|  |
| --- |
| **Occupational risks for different cough phenotypes among middle-aged Australians.** |
| Jingwen Zhang1, Jennifer L Perret1,2, Dinh S Bui1, Sheikh M Alif3,4, Michael J Abramson3, Anne B Chang5,6, Bruce R Thompson7, Hans Kromhout8, Garun S Hamilton9,10, Paul S Thomas11, Bircan Erbas12, , Melanie C Matheson1,13, E Haydn Walters1,14, Caroline J Lodge1, Shyamali C Dharmage1 |
| 1 Allergy and Lung Health Unit, Centre for Epidemiology and Biostatistics, Melbourne School of Population and Global Health, The University of Melbourne, Melbourne, VIC, Australia.  2 Institute for Breathing and Sleep (IBAS), Melbourne, VIC, Australia.  3 School of Public Health and Preventive Medicine, Monash University, Melbourne, VIC, Australia.  4 Institute of Health and Wellbeing, Federation University Australia, Berwick, VIC, Australia.  5 Australian Centre for Health Services Innovation, Queensland University of Technology, Brisbane, QLD, Australia.  6 Child Health Division, Menzies School of Health Research, Charles Darwin University, Casuarina, NT, Australia.  7 Melbourne School Health Science, The University of Melbourne, Melbourne, VIC, Australia.  8 Institute for Risk Assessment Sciences, Utrecht University, Utrecht, The Netherlands.  9 Department of Lung, Sleep, Allergy & Immunology, Monash Health, Clayton, VIC Australia.  10 School of Clinical Sciences, Monash University, Clayton, VIC, Australia.  11 Prince of Wales’ Clinical School, Faculty of Medicine, UNSW and Respiratory Medicine Prince of Wales’ Hospital, Randwick, NSW, Australia.  12 School of Psychology and Public Health, La Trobe University, Melbourne, VIC, Australia.  13 Population Health Solutions, Telstra Health, Melbourne, Victoria, Australia.  14 School of Medicine, University of Tasmania, Hobart, TAS, Australia. |
| **Introduction/Aim:** Chronic cough is a heterogeneous condition and we aimed to identify the occupational risks of different cough subclasses.  **Methods:** Using data from the Tasmanian Longitudinal Health Study (TAHS), occupational exposures up to age 53 years were coded using the ALOHA+ Job Exposure Matrix, into ever-exposed (no, low- or high-level) and cumulative exposure-unit years. At the mean age of 53 years, there were 2213 current coughers and 1369 non-coughers. Six cough subclasses were previously identified among the 2213 current coughers,1 including “minimal cough”, “cough with colds only”, “cough with allergies”, “intermittent productive cough”, “chronic dry cough” and “chronic productive cough”. Associations with occupational exposures were assessed using multinomial logistic regression for these cough subclasses and logistic regression for binary standard cough definitions (chronic cough, chronic phlegm and chronic bronchitis) after adjusting for potential confounders.  1 *Zhang et al. Lancet Respiratory Medicine, 2023 (In press).*  **Results:** Biological dust was associated with “cough with allergies” (high-level ever-exposure: adjusted multinomial odds ratio [aMOR, 95%CI] =1.75, 1.17-2.60; cumulative: aMOR=1.06, 1.02-1.10 per 10 exposure-year increase). Herbicides (cumulative) were also associated with “intermittent productive cough” (aMOR=1.09, 1.00-1.77) and chronic phlegm (aOR=1.07, 1.00-1.15). Aromatic solvents were associated with “chronic dry cough” (cumulative: aMOR=1.15, 1.02-1.29). Other solvents were associated with “chronic productive cough” (high-level ever-exposure: aMOR=2.81,1.26-6.20); “chronic bronchitis (high-level ever-exposure: aOR=2.48, 1.01-6.06); and chronic phlegm (high-level ever-exposure: aOR=2.26, 1.14-4.51).  **Conclusion:** Occupational history should be sought when assessing patients who present with a cough, with an emphasis on both the duration and other features of cough (i.e., dry, or productive, and allergic symptoms). Related occupational exposures, occupations, and cough features include: biological dust (building and trade workers, cleaners, mining, construction, and manufacturing labourers) and allergic cough; aromatic solvents (painting and construction labourers) and chronic dry cough; and herbicides (farmers), solvent types other than aromatic and chlorinated solvents (hairdressers, beauty therapists) and intermittent/chronic productive cough.  **Grant Support:** NHMRC. |