

ABOUT RESEARCH ALERT

Research Alert is a service provided to you by the Institute for Work & Health (IWH) to help you keep abreast of recent literature in the areas of occupational health and safety, epidemiology, public health and others within the IWH mandate. Please note that these articles have not been reviewed by Institute scientists to assess the quality of the studies. Research Alerts should not be considered an endorsement of the findings. Readers are cautioned not to act on the results of single studies, but rather to seek bodies of evidence. It should also be noted that the Institute for Work & Health cannot provide full-text of articles listed in Research Alerts to individuals outside of the organization, as this violates copyright legislation.

Journal articles marked with an asterisk indicate an IWH scientist or adjunct scientist is included in the list of authors.

***Dobrowolski C, Barraclough M, Su J, Tanic M, Bingham K, Ruttan L, Beaton D, et al. Centrally acting ACE inhibitor (cACEi) and angiotensin receptor blocker (cARB) use and cognitive dysfunction in patients with SLE. *Lupus Science & Medicine*. 2023; 10(2):e000923. <https://doi.org/10.1136/lupus-2023-000923> [open access]**

Abstract: Objective: Cognitive dysfunction (CD) is detectable in approximately 40% of patients with SLE. Despite this high prevalence, there are no approved pharmacological treatment options for this detrimental condition. Preliminary murine studies show potential for targeting microglial activation as a treatment of SLE-CD, which may be ameliorated with centrally acting ACE inhibitor (cACEi) and angiotensin receptor blocker (cARB) use. The aim of this study is to determine if there is an association of cACEi/cARB use with cognitive function in a human SLE cohort. Methods: The American College of Rheumatology neuropsychological battery was administered to patients with consecutive SLE at a single academic health centre at baseline, 6 and 12 months. Scores were compared with sex-matched and age-matched control subjects. Clinical and demographic data were gathered at each visit. The primary outcome was CD defined as dysfunction in two or more cognitive domains. The primary predictor was a total cumulative dose of cACEi/cARB in milligrams per kilogram, recorded as an equivalent ramipril dose. Odds of CD with respect to cACEi/cARB use were determined through generalised linear mixed modelling. Results: A total of 300 patients, representing 676 visits, completed this study. One hundred sixteen (39%) met the criteria for CD. Fifty-three participants (18%) were treated with a cACEi or cARB. Mean cumulative dose was 236 mg/kg (calculated as equivalent ramipril dose). Cumulative cACEi/cARB dose was not protective

against SLE-CD. Caucasian ethnicity, current employment status and azathioprine cumulative dose were each associated with reduced odds of SLE-CD. Increasing Fatigue Severity Scale score was associated with increased odds of CD. Conclusions: In a single-centre SLE cohort, cACEi/cARB use was not associated with absence of CD. Many important confounders may have influenced the results of this retrospective study. A randomised trial is required to accurately determine if cACEi/cARB is a potential treatment for SLE-CD.

***Gensby U, Van Eerd D, Amick BC, Limborg HJ, and Dyreborg J. Editorial: Knowledge transfer and exchange through interactive research: a new approach for supporting evidence-informed occupational health and safety (OHS) practice. *International Journal of Workplace Health Management*. 2023; 16(2/3):137-144.**

<https://doi.org/10.1108/IJWHM-06-2023-232> [open access]

Aust B, Moller JL, Nordentoft M, Frydendall KB, Bengtson E, Jensen AB, et al. How effective are organizational-level interventions in improving the psychosocial work environment, health, and retention of workers? A systematic overview of systematic reviews. *Scandinavian Journal of Work, Environment & Health*. 2023; 49(5):315-329.

<https://doi.org/10.5271/sjweh.4097> [open access]

Abstract: OBJECTIVE: This study aimed to systematically review the effectiveness of organizational-level interventions in improving the psychosocial work environment and workers' health and retention. METHODS: We conducted an overview of systematic reviews on organizational-level interventions published between 2000 and 2020. We systematically searched academic databases, screened reference lists, and contacted experts, yielding 27 736 records. Of the 76 eligible reviews, 24 of weak quality were excluded, yielding 52 reviews of moderate (N=32) or strong (N=20) quality, covering 957 primary studies. We assessed quality of evidence based on quality of review, consistency of results, and proportion of controlled studies. RESULTS: Of the 52 reviews, 30 studied a specific intervention approach and 22 specific outcomes. Regarding intervention approaches, we found strong quality of evidence for interventions focusing on "changes in working time arrangements" and moderate quality of evidence for "influence on work tasks or work organization", "health care approach changes", and "improvements of the psychosocial work environment". Regarding outcomes, we found strong quality of evidence for interventions about "burnout" and moderate quality evidence for "various health and wellbeing outcomes". For all other types of interventions, quality of evidence was either low or inconclusive, including interventions on retention. CONCLUSIONS: This overview of reviews identified strong or moderate quality of evidence for the effectiveness of organizational-level interventions for four specific intervention approaches and two health outcomes. This suggests that the work environment and the health of employees can be improved by certain organizational-level interventions. We need more research, especially about implementation and context, to improve the evidence

Bhattacharyya B and Berdahl JL. Do you see me? An inductive examination of differences between women of color's experiences of and responses to invisibility at work. *Journal of Applied Psychology*. 2023; 108(7):1073-1095.

<https://doi.org/10.1037/apl0001072>

Abstract: Intersectional invisibility is a salient experience for women of color in the workplace and stems from their nonprototypicality in gender and race. We expand research and theory on intersectional invisibility to propose that women of color vary in their degrees of nonprototypicality, and thus in their social power and their experiences of and responses to invisibility at work. We present an inductive interview study of a diverse sample of 65 women of color in the United States and Canada, who work in traditionally white and male professions. We examined how differences in race, immigration status, age, and organizational rank informed the types of invisibility they experienced and their responses to invisibility. Four forms of invisibility (erasure, homogenization, exoticization, and whitening) and three response pathways (withdrawal, approach, and pragmatism) emerged from our findings that differed according to women of color's social power. Women with less social power experienced the most invisibility and were more likely to engage in withdrawal tactics that intensified their invisibility and marginalization at work. Women with more social power experienced less invisibility and were more likely to engage in approach tactics that risked backlash. Women who understood their invisibility to be rooted in structural causes responded more pragmatically to invisibility, occasionally engaging in radical honesty to connect with others who treated them as invisible and to change their behavior. We discuss the implications of our research for intersectionality theory, directions for future research, and organizational practice. (PsycInfo Database Record (c) 2023 APA, all rights reserved)

Blustein DL, Allan BA, Davila A, Smith CM, Gordon M, Wu X, et al. Profiles of decent work and precarious work: exploring macro-level predictors and mental health outcomes. *Journal of Career Assessment*. 2023; 31(3):423-441.

<https://doi.org/10.1177/10690727221119473>

Eliasson K, Lewis C, Hellman T, Dahlgren G, Svartengren M, and Nyman T. Does occupational health surveillance lead to risk reduction for workers exposed to hand-intensive work? *Applied Ergonomics*. 2023; 112:104074.

<https://doi.org/10.1016/j.apergo.2023.104074> [open access]

Abstract: This mixed method study aimed to describe what risk-reducing actions were proposed by ergonomists after the execution of a guided process for occupational health surveillance for workers exposed to hand-intensive work in ten companies. Another aim was to describe the exposed workers' proposals for risk-reducing actions, including their perceptions of potential changes in the self-assessed exposure levels and work-related pain. Several actions, targeting organizational, technical, and/or individual measures were proposed. Proposals from the ergonomists more often targeted the personal measures, whereas the workers' proposals targeted technology or organizational changes. Six

companies implemented at least one of the action proposals. These action proposals were not related to evaluation metrics, nor were they evaluated. This study indicates that both ergonomists and companies need guidance on how to improve to work in a participatory process for the implementation and evaluation of risk-reducing actions, e.g., by how to better include workers' experiences

Grinblat N and Rosenblum S. Work-MAP telehealth metacognitive work-performance intervention for adults with ADHD: randomized controlled trial. OTJR. 2023; 43(3):435-445. <https://doi.org/10.1177/15394492231159902> [open access]

Abstract: The literature highlighted the need for evidence-based occupational therapy teleinterventions to improve work participation among adults with attention-deficit/hyperactivity disorder (ADHD). This study aimed to assess the efficacy of a self-tailored, metacognitive, telehealth intervention to enhance the performance of adults with ADHD at work (Work-MAP). The outcome measures were efficacy and satisfaction with performing self-selected work goals, executive functions, and quality of life. Participants in this randomized controlled trial were 46 adults with ADHD. Group A (n = 31) received the synchronous, hybrid-telehealth intervention in 11-weekly 1-hour individual sessions. Group B (n = 15) completed the intervention after a waiting phase. Following the intervention, participants showed and maintained significant improvements in all outcome measures (strong-to-moderate significant effects) to the 3-month follow-up. The Work-MAP teleintervention appears effective for improving work participation (i.e., performance), executive functions, and quality of life of adults with ADHD

Hadavi M, Ghomian Z, Mohammadi F, and Sahebi A. Workplace violence against health care workers during the COVID-19 Pandemic: a systematic review and meta-analysis. Journal of Safety Research. 2023; 85:1-7.

<https://doi.org/10.1016/j.jsr.2023.01.001> [open access]

Abstract: Introduction: During the COVID-19 pandemic, Health Care Workers (HCWs) have been at the frontline against the disease and have direct contact with patients and their companions, so they are exposed to all sorts of Workplace Violence (WPV). The aim of this study was to investigate the prevalence of WPV against HCWs during the COVID-19 pandemic. Method: This study was conducted according to the PRISMA guideline, and its protocol was registered at the PROSPERO under the code of CRD42021285558. Articles were obtained from data resources such as Scopus, PubMed, Web of Science, Science Direct, Google Scholar, and Embase. A literature search was conducted from the beginning of 2020 to the end of December 2021. Meta-analysis was conducted using the Random effects model, and the I² index was used to check the heterogeneity. Results: In this study, 1,054 articles were initially obtained during the primary search, of which 13 were finally entered in the meta-analysis. According to the results of the meta-analysis, the prevalence of physical and verbal WPV were 10.75% (95% CI: 8.20-13.30, I² = 97.8%, P = 0 < 001) and 45.87% (95% CI: 36.8-54.93, I² = 99.6%, P = 0 < 001), respectively. The overall prevalence of WPV was

obtained, 45.80% (95% CI: 34.65-56.94, I² = 99.8%, P = 0 < 001) were reported. Conclusion: The results of the present study showed that the prevalence of WPV against HCWs was relatively high during the COVID-19 pandemic; nevertheless, it was lower compared to the area prior to the pandemic. Therefore, HCWs need essential training to reduce stress and increase resilience. Also, considering organizational interventions (including policies to ensure that HCWs report WPV to their supervisors, increasing staffing per patient, and installing systems for HCWs to call for immediate assistance) can increase the resilience HCWs.

Huntley CC, Bhomra P, and Walters GI. Job exposure matrices for occupational respiratory disease: a narrative review. *Occupational Medicine*. 2023; 73(5):263-267.

<https://doi.org/10.1093/occmed/kqad064>

Abstract: BACKGROUND: Job exposure matrices (JEMs) are epidemiological tools used to provide estimations of occupational exposures when it is not feasible to complete detailed individual occupational histories. AIMS: To identify and summarize the characteristics of published general population JEMs (GPJEM) of inhalable occupational exposures applied in studies of respiratory disease. METHODS: MEDLINE and EMBASE databases were searched using pre-defined search terms, with screening performed by two independent reviewers to identify studies reporting the use of a GPJEM. JEM creation papers were subsequently identified and reviewed for each individual GPJEM, noting its characteristics in terms of occupational classification system and exposure estimates. RESULTS: From 728 studies identified in initial searches, 33 GPJEMs of inhalable occupational exposures were identified. Versions of the International Standards Classification of Occupations were the most used occupational classification system. Binary, probability and intensity-based exposure estimates were most frequently reported in GPJEMs. CONCLUSIONS: Selection of a GPJEM to apply in epidemiological research should be based on the exposure(s) of interest, time period of occupations under review, geographical region for intended use, occupation classification system used and the exposure estimate outcome

Lane TJ, Di Donato MF, and Collie A. Injured worker outcomes after compensation system overhaul: an interrupted time series study. *Journal of Epidemiology and Community Health*. 2023; 77(8):515-520.

<https://doi.org/10.1136/jech-2023-220387>

Abstract: OBJECTIVE: In 2015, South Australia replaced its workers' compensation system with the aim of improving return to work rates. We examined whether this was achieved by focusing on the duration of time off work, as well as claim processing times and claim volumes to understand how this may have been achieved. METHODS: The primary outcome was mean weeks of compensated disability duration. Secondary outcomes tested alternative mechanisms of a change in disability duration: (1) mean employer report and insurer decision times to evaluate whether there had been changes in claim processing and (2) claim volumes to determine whether the new system altered the cohort under investigation. Outcomes

were aggregated into monthly units and analysed with an interrupted time series design. Three condition subgroups-injury, disease and mental health-were compared in separate analyses. RESULTS: While disability duration steadily declined before the RTW Act came into effect, afterwards it flatlined. A similar effect was observed in insurer decision time. Claim volumes gradually increased. Employer report time gradually decreased. Condition subgroups mostly followed a similar pattern to overall claims, though the increase in insurer decision time appears largely driven by changes in injury claims. CONCLUSIONS: The increase in disability duration after the RTW Act took effect may be attributable to an increase in insurer decision time, which itself could be due to the disruption of overhauling a compensation system or the elimination of provisional liability entitlements that incentivised early decision making and provided early intervention

Oakman J, Macdonald WA, and McCredie K. Psychosocial hazards play a key role in differentiating MSD risk levels of workers in high-risk occupations. *Applied Ergonomics*. 2023; 112(104053).

<https://doi.org/10.1016/j.apergo.2023.104053> [open access]

Abstract: OBJECTIVES: Workplace management practices targeting risk of musculoskeletal disorders (MSDs) fail to reflect evidence that risk is affected by psychosocial as well as physical hazards. To promote improved practices in occupations where MSD risk is highest, better information is needed on how psychosocial hazards, combined with physical hazards, affect risk of workers in these occupations. METHODS: Survey ratings of physical and psychosocial hazards by 2329 Australian workers in occupations with high MSD risk were subjected to Principal Components Analysis. Latent Profile Analysis of hazard factor scores identified different combinations of hazards to which latent subgroups of workers were typically exposed. Survey ratings of frequency and severity of musculoskeletal discomfort or pain (MSP) generated a pre-validated MSP score and its relationship with subgroup membership was analysed. Demographic variables associated with group membership were investigated using regression modelling and descriptive statistics. RESULTS: Analyses identified three physical and seven psychosocial hazard factors and three participant subgroups with differing hazard profiles. Profile group differences were greater for psychosocial than physical hazards, and MSP scores out of 60 ranged from 6.7 for the low hazard profile (29% of participants) to 17.5 for the high hazard profile (21%). Differences between occupations in hazard profiles were not large. CONCLUSIONS: Both physical and psychosocial hazards affect MSD risk of workers in high-risk occupations. In workplaces such as this large Australian sample where risk management has focused on physical hazards, actions targeting psychosocial hazards may now be the most effective way to reduce risk further

Provost D, Delmas MC, Benezet L, Ribet C, Chesneau J, Raherison C, et al. Impact of asthma on working life: an analysis of the French CONSTANCES cohort. *Occupational and Environmental Medicine*. 2023; 80(7):392-398.

<https://doi.org/10.1136/oemed-2022-108671> [open access]

Abstract: OBJECTIVES: Asthma has significant occupational consequences. The objective of our study was to investigate the links between asthma and the career path, taking into account gender and age at asthma onset. METHODS: Using cross-sectional data collected at inclusion in the French CONSTANCES cohort in 2013-2014, we studied the links between each career path indicator (number of job periods, total duration of employment, numbers of part-time jobs and work interruptions due to unemployment or health issues, employment status at inclusion) on the one hand, and current asthma and asthma symptom score in the last 12 months on the other hand, as reported by the participants. Multivariate analyses were performed separately for men and women using logistic and negative binomial regression models adjusted for age, smoking status, body mass index and educational level. RESULTS: When the asthma symptom score was used, significant associations were observed with all of the career path indicators studied: a high symptom score was associated with a shorter total duration of employment as well as a greater number of job periods, part-time jobs and work interruptions due to unemployment or health issues. These associations were of similar magnitude in men and women. When current asthma was used, the associations were more pronounced in women for some career path indicators. CONCLUSION: The career path of asthmatic adults is more often unfavourable than that of those without asthma. Efforts should be made to support people with asthma in the workplace, in order to maintain employment and facilitate the return to work

Sagherian K, Derickson D, Geiger-Brown J, Springer CM, Mason JJ, and Hinds PS. Nurses' short-term sickness absences before and after the implementation of a brief napping opportunity during night shifts. *Workplace Health & Safety*. 2023; 71(7):347-351.

<https://doi.org/10.1177/21650799221147177>

Abstract: BACKGROUND: Nurses who work at night have used naps to alleviate their sleepiness and fatigue. Research has shown night shifts, sleepiness, and fatigue predict nurses' missed workdays. Thus, nighttime napping may have a beneficial consequence of reducing nurses' sickness absences. The purpose of this brief report was to describe the difference in rates of short-term sickness absence before and after implementation of a 30-min nap opportunity in one U.S. hospital for 12-hr shift nurses. METHODS: The study was a retrospective pre-post evaluation design. Eight units provided nap opportunities for the nurses. Full-time nurses were classified into night and rotating shifts based on their 2 years of scheduling patterns. Absence data were extracted from the hospital's timekeeping system and annual absence rates were computed. A single linear mixed model with rank transformed data was conducted for each group. Median estimates, minimum and maximum, and p-values were reported. FINDINGS: The median absence rates for night shift nurses were 4.3% and 4.0% for the pre-napping and post-napping implementation periods, respectively;

however, this difference was not statistically significant ($p = .241$). The median absence rates for rotating shift nurses were 2.0% and 3.9% for the pre-napping and post-napping implementation periods, respectively; and the difference increase was statistically significant ($p < .001$). CONCLUSION/APPLICATION TO PRACTICE: A nap policy which provides nurses with the opportunity to take nighttime naps did not benefit their sickness absence rates. Future research needs to examine the actual napping process on sickness absences, as well as explore other sickness management avenues

Siqueira VB, Rocha ASL, Schwingel PA, and Carvalho FM. Prevalence of presenteeism in agricultural workers: systematic review. *Workplace Health & Safety*. 2023; 71(7):318-324. <https://doi.org/10.1177/21650799231154281>

Abstract: BACKGROUND: Presenteeism, the act of showing up to work when one is ill, is a prevailing global phenomenon, at rates varying from 30% to 90%. Presenteeism results in consequences to the worker's health, like pain, depression, and poor work ability, as well as consequences to the organization like productivity loss, negative feelings and engagement of coworkers, and risk of accidents. Agriculture is an important sector for the global economy, providing employment for 27% of the global workforce. This study aimed to estimate the prevalence of presenteeism and its associated factors among agricultural workers. METHODS: A systematic review was performed through searches at PubMed, Web of Science, LILACS, SciELO, EMBASE, PsycINFO, and Scopus databases. Observational studies (cross-sectional, cohort or case-control) that reported the prevalence of presenteeism in agricultural workers were eligible. FINDINGS: A total of 139 studies were found but only two met the inclusion criteria. The selected studies reported prevalence rates of presenteeism of 5.0% and 58.2%. Poor work safety climate, female workers, workers dissatisfied with management, and sunscreen not available at the workplace were strongly associated with the prevalence of presenteeism. CONCLUSIONS/APPLICATIONS TO PRACTICE: We concluded that the scientific literature about the prevalence of presenteeism among agricultural workers is scarce. Future studies about presenteeism among agricultural workers should measure the prevalence and/or incidence of presenteeism by using the epidemiological approach and, furthermore, should integrate these measures with the work productivity approach

Whitley MD and Burgard SA. Working conditions and racial and ethnic disparities in self-rated health. *Journal of Occupational & Environmental Medicine*. 2023; 65(7):533-540. <https://doi.org/10.1097/JOM.0000000000002868>

Abstract: OBJECTIVE: The aims of the study are to examine racial and ethnic differences in occupational physical demands, substantive complexity, time pressure, work hours, and establishment size and to assess whether working conditions contribute to racial and ethnic differences in self-rated health. METHODS: We used 2017 and 2019 Panel Study of Income Dynamics data for 8439 adults. Using path models, we examined working conditions among Black, Latino, and White workers and explored whether those conditions mediated racial and ethnic differences in incident poor self-rated health. RESULTS: Some working conditions

disproportionately affected Black workers (high physical demands, low substantive complexity), Latino workers (low substantive complexity, small establishments), and White workers (time pressure). Time pressure predicted worse self-rated health; there was no evidence that the working conditions studied mediated racial/ethnic differences.
CONCLUSIONS: Working conditions vary by racial and ethnic group; some predict worse health

Missed an issue? Catch up on previous Research Alerts available on the IWH website
www.iwh.on.ca/journal-articles/research-alerts