

IWH Research Alert
October 23, 2020

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***Bechard LE, Beaton D, McGilton KS, Tartaglia MC, and Black SE. Physical activity perceptions, experiences, and beliefs of older adults with mild cognitive impairment or Alzheimer's disease and their care partners. *Applied Physiology, Nutrition, and Metabolism*. 2020; [epub ahead of print].**

<https://doi.org/10.1139/apnm-2019-0730> [open access]

Abstract: Physical activity (PA) participation provides functional and social benefits for persons with mild cognitive impairment (MCI) and Alzheimer's disease (AD), but PA participation in these populations is low. To support health promotion initiatives for cognitively impaired older adults, this study explored the perceptions, experiences, and beliefs of older adults with cognitive impairment and their caregivers concerning PA. Ten care dyads (community-dwelling adult aged =65 years diagnosed with MCI or mild-to-moderate AD and their care partner) participated in semi-structured interviews informed by the Theoretical Domains Framework about their PA perceptions, experiences, and beliefs. Interpretive phenomenological analysis of interview transcripts yielded 4 emergent themes: (1) PA as a meaningful activity, (2) experience versus evidence as motivating, (3) participation is possible despite dementia, and (4) care partners as



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enablers. Findings from this study address a research gap concerning the PA perceptions, experiences, and beliefs of cognitively impaired older adults and their care partners. Novelty Older adults with MCI/AD want to and are capable of engaging in PA. Care partners are critical supporters of PA participation in MCI/AD. Adapted health promotion strategies could enhance PA in MCI/AD.

***Furlan AD, Diaz S, Carol A, Macdougall P, and Allen M. Self-reported practices in opioid management of chronic noncancer pain: an updated survey of Canadian family physicians. Journal of Clinical Medicine. 2020; 9(10):E3304.**

<https://doi.org/10.3390/jcm9103304> [open access]

Abstract: Chronic pain affects one in five Canadians, and opioids continue to be prescribed to 12.3% of the Canadian population. A survey of family physicians was conducted in 2010 as a baseline prior to the release of the Canadian Opioid Guideline. We repeated the same survey with minor modifications to reflect the updated 2017 opioid prescribing guideline. The online survey was distributed in all provinces and territories in both English and French. There were 265 responses from May 2018 to October 2019, 55% of respondents were male, 16% had advanced training in pain management, 51% had more than 20 years in practice, 54% wrote five or fewer prescriptions of opioids per month, and 58% were confident in their skills in prescribing opioids. Of the 11 knowledge questions, only two were correctly selected by more than 80% of the respondents. Twenty-nine physicians (11%) do not prescribe opioids, and the main factor affecting their decisions were concerns about long-term adverse effects and lack of evidence for effectiveness of opioids in chronic noncancer pain. Of the 12 guideline-concordant practices, only two were performed regularly by 90% or more of the respondents: explain potential harms of long-term opioid therapy and beginning dose of less than 50 mg of morphine equivalent daily. This survey represents a small proportion of family physicians in Canada and its generalizability is limited. However, we identified a number of opioid-related and guideline-specific gaps, as well as barriers and enablers to prescribing opioids and adhering to the guideline

Abdollahi T, Pedram Razi S, Pahlevan D, Yekaninejad MS, Amaniyan S, Leibold Sieloff C, et al. Effect of an ergonomics



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educational program on musculoskeletal disorders in nursing staff working in the operating room: a quasi-randomized controlled clinical trial. International Journal of Environmental Research and Public Health. 2020; 17(19):E7333.

<https://doi.org/10.3390/ijerph17197333> [open access]

Abstract: Background: Nursing staff working in the operating room are exposed to risk factors that can cause musculoskeletal disorders (MSDs) and work-related disabilities. The use of ergonomics principles can help with the prevention of MSDs. This study aimed to examine the effect of an ergonomics educational program on MSDs among nursing staff working in the operating room. Methods: In this pragmatic parallel group quasi-randomized controlled clinical trial, 74 nursing staff working in the operating rooms of two teaching hospitals participated. The hospitals were randomly assigned to either the intervention or the control group and all nursing staff working in the operating room of each hospital were invited to take part in this research. They were initially assessed for the prevalence and risk of MSDs by using the Nordic questionnaire and the rapid entire body assessment (REBA) checklist. The intervention group received the ergonomics educational program and were assessed in two-week intervals over a period of three months. At the end of the study, the risk and prevalence of MSDs were compared between the intervention and control groups. Results: Statistically significant differences were reported between the groups in terms of the prevalence and risk of MSDs. The overall risk of MSDs decreased in the intervention group after the educational program ($p = 0.03$). The reduction in the prevalence of MSDs in the different parts of the body in the intervention group was as follows: ankle ($p = 0.005$), hand/wrist ($p = 0.041$), low back ($p = 0.000$), the neck ($p = 0.003$), hip ($p = 0.001$) and shoulder ($p = 0.043$). Conclusion: The education of nursing staff about ergonomics can influence the prevalence and risk of MSDs. Therefore, it should be incorporated into the degree education and on-the-job training initiatives for nurses working in the operating theatre in order to reduce workplace injuries and associated absences, and increase the quality of care delivered by them. This clinical trial has been registered in the Iranian Registry of Clinical Trials: IRCT2015081823677N1



Cropley M, Rydstedt LW, and Andersen D. Recovery from work: testing the effects of chronic internal and external workload on health and well-being. *Journal of Epidemiology and Community Health*. 2020; 74(11):919-924.

<https://doi.org/10.1136/jech-2019-213367> [open access]

Abstract: **BACKGROUND:** The aim of this study was to examine the effects of reduced recovery opportunities on health, associated with chronic internal workload (ie, during work) and external workload (ie, following work). **METHODS:** Data from two consecutive surveys (2013 and 2016) from the Norwegian Living Conditions Survey on Work Environment were used. To assess a dose-response association between workload and health, self-reported ratings of internal workload (ie, having too much to do and skipping lunch breaks during work) and external workload (ie, using mobile technology for work-related issues during leisure time) over the two time periods were divided into tertile groups representing low, medium and high workload. Anxiety, depression, physiological and psychological fatigue and sleep were assessed as outcome symptoms. **RESULTS:** Chronic medium levels of internal workload were associated with psychological fatigue (OR=2.84, 95% CI 1.75 to 4.62) and physical fatigue (OR=1.85, 95% CI 1.31 to 2.63), and high internal workload was associated with psychological fatigue (OR=7.24, 95% CI 4.59 to 11.40), physical fatigue (OR=4.23, 95% CI 3.06 to 5.83) and sleep problems (OR=1.81, 95% CI 1.07 to 3.05). Chronic external high workload was only associated with psychological fatigue (OR=1.67, 95% CI 1.26 to 2.22) and with physical fatigue problems (OR=1.47, 95% CI, 1.09-1.98) when the data were adjusted for age, gender, education level, job autonomy and occupational status. **CONCLUSIONS:** This study emphasises that individuals who chronically experience high workload are at an increased risk for reporting psychological and physical fatigue, and sleep problems

Gomez-Duran EL, Martin-Fumado C, and Forero CG. Psychological impact of quarantine on healthcare workers. *Occupational and Environmental Medicine*. 2020; 77(10):666-674.
<https://doi.org/10.1136/oemed-2020-106587>

Abstract: **OBJECTIVES:** Exposure to infection is an inherent occupational risk for healthcare workers and may lead them to



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undergo quarantine during disease outbreaks. Both front-line battle and quarantine are stressful experiences that may make psychological support for healthcare workers necessary. Psychological support measures based on the best available evidence should be included in emergency plans worldwide. We summarise the research evidence on the psychological impact of quarantine on healthcare workers. **METHODS:** We retrieved 470 articles on the psychological impact of quarantine on healthcare workers from the Web of Science and included in this review all 12 articles that met our inclusion criteria. **RESULTS:** The reviewed studies reported acute stress during quarantine and long-lasting depressive, post-traumatic stress and alcohol dependency and abuse symptoms. Healthcare workers fear infection for themselves, but more so for their loved ones, and are also concerned about the stigma that may affect their families, most especially their children. **CONCLUSIONS:** The safety of healthcare workers and their families during disease outbreaks needs to be ensured. Suitable alternative accommodation and personalised monitoring during quarantine are useful intervention measures to prevent adverse effects in healthcare workers. Clear public health communication will help reduce uncertainty, guilt and stigma. Financial aid should be considered for the more severely affected workers. Finally, mental healthcare for healthcare workers should be a priority, as quarantines can be a mental distress trigger. The development of efficient referral paths and the provision of counselling or psychotherapy during the confinement period are an opportunity for early mental health interventions

Gupta N, Rasmussen CL, Holtermann A, and Mathiassen SE. Time-based data in occupational studies: the whys, the hows, and some remaining challenges in Compositional Data Analysis (CoDA). *Annals of Work Exposures and Health*. 2020; 64(8):778-785.

<https://doi.org/10.1093/annweh/wxaa056> [open access]

Abstract: Data on the use of time in different exposures, behaviors, and work tasks are common in occupational research. Such data are most often expressed in hours, minutes, or percentage of work time. Thus, they are constrained or 'compositional', in that they add up to a finite sum (e.g. 8 h of work or 100% work time). Due to their



properties, compositional data need to be processed and analyzed using specifically adapted methods. Compositional data analysis (CoDA) has become a particularly established framework to handle such data in various scientific fields such as nutritional epidemiology, geology, and chemistry, but has only recently gained attention in public and occupational health sciences. In this paper, we introduce the reader to CoDA by explaining why CoDA should be used when dealing with compositional time-use data, showing how to perform CoDA, including a worked example, and pointing at some remaining challenges in CoDA. The paper concludes by emphasizing that CoDA in occupational research is still in its infancy, and stresses the need for further development and experience in the use of CoDA for time-based occupational exposures. We hope that the paper will encourage researchers to adopt and apply CoDA in studies of work exposures and health

Johnson MS. Regulation by shaming: deterrence effects of publicizing violations of workplace safety and health laws.

American Economic Review. 2020; 110(6):1866-1904.

<https://doi.org/10.1257/aer.20180501>

Lennefer T, Reis D, Lopper E, and Hoppe A. A step away from impaired well-being: a latent growth curve analysis of an intervention with activity trackers among employees. European Journal of Work and Organizational Psychology. 2020; 29(5):664-677.

<https://doi.org/10.1080/1359432X.2020.1760247> [open access]

Abstract: The present study evaluated the effectiveness of a workplace intervention combining activity trackers (behavioural approach) with an online coach (cognitive approach) in order to increase employees' number of steps and improve their impaired well-being (i.e., emotional strain and negative affect). To analyse the intervention's effectiveness, the study applied latent growth curve modelling. Moreover, we tested whether work-related and personal resources (i.e., job control and self-efficacy) moderated the intervention's effectiveness and whether an increase in number of steps was associated with an improvement in impaired well-being. During the intervention, data were collected at six measurement points from 108 mainly low active employees. The results revealed



that employees increased their number of steps until the second intervention week; this increase was not moderated by job control or self-efficacy. Moreover, the intervention was effective in decreasing emotional strain and negative affect over the course of the intervention. Further analyses showed that the increase in number of steps was related to the decrease in negative affect, whereas no such association was found for the increase in number of steps and the decrease in emotional strain. In conclusion, the findings showed that our intervention was effective in improving physical activity and impaired well-being among employees.

Loosemore M, Sunindijo RY, and Zhang S. Comparative analysis of safety climate in the Chinese, Australian, and Indonesian construction industries. Journal of Construction Engineering and Management. 2020; 146(12):04020129.

[https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0001934](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001934)

Martin-Prieto S, Alvarez-Peregrina C, Thuissard-Vasallo I, Catalina-Romero C, Calvo-Bonacho E, Villa-Collar C, et al. Description of the epidemiological characteristics of work-related eye injuries in Spain: a retrospective study. BMJ Open. 2020; 10(10):e035696.

<https://doi.org/10.1136/bmjopen-2019-035696> [open access]

Abstract: Objective: To describe the epidemiological characteristics and trends of work-related eye injuries (WREIs) in Spain over a 10-year period by sex, age and occupational sector. Design and settings: A descriptive, retrospective and longitudinal study based on data from workers insured by a labour insurance company in Spain from 2008 to 2018 was presented. The study considered the ratio of the number of WREI per 100 000 population and the relative risk of suffering an ocular injury. WREIs were characterised by sex, age and occupational sector of injured workers. Primary and secondary outcome measures: Ratio of the number of WREI. Participants: In Spain, all workers are insured by a labour insurance company that provides cover in the event of work-related accidents. In this study, we have included all workers insured by one of these insurance companies, IBERMUTUA, with workers in all areas of Spain. Results: The study included 50 265 WREI in the company over the 10-year period. Most of the injuries occurred in males (44 445; 88.4%), in 35-



44 age group (15 992; 31.8%) and in industry workers (18 899; 42.6%). The average incidence was 429.75 per 100 000 workers insured and 4273.36 per 100 000 IBERMUTUA accidents (related and not related to eyes). Males, 16-24 age group and industry occupational sector group, have the highest incidence for WREI. The incidence of WREI decrease over the study period in all variables. Males have 6.56 (95% CI 6.38 to 6.75) times more risk of suffering WREI than females. 16-24 age group have 1.77 (95% CI 1.71 to 1.83) times more risk than in the group of workers older than 55. Finally, industry workers have 7.73 (95% CI 7.55 to 7.92) times more risk than services workers. Conclusions: The risks of suffering WREI is higher for males, younger and less experienced workers, and for those who works in a manual task.

Michaels D and Wagner GR. Halting workplace COVID-19 transmission: an urgent proposal to protect American workers. New York, NY: The Century Foundation; 2020.

<https://tcf.org/content/report/halting-workplace-covid-19-transmission-urgent-proposal-protect-american-workers/>

Rodriguez-Munoz A, Antino M, Ruiz-Zorrilla P, Sanz-Vergel AI, and Bakker AB. Short-term trajectories of workplace bullying and its impact on strain: a latent class growth modeling approach. Journal of Occupational Health Psychology. 2020; 25(5):345-356.

<https://doi.org/10.1037/ocp0000232>

Abstract: The aim of this weekly diary study was (a) to identify trajectories of workplace bullying over time and (b) to examine the association of each cluster with strain indicators (i.e., insomnia and anxiety/depression). A sample of 286 employees during 4 weeks of data was used (N occasions = 1,144). Results of latent class growth modeling showed that 3 trajectories could be identified: a nonbullying trajectory, which comprised 90.9% of the sample; an inverted U trajectory; and a delayed increase bullying trajectory; the latter two each had 4.2% of the participants. We found a significant interaction between time and trajectories when predicting insomnia and anxiety/depression, with each strain showing a differential pattern with each trajectory. It seems that the negative effects on insomnia



are long-lasting and remain after bullying has already decreased. In the case of anxiety and depression, when bullying decreases strain indicators also decrease. In this study, by examining trajectories of bullying at work over time and their associations with strain, we provide new insights into the temporal dynamics of workplace bullying. (PsycInfo Database Record (c) 2020 APA, all rights reserved)

Ruckert A, Zinszer K, Zarowsky C, Labonte R, and Carabin H. What role for One Health in the COVID-19 pandemic? Canadian Journal of Public Health. 2020; 111(5):641-644.

<https://doi.org/10.17269/s41997-020-00409-z> [open access]

Abstract: This commentary discusses the contributions that One Health (OH) principles can make in improving the global response to the COVID-19 pandemic. We highlight four areas where the application of OH has the potential to significantly improve the governance of infectious diseases in general, and of COVID-19 in particular. First, more integrated surveillance infrastructure and monitoring of the occurrence of infectious diseases in both humans and animals can facilitate the detection of new infectious agents sharing similar genotypes across species and the monitoring of the spatio-temporal spread of such infections. This knowledge can guide public and animal health officials in their response measures. Second, application of the OH approach can improve coordination and active collaboration among stakeholders representing apparently incompatible domains. Third, the OH approach highlights the need for an effective institutional landscape, facilitating adequate regulation of hotspots for transmission of infectious agents among animals and humans, such as live animal markets. And finally, OH thinking emphasizes the need for equitable solutions to infectious disease challenges, suggesting that policy response mechanisms and interventions need to be reflective of the disproportionate disease burdens borne by vulnerable and marginalized populations, or by persons providing health care and other essential services to those sick

Scarselli A, Marinaccio A, Corfiati M, Di Marzio D, and Iavicoli S. Occupational asbestos exposure after the ban: a job exposure matrix developed in Italy. European Journal of Public Health.



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2020; 30(5):936-941.

<https://doi.org/10.1093/eurpub/ckaa118>

Abstract: BACKGROUND: Asbestos is a well-known carcinogen for humans. The aim of this study is to develop a tool to estimate occupational asbestos exposure in Italy after the ban using information collected in a national dataset. METHODS: Data were collected from firm registries of workers exposed to asbestos in the period 1996-2016. Descriptive statistics (arithmetic mean, standard deviation, geometric mean and geometric standard deviation) were calculated for the main exposure-related variables (activity sector, occupational group and exposure period). An estimate of workers potentially exposed to asbestos was also performed. RESULTS: A total of 19 704 airborne measurements of asbestos exposure was selected from the national database of occupational exposures in the sectors of asbestos abatement. Overall, a geometric mean of 7.93 f l-1 was found, and chrysotile was the asbestos type that had more exposures (41%). A total of 46 422 workers was estimated to be potentially at asbestos exposure risk. Exposure data were summarized by calendar period, activity sector and occupational group. CONCLUSIONS: The construction of a job exposure matrix for different occupation/industry combinations may allow the assessment of occupational exposure to asbestos in several removal and disposal activities, and the estimate of the risks associated with asbestos-related diseases in epidemiological studies

Sigursteinsdottir H, Rafnsdottir GL, and Einarsdottir T. Threats and physical violence in female-dominated workplaces in times of an economic crisis. International Journal of Workplace Health Management. 2020; 13(4):377-392.

<https://doi.org/10.1108/IJWHM-01-2019-0009>

Williams S, Varghese BM, Hansen AL, Hanson-Easey SA, Bi P, and Pisaniello DL. Workers' health and safety in the heat: current practice in Australian workplaces. Policy and Practice in Health and Safety. 2020; 18(2):67-79.

<https://doi.org/10.1080/14773996.2020.1765610>

Xiong J, Lipsitz O, Nasri F, Lui LMW, Gill H, Phan L, et al. Impact of COVID-19 pandemic on mental health in the general



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population: a systematic review. Journal of Affective Disorders. 2020; 277:55-64.

<https://doi.org/10.1016/j.jad.2020.08.001>

Abstract: **BACKGROUND:** As a major virus outbreak in the 21st century, the Coronavirus disease 2019 (COVID-19) pandemic has led to unprecedented hazards to mental health globally. While psychological support is being provided to patients and healthcare workers, the general public's mental health requires significant attention as well. This systematic review aims to synthesize extant literature that reports on the effects of COVID-19 on psychological outcomes of the general population and its associated risk factors. **METHODS:** A systematic search was conducted on PubMed, Embase, Medline, Web of Science, and Scopus from inception to 17 May 2020 following the PRISMA guidelines. A manual search on Google Scholar was performed to identify additional relevant studies. Articles were selected based on the predetermined eligibility criteria. **RESULTS:** Relatively high rates of symptoms of anxiety (6.33% to 50.9%), depression (14.6% to 48.3%), post-traumatic stress disorder (7% to 53.8%), psychological distress (34.43% to 38%), and stress (8.1% to 81.9%) are reported in the general population during the COVID-19 pandemic in China, Spain, Italy, Iran, the US, Turkey, Nepal, and Denmark. Risk factors associated with distress measures include female gender, younger age group (≤ 40 years), presence of chronic/psychiatric illnesses, unemployment, student status, and frequent exposure to social media/news concerning COVID-19. **LIMITATIONS:** A significant degree of heterogeneity was noted across studies. **CONCLUSIONS:** The COVID-19 pandemic is associated with highly significant levels of psychological distress that, in many cases, would meet the threshold for clinical relevance. Mitigating the hazardous effects of COVID-19 on mental health is an international public health priority

*IWH authored publications.



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