personalized management strategies and emphasizing the need for targeted research to understand and manage COPD better. However, controversy arises with including some diseases under the umbrella term of COPD, as their clinical presentations and treatments differ from classical COPD, which is smoking-related. COPD due to infection (COPD-I) and COPD due to environmental exposure (COPD-P) are classifications within the new taxonomy. Some disease entities in these categories show distinct clinical features and may not benefit from conventional COPD treatments, raising questions about their classification as COPD subtypes. There is also controversy regarding whether bronchiectasis with airflow limitations should be classified as an etiology of COPD. This article discusses controversial issues associated with the proposed etiotypes for COPD in terms of COPD-I, COPD-P, and bronchiectasis. While the updated COPD definition by GOLD 2023 is a major step towards recognizing the disease's complexity, it also raises questions about the classification of related respiratory conditions. This highlights the need for further research to improve our understanding and approach to COPD management.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

3

An Pediatr (Engl Ed)

-
-
-

. 2024 Feb 2:S2341-2879(24)00002-4.

doi: 10.1016/j.anpede.2024.01.002. Online ahead of print.

A rare cause of bronchiectasis

[Carlos Martín de Vicente](#)¹, [Mercedes Odriozola Grijalba](#)²

Affiliations expand

- PMID: 38309985
- DOI: [10.1016/j.anpede.2024.01.002](https://doi.org/10.1016/j.anpede.2024.01.002)

Free article

No abstract available

FULL TEXT LINKS



