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

***Amberson T, Graves JM, and Sears JM. Overview of occupational injuries among registered nurses in Washington State, 2007 to 2019. *Workplace Health & Safety*. 2023; [epub ahead of print].**

<https://doi.org/10.1177/21650799231214235>

Abstract: BACKGROUND: Registered nurses (RNs) represent the largest segment of the health care workforce and have unique job demands and occupational health considerations. The purpose of this study was to describe the incidence, cost, and causes of occupational injuries among RNs in Washington State and to quantify the cumulative cost and burden of each type of injury, relative to all injuries among RNs. METHODS: Annual injury claims data covered under Washington State workers' compensation (WC) fund were analyzed over a 13-year period (2007-2019). Annual mean incidence and cost of injuries were calculated and stratified by nature, source, and event/exposure. Negative binomial regression models were used to examine trends in injury incidence over time, for injury incidence overall, and by the most common injury classifications. RESULTS: Between 2007 and 2019, 10,839 WC claims were filed and accepted for Washington State RNs (annual M = 834), totaling more than US\$65 million. No significant trend in overall injury incidence was observed (incidence rate ratio [IRR]: 0.99, 95% confidence interval [CI] = [0.94, 1.05]). The most common injury exposures were bodily reaction and exertion, contact with objects and equipment, falls, and assaults and violent acts. DISCUSSION: To our knowledge, this is the first broad study of the incidence and costs of occupational injuries among RNs across all workplace settings. We identified high-cost, high-frequency incidence rates of musculoskeletal, sharp, and violence-related

occupational injury claims, highlighting intervention targets. Implications for Occupational Health Practice: Policy makers, health systems, and occupational health nurse leaders can use this information to identify priority areas where evidence-based occupational health and prevention programs are most needed

***St Cyr K, Smith P, Kurdyak P, Cramm H, Aiken AB, and Mahar A. A retrospective cohort analysis of mental health-related emergency department visits among veterans and non-veterans residing in Ontario, Canada. Canadian Journal of Psychiatry. 2024; [epub ahead of print].**

<https://doi.org/10.1177/07067437231223328> [open access]

Abstract: Objectives: Emergency departments (EDs) are a vital part of healthcare systems, at times acting as a gateway to community-based mental health (MH) services. This may be particularly true for veterans of the Royal Canadian Mounted Police who were released prior to 2013 and the Canadian Armed Forces, as these individuals transition from federal to provincial healthcare coverage on release and may use EDs because of delays in obtaining a primary care provider. We aimed to estimate the hazard ratio (HR) of MH-related ED visits between veterans and non-veterans residing in Ontario, Canada: (1) overall; and by (2) sex; and (3) length of service. Methods: This retrospective cohort study used administrative healthcare data from 18,837 veterans and 75,348 age-, sex-, geography-, and income-matched non-veterans residing in Ontario, Canada between April 1, 2002, and March 31, 2020. Anderson-Gill regression models were used to estimate the HR of recurrent MH-related ED visits during the period of follow-up. Sex and length of service were used as stratification variables in the models. Results: Veterans had a higher adjusted HR (aHR) of MH-related ED visits than non-veterans (aHR, 1.97, 95% CI, 1.70 to 2.29). A stronger effect was observed among females (aHR, 3.29; 95% CI, 1.96 to 5.53) than males (aHR, 1.78; 95% CI, 1.57 to 2.01). Veterans who served for 5-9 years had a higher rate of use than non-veterans (aHR, 3.76; 95% CI, 2.34 to 6.02) while veterans who served for 30+ years had a lower rate compared to non-veterans (aHR, 0.60; 95% CI, 0.42 to 0.84). Conclusions: Rates of MH-related ED visits are higher among veterans overall compared to members of the Ontario general population, but usage is influenced by sex and length of service. These findings indicate that certain subpopulations of veterans, including females and those with fewer years of service, may have greater acute mental healthcare needs and/or reduced access to primary mental healthcare.

Aili K, Svartengren M, Danielsson K, Johansson E, and Hellman T. Active engagement of managers in employee RTW and manager-employee relationship: managers' experiences of participating in a dialogue using the Demand and Ability Protocol. Disability and Rehabilitation. 2023; 45(26):4394-4403.

<https://doi.org/10.1080/09638288.2022.2151654>

Abstract: PURPOSE: To describe how managers of employees on sick-leave, due to chronic pain conditions, experience participating in a three-party meeting using the Demand and

Ability Protocol (DAP) in the return-to-work process. **MATERIALS AND METHODS:** This study is based on individual semi-structured interviews with 17 managers of employees with chronic pain. Interviews were conducted after participating in a three-party meeting including the employee, manager, and a representative from the rehabilitation team. The data were analyzed using thematic analysis with an inductive approach. **RESULTS:** Two main themes were identified - "to converse with a clear structure and setup" and "to be involved in the employee's rehabilitation." The first theme describe experiences from the conversation, and the second theme reflected the managers' insights when being involved in the employee's rehabilitation. The themes comprise 11 sub-themes describing how the DAP conversation and the manager's involvement in the rehabilitation may influence the manager, the manager-employee relationship, and the organization. **CONCLUSIONS:** This study show, from a manager's perspective, how having a dialogue with a clear structure and an active involvement in the employee's rehabilitation may be beneficial for the manager-employee relationship. Insights from participating in the DAP may also be beneficial for the organization. **IMPLICATIONS FOR REHABILITATION** A structured dialogue between the employee, employer, and rehabilitation supports the return to work (RTW) process A structured dialogue and collaboration may strengthen the relationship between the manager and employee An active engagement of managers in the employee's RTW process is beneficial for the manager-employee relationship, and for the organisation Healthcare professionals should collaborate with the workplace to promote participation of managers

Bjuhr M, Engstrom M, Welmer AK, Elmstahl S, and Sjolund BM. Health and work-related factors as predictors of still being active in working life at age 66 and 72 in a Swedish population: a longitudinal study. *Work*. 2023; 76(4):1481-1492.

<https://doi.org/10.3233/WOR-220480> [open access]

Abstract: **BACKGROUND:** Health and work environment are known factors in being active in working life beyond legal retirement. **OBJECTIVE:** To investigate sociodemographic, health and work environment factors as possible predictors of being active in working life at ages 66 and 72. Secondly, investigate eventual changes over time, shortly after a major reform in the Swedish pension system, and predictors of still being active in working life at age 66. **METHODS:** We used a longitudinal design with two separate cohorts of people at age 60. One baseline assessment was made in 2001-2003 with two 6 years follow-ups, and one in 2007-2009 with one 6 years follow-up. Data were accessed through a Swedish national population-based study and analysed using logistic regression. To examine possible differences between the two cohorts, interaction terms with each independent variable were analysed. **RESULTS:** Being a man and working in a profession that requires at least three years of university education predicted that the person would still be active in working life at age 66 and 72. Additionally, having a light level of physical activity at work and being diagnosed with fewer than two diseases, also predicted still being active in working life at age 66. Only physical activity at work showed significant changes over time. **CONCLUSION:** Shortly after a major reform of the public pension system, there was an increase in participation in working life

after age 66 and 72. However, gender, profession, and health factors are still important considerations regarding older people's participation in working life

Finnanger Garshol B, Knardahl S, Emberland JS, Skare O, and Johannessen HA. Effects of the Labor Inspection Authority's regulatory tools on physician-certified sick leave and employee health in Norwegian home-care services: a cluster randomized controlled trial. *Scandinavian Journal of Work, Environment & Health*. 2024; 50(1):28-38.

<https://doi.org/10.5271/sjweh.4126> [open access]

Abstract: OBJECTIVE: This study aimed to determine the effects of the Labor Inspection Authority's regulatory tools on physician-certified sick leave and self-reported health outcomes among employees in municipal home-care services in Norway. METHODS: We conducted a cluster-randomized controlled trial in the home-care service sector, and 96 eligible municipalities were randomly assigned to one of three groups: (i) labor inspection visits, based on the Labor Inspection Authority's standard inspections; (ii) guidance-through-workshops, where participants from home-care services met with labor inspectors to receive information and discuss relevant topics; and (iii) the control group. Data on employee self-reported health (N=1669) were collected at baseline and 6 and 12 months after the interventions. Additionally, registry data (N=1202) on diagnosis specific physician-certified sick leave were collected for 18 months after the interventions. RESULTS: We found no statistically significant effects of either intervention on self-reported health outcomes. There was, for both interventions, a pattern of decrease in days and periods of physician-certified sick leave due to musculoskeletal diagnoses and increase in days and periods of physician-certified sick leave due to psychological diagnoses, but these were not statistically significant. CONCLUSION: Labor inspections and guidance-through-workshops had no statistically significant effect on self-reported health and physician-certified sick leave. The results should be interpreted with caution given the low response rate and subsequent attrition, and in the context of the COVID-19 pandemic. Future studies, in various industries, should further elucidate whether regulatory tools influence employee health and sick leave due to musculoskeletal and mental disorders

Fredriksson S, Li H, Soderberg M, Gyllensten K, Widen S, and Persson Wayne K. Occupational noise exposure, noise annoyance, hearing-related symptoms, and emotional exhaustion: a participatory-based intervention study in preschool and obstetrics care. *Archives of Environmental & Occupational Health*. 2023; 78(7-8):423-434.

<https://doi.org/10.1080/19338244.2023.2283010>

Abstract: A participatory-based intervention was performed in Sweden, aimed at improving the sound environment in one preschool (n = 20) and one obstetric ward (n = 50), with two controls each (n = 28, n = 66). Measured sound levels, and surveys of noise annoyance, hearing-related symptoms and emotional exhaustion were collected before, and three and nine months after the interventions, comparing intervention and control groups over time. The results of this first implementation in a limited number of workplaces showed

significantly worsening of hyperacusis, sound-induced auditory fatigue, emotional exhaustion and increased sound levels in the preschool, and worsening of noise annoyance in both intervention groups. Increased risk awareness, limited implementation support and lack of psychosocial interventions may explain the worsening in outcomes, as might the worse baseline in the intervention groups. The complexity of the demands in human-service workplaces calls for further intervention studies.

Kamso MM, Pardo JP, Whittle SL, Buchbinder R, Wells G, Glennon V, et al. Crowd-sourcing and automation facilitated the identification and classification of randomized controlled trials in a living review. *Journal of Clinical Epidemiology*. 2023; 164:1-8.

<https://doi.org/10.1016/j.jclinepi.2023.10.007> [open access]

Abstract: OBJECTIVES: To evaluate an approach using automation and crowdsourcing to identify and classify randomized controlled trials (RCTs) for rheumatoid arthritis (RA) in a living systematic review (LSR). METHODS: Records from a database search for RCTs in RA were screened first by machine learning and Cochrane Crowd to exclude non-RCTs, then by trainee reviewers using a Population, Intervention, Comparison, and Outcome (PICO) annotator platform to assess eligibility and classify the trial to the appropriate review. Disagreements were resolved by experts using a custom online tool. We evaluated the efficiency gains, sensitivity, accuracy, and interrater agreement (kappa scores) between reviewers. RESULTS: From 42,452 records, machine learning and Cochrane Crowd excluded 28,777 (68%), trainee reviewers excluded 4,529 (11%), and experts excluded 7,200 (17%). The 1,946 records eligible for our LSR represented 220 RCTs and included 148/149 (99.3%) of known eligible trials from prior reviews. Although excluded from our LSRs, 6,420 records were classified as other RCTs in RA to inform future reviews. False negative rates among trainees were highest for the RCT domain (12%), although only 1.1% of these were for the primary record. Kappa scores for two reviewers ranged from moderate to substantial agreement (0.40-0.69). CONCLUSION: A screening approach combining machine learning, crowdsourcing, and trainee participation substantially reduced the screening burden for expert reviewers and was highly sensitive

Kosteas VD. Job satisfaction and employer-sponsored training. *British Journal of Industrial Relations*. 2023; 61(4):771-795.

<https://doi.org/10.1111/bjir.12741> [open access]

Abstract: This article examines whether participation in employer-sponsored training has a causal impact on job satisfaction by accounting for individual fixed effects, individual-by-employer fixed effects and controlling for promotions in a sub-sample of the data to address the endogeneity of participation arising from within employer job changes. The estimates show a consistent, positive effect of participation in employer-sponsored training on job satisfaction. Conversely, participation in other types of training does not have a significant impact upon job satisfaction. Additionally, participation in employer-sponsored training has a

strong, negative correlation with turnover even while controlling for job satisfaction. Training does not exhibit a lasting effect of either job satisfaction or turnover.

McNamara J, Mohammadrezaei M, Moran B, and Dillon E. Data driven identification of injury risk factors during expansion on Irish dairy farms. Journal of Agromedicine. 2024; [epub ahead of print].

<https://doi.org/10.1080/1059924X.2023.2293840>

Abstract: OBJECTIVES: This paper sought to determine risk factors of occupational injury in the Irish dairy farming sector and to estimate the roles of both dairying expansion and the discipline of agricultural extension in influencing reducing injury occurrence. METHODS: Data for this study was obtained via the Irish National Farm Survey (NFS). In total, 260 farm (83.6% of NFS dairy farm sample) workplace injury survey questionnaires were completed by NFS recorders by interviewing principal farm operators for year 2017. Injury survey data was analysed for 48 variables in conjunction with NFS core farm socio-economic, physical and financial data. Additionally, core data from 2010 for 78.5% of farms surveyed in 2017 was included in the study. Data were analysed using a three-step statistical testing process which met all Binary Logistic Regression assumptions. RESULTS: The study found that dairy farms had a higher farm workplace occupational injury level compared to a previous study. The study data indicates occurrence of elevated injury levels on farms which expanded and which were intensively managed from a milk production perspective. Farm expansion was associated with increased labor units used and increased investment per hectare. The study also found that use of extension services and farm discussion group participation were not associated with injury occurrence. CONCLUSIONS: This study demonstrates how a retrospective farm workplace occupational injury survey of Irish dairy farms, analysed in combination with farm business data can be used to identify injury risk factors, including those associated with production expansion. Irish dairy farms have a heightened farm workplace occupation injury level while dairy production expansion increased injury levels. Extension engagement did not influence on injury levels. Approaches to improve farm safety on dairy farms are outlined

Nowrouzi-Kia B, Bani-Fatemi A, Howe A, Ubhi S, Morrison M, Saini H, et al. Examining burnout in the electrical sector in Ontario, Canada: a cross-sectional study. AIMS Public Health. 2023; 10(4):934-951.

<https://doi.org/10.3934/publichealth.2023060> [open access]

Abstract: Workers in the trades sectors often experience mental health issues and decreased work ability due to occupational stress, workplace hazards and living in danger or constant fear of injury. Understanding the impacts of psychosocial risk factors on construction workers' mental health can aid in decreasing workplace injuries, lessening disabilities and increasing worker productivity. In this study, we focus on understanding and assessing the mental health and wellness of individuals in the electrical sector that are members of the Employer Engagement Project (EEP) from the Ontario Electrical League (OEL). The subset of

potential participants included electricians and plumbers in Ontario working for small to medium sized employers (SME). The recruitment took place in 2022, with a total of 82 participants who completed a survey collecting demographic information, assessing the importance and availability/satisfaction of workplace factors and stress-and burnout-related questions. The data were analyzed using IBM SPSS Statistics 29.0. Two-sample Mann-Whitney U tests were performed to test for associations between the availability of work-related factors and burnout scores among the participants. Burnout scores were determined using the Copenhagen Burnout Inventory. Our findings demonstrate that dissatisfaction of the following factors: Workload allocation, internal staff development opportunity and stable staffing/minimal turnover, were associated with high burnout levels. The findings indicate there may be a relationship between certain work-related factors and burnout levels experienced. There is a need for improvement of workload allocation in SMEs to help enhance the mental health and well-being of employees

Reilly MJ, Wang L, and Rosenman KD. Evaluation of the characteristics of injured workers and employer compliance with OSHA's reporting requirement for work-related amputations. American Journal of Industrial Medicine. 2024; [epub ahead of print].

<https://doi.org/10.1002/ajim.23560>

Abstract: Introduction: In 2014, the Federal Occupational Safety and Health Administration (OSHA) enacted a standard requiring employers to report work-related amputations to OSHA within 24 hours. We studied the characteristics of the injured workers and employer compliance with the regulation in Michigan. Methods: Two independent data sets were used to compare work-related amputations from 2016 to 2018: employer reports to OSHA and the Michigan Multi-Source Injury and Illness Surveillance System (MMSIIS). We deterministically linked employer reports to OSHA with the MMSIIS by employee name, employer name, date, and type of amputation. Results: We identified 1366 work-related amputations from 2016 to 2018; 575 were reported by employers to OSHA and 1153 were reported by hospitals to the MMSIIS. An overlap of 362 workers were reported in both systems, while 213 workers were only reported by employers to OSHA and 791 workers were only reported by hospitals. Employer compliance with the regulation was 42.1%. Employer compliance with reporting was significantly less in: agriculture, forestry, fishing, and hunting (14.6%); construction (27.4%); retail trade (20.7%); arts, entertainment, and recreation (7.7%); accommodation and food services (13.0%); and other services (27.0%). Large employers and unionized employers were significantly more likely (67.9% and 92.7%, respectively) and small employers were significantly less likely (18.2%) to comply with the reporting rule. Enforcement inspections at 327 workplaces resulted in 403 violations; of those, 179 (54.7%) employers had not corrected the amputation hazard before the time of inspection. Discussion: Michigan employers reported less than half of the work-related amputations required by OSHA's reporting regulation. Noncompliance was greatest in small employers, and agriculture, forestry, fishing, and hunting; construction; arts, entertainment, and recreation; accommodation and food services; and retail and other service industries. Inspections found that over half of the

employers had not corrected the hazard that caused the amputation at the time of the inspection's initial opening date; in these cases, abatement of any hazards identified would have occurred after the inspection. Improved compliance in employer reporting of work-related amputations will identify hazards posing a high risk of recurrence of injury to other workers from the same injury source. Greater compliance can also help target safety-related preventive and intervention efforts in industries that might otherwise be overlooked.

Riccardi E, Fontana L, Pacella D, Fusco F, Marinaro I, Costanzo G, et al. Impact of COVID-19 pandemic on psychological well-being of firefighters. *Safety and Health at Work*. 2023; 14(3):317-324.

<https://doi.org/10.1016/j.shaw.2023.06.002> [open access]

Abstract: Background: Covid-19 pandemic represented a unique stressful event that affected the physical health and the psychological well-being (PWB) of individuals and communities. Monitoring PWB is essential to clarify the burden on mental health effects but also to define targeted psychological-supporting measures. This cross-sectional study evaluated the PWB of Italian firefighters during the pandemic. Methods: Firefighters recruited during the pandemic period filled out a self-administered questionnaire the Psychological General Well-Being Index during the health surveillance medical examination. This tool is usually used to assess the global PWB and explores six subdomains: anxiety, depressed mood, positive well-being, self-control, general health, and vitality. The influencing role of age, gender, working activities, Covid-19 and pandemic restrictive measures was also explored. Results: A total of 742 firefighters completed the survey. The aggregate median PWB global score was in the "no distress" range (94.3 ± 10.3) resulting higher than that observed in studies conducted using the same tool in the Italian general population during the same pandemic period. Similar findings were observed in the specific subdomains thus suggesting that investigated population was in good PWB condition. Interestingly, significantly better outcomes were detected in the younger firefighters. Conclusion: Our data showed a satisfactory PWB situation in firefighters that could be related to different professional factors such as work organization, mental and physical training. In particular, our results would suggest the hypothesis that in firefighters, the maintaining of a minimum/moderate level of physical activity (consisting of even just going to work) might had a profoundly positive impact on psychological health and well-being.

Schiff JW, Weissman E, Schiff R, Liu J, Pitoulis T, and Jones A. Increase in trauma leading to psychological injury among Canadian homelessness services workers during the COVID-19 pandemic. *Journal of Occupational & Environmental Medicine*. 2024; 66(1):71-77.

<https://doi.org/10.1097/JOM.0000000000002996> [open access]

Abstract: OBJECTIVES: This study examined the traumatic psychological impact of the pandemic on frontline workers in homelessness services. METHODS: Staff from homelessness serving organizations completed pre- and mid-COVID pandemic surveys measuring traumatic stress symptoms (PTSS), burnout, and job-related traumatic experiences. The mid-pandemic

survey was expanded to seven Canadian cities to determine prevalence of workplace PTSS nationally. RESULTS: In the comparison group, baseline rates of PTSS (41%) rose to 47.3% (n = 164), while 75% reported low-moderate levels of burnout both times. Nationwide, PYSS was 51% (n = 574). Case managers working at remotely had greater levels of PTSS. CONCLUSIONS: COVID-19 exacerbated risk of psychological workplace injury from traumatic stress; however, burnout did not increase significantly, indicating the primary dynamic as anxiety and emotional exhaustion associated with ubiquitous trauma induced by COVID-19. Working remotely increased the hazards of psychological workplace injury

Streit JMK, Felknor SA, Edwards NT, Caruso DL, and Howard J. Preparing the occupational safety and health workforce for future disruptions. American Journal of Industrial Medicine. 2024; 67(1):55-72.

<https://doi.org/10.1002/ajim.23548> [open access]

Abstract: BACKGROUND: Despite some emerging lessons learned from the COVID-19 pandemic, evidence suggests the world remains largely underprepared for-and vulnerable to-similar threats in the future. METHODS: In 2022, researchers at the USÂ National Institute for Occupational Safety and Health (NIOSH) led a team of volunteers to explore how future disruptions, such as pandemics, might impact work and the practice of occupational safety and health (OSH). This qualitative inquiry was framed as a strategic foresight project and included a series of activities designed to help better understand, prepare for, and influence the future. RESULTS: Findings from a thorough search for indicators of change were synthesized into nine critical uncertainties and four plausible future scenarios. Analysis of these outputs elucidated three key challenges that may impact OSH research, policy, and practice during future disruptions: (1) data access, (2) direct-to-worker communications, and (3) mis- and dis-information management. CONCLUSIONS: A robust strategic response is offered to address these challenges, and next steps are proposed to enhance OSH preparedness and institutionalize strategic foresight across the OSH community

Wizentier MM, Stephenson BJK, and Goodman MS. The measurement of racism in health inequities research. Epidemiologic Reviews. 2023; 45(1):32-43.

<https://doi.org/10.1093/epirev/mxad004>

Abstract: There is limited literature on the measures and metrics used to examine racism in the health inequities literature. Health inequities research is continuously evolving, with the number of publications increasing over time. However, there is limited knowledge on the best measures and methods to examine the impact of different levels of racism (institutionalized, personally mediated, and internalized) on health inequities. Advanced statistical methods have the potential to be used in new ways to examine the relationship between racism and health inequities. In this review, we conduct a descriptive examination of the measurement of racism in the health inequities epidemiologic literature. We examine the study design, methods used for analysis, types of measures used (e.g., composite, absolute, relative), number of measures used, phase of research (detect, understand,

solutions), viewpoint (oppressor, oppressed), and components of structural racism measures (historical context, geographical context, multifaceted nature). We discuss methods (e.g., Peters-Belson, latent class analysis, difference in differences) that have demonstrated potential for future work. The articles reviewed were limited to the detect (25%) and understand (75%) phases, with no studies in the solutions phase. Although the majority (56%) of studies had cross-sectional designs, many authors pointed to the need for longitudinal and multilevel data for further exploration. We examined study design features as mutually exclusive elements. However, racism is a multifaceted system and the measurement of racism in many studies does not fit into a single category. As the literature grows, the significance of methodological and measurement triangulation to assess racism should be investigated

Zhang W, Ma X, Yu S, Zhang X, Mu Y, Li Y, et al. Occupational stress, respect, and the need for psychological counselling in Chinese nurses: a nationwide cross-sectional study. *Public Health*. 2023; 225:72-78.

<https://doi.org/10.1016/j.puhe.2023.09.003>

Abstract: Objectives: This study aimed to explore occupational stress, perceived respect, and the need for psychological counselling among nurses in China. Study design: This was a nationwide cross-sectional study. Methods: Chinese nurses from 311 cities were randomly selected through a simple random sampling method. Occupational stress, perceived respect, and psychological counselling need were assessed using an online questionnaire validated by experts. The underlying associated factors were analysed using multiple logistic regression analyses. Results: We collected and analysed 51,406 valid online questionnaires. Family factors and low income were the most commonly cited sources of occupational stress, and 91.9% and 80.0% of nurses, respectively, perceived that individuals in society and patients did not give adequate respect. Furthermore, 75.5% and 79.7%, respectively, believed they were not respected by clinical managers and doctors. As a result, 64.7% nurses believed they had a moderate or high need for psychological counselling. However, 80.7% indicated that receiving adequate respect could decrease the need for stress-related psychological counselling. Indeed, multiple logistic regression analyses showed that lower respect perceived by nurses was associated with higher need for psychological counselling, particularly regarding criticism that nurses perceived from nursing managers (a little: odds ratio [OR], 1.597; 95% confidence interval [CI], 1.176-2.170; P = 0.003; moderately: OR, 1.433; 95% CI, 1.180-1.741; P < 0.001) and the difficulty of receiving respect from patients and their families (a little: OR, 1.389; 95% CI, 1.044-1.850; P = 0.024).

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