LES HORAIRES ATYPIQUES

Bulletin de veille scientifique : Septembre 2026



Objectifs : réaliser une veille scientifique sur les horaires atypiques

La validation des informations fournies (exactitude, fiabilité, pertinence par rapport aux principes de prévention, etc.) est du ressort des auteurs des articles signalés dans la veille. Les informations ne sont pas le reflet de la position de l'INRS. Les éléments issus de cette veille sont fournis sans garantie d'exhaustivité. Les liens mentionnés dans le bulletin donnent accès aux documents sous réserve d'un abonnement à la ressource.

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Horaires atypiques (HA)

Généralités et prévention

Assessing health, wellbeing, and working life impacts of a 4-day week: a multimodal protocol.

Armitage RM, Souter NE, Graftdijk TJ, McLaren J, Moore SA, Kampoureli C, et al. *Front Psychol*. 2026;17:1894642.

Long working hours can negatively affect workers' health, wellbeing, and work performance. Previous trials reducing working time have found improvements in multiple aspects of wellbeing, including sleep, job satisfaction, and reduced burnout, while maintaining performance. However, the potential psychological and biological mechanisms underlying these improvements, including immune function and brain function, remain unexplored. Therefore, the aim of this study is to understand the bidirectional relationship between working patterns and physical and mental health, and how workplace performance is affected. We aim to test at least 150 working-age adults in the UK (approximately half with a working time reduction and no loss of salary, and half controls with no change in working patterns) in a 14-week trial, including a 2-week baseline period, with additional participants completing questionnaires only. The primary outcome measure is the difference in physical and mental health from baseline to the end of the trial among participants undergoing a reduction in working time, compared with the control group. Data collection is currently underway, and while the majority of employers in the working time reduction group adopt a 4-day week format, the specific change in working patterns is flexible and varies between employers according to their operational need, including a 9-day fortnight, two half-days and shorter working days. Core variables include brain structure and function, sleep, immune function, interoception (perception of bodily sensations), time use, diet, mental health, and workplace performance and engagement. Secondary outcomes include weekly monitoring of self-reported wellbeing changes to identify key inflection points and assess whether these are maintained at a 6-month follow-up. Overall, this study aims to generate highly novel multimodal data on the psychological and biological implications of working time reduction, including observed changes in health, wellbeing, and performance.

Lien vers l'article

Activités physiques

Impact of Rest Break, Shift Work, and Overtime on Musculoskeletal Disorders - China, 2018-2023.

Yang Y, Zhu S, Song Y, Sun X, Wang Z, Liu Y, et al. *China CDC Wkly*. 2026 Jul 10;8(28):879–85.

WHAT IS ALREADY KNOWN ABOUT THIS TOPIC? Impact of individual and biomechanical risk factors on musculoskeletal disorders (MSDs) has been researched; however, the factors of intervenable work organization (e.g., overtime and rest breaks) require in-depth investigation, particularly in the context of national policy changes in China by 2025. WHAT IS ADDED BY THIS REPORT? Among 88,609 participants, 37.5% (33,247/88,609) had MSDs. We found that working hours [prevalence ratio (PR)=1.18], shift work (lower back, elbows, hips/thighs, and ankles/feet, P<0.05), overtime (PR=1.23), staff shortages (PR=1.23), covering for absent coworkers (PR=1.18), and resuming work after rest (PR=1.09) were all likely associated with a significantly increased prevalence of MSDs and pain scores in several body parts (P<0.05). WHAT ARE THE IMPLICATIONS FOR PUBLIC HEALTH PRACTICE? Our findings contribute to efforts to standardize work organization management to prevent MSDs, providing reference for employers and policymakers to regulate rest breaks, manage overtime, and ensure adequate levels of staffing to comply with occupational health regulations.

Lien vers l'article

Analysis of the association of long working hours on anxiety and self-reported work-related musculoskeletal symptoms among female workers in electronics manufacturing enterprises in Guangdong Province.

Li X, Liang Y, Chen H, Liao X, Yu X, Xu L, et al. *Front Public Health*. 2026;14:1892281.

BACKGROUND: Female workers were the main force in electronic manufacturing enterprises. This study aims to understand the current status of long working hours among female workers in the electronic manufacturing industry in Guangdong Province, and to explore the association of long working hours on anxiety and self-reported work-related musculoskeletal symptoms. METHODS: We conducted a cross-sectional survey using convenience sampling method from July to September 2022, including a total of 193 electronic manufacturing enterprises in Guangdong Province. We distributed a total of 5,300 copies of the Individual questionnaire of the National Key Population Occupational Health Literacy Monitoring Survey, which included general demographic characteristics, and the detection rate of long working hours, anxiety and self-reported work-related musculoskeletal symptoms. A total of 4,976 female workers participated in the questionnaire survey after excluding invalid questionnaires, with the effective rate of 93.9%. A binary logistic regression analysis was used to evaluate the association of weekly working hours on anxiety and self-reported work-related musculoskeletal symptoms. RESULTS: The detection rates of long working hours (working more than 40 h a week), anxiety and self-reported work-related musculoskeletal symptoms among female workers in electronics manufacturing enterprises in Guangdong Province were 67.8%, 23.0%, and 43.2%, respectively. The detection rate of self-reported work-related musculoskeletal symptoms in the anxiety group was higher than that in the non-anxiety group (65.2 vs. 36.7%, $P < 0.001$). The logistic regression model showed that long working hours were positively correlated with anxiety and self-reported work-related musculoskeletal symptoms after controlling for factors such as age, education level, marital status, length of service, enterprise scale, enterprise nature and night shift (both $P < 0.01$). Specifically, the longer weekly working hours exhibited a positive association with the development of anxiety and self-reported work-related musculoskeletal symptoms, with OR (95%CI) values of 1.067 (1.021-1.116) and 1.067 (1.028-1.108), respectively. CONCLUSIONS: The female workers employed in electronics manufacturing enterprises in Guangdong Province generally worked for long weekly hours, and a positive association was found between long working hours and the occurrence of anxiety and self-reported work-related musculoskeletal symptoms.

Lien vers l'article

Autres pathologies

Long working hours and dental caries: A 12-year longitudinal study of 1.1 million workers.

Park MY, Ahn J. *Scand J Work Environ Health*. 2026 Aug 19.

OBJECTIVES: Dental caries is a leading noncommunicable disease worldwide; however, its association with occupational factors, particularly long working hours, has not been elucidated. This study examined the longitudinal association between long working hours and dental caries in a large Korean working-age cohort. METHODS: Using data from the Kangbuk Samsung Health Study (2013-2024), we analyzed 1 136 767 person-visits of workers aged 20-64 years. Long working hours were defined as >52 hours per week. Dental caries was identified from clinical oral examinations performed by licensed dentists. Associations were estimated using generalized estimating equations adjusted for age, gender, and educational level. Subgroup and sensitivity analyses were also performed. RESULTS: Long working hours were significantly associated with dental caries (odds ratio 1.024, 95% confidence interval 1.007-1.041). In the subgroup analyses, compared with their respective counterparts, the association between long working hours and dental caries was significantly stronger among women, individuals

with a college-level education or higher, and those with proactive oral health behaviors such as dental visits and toothbrushing before sleep. CONCLUSIONS: Long working hours were independently associated with the risk of dental caries; women and highly educated workers exhibited a stronger association with dental caries. These findings suggest the potential value of integrating oral health strategies into occupational health policies, particularly among more vulnerable subgroups.

Lien vers l'article

Cancers

Aucun article dans ce bulletin.

Risque routier, accidentologie

Aucun article dans ce bulletin.

RPS et QVT

Do Compressed Work Schedules Compromise Care Quality? A Five-Year Case Control Study in the Norwegian Long-Term Care Sector.

Hoff Bernstrøm V, Ingelsrud M, Indregard AR, Seglem K. *Health Serv Insights*. 2026;19:11786329261471203.

BACKGROUND: In a compressed work schedule, employees work extended shifts (≥10 hours) in exchange for fewer workdays. This shift schedule has been argued to both improve and compromise the quality of care. However, existing research remains limited and inconclusive. OBJECTIVE: To assess whether extended shifts within compressed work schedules impact the risk of adverse outcomes among care recipients. DESIGN: Quasi-experimental case control study. METHOD: We combined a nationwide organizational survey from 1,072 long-term care institution in Norway with registry data on service users from 2018-2022. At baseline, all participating organizations operated either a two-shift rotation (day/evening) with fixed night workers or a three-shift rotation (day/evening/night). The intervention group comprised organizations (n=320) that introduced a compressed schedule during the study period; the control group retained their existing shift rotations. Using difference in difference with multiple treatment times we analysed changes in proportion of service users within each organization experiencing at least one adverse outcome per month. Adverse outcomes were identified via diagnostic codes from the Norwegian Registry for Primary Health Care, including infections, chronic ulcers, accidents, and depression. RESULTS: Overall, we found no difference in the risk of adverse outcomes (b -0.46, 95% CI -0.97 to 0.05). Stratified analyses indicated a significant reduction in adverse outcomes in nursing homes (b -0.79, 95% CI -1.48 to -0.10). However, we found no significant change in residential care (b 0.20, 95% CI -1.11 to 0.70) or home care (b -0.42, 95% CI -1.20 to 0.36). CONCLUSION: The findings neither discourage the use of compressed work schedules due to adverse outcomes nor indicate broad improvements. However, the results suggest potential context-specific benefits that warrant further investigation.

Lien vers l'article

Working conditions, career barriers and perceived equity among neuro-oncology professionals: insights from the Japan society for neuro-oncology (JSNO) gender equality and diversity committee survey.

Higuchi A, Tamura K, Watanabe Y, Abe T, Nakada M, Tanaka S, et al. *Int J Clin Oncol*. 2026 Aug 18.

BACKGROUND: Gender equity, work-life balance, and career development have become important concerns in the medical profession. However, empirical evidence on how neuro-oncology professionals experience working conditions, career barriers, and perceived inequity remains limited. METHODS: We conducted a nationwide, cross-sectional, anonymous online survey of members of the Japan Society for Neuro-Oncology (JSNO) to evaluate working conditions, career-related concerns, job satisfaction, perceived workplace discrimination, and organizational challenges. RESULTS: Among 292 respondents (response rate, 35.9%), the mean weekly working time was 56.7 h, and 45.5% worked ≥ 60 h per week. Women were markedly underrepresented in managerial/leadership positions (6.7% vs. 47.3%) and were more likely to hold part-time positions. Multivariable logistic regression analysis showed that female sex was independently associated with greater perceived workplace discrimination (OR 2.71, 95% CI [1.23-5.98], p = 0.013), after adjustment for working hours, caregiving experience, and managerial/leadership position. An age-by sex interaction was observed for career-related concerns: these increased with age among women but decreased among men. Longer working hours were associated with lower satisfaction with income, working hours, and work-life balance. Although workplace support systems are widely available, substantial perceptual gaps and workload redistribution challenges were identified. CONCLUSION: These findings highlight persistent gender disparities and structural workforce challenges in Japanese neuro-oncology, underscoring the need for institutional strategies to promote sustainable workforce development and gender equity.

Lien vers l'article

Sleep Quality and Physiological Stress in Emergency Physicians During 24-Hour Shifts: A Wearable-Based Occupational Health Assessment.

Sağlam Gürmen E, Yorgancıoğlu M, Demirbaş H. *Med Lav*. 2026 Aug 3;117(4):18894.

BACKGROUND: Shift-based work schedules may disrupt circadian rhythm and adversely affect sleep and stress regulation among healthcare workers. Emergency physicians are particularly exposed to high-intensity workloads and prolonged 24-hour shifts, which can increase occupational strain. Methods: This study was conducted between April and December 2024 in a tertiary emergency department. Participants wore a smartwatch continuously for 30 days to record sleep architecture and heart rate variability-based stress indicators. Physiological parameters obtained during 24-hour shifts and at home were compared. Analyses were performed across four professional-experience groups. RESULTS: Sleep duration, deep sleep percentage, deep sleep continuity score, breathing quality score, and overall sleep score were lower during 24-hour shifts, whereas light sleep percentage, nighttime awakenings, and stress levels were higher (all $p < 0.001$). Physicians with greater professional experience had longer sleep duration and lower stress levels during 24-hour shifts compared with early-career residents. Multiple linear regression analysis indicated that professional experience was the only independent predictor of stress levels during shifts. CONCLUSIONS: Shift work in emergency medicine is associated with impaired sleep quality and increased physiological stress. Professional experience appears to mitigate stress responses but does not fully restore sleep quality. These findings support the need for targeted occupational strategies, including optimized workload distribution and structured support for early-career physicians, to improve well-being and ensure patient safety in high-intensity clinical environments.

Lien vers l'article

Santé psychique

Analysis of the association of long working hours on anxiety and self-reported work-related musculoskeletal symptoms among female workers in electronics manufacturing enterprises in Guangdong Province.

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Lien vers l'article

Troubles cognitifs et de la vigilance

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Lien vers l'article

Travail posté et de nuit

Généralités et prévention

Genomic Landscape of Phenotypes Causally Associated with Night Shift Work.

Jin X, Yang Y, Xu J, Liu H. *J Occup Environ Med*. 2026 Aug 4.

OBJECTIVE: To apply an MR-PheWAS to infer causality between NSW and multiple health outcomes. METHODS: This study used MR-PheWAS to assess the causal effects of NSW on 18,115 health traits, applying IVW, MR-Egger, Wald ratio, and sensitivity analyses to classify associations by evidence strength. RESULTS: MR-PheWAS identified 1,278 phenotypes associated with NSW frequency, 918 with intensity, and 199 with history, including lower risks of hypertrophic skin disorders, endometriosis, and cardiomyopathies, but higher risks of gestational hypertension, androgenic alopecia, pulmonary eosinophilia, multiple sclerosis, primary ovarian failure, structural brain changes, stroke, diabetes, neuroticism, chronic renal failure, chronic hepatitis B, and hypertension. CONCLUSION: This study demonstrates that NSW broadly affects multiple health outcomes, including neuroimaging phenotypes reflecting functional and structural alterations, highlighting the need for public health strategies and further research to clarify mechanisms and develop targeted interventions.

Lien vers l'article

Relationship of rotating-shift work with lifestyle and health status of hospital employees.

Alou-Soler MA, Galmes-Panades AM, López-González Á A, Yañez AM, Bennasar-Veny M. *PLOS Glob Public Health*. 2026;6(8):e0006956.

Night shift work has been associated with adverse health effects, although findings remain inconsistent. This study aimed to analyze the association between night shift work and sleep quality, chronotype, cardiometabolic parameters, and behavioral factors among hospital workers. A cross-sectional study was conducted among 225 normoglycemic workers at Son Llàtzer University Hospital (Mallorca, Spain). Sociodemographic and occupational data were collected through a structured questionnaire. Physical activity was assessed using the International Physical Activity Questionnaire (IPAQ), adherence to Mediterranean diet with the 14-item PREDIMED tool, sleep quality with the Pittsburgh Sleep Quality Index (PSQI), and chronotype with the Morningness-Eveningness Questionnaire (MEQ). Clinical parameters, including fasting plasma glucose, lipid profile, blood pressure, body mass index (BMI), waist circumference, and cardiovascular risk, were obtained from standardized health assessments. Associations with night shift work were examined using bivariate analyses and general linear models adjusted for age, sex, BMI, and physical activity. Night shift work was not significantly associated with fasting plasma glucose, triglycerides, HDL cholesterol, sleep quality, or chronotype. Compared with day workers, night shift workers showed lower levels of total and LDL cholesterol, blood pressure, BMI, and waist circumference, lower smoking rates, lower cardiovascular risk, and higher physical activity levels. No significant differences were observed in adherence to the Mediterranean diet. After adjustment for age and sex, only the association between night shift work and physical activity remained significant. Overall, night shift work was not associated with poorer health status or increased cardiovascular risk. Instead, no consistent evidence of a less favourable lifestyle was observed among night shift workers.

Lien vers l'article

Activités physiques

Impact of Rest Break, Shift Work, and Overtime on Musculoskeletal Disorders - China, 2018-2023.

Yang Y, Zhu S, Song Y, Sun X, Wang Z, Liu Y, et al. *China CDC Wkly*. 2026 Jul 10;8(28):879–85.

WHAT IS ALREADY KNOWN ABOUT THIS TOPIC? Impact of individual and biomechanical risk factors on musculoskeletal disorders (MSDs) has been researched; however, the factors of intervenable work organization (e.g., overtime and rest breaks) require in-depth investigation, particularly in the context of national policy changes in China by 2025. WHAT IS ADDED BY THIS REPORT? Among 88,609 participants, 37.5% (33,247/88,609) had MSDs. We found that working hours [prevalence ratio (PR)=1.18], shift work (lower back, elbows, hips/thighs, and ankles/feet, P<0.05), overtime (PR=1.23), staff shortages (PR=1.23), covering for absent coworkers (PR=1.18), and resuming work after rest (PR=1.09) were all likely associated with a significantly increased prevalence of MSDs and pain scores in several body parts (P<0.05). WHAT ARE THE IMPLICATIONS FOR PUBLIC HEALTH PRACTICE? Our findings contribute to efforts to standardize work organization management to prevent MSDs, providing reference for employers and policymakers to regulate rest breaks, manage overtime, and ensure adequate levels of staffing to comply with occupational health regulations.

Lien vers l'article

Autres pathologies

Shift work and BMI in nursing professionals: A cross-sectional mediation analysis through psychological distress and irregular eating patterns.

Urbón E, Salavera C. *Work*. 2026 Aug 11:10519815261473912.

BackgroundShift work is a well-established occupational risk factor for psychological strain in healthcare professionals, yet its association with physical health outcomes such as body mass index (BMI) remains inconsistent. Drawing on a biopsychosocial and occupational health psychology framework, this study examined the psychological and behavioral pathways that may underlie the association between shift work and BMI in nursing professionals.ObjectiveTo examine, using a cross-sectional structural equation modeling approach, whether psychological distress and irregular eating patterns were associated with the relationship between shift work with night shifts and body mass index (BMI) among nursing professionals.MethodsA cross-sectional design was employed with a sample of 194 actively employed nurses (78.4% women; M age = 38.7 years). Psychological distress was modeled as a latent construct comprising anxiety, stress, and emotional exhaustion, assessed using the Depression Anxiety Stress Scales-21 (DASS-21) and the Maslach Burnout Inventory-Human Services Survey (MBI-HSS). Irregular eating patterns were operationalized through meal skipping and between-meal snacking. BMI was calculated from self-reported weight and height. Structural equation modeling with bootstrap confidence intervals was used to test a sequential mediation model while controlling for age and sex.ResultsShift work was positively associated with psychological distress, which in turn was associated with irregular eating patterns. These eating behaviors were directly associated with higher BMI. The total indirect association between shift work and BMI was statistically significant (95% bootstrap confidence interval excluding zero), particularly through irregular eating patterns, whereas the sequential pathway involving psychological distress did not reach statistical significance, suggesting that organizational constraints related to shift work may exert a more direct influence on eating behaviors than psychological distress alone.ConclusionsThe findings are broadly consistent with a biopsychosocial model in which the association between shift work and BMI is linked to intermediate psychological and behavioral processes. Although the cross-sectional design precludes causal inference, the results highlight the importance of addressing both psychological strain and

eating-related self-care behaviors within occupational health interventions aimed at nurses working rotating night shifts.

Lien vers l'article

Effect of stress on insulin resistance among shift workers based on findings from the Korea National Health and Nutrition Examination Survey (2019, 2021): a retrospective cross-sectional study.

Yoon YS, Baek W. *J Korean Biol Nurs Sci*. 2026 Feb;28(1):107–18.

PURPOSE: Insulin resistance is a major driver of metabolic disorders, and understanding factors associated with insulin resistance, particularly among Korean shift workers, is essential for the development of effective preventive strategies. This study aimed to identify factors related to insulin resistance using a complex-sample analysis of national survey data. METHODS: In this retrospective cross-sectional study, secondary data were obtained from the 8th Korea National Health and Nutrition Examination Survey conducted in 2019 and 2021. All analyses were performed using a complex sampling design incorporating stratification, clustering, and sampling weights. Insulin resistance was assessed using the homeostatic model assessment for insulin resistance. Complex-sample multivariable logistic regression analyses were conducted to identify factors associated with insulin resistance. RESULTS: The mean age of participants was 44.56 years, and 78.1% were men. Among the participants, 28.5% had insulin resistance. In the multivariable logistic regression analysis, higher body mass index was associated with increased odds of insulin resistance (odds ratio [OR] = 1.31, 95% confidence interval [CI] = 1.16~1.48). The presence of metabolic syndrome was associated with higher odds of insulin resistance compared with its absence (OR = 2.64, 95% CI = 1.31~5.33). Higher perceived stress was also associated with increased odds of insulin resistance (OR = 1.49, 95% CI = 1.04~2.14). CONCLUSION: Higher body mass index, metabolic syndrome, and elevated stress were associated with insulin resistance in Korean shift workers, highlighting the importance of managing both metabolic and psychological factors to reduce the risk of insulin resistance.

Lien vers l'article

Associations of Shift Work and Chronotype with Physical Activity and Eating Behaviors in Adult Women.

Turan N, Dumlupınar B, Oymak HG, Ertem RE, Aydın BK, Karamollaoğlu İ, et al. *Nutrients*. 2026 Aug 3;18(15).

Background: Shift work and chronotype may influence dietary habits, physical activity, and eating behaviors. However, research examining the combined associations of shift work and chronotype with these behaviors in women is limited. This study examined these associations, together with anthropometric outcomes, among women attending an obesity counseling center. Methods: A cross-sectional study included 190 women aged 18-64 years (mean age: 33.31 ± 7.87 years) attending an obesity counseling center in Istanbul. Sociodemographic data, dietary habits, work schedules and behavioral data were collected using structured questionnaires, whereas anthropometric measurements were obtained using standardized procedures. Chronotype, physical activity, and eating behaviors were assessed using the Morningness-Eveningness Questionnaire (MEQ), International Physical Activity Questionnaire (IPAQ), and Dutch Eating Behavior Questionnaire (DEBQ). Statistical analyses included chi-square tests, parametric-nonparametric group comparisons, and multivariable linear and logistic regression models. Results: Compared to fixed-schedule workers, shift workers had more frequent meals (77.9% vs. 59.6%; $p = 0.007$, $V = 0.195$) and breakfast (51.2% vs. 16.3%; $p < 0.001$,$V = 0.371$) skipping. Participants with obesity had higher emotional eating, external eating, total DEBQ, and total meal-number values than the other BMI groups. Chronotype scores varied according to age, smoking, alcohol consumption and occupational factors, but were not directly correlated with anthropometric measurements. Conclusions: Shift work was associated with irregular

eating habits and altered eating behaviors. These findings should be interpreted with caution because the cross-sectional, single-center design limits causal inference and generalizability. To better understand the relationship between chronotype, lifestyle, and obesity-related behaviors, as well as to develop effective interventions, larger prospective studies are needed.

Lien vers l'article

Work-Influenced Circadian Disruption Connected to Disease Risk but Not Microbiomes in a Cohort of Philadelphia Nurses.

Super C, Asif M, Compher C, Schurr TG, Hoke MK. *Am J Hum Biol*. 2026 Aug;38(8):e70314.

OBJECTIVES: Circadian rhythms influence activity cycles in humans, and circadian rhythm disruption (CRD) can negatively impact cardiometabolic disease risk and microbiome composition. This study documented CRD in a sample of nurses in Philadelphia, examining connections between CRD, disease risk, and work environment factors, proposing the concept of work-influenced circadian disruption (WICD). MATERIALS AND METHODS: A total of 75 nurses were recruited for the study. Disease risk indicators included triglycerides (TRG), C-reactive protein (hs-CRP), blood pressure (BP), and fecal gut microbiome composition. Surveys recorded CRD via sleep/exhaustion levels, weekly exercise, mealtime timing/length, shift diet, and night shift work. Work environment variables included staff/resources, physician-nurse relations, break times, and patient care assignments. Mixed multiple regression models assessed CRD's associations with cardiometabolic disease risk indicators (H1) and work environment variables (H2). Microbiome similarity by CRD variables was tested using PERMANOVAs. RESULTS: Lower exercise levels were associated with higher hs-CRP ($\beta = -4.2$, $p = 0.05$), TRG ($\beta = -9.8$, $p = 0.03$), BP ($\beta = -3.6$, $p = 0.01$), and less break time ($\beta = 0.1$, $p = 0.01$). Higher exhaustion was linked to elevated hs-CRP ($\beta = 6.0$, $p = 0.02$) and fewer staff/resources ($\beta = -0.7$, $p = 0.01$). Less mealtime was associated with higher BP ($\beta = -0.2$, $p = 0.05$) and shorter breaks ($\beta = 0.2$, $p = 0.04$). Night shifts were linked to higher BP ($\beta = 6.3$, $p = 0.01$). CRD variables were not significantly associated with microbiome profiles. CONCLUSIONS: CRD is associated with disease risk indicators and with work environment variables but not with microbiome profiles, suggesting these relationships may operate through other pathways. Further studies should explore biobehavioral networks in WICD.

Lien vers l'article

High Prevalence of Disorders of Irritable Bowel Syndrome and Functional Dyspepsia in Night Shift Workers: A Cross-Sectional Study in Australia and the United Kingdom.

Pennaneach C, Bonham MP, Kelly T, Gibson R, Biesiekierski JR. *Clin Gastroenterol Hepatol*. 2026 Sep;24(9):2584–94.

BACKGROUND & AIMS: Night shift work disrupts circadian rhythms and may contribute to gastrointestinal (GI) symptoms. The aims were to assess the prevalence of irritable bowel syndrome (IBS) and functional dyspepsia (FD) in night shift workers, evaluate their impact on quality of life, and examine associated dietary patterns and intake. METHODS: We conducted a cross-sectional study of night shift workers (≥8 shifts/mo between 11 pm and 3 am) in Australia and the United Kingdom from March to July 2024. Participants completed validated questionnaires including Rome IV criteria for IBS and FD, IBS Severity Score System (IBS-SSS), Leuven Postprandial Distress Scale (LPDS), IBS Quality of Life (IBS-QoL), Visceral Sensitivity Index (VSI), Depression Anxiety Stress Scale-21 (DASS-21), and Comprehensive Nutrition Assessment Questionnaire (CNAQ). RESULTS: Among 392 participants (69.9% female, median age 48 years), 21.3% met Rome IV criteria for IBS, 30.4% for FD, and 24.5% for both conditions. Significantly more females met criteria for both disorders ($P < .05$). Participants with IBS and/or FD reported significantly higher IBS-SSS, LPDS, VSI, and DASS-21 scores compared with those without (all $P < .001$). Most participants (59.9%) reported night shifts negatively affected their GI symptoms, and 16.3% considered changing jobs due to symptoms. Medication use was higher in

those with IBS/FD (41% vs 17%; P < .01). No significant differences in dietary patterns were observed between groups. CONCLUSIONS: Night shift workers have a substantially higher prevalence of IBS and FD compared with reported general population rates, with significant impacts on IBS-specific quality of life and mental health. These findings highlight the need for targeted interventions to support gastrointestinal and mental health in this vulnerable working population.

Lien vers l'article

Night work, sleep disruption and long-COVID risk: a population-based cohort study.

Papantoniou K, Espinosa A, Karachaliou M, Lassale C, Castaño-Vinyals G, Harding BN, et al. *Scand J Work Environ Health*. 2026 Aug 4.

OBJECTIVE: Circadian and sleep disruption may increase the risk and severity of SARS-CoV-2 infections, but the role of night shift work and disturbed sleep in the development of long-COVID remains inadequately investigated. We prospectively examined the association of night work and sleep disturbances with risk of long-COVID. METHODS: We followed participants of the COVICAT study, a population-based cohort of adults in Catalonia, Spain between 2021 and 2023. Night shift work and sleep characteristics were assessed in 2021. Long-COVID was defined as the report of persistent symptoms (>3 months) after a SARS-CoV-2 infection. Poisson regression analysis was performed to evaluate the independent and joint effects of night shift work and sleep disturbances including chronic insomnia with risk of long-COVID. Analyses were stratified by sex, body mass index and chronotype. RESULTS: During the two-year follow-up, 284 of the 1899 newly infected participants reported long-COVID symptoms. Compared to day workers, night shift workers had 88% higher risk of developing long-COVID [95% confidence interval (CI) 1.29-2.72], after adjusting for potential confounders. The risk further increased among night workers with obesity. Chronic insomnia in the general population was associated with 42% increased risk of long-COVID (95% CI 1.12-1.78). Night workers with chronic insomnia had a 2.7 fold higher long-COVID risk (95% CI 1.60-4.51) compared to day workers without chronic insomnia. Associations persisted in various sensitivity analyses. CONCLUSIONS: Our findings from a large prospective cohort indicate that night shift work and poor sleep are independently and jointly associated with a higher risk of long-COVID.

Lien vers l'article

Comparative evaluation of gut health, inflammatory factors, and sleep quality among shift workers: A cross-sectional study.

Palve SS, Palve SB. *J Educ Health Promot*. 2026;15:313.

BACKGROUND: Night-shift work disrupts the body's natural circadian rhythm, leading to impaired sleep quality, altered gut function, and reduced emotional well-being. Circadian misalignment affects sleep duration and efficiency, disturbs gastrointestinal (GI) regulation, and increases the risk of mood disorders such as anxiety and depression. These cumulative effects can significantly impact overall health and quality of life in shift workers. MATERIALS AND METHODS: A cross-sectional comparative study was conducted among 200 individuals (100 day-shift and 100 night-shift workers) aged 25-40 years at a tertiary care hospital in Pune. Data was obtained using a structured questionnaire designed to assess sleep, gastrointestinal symptoms, and emotional health. Blood samples were analyzed for lipopolysaccharide (LPS), zonulin, C-reactive protein (CRP), interleukin-6 (IL-6), and tumor necrosis factor-alpha (TNF-α). Data was analyzed using SPSS version 25.0 (IBM Corp., Armonk, NY, USA); significance was set at P < 0.05. RESULTS: Night-shift workers reported significantly more gastrointestinal issues (heartburn, bloating, constipation, indigestion; P < 0.050) and emotional distress (P = 0.010) compared to day-shift workers. Elevated gut permeability markers (LPS: P = 0.003; zonulin: P = 0.005) were also found among night-shift workers. Inflammatory markers (CRP, IL-6, TNF-α) were significantly higher among night-shift workers (P < 0.010), indicating systemic inflammation.

The quality of sleep was poor, along with shorter duration among night-shift workers, which was further aggravated by co-use, like smoking and alcohol (P = 0.004). Night-shift workers, especially the higher income group and females, experienced greater sleep disturbances and distress (P < 0.020). Day-shift workers who did regular physical exercise had improved sleep quality (P = 0.003). CONCLUSION: Night-shift work is associated with poor sleep quality, increased gut permeability, and elevated inflammatory markers in the body. Lifestyle interventions focusing on sleep, diet, and stress may reduce health risks associated with poor sleep quality.

Lien vers l'article

Eating Habits of Surgical Intensive Care Nurses During Shifts: A Mixed-Methods Investigation of Food Craving, Acceptance and Eating Behaviours.

Özkan E, Atasayar B. *Nurs Crit Care*. 2026 Sep;31(5):e70643.

BACKGROUND: Shift-based work is a fundamental component of surgical intensive care nursing and has significant effects on health-related behaviours, particularly nutrition. Irregular working hours, high workload and limited access to healthy food options may contribute to unhealthy eating patterns among nurses. AIM: This study aimed to explore food craving, food acceptance and eating behaviours among surgical intensive care nurses during shift work using a mixed-methods approach in two hospitals located in northern Türkiye. STUDY DESIGN: The study employed a concurrent sequential nested quantitative-qualitative mixed-methods design. Quantitative data were collected using a Personal Information Form, the Food Craving Questionnaire, the Acceptance of Food Craving Scale and the Eating Behaviour Scale and were analysed using descriptive and inferential statistics. Subsequently, semi-structured interviews were conducted with a purposively selected group of nurses. The qualitative data were analysed using thematic analysis, and the findings were integrated with the quantitative results through triangulation to provide a more comprehensive understanding of nurses' eating habits during shift work. RESULTS: Quantitative findings from 159 surgical intensive care nurses indicated moderate levels of food acceptance and willingness towards available food options, alongside difficulties in maintaining regular and balanced nutrition during shifts. These patterns were further explained by qualitative findings from 16 nurses, which revealed that irregular meal patterns were commonly experienced due to shift schedules, high workload and fatigue. Limited access to nutritious and affordable food options was also identified as an additional barrier, providing contextual understanding for the quantitative results and explaining the observed eating behaviour patterns. CONCLUSIONS: Shift work is associated with changes in eating behaviours among surgical intensive care nurses. Both environmental and organisational factors play a critical role in shaping nurses' nutritional practices. RELEVANCE TO CLINICAL PRACTICE: Improving access to healthy food options and ensuring structured meal opportunities may support nurses' well-being and contribute to sustainable workforce performance and quality of care.

Lien vers l'article

Vitamin D supplementation and central adiposity in male shift workers: a randomized clinical trial on metabolic health.

Menezes-Júnior L, Fajardo VC, Oliveira FLP, Coelho G, Pimenta FAP, Nascimento Neto RMD, et al. *Sao Paulo Med J*. 2026;144(4):e20252955.

BACKGROUND: Vitamin D deficiency is common among individuals with obesity; however, the association between low 25-hydroxyvitamin D [25(OH)D] concentrations and adiposity remains unclear. Shift workers are at increased risk for both vitamin D deficiency and metabolic disorders, making this population particularly relevant for investigating this relationship. OBJECTIVES: This study aimed to evaluate the effect of cholecalciferol supplementation on central adiposity, assessed by waist circumference (WC) and waist-to-height ratio (WHtR), among male shift workers. DESIGN AND

SETTING: Randomized, double-blind, placebo-controlled clinical trial involving 198 male shift workers employed by an iron ore extraction company in Minas Gerais, Brazil. METHODS: Participants with 25(OH)D concentrations <30 ng/mL and at least one metabolic abnormality, including metabolic syndrome, impaired fasting glucose, dyslipidemia, elevated blood pressure, or increased WC, were randomly assigned to receive placebo, cholecalciferol 14,000 IU/week, or cholecalciferol 28,000 IU/week for 4 months. Plasma 25(OH)D concentrations, WC, and WHtR were evaluated at baseline and post-intervention. RESULTS: After 4 months, no significant differences in WC or WHtR were observed between the vitamin D supplementation groups (14,000 IU/week and 28,000 IU/week) and the placebo group. Nevertheless, serum 25(OH)D concentrations increased significantly in the supplementation groups: +6.23 ng/mL (p25 = 0.58; p75 = 10.61) in the 14,000 IU/week group and +15.25 ng/mL (p25 = 10.57; p75 = 19.68) in the 28,000 IU/week group. In contrast, the placebo group showed a decrease of -0.50 ng/mL (p25 = -1.03; p75 = 2.71). Despite these increases, supplementation produced no significant effect on central adiposity outcomes ($p > 0.05$). CONCLUSION: Although vitamin D supplementation effectively increased serum 25(OH)D concentrations, it did not reduce central adiposity among male shift workers. These findings indicate that vitamin D supplementation alone is unlikely to improve obesity-related outcomes in this high-risk occupational population and underscore the need for comprehensive strategies targeting metabolic health in shift workers. CLINICAL TRIAL OR SYSTEMATIC REVIEW REGISTRATION: This study was registered in the Brazilian Registry of Clinical Trials (ReBEC) under identifier RBR-6CS352 on October 25, 2017.

Lien vers l'article

Association of shift work and shift patterns with thyroid function: A NHANES-based cross-sectional study.

Li Z, Peng W, Liao Z. *Medicine (Baltimore)*. 2026 Sep 4;105(36):e50583.

This cross-sectional study examined the association between shift work and thyroid function using data from the National Health and Nutrition Examination Survey 2007 to 2010. Weighted univariate and multivariate regression models were applied, with additional subgroup and interaction analyses performed. A total of 3578 participants were included (mean age 41.17 ± 13.31 years). After adjusting for potential confounders, shift workers exhibited significantly higher levels of thyroid-stimulating hormone (TSH) (β = 0.30; 95% CI: 0.14-0.45), thyroglobulin antibody (TgAb) (β = 11.62; 95% CI: 3.49-19.74), and thyroid peroxidase antibody (TPOAb) (β = 8.74; 95% CI: 1.07-16.40), alongside an increased prevalence of autoimmune thyroiditis (AIT) (OR = 1.69; 95% CI: 1.26-2.26) compared with day workers (all $P < .05$). Analyses stratified by shift type revealed that regular evening shifts were most strongly associated with elevated TSH (β = 0.58), subclinical hypothyroidism (SCH) (OR = 2.63), and AIT (OR = 2.29). Additionally, rotating shifts were specifically linked to higher TgAb levels and AIT risk. These findings indicate that shift work, particularly evening and rotating shift patterns, is associated with adverse thyroid-related outcomes.

Lien vers l'article

Association between shift work patterns and the incidence of prediabetes and diabetes among night shift workers: a retrospective cohort study.

Lee H, Shin C, Kang M, Park JB, Jeong I, Jung J. *Ann Occup Environ Med*. 2026 Aug;38:e26.

BACKGROUND: Prediabetes and diabetes represent major public health challenges, and shift work has been identified as a significant occupational risk factor. While two-shift systems are gaining preference over conventional three-shift systems, evidence comparing their risks for diabetes and prediabetes remains limited. We aimed to evaluate the risk of developing prediabetes and diabetes according to shift work patterns among night shift workers. METHODS: This retrospective cohort study analyzed 14,879 night shift workers at a tertiary hospital in Korea (2016-2022). Participants were classified into

two- and three-shift patterns. Incident diabetes and prediabetes were identified based on fasting blood glucose and hemoglobin A1c levels, diagnosis, or medication use. Data were censored at shift change, diagnosis, loss to follow-up, or the end of the study. Cox proportional hazards models were used to estimate hazard ratios (HRs) and 95% confidence intervals (CIs), adjusting for demographics, lifestyle, body mass index, and occupational characteristics including working hours, consecutive night shifts, quick returns, and shift duration. RESULTS: The two-shift group showed significantly higher incidence rates of diabetes and prediabetes than the three-shift group. After adjusting for covariates, two-shift work remained an independent risk factor for diabetes (adjusted HR: 1.43; 95% CI: 1.10-1.87) and prediabetes (adjusted HR: 1.34; 95% CI: 1.20-1.48). Stratified analyses indicated that the increased risk of diabetes associated with two-shift work was prominent in participants working 40 hours and 41-51 hours per week, whereas the association was not significant in those working ≥52 hours. CONCLUSIONS: Two-shift work was associated with a significantly higher risk of diabetes and prediabetes compared with three-shift work. Our findings highlight the need to consider specific shift schedules and their potential health effects when designing or selecting workforce systems, rather than focusing solely on productivity or preference.

Lien vers l'article

Altered local functional synchronization in night-shift nurses: Associations with peripheral metabolic variation and depressive symptoms.

Kang Y, Yang F, Zhao C, Gao M, Wang G, Zhang Y. *J Affect Disord*. 2026 Dec 1;414:122393.

BACKGROUND: Night-shift work in nurses is associated with circadian disruption, sleep disturbance, and increased vulnerability to affective symptoms. However, the neural and metabolic correlates of these alterations remain insufficiently understood. METHODS: A total of 121 female nurses, including 59 day-shift nurses (DSN) and 62 night-shift nurses (NSN), underwent resting-state functional MRI. Regional homogeneity (ReHo) was calculated to assess local functional synchronization. Between-group ReHo differences were examined, followed by transcriptomic and neurotransmitter decoding analyses. Untargeted serum metabolomics was performed to assess peripheral metabolic differences and their associations with ReHo. RESULTS: Compared with DSN, NSN showed decreased ReHo in the left superior temporal cortex and left anterior hippocampus, and increased ReHo in the right medial amygdala and right superior parietal lobule. The cortical ReHo pattern was associated with gene expression profiles enriched for cellular responses to stress, protein phosphorylation, and mitochondrion organization, and showed spatial correspondence with dopamine D1 receptor distribution. Serum metabolomics revealed widespread between-group metabolic differences. In NSN, metabolite PC1 was positively associated with right medial amygdala ReHo, and an exploratory indirect association between metabolite PC1 and Beck Depression Inventory scores through right medial amygdala ReHo was observed. CONCLUSIONS: Night-shift work in nurses is associated with alterations in peripheral metabolism, local functional synchronization, and depressive symptoms. Right medial amygdala ReHo may represent a neural correlate associated with peripheral metabolic variation and affective symptom burden.

Lien vers l'article

Endogenous metabolomic responses in circadian disrupted night shift working populations: a scoping review.

Heibati B, Lacy P, Makris KC. *J Natl Cancer Cent*. 2026 Aug;6(4):432–46.

Night shift work (NSW) has been known for its linkage with circadian disruption, while the NSW carcinogenic potential is well documented. However, there has been little research on the NSW-associated biological pathways and small molecules that may be implicated with the early stages of carcinogenicity. Metabolomics platforms are novel exposomics tools that act as intermediate

biological layers of information linking NSW schedules with the downstream endogenous response in humans. To this extent, we conducted a scoping review to answer the question: how does NSW impact the endogenous human metabolome using metabolomics tools? Thus, this work critically reviewed human studies on the association between NSW and the associated endogenous biological response. Online databases were screened, and 13 original publications were included in the analysis; eight studies were conducted in occupational settings, and the remaining studies were well-controlled laboratory experiments simulating NSW. This work summarized the consistent reporting of the most frequently reported metabolites and associated biological pathways enriched in actual NSW, or in simulated NSW conditions of occupational and experimental laboratory studies, respectively. Further research is warranted to better understand the complex metabolic changes associated with NSW, informing strategies to mitigate early-stage carcinogenic effects, ultimately improving health and well-being of shift workers.

Lien vers l'article

Cancers

Beyond cohort versus case-control: the primacy of exposure assessment over study design in occupational cancer epidemiology.

Kim Y, Park DU. *Epidemiol Health*. 2026;48:e2026026.

In occupational cancer epidemiology, prospective cohort studies are conventionally ranked above case-control studies. However, exposure assessment quality-central to occupational risk estimation-receives less methodological attention than study design. This review argues that divergent cohort and case-control risk estimates reflect exposure assessment limitations rather than study design. Three findings support this. First, variance decomposition demonstrates that group-level exposure assignment attenuates effect estimates by a reliability ratio approaching zero as within-worker variability becomes dominant. Second, Berkson error in job-exposure matrices, combined with model non-linearity, biases estimates toward the null. Third, the healthy worker effect, immortal time bias, and left truncation compound misclassification and shift cohort estimates further toward the null. Two case studies illustrate this pattern. For night shift work and breast cancer, the case-control odds ratio (OR) of 1.34 contrasted with the cohort relative risk (RR) of 0.98; at 30 years' cumulative exposure, these estimates were 1.88 and 1.13. For welding fumes and lung cancer, the pooled cohort RR of 1.29 contrasted with a case-control OR of 1.87; Sørensen's cohort, using individual breathing-zone measurements, recovered a hazard rate ratio of 2.34 at the highest cumulative exposure. Thus, an occupational cancer study's inferential value depends on its exposure assessment method rather than its design label. Group-level assignment attenuates effect estimates and may compromise etiological inference regardless of nominal design. Individual exposure reconstruction-through occupational interviews, industrial hygiene assessment, or personal monitoring-supports precise dose-response estimation. Quality assessment tools and meta-analyses should stratify evidence by exposure assessment method rather than design label.

Lien vers l'article

Risque routier, accidentologie

Investigation of driving safety in partial driving automation considering driving modes and drivers' pre-drive states.

Zhang W, Carsten O, Lee YT, Shi J, Zhang W. *Accid Anal Prev*. 2026 Oct;236:108664.

With the release of partial driving automation systems that allow drivers to take their hands off the steering wheel (L2 hands-off), it has become increasingly important to evaluate their implications for driving safety. This study investigated how different driving modes influence driving safety considering drivers' pre-drive states. Using a static driving simulator, two groups of UK drivers participated in the experiment: 19 non-nightshift workers and 19 nightshift workers. Participants in each group completed drives under three driving modes: manual driving, L2 hands-on, and L2 hands-off. The drowsiness, attention behavior, hazard perception performance, and driving performance of the participants were measured. The results suggested that the L2 hands-off mode had adverse effects on drowsiness and attention behaviors in both groups, with detrimental trends also observed for hazard perception performance and driving performance. Moreover, given the adverse effects of the L2 hands-off mode, drivers with different pre-drive states adopted different response strategies. Non-nightshift workers performed more frequent takeovers in the L2 hands-off mode to avoid collisions, whereas nightshift workers responded similarly across all modes but exhibited the highest collision probability in the L2 hands-off mode. In summary, although L2 driving may reduce manual control demands, taking hands off steering wheel increases safety risks, particularly for nightshift workers. Future efforts should adopt strategies to mitigate the safety risks associated with L2 hands-off systems and assess drivers' pre-drive states before permitting the use of such systems.

Lien vers l'article

RPS et QVT

Surgical time, peri-operative major adverse cardiac and cerebral events and hospital stay in noncardiac surgery: insights from 7-day service implementation: A retrospective case-control study.

Xu W, Zhao P, Yin ZW, Cai H, Zeng L, Xu M, et al. *Eur J Anaesthesiol*. 2026 Aug 6.

BACKGROUND: The 'out of hours effect' applies to patients undergoing surgery during night shifts, weekends or holidays, who face higher risks of complications and mortality. The 7-day service policy was implemented to ensure consistent healthcare delivery. OBJECTIVE: To assess the association between surgical time and incidence of major peri-operative adverse cardiac and cerebral events (MACCE) and also the length of hospital stay, and whether this has changed following the implementation of the 7-day service. DESIGN: Nested case-control study. SETTING: Single-centre university hospital. Retrospective enrolment from January 2018 to December 2021. PATIENTS: The study included 2543 cases and 10 683 controls. MAIN OUTCOME MEASURES: The primary outcome was peri-operative MACCE. Patients who developed MACCE after noncardiac surgery were compared with controls randomly selected from those without MACCE (1 : 4 ratio). RESULTS: Night-shift procedures were associated with higher incidence of peri-operative MACCE (28.7 vs. 18.2%, P < 0.001), longer hospital stays (172 vs. 155 h, P < 0.01), and higher costs (48 529 vs. 37 962 yuan, P < 0.001). In multivariable logistic regression, night-shift surgery remained independently associated with MACCE [fully adjusted odds ratio (OR) 1.54, 95% confidence interval (CI), 1.3 to 1.8; P < 0.001]. Weekend surgery was not significantly associated with MACCE after full adjustment (OR 1.15, 95% CI, 0.96 to 1.38; P = 0.13), and results were consistent in a sensitivity model including both night-shift and weekend surgery (night shift OR 1.54, 95% CI, 1.3 to 1.82, P < 0.001; weekend OR 1.17, 95% CI, 0.97 to 1.4, P = 0.09). Following implementation of the 7-day service policy, night-shift procedures decreased [16.1% prepolicy vs. 3.7% postpolicy; standardised mean difference (SMD) 0.42] and weekend

procedures increased (5.5 vs. 13.3%; SMD 0.27). In the postpolicy period, weekend surgery was associated with a shorter hospital stay (139 vs. 160 h, P < 0.001) without an increase in MACCE (18.7 vs. 19.4%, P = 0.53). CONCLUSION: Night-shift surgery was an independent risk factor for peri-operative MACCE in noncardiac surgery patients. The 7-day service policy reduced night-shift procedures and increased those at weekends, without increasing the risk of MACCE. It was also associated with shorter hospital stays. TRIAL REGISTRATION: Chinese Clinical Trial Registry identifier: ChiCTR1900024645.

Lien vers l'article

Returning Home From Shift: Boundary Maintenance and Infection Control Practices Among Nurses in the Pre-Vaccination Phase of COVID-19.

Willis E, Fien S, Sahay A. *Nurs Open*. 2026 Aug;13(8):e70727.

AIM: To examine how nurses maintained and reconfigured boundaries between work and home in order to protect themselves and their families during the pre-vaccination phase of the COVID-19 pandemic. DESIGN: A qualitative descriptive study using a cross-sectional online survey with open-ended questions. METHOD: A self-designed online survey was conducted between October 2020 and February 2021 with a sample of nurses. Qualitative data from open-ended survey responses were analysed using thematic analysis then deductively mapped onto the theories of boundary maintenance, spillover and crossover. RESULTS: A total of 69 nurses participated in this study, drawn from hospital, aged care, general practice and community settings, with ages ranging from 18 to 74 years. Five themes were identified: stress and work intensification; confusion arising from rapidly changing guidelines; resource constraints; anger and resentment towards colleagues able to work remotely; and deliberate strategies to protect family members from infection. The final two themes highlight how nurses actively constructed new physical, emotional and symbolic boundaries between work and home in response to the perceived risks of viral transmission. CONCLUSION: Prior to vaccination, nurses created their own infection control rituals at home to shield their families, revealing how professional knowledge spilled into domestic life, becoming an extension to nurses' work. These critical boundary practices often remained unseen but are vital to frontline nursing labour work during an infection-control crisis. Understanding and recognising these early responses provides valuable insight for future pandemic preparedness, workforce support and infection prevention policy. PATIENT OR PUBLIC CONTRIBUTION: No patient or public contribution.

Lien vers l'article

Barriers to Night Shift Wellness in the Emergency Department: A Qualitative Study.

Tomberlin SJ, DeMellow JM. *J Emerg Nurs*. 2026 Aug 22.

INTRODUCTION: Research has demonstrated that night shift nursing and ancillary hospital staff face challenges ranging from sleep disorders to increased medication errors. Night shift work in the emergency department can pose unique wellness barriers worth exploring, given the patient population and the demanding, high-risk setting. METHODS: This qualitative descriptive study was conducted via online focus groups in the emergency department of a 355-bed teaching hospital. A total of 18 night-shift staff from clinical and nonclinical roles participated. A reflexive thematic analysis framework was used for coding and theme development. Data saturation was achieved by conducting additional focus groups, and credibility was ensured through reflexive journaling, member checking, deep immersion in the data, and triangulation across separate focus group meetings. RESULTS: Seven themes emerged: "Sleep as a balancing act," "Night shift workers want a life, too," "Night shift work impacts health," "Impaired professional effectiveness," "Fewer hands make for heavy work, which makes for fewer hands," "Organizational structures and schedules burden night shift," and "Shift vs shift (night shift problems)." The individual barriers were described as influencing and exacerbating one another. DISCUSSION: Participants identified both personal and work barriers as important to their

wellness. Consistent with previous research, sleep, health, and social concerns were priorities. In the current study, participants also identified impaired professional effectiveness as both a measure of and a barrier to their wellness. Understanding these challenges and their impact on staff could inform interventions to improve the quality of life on the night shift.

Lien vers l'article

Sleep Quality and Physiological Stress in Emergency Physicians During 24-Hour Shifts: A Wearable-Based Occupational Health Assessment.

Sağlam Gürmen E, Yorgancıoğlu M, Demirbaş H. *Med Lav*. 2026 Aug 3;117(4):18894.

BACKGROUND: Shift-based work schedules may disrupt circadian rhythm and adversely affect sleep and stress regulation among healthcare workers. Emergency physicians are particularly exposed to high-intensity workloads and prolonged 24-hour shifts, which can increase occupational strain. Methods: This study was conducted between April and December 2024 in a tertiary emergency department. Participants wore a smartwatch continuously for 30 days to record sleep architecture and heart rate variability-based stress indicators. Physiological parameters obtained during 24-hour shifts and at home were compared. Analyses were performed across four professional-experience groups. RESULTS: Sleep duration, deep sleep percentage, deep sleep continuity score, breathing quality score, and overall sleep score were lower during 24-hour shifts, whereas light sleep percentage, nighttime awakenings, and stress levels were higher (all $p < 0.001$). Physicians with greater professional experience had longer sleep duration and lower stress levels during 24-hour shifts compared with early-career residents. Multiple linear regression analysis indicated that professional experience was the only independent predictor of stress levels during shifts. CONCLUSIONS: Shift work in emergency medicine is associated with impaired sleep quality and increased physiological stress. Professional experience appears to mitigate stress responses but does not fully restore sleep quality. These findings support the need for targeted occupational strategies, including optimized workload distribution and structured support for early-career physicians, to improve well-being and ensure patient safety in high-intensity clinical environments.

Lien vers l'article

Implementing Night Float Systems for Nephrology Fellows: A National Survey of Nephrology Training Program Directors.

Rutowski JJ, Yuan CM, Saeed F, Ross DW, Moore CA. *Kidney Med*. 2026 Sep;8(9):101440.

RATIONALE & OBJECTIVE: Night float (NF) systems are widely adopted by residency programs to support trainee wellness and duty hour compliance, yet the extent of NF use in nephrology fellowship programs has not been well characterized. This study examined how NF is implemented in nephrology fellowship programs and how program directors perceive its advantages and disadvantages. STUDY DESIGN: Cross-sectional national survey. SETTING: & Participants: Training program directors from all Accreditation Council for Graduate Medical Education--accredited adult nephrology fellowship programs. EXPOSURES OR PREDICTORS: Presence or absence of an NF system. OUTCOMES: NF structure, trainee responsibilities, continuity clinic and didactic impact, and program directors' perceived advantages and disadvantages. ANALYTICAL APPROACH: Descriptive statistics, group comparisons, and thematic analysis of open-ended responses. RESULTS: 77 programs responded. 28 reported NF use. Programs with NF had more fellows and covered more hospitals at night. Most NF programs suspended continuity clinic and didactic attendance during NF rotations. Program directors most often perceived improved trainee wellness and satisfaction as advantages, whereas reduced continuity clinic and didactic attendance were common disadvantages. LIMITATIONS: Survey was anonymous and nonvalidated, without program-level demographics, duration of NF use, overnight clinical volume, or trainee outcomes. CONCLUSIONS: NF adoption varied across nephrology fellowship

programs. Program directors not only perceived important wellness benefits from NF but also noted educational challenges, especially regarding continuity clinics and missed didactics.

Lien vers l'article

A preference-integrated optimization system for medical physics shift scheduling.

Rosen BS, Zhang Z, Hopfensperger KM, Paradis KC, Lee C, Critchfield L, et al. *J Appl Clin Med Phys*. 2026 Aug;27(8):e70743.

BACKGROUND: Clinical shift scheduling for medical physicists is challenging given multidisciplinary roles and competing clinical, research, and service demands. Manual workflows often lack the flexibility and transparency needed for this complex field. PURPOSE: To develop, deploy, and evaluate a preference-driven, optimization-based scheduling platform for an academic radiation oncology medical physics division. METHODS: Using a graphical user interface, each physicist encoded half-day shift slots as unavailable (0), available but not preferred (0.5), available (1), or preferred (2) for each two-month scheduling block over two years of clinical use. Shift requirements were defined across ten service categories with weighted effort units, and individual targets were adjusted for non-clinical effort (e.g., research, teaching, administrative service) and planned time off. Scheduling was formulated as a constrained binary integer optimization problem, with coverage, sequencing, and availability constraints, solved using a genetic algorithm to minimize a preference-based fitness function. Final schedules were exported to clinical calendars. Retrospective evaluation computed descriptive statistics per scheduling period and overall, including the distribution of assigned shifts by preference category and concordance between assignments and stated availability/preferences. Qualitative feedback from users and scheduling leads was collected to further assess operational impact. RESULTS: From January 2024 through February 2026, 4980 shifts were assigned across fifteen scheduling blocks for 23 physicists. Across 25,796 preference entries, 95% of assignments matched stated preference and availability, with non-preferred assignments accounting for only 5% of total assignments. All clinical coverage requirements were met, and no staff were scheduled for shifts marked as unavailable. Manual interventions were rare, and user feedback indicated improved transparency, satisfaction, and reduced administrative burden. CONCLUSIONS: Preference-integrated optimization reliably produced feasible, clinically robust schedules for medical physics shift scheduling. This approach is readily implementable and supports efficient, equitable scheduling in multidisciplinary settings.

Lien vers l'article

Association between unpredictable work schedule changes and sleep disorders among wage workers: evidence from national Working Conditions Surveys in Korea and Europe.

Park MY, Kim JS, Ahn J. *J Occup Health*. 2026 Jan 6;68(1).

OBJECTIVES: Unpredictable work schedule changes have emerged as a distinct occupational health concern, yet their association with chronic sleep disorders remains understudied. Given the contrasting institutional contexts of the Republic of Korea and Europe, we hypothesized that the association would differ in magnitude between the 2 regions and examined this using a dose-response framework based on advance notice timing. METHODS: This cross-sectional study analyzed data from the 2017 Korean Working Conditions Survey and the 2015 European Working Conditions Survey. Habitual work schedule unpredictability, reflecting structural instability in working time arrangements, was assessed by advance notice timing. Sleep disorders were assessed using the validated Minimal Insomnia Symptom Scale. Stratified and sensitivity analyses were performed. RESULTS: Unpredictable schedule changes were associated with higher odds of sleep disorders in Korea (adjusted odds ratio [aOR] = 2.544; 95% CI, 2.195-2.948) and Europe (aOR = 1.787; 95% CI, 1.543-2.070), with a formally confirmed regional difference (P for interaction <.0001). Risk increased progressively as advance notice

shortened, demonstrating a clear dose-response relationship. Among subgroups, a statistically significant interaction was identified for long working hours in Korea, with stronger associations observed among those without overtime. CONCLUSIONS: Habitual work schedule unpredictability is a distinct occupational risk factor for sleep disorders. The observed dose-response pattern suggests that greater advance notice may be associated with lower risk, highlighting schedule predictability as a potential occupational health priority warranting regulatory and organizational attention.

Lien vers l'article

Impact of a simulated night shift on calibration and heuristic judgments: Working during the biological night.

Pilcher JJ, Brancato MG, Switzer FS, 3rd. *Chronobiol Int*. 2026 Aug 24:1–10.

This study examined two cognitive processes, calibration and use of heuristics, across a simulated night shift. Seventy-one college students (23 females) completed a series of tasks across four testing sessions. The participants completed a Decision-Making Task during each session that included general knowledge questions with follow-up questions on their confidence in their response as well as questions portraying the heuristic processes of availability and representativeness. The results showed that calibration tended to improve over the course of the simulated night shift as initial overconfidence decreased toward more accurate calibration. This occurred largely as a result of decreasing confidence without an attendant decrease in accuracy. No changes were observed in the use of heuristics with participants using heuristic judgment processes across the shift. Understanding how individuals use cognitive strategies during the biological night is important for workers, organizations, and researchers to help improve on-the-job productivity and safety.

Lien vers l'article

Comparative evaluation of gut health, inflammatory factors, and sleep quality among shift workers: A cross-sectional study.

Palve SS, Palve SB. *J Educ Health Promot*. 2026;15:313.

BACKGROUND: Night-shift work disrupts the body's natural circadian rhythm, leading to impaired sleep quality, altered gut function, and reduced emotional well-being. Circadian misalignment affects sleep duration and efficiency, disturbs gastrointestinal (GI) regulation, and increases the risk of mood disorders such as anxiety and depression. These cumulative effects can significantly impact overall health and quality of life in shift workers. MATERIALS AND METHODS: A cross-sectional comparative study was conducted among 200 individuals (100 day-shift and 100 night-shift workers) aged 25-40 years at a tertiary care hospital in Pune. Data was obtained using a structured questionnaire designed to assess sleep, gastrointestinal symptoms, and emotional health. Blood samples were analyzed for lipopolysaccharide (LPS), zonulin, C-reactive protein (CRP), interleukin-6 (IL-6), and tumor necrosis factor-alpha (TNF-α). Data was analyzed using SPSS version 25.0 (IBM Corp., Armonk, NY, USA); significance was set at $P < 0.05$. RESULTS: Night-shift workers reported significantly more gastrointestinal issues (heartburn, bloating, constipation, indigestion; $P < 0.050$) and emotional distress ($P = 0.010$) compared to day-shift workers. Elevated gut permeability markers (LPS: $P = 0.003$; zonulin: $P = 0.005$) were also found among night-shift workers. Inflammatory markers (CRP, IL-6, TNF-α) were significantly higher among night-shift workers ($P < 0.010$), indicating systemic inflammation. The quality of sleep was poor, along with shorter duration among night-shift workers, which was further aggravated by co-use, like smoking and alcohol ($P = 0.004$). Night-shift workers, especially the higher income group and females, experienced greater sleep disturbances and distress ($P < 0.020$). Day-shift workers who did regular physical exercise had improved sleep quality ($P = 0.003$). CONCLUSION: Night-shift work is associated with poor sleep quality, increased gut permeability, and

elevated inflammatory markers in the body. Lifestyle interventions focusing on sleep, diet, and stress may reduce health risks associated with poor sleep quality.

Lien vers l'article

Impact of Adding an "Early Riser Resident" on Overnight Radiology Resident Study Discrepancy Rates.

Ocal S, Kim TK, Lin CT, Gomez E. *Acad Radiol*. 2026 Aug 20.

RATIONALE AND OBJECTIVES: Participation in overnight shifts is an invaluable experience for radiology residents. Our institution offers indirect attending supervision overnight; residents provide preliminary interpretations before final attending review the next morning. Clinically significant misses are labeled with a "Flag M" designation during attending review. Our program added an "Early Riser Resident" (ERR) who overlaps with overnight residents in the early morning hours, when burnout and fatigue are most prominent. The purpose of this study was to assess the effect of the ERR on the rate of clinically impactful "misses" and gauge resident feedback. MATERIALS AND METHODS: To assess implementation of the ERR role, R2-R4 overnight resident Flag M data from the pre- (2022-2023) and post-intervention (2023-2024) periods were compared. Residents were surveyed regarding perceived impact of the ERR. RESULTS: The Flag M rate for overnight resident reports decreased from 1.28% in the pre-intervention period (614/48107 studies) to 0.92% in the post intervention period (435/47428 studies) (p-value<0.01). Most survey respondents (n = 32) either agreed or strongly agreed that working alongside an ERR allowed them to dedicate more attention to complex cases and ameliorated fatigue. Respondents who had worked as the ERR noted minimal impact to case volumes and improved handoffs/transitions between shifts. CONCLUSION: Establishment of the ERR role resulted in a significant decrease in the rate of resident-interpreted reports with clinically significant misses. Resident feedback regarding the ERR is overwhelmingly positive.

Lien vers l'article

Outcomes of lung transplantation surgery performed at night.

Langmuur SJJ, Duijghuisen JJ, Hellemons ME, Hoeks SE, Ter Horst M, Mahtab EAF. *JTCVS Open*. 2026 Aug;32:101827.

OBJECTIVE: The logistics and planning involved in lung transplantation (LuTx) are complex. Recent advancements in LuTx surgery have introduced the possibility of deferring surgery to daytime hours and might reduce the burden on operating personnel and improve patient outcomes; however, this might interfere with the daytime program and could be labor-intensive and costly. Therefore, this study sought to investigate the effect of time of surgery on LuTx outcomes. METHODS: Adult patients undergoing LuTx between 2010 and 2022 were included in this single-center retrospective cohort study. Patients were categorized as the night group if at least 1 hour of their operation occurred between 2 am and 6am. Otherwise, they were assigned to the day group. The primary outcome for this study was intensive care unit length of stay. Secondary outcomes included 30-day and 1-year survival, bronchiolitis-obliterans syndrome-free survival, time to extubation, rethoracotomy, need for extracorporeal circulatory support, blood loss and transfusion parameters, and ischemic, implant, and operating times. Both unadjusted comparisons and multivariable regression analyses were performed. RESULTS: In total, 227 patients (day: n = 142, night: n = 85) were included in this study. After multivariable regression, no differences were found in survival, ICU and hospital length of stay, time to extubation, or operation duration. Additionally, no significant differences were found for bronchiolitis-obliterans free-survival, ischemic and implant times, use of extracorporeal circulation, wound complications, rethoracotomies, and the majority of blood loss and transfusion data in the unadjusted analysis. CONCLUSIONS: No differences were found between the day and night group regarding survival, length of stay, time to extubation and other (post-)operative outcomes. These

findings indicate that performing LuTx surgery at night is safe, provided that this complex care is well-organized and delivered by a dedicated team.

Lien vers l'article

Application of staff rostering algorithms for emergency departments: protocol for a systematic review.

Landa P, Tanfani E, Mattia S, Ghafourian Nasiri M, Murazzano L, Bergeron F. *BMJ Open*. 2026 Aug 6;16(8):e121962.

INTRODUCTION: Emergency departments (EDs) operate under conditions of high demand, uncertainty and resource constraints, making efficient personnel rostering a critical component of healthcare delivery. Poorly designed staff schedules may contribute to increased waiting times, staff burnout, reduced quality of care and inefficient use of resources. Operations research (OR) methods, including mathematical programming, heuristics, metaheuristics and simulation-based optimisation, have been widely applied to workforce scheduling problems in healthcare. However, the specific application of these methods to rostering and shift scheduling of ED personnel (eg, nurses and physicians) has not yet been systematically synthesised. This systematic review aims to identify, categorise and analyse OR algorithms used for rostering ED personnel, and to examine their modelling approaches, optimisation techniques and reported outcomes. METHODS AND ANALYSIS: This systematic review will follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A comprehensive search will be conducted from database inception to the final search date in Google Scholar, Web of Science, MEDLINE, Embase, Scopus and ABI/Inform, with no start-date restriction. A provisional search was run on 20 March 2026; the final search will be updated before completion of study selection. Results will be restricted to articles published in English, French, Spanish or Italian. The search strategy will combine terms related to EDs, staff rostering or scheduling and OR or optimisation methods. Eligible studies will be peer-reviewed articles that apply OR or optimisation techniques, such as integer programming, constraint programming, exact algorithms, heuristics, metaheuristics, matheuristics or simulation-based approaches, to rostering or shift scheduling of ED personnel (eg, nurses and physicians); studies addressing workforce scheduling outside EDs, or not using OR or optimisation methods, will be excluded. Two reviewers will independently screen titles, abstracts and full texts according to predefined inclusion and exclusion criteria. Data will be extracted on study characteristics, modelling techniques, algorithmic approaches, decision variables, constraints, objectives and reported performance outcomes. The methodological characteristics of the models and algorithms will be synthesised using a narrative and descriptive analytical approach. ETHICS AND DISSEMINATION: Ethical approval is not required as the study will analyse data from previously published studies. Results will be disseminated through publication in a peer-reviewed journal and presentations at relevant academic conferences. PROSPERO REGISTRATION NUMBER: CRD420261337311.

Lien vers l'article

Role of Life's Essential 8 in the association of night shift work with cardiovascular disease and mortality: a prospective cohort study of UK Biobank participants.

Huang Y, Xiang Y, Li T, Lip GYH, Gao Y, Zhang J. *J Glob Health*. 2026 Aug 14;16:04198.

BACKGROUND: Night shift work is linked to higher risks of cardiovascular disease (CVD) and mortality, but mechanisms remain unclear. Lifestyle, captured by the American Heart Association's Life's Essential 8 (LE8), may act as a modifiable mediator. We aimed to examine the associations of night shift work with CVD and mortality and quantify the mediating role of LE8. METHODS: We analysed 131,844 employed participants without baseline CVD from the UK Biobank (2006-2010). We categorised night shift work as day workers, shift but never/rarely night shifts, some night shifts, and

usual/permanent night shifts. LE8 scores included diet, physical activity, nicotine exposure, sleep, body mass index, blood pressure, lipids, and blood glucose. Primary outcomes were incident CVD and all-cause mortality, and secondary outcomes included myocardial infarction (MI), stroke, and atrial fibrillation (AF). We used Cox models to estimate associations and counterfactual mediation analysis to quantify the proportion mediated by LE8. RESULTS: Over a median follow-up of 13.78 years (interquartile range = 13.09-14.42), 39,115 (29.7%) developed CVD and 5474 (4.2%) died. Compared with day workers, usual/permanent night shifts had higher risks of CVD (hazard ratio (HR) = 1.24; 95% confidence interval (CI) = 1.18-1.31), all-cause mortality (HR = 1.23; 95% CI = 1.07-1.41), AF (HR = 1.31; 95% CI = 1.13-1.51), and MI (HR = 1.29; 95% CI = 1.09-1.51), but not cardiovascular mortality. LE8 mediated 39.2% of the CVD association, 33.1% of all-cause mortality, and 40.8% of MI. Counterfactual analyses suggested that improving cardiovascular health (CVH) could prevent 35.1% of CVD events and 30.2% of deaths among night shift workers. CONCLUSIONS: Night shift work is associated with higher risks of CVD, AF, MI, and all-cause mortality. A substantial proportion of this burden may be preventable through improved CVH. Further studies are needed to evaluate integrated lifestyle interventions in night shift workers.

Lien vers l'article

Do Compressed Work Schedules Compromise Care Quality? A Five-Year Case Control Study in the Norwegian Long-Term Care Sector.

Hoff Bernstrøm V, Ingelsrud M, Indregard AR, Seglem K. *Health Serv Insights*. 2026;19:11786329261471203.

BACKGROUND: In a compressed work schedule, employees work extended shifts (≥10 hours) in exchange for fewer workdays. This shift schedule has been argued to both improve and compromise the quality of care. However, existing research remains limited and inconclusive. OBJECTIVE: To assess whether extended shifts within compressed work schedules impact the risk of adverse outcomes among care recipients. DESIGN: Quasi-experimental case control study. METHOD: We combined a nationwide organizational survey from 1,072 long-term care institution in Norway with registry data on service users from 2018-2022. At baseline, all participating organizations operated either a two-shift rotation (day/evening) with fixed night workers or a three-shift rotation (day/evening/night). The intervention group comprised organizations (n=320) that introduced a compressed schedule during the study period; the control group retained their existing shift rotations. Using difference in difference with multiple treatment times we analysed changes in proportion of service users within each organization experiencing at least one adverse outcome per month. Adverse outcomes were identified via diagnostic codes from the Norwegian Registry for Primary Health Care, including infections, chronic ulcers, accidents, and depression. RESULTS: Overall, we found no difference in the risk of adverse outcomes (b -0.46, 95% CI -0.97 to 0.05). Stratified analyses indicated a significant reduction in adverse outcomes in nursing homes (b -0.79, 95% CI -1.48 to -0.10). However, we found no significant change in residential care (b 0.20, 95% CI -1.11 to 0.70) or home care (b -0.42, 95% CI -1.20 to 0.36). CONCLUSION: The findings neither discourage the use of compressed work schedules due to adverse outcomes nor indicate broad improvements. However, the results suggest potential context-specific benefits that warrant further investigation.

Lien vers l'article

Forms of Violent Behavior in Patients with Mental Disorders at the University Psychiatric Clinic Ljubljana from 2018 to 2021 Using the OAS/BVC Scale Assessment-A Descriptive Study.

Hatze R, Šikić Pogačar M, Peterka Novak J, Bregar B. *Zdr Varst*. 2026 Sep;65(3):175–83.

INTRODUCTION: The high incidence of violence directed at healthcare workers is a major public health concern. The purpose of the study was to investigate the incidence of various forms of aggression at

the University Psychiatric Clinic Ljubljana from 2018 to 2021, stratified by perpetrator gender, time of occurrence, and ward type. METHODS: Data were collected using completed standardised forms (the OAS and BVC scales) during 2018-2021. A total of 4,392 episodes of various forms of violent behaviour were detected. Descriptive and bivariate statistics were performed using IBM SPSS. The level of statistical significance was set at $p < 0.05$. RESULTS: The total aggression score was significantly higher in men ($t = 8.471$, $p < 0.001$). Wards differed in the forms of aggressive behaviour ($p < 0.05$). The total aggression score (AS score) was significantly higher during the evening shift than during the morning shift ($p < 0.001$) or the night shift ($p = 0.037$). A positive correlation was found between OAS and BVC scores ($r = 0.672$, $p < 0.001$). CONCLUSIONS: Our findings are consistent with previous international research, confirming that violence remains a common challenge in psychiatric inpatient settings. The positive association between BVC and OAS scores supports the complementary use of both instruments for violence risk assessment and incident evaluation. In line with previous research, the results support recommendations that violence prevention should extend beyond assessment tools and staff training to include a culture of safety and organisational commitment to preventing and managing aggression.

Lien vers l'article

Balancing the rota: registered nurses' preferences for shift patterns - a discrete choice experiment.

Dall'Ora C, Barker HR, Emmanuel T, Ejebu OZ, Hossain MJ. *BMJ Open*. 2026 Aug 18;16(8):e116968.

OBJECTIVE: To elicit and quantify registered nurses' (RNs') preferences for key shift attributes and to estimate the trade-offs between shift pattern characteristics and pay. DESIGN: Cross-sectional online discrete choice experiment with d-efficient design; 12 choice tasks per respondent. Preferences were estimated using multinomial logit models with clustered standard errors; willingness to accept (WTA) values were derived as ratios of attribute coefficients to the pay coefficient. SETTING: United Kingdom. PARTICIPANTS: 1449 registered nurses (RNs) recruited via the Nursing and Midwifery Council distribution list. PRIMARY AND SECONDARY OUTCOME MEASURES: Utility coefficients (β) for shift length, schedule predictability, shift request flexibility, weekend working frequency, pay level and night-shift frequency; WTA derived from the pay attribute; subgroup and interaction analyses by age, pay band, current shift status, caring responsibilities, sector and satisfaction. RESULTS: All six attributes were statistically significant predictors of shift pattern choices. The strongest aversions were to night-only working (β=-1.113) and having no whole weekends off (β=-0.790), which required an estimated 29% additional compensation in the primary model and 21% additional compensation, respectively. Unpredictable rotas (β=-0.220), restricted shift-choice flexibility (β=-0.189 for only swaps) and absence of pay increase (β=-0.525) also reduced utility. Nine-to-ten-hour shifts were preferred over 8-hour shifts (β=0.144), whereas 12.5-hour shifts were disliked (β=-0.179). Subgroup analyses showed significant heterogeneity by age and current shift status, with more limited evidence of pay-band differences. Interaction analyses suggested broadly consistent aversion to night work and weekend loss across the nursing workforce. CONCLUSIONS: Nurses strongly prefer rota designs that avoid exclusive night work and protect whole weekends off. Predictability and meaningful scope to request shifts also matter. These preference estimates provide policy-relevant benchmarks for rota design and unsocial-hours compensation.

Lien vers l'article

Redesigning Shared Governance for Overnight Oncology Care: Development of a Night Shift Council.

Co C, Salvetti M. *Clin J Oncol Nurs*. 2026 Aug 3;30(4):265–9.

Night shift oncology clinicians face operational, educational, and psychosocial barriers that may limit participation in traditional shared governance and contribute to inequities across shifts. T This article describes the development and early implementation of an interdisciplinary night shift council

designed to amplify frontline voices, address overnight workflow challenges, and support professional development. Early initiatives demonstrate how shared governance can improve workflows, strengthen interdisciplinary collaboration, and enhance overnight oncology practice environments.

Lien vers l'article

Exploring generation Z nurses' experiences of shift work in intensive care units: A qualitative analysis.

Gori F, Cesaro E, Daniele E, Daicampi C, Veronese M. *Intensive Crit Care Nurs*. 2026 Aug 25;98:104489.

OBJECTIVES: Generation Z nurses are entering the workforce with distinct expectations regarding work-life balance, professional recognition, and organisational support. Intensive Care Units (ICUs), characterised by rotating and night shifts, are associated with significant psychophysical and organisational demands. This study explored how Generation Z nurses perceive and manage ICU shift work and its impact on well-being, coping strategies, professional integration, and career sustainability. METHODS: A qualitative interpretative descriptive study was conducted in ICUs of a tertiary-care academic hospital in northeastern Italy. Thirty Generation Z nurses working rotating 24-h shifts participated (mean age 25.2 years; mean ICU experience 1.7 years). Semi-structured interviews were conducted between June and September 2025, audio-recorded, and transcribed verbatim. Data were analysed inductively using Braun and Clarke's thematic analysis. Coding was performed independently by two researchers and refined through team-based analytic discussion and consensus. RESULTS: Three themes emerged: (1) Experiencing psychophysical imbalance; (2) Seeking stability in an unstable context; and (3) Navigating professional identity. Participants described fatigue, circadian disruption, sleep disturbances, and anticipatory anxiety related to shift work. Nurses adopted coping strategies including structured routines, emotional regulation, and digital boundary-setting. Peer support facilitated professional adaptation and resilience. However, limited organisational recognition, communication barriers, and perceived undervaluation of competencies contributed to disillusionment and uncertainty about future career development. Participants questioned the long-term sustainability of shift work and considered pursuing further education or alternative career pathways. CONCLUSIONS: Generation Z nurses experience ICU shift work as demanding and potentially unsustainable early in their careers. Organisational recognition, supportive leadership, and structured transition processes appear important to promote well-being, professional integration, and workforce retention. IMPLICATIONS FOR CLINICAL PRACTICE: These findings highlight the need for supportive leadership practices, mentorship programmes, and structured transition pathways to support the well-being, professional development, and retention of Generation Z nurses in ICUs.

Lien vers l'article

Santé psychique

Appetite for coping: a latent profile analysis of typological heterogeneity in nurse burnout and emotional eating.

Liang X, Wu X, Zhang H, Zheng B. *Front Nutr*. 2026;13:1884663.

OBJECTIVE: To identify the latent heterogeneous subtypes of burnout and emotional eating among Chinese clinical nurses, and to examine the predictive effects of monthly night shift frequency and years of work experience on subtype membership. METHODS: A convenience and snowball sampling method was used to survey 360 practicing nurses in China from August 2025 to January 2026. Burnout and emotional eating/emotional undereating were measured using the Maslach Burnout Inventory-Human Services Survey (MBI-HSS) and the Adult Eating Behavior Questionnaire (AEBQ), respectively. Latent profile analysis (LPA) was conducted to identify subtypes, and multinomial logistic regression

was used to examine predictors. RESULTS: LPA identified three distinct profiles: "Low Burnout-Adaptive Eating" (36.1%), "Moderate Burnout-Emotional Reactive" (47.8%), and "Severe Burnout-Maladaptive Coping" (16.1%). Multinomial logistic regression showed that each one-level increase in monthly night shift frequency was associated with a 72.6% higher risk of belonging to the severe burnout profile (OR = 1.726, p = 0.014). Each one-level increase in work experience significantly reduced the odds of being classified into the severe burnout profile by 28.2% (OR = 0.718, p = 0.026). Body Mass Index (BMI) was not a significant predictor. CONCLUSION: There is a substantial co-occurrence of burnout and emotional eating among Chinese nurses. Frequent night shifts serve as a key driver of resource depletion, while professional experience provides a stepwise protective effect. Nursing administrators should implement refined scheduling to cap monthly night shifts and deploy precision-targeted interventions (e.g., mindful eating support) toward novice nurses with high night shift loads to interrupt early-career loss spirals.

Lien vers l'article

Altered local functional synchronization in night-shift nurses: Associations with peripheral metabolic variation and depressive symptoms.

Kang Y, Yang F, Zhao C, Gao M, Wang G, Zhang Y. *J Affect Disord*. 2026 Dec 1;414:122393.

BACKGROUND: Night-shift work in nurses is associated with circadian disruption, sleep disturbance, and increased vulnerability to affective symptoms. However, the neural and metabolic correlates of these alterations remain insufficiently understood. METHODS: A total of 121 female nurses, including 59 day-shift nurses (DSN) and 62 night-shift nurses (NSN), underwent resting-state functional MRI. Regional homogeneity (ReHo) was calculated to assess local functional synchronization. Between-group ReHo differences were examined, followed by transcriptomic and neurotransmitter decoding analyses. Untargeted serum metabolomics was performed to assess peripheral metabolic differences and their associations with ReHo. RESULTS: Compared with DSN, NSN showed decreased ReHo in the left superior temporal cortex and left anterior hippocampus, and increased ReHo in the right medial amygdala and right superior parietal lobule. The cortical ReHo pattern was associated with gene expression profiles enriched for cellular responses to stress, protein phosphorylation, and mitochondrion organization, and showed spatial correspondence with dopamine D1 receptor distribution. Serum metabolomics revealed widespread between-group metabolic differences. In NSN, metabolite PC1 was positively associated with right medial amygdala ReHo, and an exploratory indirect association between metabolite PC1 and Beck Depression Inventory scores through right medial amygdala ReHo was observed. CONCLUSIONS: Night-shift work in nurses is associated with alterations in peripheral metabolism, local functional synchronization, and depressive symptoms. Right medial amygdala ReHo may represent a neural correlate associated with peripheral metabolic variation and affective symptom burden.

Lien vers l'article

Non-pharmacological therapies for sleep and occupational stress regulation among nightshift nurses: a systematic review and Bayesian network meta-analysis based on randomized controlled trials.

Deng G, Zeng L, Wang F, Hou H, Liu L, An Y, et al. *Front Public Health*. 2026;14:1882224.

PURPOSE: Nightshift nurses commonly suffer from sleep disturbances and occupational stress due to irregular work-sleep rhythms. This Bayesian network meta-analysis (NMA) compared the efficacy of non-pharmacological therapies to identify optimal interventions for improving sleep and reducing occupational stress in night/rotating-shift nurses. METHODS: Cochrane, Embase, PubMed, Web of Science, and CNKI were searched up to October 24, 2025. Studies were assessed for bias via ROB2. Primary outcomes were total sleep score and sleep duration; secondary outcomes included anxiety,

depression, and fatigue scores. Bayesian NMA (R 4.5.2) calculated SMD (95% CrI) and SUCRA for intervention ranking. RESULTS: Eighteen studies involving 1,572 nurses were included. Sleep intervention program (SIP) appeared to be effective for optimizing total sleep score (SMD -0.80, 95% CrI [-1.2, -0.41]; SUCRA = 80.71%). Mindfulness training intervention (MTI) showed relatively good effectiveness in regulating sleep duration (SMD -1.0, 95% CrI [-1.4, -0.57]; SUCRA = 95.97%). Auricular plaster therapy (APT) appeared to be effective in alleviating depression (SMD -0.60, 95% CrI [-1.0, -0.17]; SUCRA = 84.60%). Rational emotive behavior therapy (REBT) showed superior efficacy for alleviating anxiety (SMD -3.0, 95% CrI [-3.6, -2.4]; SUCRA = 100%). Pure pelargonium essential oil (PPEO) demonstrated relatively good efficacy in relieving fatigue (SMD -0.70, 95% CrI [-1.2, -0.25]; SUCRA = 94.92%). CONCLUSION: SIP, MTI, APT, REBT, and PPEO appeared to be effective non-pharmacological interventions for optimizing nightshift nurses' total sleep score, regulating their sleep duration, and alleviating their depression, anxiety, and fatigue, respectively. Future well-designed studies are warranted to further validate the role of non-pharmacological therapies, particularly SIP and MTI, in regulating sleep among nightshift nurses. However, all findings were based on indirect evidence, which formed a star-shaped network with no closed loops. Therefore, the findings should be considered exploratory and hypothesis-generating, which are intended to provide preliminary guidance for future head-to-head comparative trials rather than establishing definitive clinical evidence. Clinical decisions should be made based on a comprehensive assessment that takes into account local resources, cultural context, and individual preferences of nurses. SYSTEMATIC REVIEW REGISTRATION: https://www.crd.york.ac.uk/PROSPERO/view/CRD420251180760.

Lien vers l'article

Shift Work and Psychological Distress Among Healthcare Workers: The Mediating Role of Sleep Quality and the Association with Job Dissatisfaction.

Bakırhan F, Küçükkelepçe O. *Healthcare (Basel)*. 2026 Aug 3;14(15).

Background/Objectives: The study evaluated the associations among shift work, sleep quality, psychological distress, and job dissatisfaction among healthcare workers and examined the indirect association between shift work and psychological distress through sleep quality. Methods: This cross-sectional analytical study included 276 healthcare workers at Adıyaman Kahta State Hospital. Sociodemographic and occupational characteristics were assessed using a questionnaire; psychological distress was measured with the Depression Anxiety Stress Scale-21 (DASS-21), and sleep quality with the Pittsburgh Sleep Quality Index (PSQI). Associations were examined using regression and mediation analyses. Results: Overall, 51.1% of participants worked shifts, and 46.0% reported job dissatisfaction. Shift workers had higher PSQI scores than regular daytime workers (10.21 ± 3.22 vs. 7.90 ± 3.48; $p < 0.001$) and higher DASS total scores (25.16 ± 9.35 vs. 20.28 ± 13.43; $p < 0.001$). PSQI scores were positively correlated with depression, anxiety, and stress scores. The mediation analysis showed a statistically significant indirect association between shift work and psychological distress through poorer sleep quality; the direct association was not statistically significant after sleep quality was included in the model. Psychological distress was independently associated with job dissatisfaction. Conclusions: These findings suggest that sleep quality may represent a statistical intermediary in the association between shift work and psychological distress. Sleep-focused and organisational strategies may warrant evaluation as potential approaches to support healthcare worker well-being.

Lien vers l'article

Troubles cognitifs et de la vigilance

Effect of an electroencephalogram-verified 20-min power nap on fatigue and daytime sleepiness among emergency doctors following night shifts: A randomized controlled trial.

Hussin W, Jaafar MJ, Tan HJ, Isa MHM, Sahibulddin SZ, Khaili NAM, et al. *Turk J Emerg Med*. 2026 Jul–Sep;26(3):189–96.

OBJECTIVE: To assess whether a 20-min power nap reduces fatigue and daytime sleepiness among emergency doctors following night shifts. METHODS: We conducted a randomized controlled trial involving 54 emergency doctors randomly assigned to intervention (n = 27) or control (n = 27) groups matched for gender, body mass index, and work zone. The intervention group received a 20-min power nap monitored by an electroencephalogram (EEG), whereas the control group remained awake. We measured fatigue using the Fatigue Assessment Scale (FAS) and daytime sleepiness using the Epworth Sleepiness Scale (ESS) before and after intervention. RESULTS: Both groups demonstrated comparable baseline fatigue levels with median FAS scores of 28 (interquartile range [IQR]: 21-32) versus 26 (IQR: 21-30) for intervention and control groups, respectively (P = 0.56). Following the intervention, the power nap group showed a median 3-point FAS reduction (IQR: -7 to 1), whereas controls experienced a median 4-point increase (IQR: 0 to 6) (between-group difference P < 0.001, Cliff's delta = 0.71, 95% confidence interval [CI]: 0.48-0.85). For daytime sleepiness, the intervention group showed a median 5-point ESS reduction (IQR: -7 to - 1) versus a median 4-point increase (IQR: 0 to 6) in controls (P < 0.001, Cliff's delta = 0.78, 95% CI: 0.57-0.89). Both outcomes demonstrated large effect sizes. EEG monitoring revealed that 81.4% of intervention participants achieved sleep onset within 0-4 min. CONCLUSION: A 20-min power nap significantly reduces fatigue and daytime sleepiness among emergency doctors following night shifts, with large effect sizes indicating substantial practical benefits and rapid sleep onset indicating severe sleep deprivation. This practical intervention supports implementing evidence-based power nap protocols in emergency departments.

Lien vers l'article

On-call work schedules, sleep knowledge, and sleep quality in medical trainees: results from a UK pilot study.

Zhang C, Raj J, Spruyt K, Komolafe M, Mutschelknaus M, DelRosso LM, et al. *J Thorac Dis*. 2026 Jul 31;18(7):738.

BACKGROUND: Evidence suggests that shift work and nocturnal on-call rotations have negative effects on the health of medical trainees. Data regarding the optimal frequency and duration of shifts that benefit the health of medical trainees, patient safety, and medical education are inconclusive. Additionally, the extent of medical trainees' knowledge about sleep medicine and its impact on their well-being during on-call periods remains unclear. The aim of this study was to evaluate the knowledge of trainees around sleep when on call and further elicit the impact of on-call periods on their sleep. METHODS: We sought to gather data on the effect of shift work and being on-call on sleep in medical trainees. The study was prospectively registered on ClinicalTrials.gov (NCT06706453; registered 11/09/2024). It was designed as a cross-sectional, online survey conducted through a secure online link (REDCap 14.0.42, Vanderbilt University, Nashville, TN, USA) to cover (I) demographics and place of work; (II) basic knowledge and perception of sleep; (III) sleep routine during "on-call" and "off-call"; and (IV) sleep-related questionnaires [Epworth Sleepiness Scale (ESS) and Insomnia Severity Index (ISI)]. A level of significance was indicated at P<0.05. Medical trainees were recruited through online distribution of the survey link via professional networks, institutional mailing lists, and trainee groups. RESULTS: The study was open between February and April 2025, with 107 respondents [mean ± standard deviation (SD): age 32±6 years; height 1.70±0.10 m; weight 69.3±14.6 kg; 41% male, 55% female, 4% identified as other; 28% were single, 73% lived in a relationship, and 32.0% had children; 82% were resident physicians]. The regular on-call working time per day was significantly higher than

when not being on call, with a median of 13 [interquartile range (IQR), 12, 13] vs. 9 (IQR, 9, 10) hours, P<0.05. During on-call periods, respondents experienced shorter sleep duration with 6 (IQR, 5, 7) vs. 7 (IQR, 6.5, 8) hours, more difficulties falling asleep (70% vs. 27%) and maintaining sleep (63% vs. 23%), and required more daytime naps (50% vs. 12%) (P<0.05, respectively). Time on the commute (one way) was negatively correlated with self-rated current sleep (Spearman r=-0.492; P=0.01). Knowledge about obstructive sleep apnea (OSA) was positively correlated with the sense of well-being (Spearman r=0.426; P=0.03), negatively correlated with the ESS score (Spearman r=-0.429; P=0.046), and negatively correlated with early awakening (Spearman r=-0.378; P=0.043). CONCLUSIONS: Medical trainees in the UK experience long on-call working hours with an impact on sleep quality and quantity. These findings have implications on work performance and social interactions. Sleep education may be used to improve sleep and well-being.

Lien vers l'article

Barriers to Night Shift Wellness in the Emergency Department: A Qualitative Study.

Tomberlin SJ, DeMellow JM. *J Emerg Nurs*. 2026 Aug 22.

INTRODUCTION: Research has demonstrated that night shift nursing and ancillary hospital staff face challenges ranging from sleep disorders to increased medication errors. Night shift work in the emergency department can pose unique wellness barriers worth exploring, given the patient population and the demanding, high-risk setting. METHODS: This qualitative descriptive study was conducted via online focus groups in the emergency department of a 355-bed teaching hospital. A total of 18 night-shift staff from clinical and nonclinical roles participated. A reflexive thematic analysis framework was used for coding and theme development. Data saturation was achieved by conducting additional focus groups, and credibility was ensured through reflexive journaling, member checking, deep immersion in the data, and triangulation across separate focus group meetings. RESULTS: Seven themes emerged: "Sleep as a balancing act," "Night shift workers want a life, too," "Night shift work impacts health," "Impaired professional effectiveness," "Fewer hands make for heavy work, which makes for fewer hands," "Organizational structures and schedules burden night shift," and "Shift vs shift (night shift problems)." The individual barriers were described as influencing and exacerbating one another. DISCUSSION: Participants identified both personal and work barriers as important to their wellness. Consistent with previous research, sleep, health, and social concerns were priorities. In the current study, participants also identified impaired professional effectiveness as both a measure of and a barrier to their wellness. Understanding these challenges and their impact on staff could inform interventions to improve the quality of life on the night shift.

Lien vers l'article

Sleep Quality and Physiological Stress in Emergency Physicians During 24-Hour Shifts: A Wearable-Based Occupational Health Assessment.

Sağlam Gürmen E, Yorgancıoğlu M, Demirbaş H. *Med Lav*. 2026 Aug 3;117(4):18894.

BACKGROUND: Shift-based work schedules may disrupt circadian rhythm and adversely affect sleep and stress regulation among healthcare workers. Emergency physicians are particularly exposed to high-intensity workloads and prolonged 24-hour shifts, which can increase occupational strain. Methods: This study was conducted between April and December 2024 in a tertiary emergency department. Participants wore a smartwatch continuously for 30 days to record sleep architecture and heart rate variability-based stress indicators. Physiological parameters obtained during 24-hour shifts and at home were compared. Analyses were performed across four professional-experience groups. RESULTS: Sleep duration, deep sleep percentage, deep sleep continuity score, breathing quality score, and overall sleep score were lower during 24-hour shifts, whereas light sleep percentage, nighttime awakenings, and stress levels were higher (all $p < 0.001$). Physicians with greater professional

experience had longer sleep duration and lower stress levels during 24-hour shifts compared with early-career residents. Multiple linear regression analysis indicated that professional experience was the only independent predictor of stress levels during shifts. CONCLUSIONS: Shift work in emergency medicine is associated with impaired sleep quality and increased physiological stress. Professional experience appears to mitigate stress responses but does not fully restore sleep quality. These findings support the need for targeted occupational strategies, including optimized workload distribution and structured support for early-career physicians, to improve well-being and ensure patient safety in high-intensity clinical environments.

Lien vers l'article

Comparative evaluation of gut health, inflammatory factors, and sleep quality among shift workers: A cross-sectional study.

Palve SS, Palve SB. *J Educ Health Promot*. 2026;15:313.

BACKGROUND: Night-shift work disrupts the body's natural circadian rhythm, leading to impaired sleep quality, altered gut function, and reduced emotional well-being. Circadian misalignment affects sleep duration and efficiency, disturbs gastrointestinal (GI) regulation, and increases the risk of mood disorders such as anxiety and depression. These cumulative effects can significantly impact overall health and quality of life in shift workers. MATERIALS AND METHODS: A cross-sectional comparative study was conducted among 200 individuals (100 day-shift and 100 night-shift workers) aged 25-40 years at a tertiary care hospital in Pune. Data was obtained using a structured questionnaire designed to assess sleep, gastrointestinal symptoms, and emotional health. Blood samples were analyzed for lipopolysaccharide (LPS), zonulin, C-reactive protein (CRP), interleukin-6 (IL-6), and tumor necrosis factor-alpha (TNF-α). Data was analyzed using SPSS version 25.0 (IBM Corp., Armonk, NY, USA); significance was set at $P < 0.05$. RESULTS: Night-shift workers reported significantly more gastrointestinal issues (heartburn, bloating, constipation, indigestion; $P < 0.050$) and emotional distress ($P = 0.010$) compared to day-shift workers. Elevated gut permeability markers (LPS: $P = 0.003$; zonulin: $P = 0.005$) were also found among night-shift workers. Inflammatory markers (CRP, IL-6, TNF-α) were significantly higher among night-shift workers ($P < 0.010$), indicating systemic inflammation. The quality of sleep was poor, along with shorter duration among night-shift workers, which was further aggravated by co-use, like smoking and alcohol ($P = 0.004$). Night-shift workers, especially the higher income group and females, experienced greater sleep disturbances and distress ($P < 0.020$). Day-shift workers who did regular physical exercise had improved sleep quality ($P = 0.003$). CONCLUSION: Night-shift work is associated with poor sleep quality, increased gut permeability, and elevated inflammatory markers in the body. Lifestyle interventions focusing on sleep, diet, and stress may reduce health risks associated with poor sleep quality.

Lien vers l'article

Associations between sleep, cognitive function, and work performance among rotating shift and night-shift healthcare workers: A systematic review.

Nuako I, Frimpong E, Dang-Vu TT. *Sleep Health*. 2026 Aug 31.

Rotating shift work, including night shifts, disrupts circadian rhythms and the sleep-wake cycle, contributing to sleep disturbances, cognitive impairment, and increased medical errors among healthcare workers. We evaluated associations between sleep quality and quantity, rotating shift work characteristics, cognitive function, and work performance among healthcare workers, and to identify moderating factors influencing these relationships in a systematic review. Six databases (PubMed, EMBASE, Scopus, Web of Science, Cochrane Library, and PsycINFO) and Google Scholar were searched from inception to April 30, 2026. Eligible experimental or observational studies were published in English and assessed sleep, cognitive functions, or work performance in rotating shift healthcare

workers. Risk of bias was assessed using the Newcastle-Ottawa Scale, RoB 2, and ROBINS-I V2 tools. Findings were synthesized narratively. We included 59 studies involving 17,660 participants. Poor sleep quality affected 52% to 90% of rotating night shift healthcare workers and was associated with impaired attention (50% higher at night vs. day), memory (OR = 1.86), medical errors (OR = 1.78-2.1), and slowed reaction time after 6 to 7 consecutive nights (comparable to BAC 0.05%). Counterclockwise and rapidly rotating schedules were associated with 1.3-hour less sleep, 44% greater attentional problems, and 36% to 50% greater work-life interference than clockwise rotation. Limiting shifts to ≤16 hours reduced attentional failures by 50%, while scheduled 30-minute naps reduced sleepiness (d = 0.43) and improved cognition (d = 0.23-0.33). Overall, rotating shift and night work substantially impair sleep, cognition, and occupational functioning among healthcare workers. Clockwise rotation, slower rotation, scheduled naps, and limiting extended shifts may mitigate these impairments. PROSPERO REGISTRATION: CRD420251128550.

Lien vers l'article

Sleep quality, insomnia, chronic fatigue, and work performance in three-shift and fixed-night-shift nurses: a comparative cross-sectional study.

Lee JE, Kim DY, Shin HH, Kim SH, Choi HY. *J Korean Biol Nurs Sci*. 2026 Aug;28(3):428–41.

PURPOSE: This study compared sleep quality, insomnia, chronic fatigue, and work performance between nurses working fixed night shifts and those working rotating three-shift schedules and examined the relationships among these variables by work schedule type. Factors associated with work performance were also identified. METHODS: This cross-sectional survey included nurses working at a university hospital. Data were collected using structured questionnaires measuring sleep quality, assessed with the Korean version of the Pittsburgh Sleep Quality Index, insomnia, chronic fatigue, and work performance. Data were analyzed using descriptive statistics, nonparametric tests, Spearman's correlation coefficients, and hierarchical multiple regression analysis using SPSS version 30.0 program. RESULTS: Insomnia differed significantly between nurses working fixed night shifts and those working rotating three-shift schedules. Among nurses on rotating three-shift schedules, poorer sleep quality, greater insomnia, and higher chronic fatigue were significantly associated with lower work performance, whereas sleep-related variables were not significantly associated with work performance among fixed-night-shift nurses. Hierarchical multiple regression analysis showed that education level, job satisfaction and fixed-night-shift work were significant factors associated with work performance. The final model explained 17.0% of the variance in work performance, with an adjusted R2 of .15. Job satisfaction showed the strongest association. CONCLUSION: The relationship between sleep-related factors and work performance differed by work schedule type. These findings suggest that interventions to improve nurses' work performance should combine sleep health management with organizational strategies, particularly efforts to improve job satisfaction. The role of fixed-night-shift nursing systems should be examined further in future studies.

Lien vers l'article

Non-pharmacological intervention for shift nurses' sleep: systematic review and meta-analysis.

Lee AYL, Tse LA. *Occup Med (Lond)*. 2026 Sep 3.

BACKGROUND: Nurses working rotating shifts often experience poor sleep quality due to circadian rhythm disruption. Previous reviews primarily focused on managerial changes to improve nurses' alertness during night shifts. Although some studies found that individual-level non-pharmacological interventions may significantly alleviate sleep problems, past reviews focused only on aromatherapy. AIMS: To understand current trends and synthesise the effectiveness of non-pharmacological interventions for improving shift nurses' sleep quality. METHODS: A systematic review and meta-analysis were performed using seven databases for experimental trials published from 2014 to 2024

examining the effectiveness of non-pharmacological interventions on improving shift nurses' sleep quality. The methodological quality of the included studies was assessed by Cochrane Risk of Bias 2 (RoB 2) tool. Meta-analysis was performed under fixed or random effect model according to heterogeneity assessed by I2 statistics. Sensitivity analysis and subgroup analysis were also conducted. RESULTS: A total of 15 articles were included in the narrative synthesis, and 11 of them were included in the meta-analysis. Mindfulness programs were the most common intervention, followed by aromatherapy. Overall pooled analyses of 11 studies showed a significant improvement in shift nurses' sleep quality with a standardised mean difference (SMD) of -0.63 (95% CI -1.01 to -0.25; P = 0.001; X2 = 71.53; I2 = 86%; P < 0.00001). Mindfulness programs were found to be beneficial, but no significant improvement was noted for aromatherapy. CONCLUSIONS: Non-pharmacological interventions could effectively improve shift nurses' sleep quality. Mindfulness programs are gaining popularity and were shown to be beneficial but need to be further improved with personalised counselling to improve compliance with irregular work schedules.

Lien vers l'article

Sleepiness During Night Shifts and Nurses' Self-Reported Cognitive Control, Cognitive Flexibility, and Handover Effectiveness: A Cross-Sectional Study.

Kaplan A, Özdemir C, Gökkaya Y. *Int Nurs Rev*. 2026 Sep;73(3):e70219.

AIMS: This study aimed to investigate the association between sleepiness and nurses' self-reported cognitive control, cognitive flexibility, and self-reported shift handover effectiveness during night shifts. BACKGROUND: Nurses are exposed to sleep deprivation during night shifts, constituting a substantial risk to both patient safety and workplace safety. METHOD: This descriptive study was conducted between January and June 2025 at a tertiary university hospital in Türkiye. The sample comprised 270 nurses employed in emergency departments, intensive care units, and medical/surgical wards. Data were collected using a Descriptive Information Form, the Visual Analog Scale, the Handover Evaluation Scale, and the Cognitive Control and Cognitive Flexibility Scale. EQUATOR CHECKLIST: This study was reported in accordance with the STROBE checklist. RESULTS: The nurses' mean sleepiness score was 6.41 ± 1.81. The mean sleepiness scores at midnight, 03:00 a.m., and 06:00 a.m. were 4.40 ± 2.62, 7.26 ± 2.17, and 7.58 ± 2.35, respectively. According to the analyses, higher sleepiness was associated with lower self-reported cognitive control and cognitive flexibility (β = -0.510, r = -0.379, p < 0.001) and lower self-reported shift handover effectiveness (β = -0.670, r = -0.619, p < 0.001). Additionally, a statistically significant indirect association between sleepiness and self-reported shift handover effectiveness through self-reported cognitive control and cognitive flexibility was observed (standardized β = -0.107, 95% BC CI: -0.257 to -0.023). The goodness-of-fit indices of the structural equation model indicated an acceptable model fit (CMIN/DF = 1.525, RMSEA = 0.044, CFI = 0.989). CONCLUSION: Higher night-shift sleepiness was associated with lower self-reported cognitive control and cognitive flexibility, as well as lower self-reported shift handover effectiveness. The findings highlight the importance of recognizing sleepiness as an occupational health concern and support further investigation into organizational strategies to reduce sleepiness and support nurses' cognitive functioning during night shifts. IMPLICATIONS FOR NURSING AND NURSING POLICY: Sleepiness among night-shift nurses should be recognized as an important occupational health and workforce concern. Healthcare organizations may consider monitoring sleepiness and exploring strategies to support nurses' cognitive functioning during night shifts. However, further multisite longitudinal and intervention studies are needed to determine the effectiveness of specific scheduling and fatigue-management interventions.

Lien vers l'article

Non-pharmacological therapies for sleep and occupational stress regulation among nightshift nurses: a systematic review and Bayesian network meta-analysis based on randomized controlled trials.

Deng G, Zeng L, Wang F, Hou H, Liu L, An Y, et al. *Front Public Health*. 2026;14:1882224.

PURPOSE: Nightshift nurses commonly suffer from sleep disturbances and occupational stress due to irregular work-sleep rhythms. This Bayesian network meta-analysis (NMA) compared the efficacy of non-pharmacological therapies to identify optimal interventions for improving sleep and reducing occupational stress in night/rotating-shift nurses. METHODS: Cochrane, Embase, PubMed, Web of Science, and CNKI were searched up to October 24, 2025. Studies were assessed for bias via ROB2. Primary outcomes were total sleep score and sleep duration; secondary outcomes included anxiety, depression, and fatigue scores. Bayesian NMA (R 4.5.2) calculated SMD (95% CrI) and SUCRA for intervention ranking. RESULTS: Eighteen studies involving 1,572 nurses were included. Sleep intervention program (SIP) appeared to be effective for optimizing total sleep score (SMD -0.80, 95% CrI [-1.2, -0.41]; SUCRA = 80.71%). Mindfulness training intervention (MTI) showed relatively good effectiveness in regulating sleep duration (SMD -1.0, 95% CrI [-1.4, -0.57]; SUCRA = 95.97%). Auricular plaster therapy (APT) appeared to be effective in alleviating depression (SMD -0.60, 95% CrI [-1.0, -0.17]; SUCRA = 84.60%). Rational emotive behavior therapy (REBT) showed superior efficacy for alleviating anxiety (SMD -3.0, 95% CrI [-3.6, -2.4]; SUCRA = 100%). Pure pelargonium essential oil (PPEO) demonstrated relatively good efficacy in relieving fatigue (SMD -0.70, 95% CrI [-1.2, -0.25]; SUCRA = 94.92%). CONCLUSION: SIP, MTI, APT, REBT, and PPEO appeared to be effective non-pharmacological interventions for optimizing nightshift nurses' total sleep score, regulating their sleep duration, and alleviating their depression, anxiety, and fatigue, respectively. Future well-designed studies are warranted to further validate the role of non-pharmacological therapies, particularly SIP and MTI, in regulating sleep among nightshift nurses. However, all findings were based on indirect evidence, which formed a star-shaped network with no closed loops. Therefore, the findings should be considered exploratory and hypothesis-generating, which are intended to provide preliminary guidance for future head-to-head comparative trials rather than establishing definitive clinical evidence. Clinical decisions should be made based on a comprehensive assessment that takes into account local resources, cultural context, and individual preferences of nurses. SYSTEMATIC REVIEW REGISTRATION: https://www.crd.york.ac.uk/PROSPERO/view/CRD420251180760.

Lien vers l'article

Modafinil for excessive daytime sleepiness: A systematic review and meta-analysis of randomized controlled trials.

de Lima MS, Coelho FMS, de Lima HA, de Souza D, Fernandes M, Lourenço JD, et al. *Sleep Med*. 2026 Nov;147:109116.

BACKGROUND: Excessive daytime sleepiness (EDS) is a common and disabling symptom of obstructive sleep apnea (OSA) and shift work sleep disorder (SWSD). Modafinil is widely used as a wakefulness-promoting agent; however, its efficacy and safety remain debatable. OBJECTIVE: To evaluate the efficacy and safety of modafinil for EDS in adults with OSA or SWSD. METHODS: We conducted a systematic review and meta-analysis of randomized controlled trials (RCTs). MEDLINE/PubMed, EMBASE, LILACS, and CENTRAL were searched from inception to May 2026, along with clinical trial registries. Eligible studies compared modafinil with placebo in adults with EDS related to OSA or SWSD. The primary outcomes were daytime sleepiness, assessed using the Epworth Sleepiness Scale (ESS), and objective wakefulness, assessed using the Maintenance of Wakefulness Test (MWT). The secondary outcomes included clinical global improvement (CGI-C), vigilance performance, and adverse events (AEs). The risk of bias was assessed using RoB2, and the certainty of the evidence was assessed using GRADE. RESULTS: Nine RCTs (1265 participants) were included in this review. In patients with

OSA, continuous ESS analyses, both change-from-baseline and endpoint, did not demonstrate statistically significant differences between the modafinil and placebo groups. Clinical response analyses based on the predefined ESS responder criteria generally favored the use of modafinil. For objective wakefulness, pooled MWT endpoint analyses demonstrated a statistically significant improvement favoring modafinil (MD 2.95 min, 95% CI 0.66-5.23, p = 0.01; I(2) = 36%). Modafinil also improved the CGI-C and vigilance performance outcomes. The certainty of evidence was rated as low for ESS outcomes and moderate for MWT outcomes. In patients with SWSD, two trials (487 participants) reported improvements in objective wakefulness, subjective sleepiness, and selected functional outcomes with modafinil; however, findings were not consistent across all outcome measures, and meta-analysis was not feasible because of insufficient reporting. Modafinil was associated with a higher risk of treatment discontinuation due to adverse events (RR 2.50; 95% CI 1.24-5.07). Headache, insomnia, nausea, and anxiety/nervousness occurred significantly more frequently with modafinil than with placebo, with pooled RRs of 1.38 (95% CI 1.10-1.72), 4.64 (95% CI 2.21-9.75), 2.57 (95% CI 1.33-4.97), and 3.08 (95% CI 1.49-6.39), respectively. No significant heterogeneity was observed between the studies reporting the tolerability outcomes. CONCLUSIONS: Modafinil improved objective wakefulness and neurobehavioral outcomes in patients with OSA-related EDS. ESS responder analyses favored modafinil, but continuous ESS outcomes did not show statistically significant benefits. In SWSD, available studies reported improvements in wakefulness, sleepiness, and some functional outcomes, although findings were not consistent across all measures. These results suggest that modafinil may improve wakefulness and daytime functioning in selected patients with EDS, but treatment is associated with an increased risk of adverse events. REGISTRATION: PROSPERO CRD420251149258.

Lien vers l'article

Napping improves interhemispheric functional coordination during night shifts in nurses: analysis of voxel-mirrored homotopic connectivity.

Cai LM, Huang ZY, Lin HY, Zhang XH, Dong QY, Chen HJ, et al. *Front Neurol*. 2026;17:1889180.

PURPOSE: Napping has been shown to improve cognitive performance in nurses working night shifts; however, the underlying mechanisms remain poorly understood. This study aims to investigate the effects of night shift napping on interhemispheric functional coordination and examine their relationship with cognitive changes in nurses. METHODS: A total of 21 female nurses participated in three sessions: Rested Wakefulness (RW), Sleep Deprivation (SD), and Napping (NAP). During the RW session, participants were allowed normal sleep; during SD, they remained awake for 24 h; and in the NAP session, a two-hour nap was allowed during their night shift. Neurocognitive assessments and resting-state functional magnetic resonance imaging were conducted after SD and NAP sessions. Voxel-mirrored homotopic connectivity (VMHC) analysis was used to assess interhemispheric functional coordination. RESULTS: Compared with RW, SD led to a significant increase in VMHC, primarily involving the bilateral temporal, occipital, and parietal cortices, sensorimotor areas, middle and inferior frontal cortices, insula, subcortical regions, and cerebellum [family-wise error (FWE)-corrected $p < 0.05$]. In contrast to SD, NAP resulted in a reduction of VMHC in a broad range of brain regions that exhibited increased VMHC during SD (FWE-corrected $p < 0.05$). The alterations in global VMHC after NAP were correlated with improved neurocognitive performance among the nurses ($p < 0.05$). CONCLUSION: Night shift napping appears to reorganize interhemispheric functional connections, which tentatively underpins its potential role in cognitive recovery from SD among nurses, with such neural-cognitive links necessitating further validation in expanded sample cohorts.

Lien vers l'article

HA comme facteur de risque

Généralités et prévention

Aucun article dans ce bulletin.

Activités physiques

The burden of work related musculoskeletal disorders among female beedi workers: a public health perspective.

Amanna S, Bhandary YP, Das R, Shenoy RP, Kotian A. *Front Public Health*. 2026;14:1879036.

The beedi industry remains an important source of livelihood for millions of people in India, particularly women from economically disadvantaged backgrounds. Beedi rolling is a labor-intensive, home-based occupation that involves manually rolling tobacco flakes in tendu leaves. Although it offers flexibility and allows women to manage household responsibilities, the nature of the work exposes them to several occupational health risks. Among these, musculoskeletal disorders (MSDs) are one of the most common and persistent concerns, largely due to prolonged sitting, repetitive hand movements, and poorly designed work environments. This narrative review synthesizes existing evidence on musculoskeletal disorders among female beedi rollers in India. A literature search was conducted using PubMed, Scopus, and Google Scholar to identify relevant peer-reviewed studies. Studies focusing on female beedi workers and reporting musculoskeletal problems or related occupational risk factors were included. Data on study characteristics, participant profiles, prevalence of pain in different body regions, and ergonomic risk factors were extracted and analyzed. The findings indicate a consistently high burden of musculoskeletal problems, particularly affecting the lower back, neck, shoulders, wrists, and fingers. These conditions are closely associated with long working hours, sustained forward-bent postures, and repetitive movements over extended periods. The informal nature of this work further limits access to occupational health services and awareness of preventive measures. Addressing these issues requires simple ergonomic interventions, health education, and stronger policy support for informal sector workers.

Lien vers l'article

Autres pathologies

A qualitative exploration of occupational influences on hydration, urination habits, food patterns, and self-care among patients with urolithiasis.

Nixon A, Lazar VR, Sekar K, Penchatholi A, Pendem S, Aiyappan SK, et al. *BMC Nephrol*. 2026 Jul 8;27(1).

BACKGROUND: Urolithiasis prevention depends on sustained fluid intake, timely urination, and appropriate dietary and lifestyle practices. However, occupational routines may make these behaviors difficult to maintain. This study explored participants' perceptions of how occupational routines relate to stone-preventive self-care among individuals with CT-confirmed urolithiasis. METHODS: An observational qualitative exploratory study was conducted at a tertiary care teaching hospital in South India. Adults with CT-confirmed urolithiasis and at least one calculus measuring 3 mm or more were recruited using maximum-variation purposive sampling across physically demanding or heat-exposed, sedentary or professional, travel-based or mobile, and shift-based or irregular work contexts. Face-to-face semi-structured interviews were conducted in Tamil between February and July 2025. Contemporaneous interview notes were expanded after each interview, translated into English, and analysed using thematic analysis. Clinical and CT-related variables were summarized descriptively to characterize the sample. RESULTS: Twenty-four of 32 approached participants were included. The

median maximum stone diameter was 7 mm (interquartile range, 5-10 mm), 15 participants had hydronephrosis and/or obstructive features, and 9 had recurrent stone disease. Six themes were identified: occupationally shaped inadequate hydration; restricted or delayed urination in relation to work setting; disruption of meal timing and food quality; occupational absorption and neglect of self-care; schedule instability, travel, and disruption of daily routines; and stone disease understood as multifactorial, with occupation interacting with other perceived contributors. Across themes, participants described three interconnected pathways through which work routines could make preventive self-care difficult to sustain: infrastructural and access constraints, schedule instability and routine disruption, and cognitive-attentional absorption. Family history, dietary and lifestyle practices, supplements, smoking, alcohol use, and comorbidities were also described as contextual contributors. CONCLUSIONS: Occupational routines may influence the feasibility of maintaining stone-preventive self-care among individuals with urolithiasis. The findings support occupation-sensitive counselling and practical workplace strategies that consider water and toilet access, break opportunities, travel demands, shift work, and workload. Longitudinal and implementation studies should assess whether such approaches improve preventive behaviours and stone-related outcomes.

Lien vers l'article

Cancers

Aucun article dans ce bulletin.

Risque routier, accidentologie

Occupational injuries and health risks among food delivery riders in China: research progress and prevention strategies.

Xu X, Ru X, He R, Shi Z. *Front Public Health*. 2026;14:1932962.

BACKGROUND: Platform-based on-demand food delivery has expanded rapidly in China, reshaping delivery work through strict deadlines, piece-rate pay, algorithmic management, long working hours, and intensive road exposure. These conditions may increase occupational injuries and broader health risks among food delivery riders. OBJECTIVES: This narrative review synthesizes evidence on occupational injuries and health risks among food delivery riders in China and identifies potential mechanisms and prevention strategies. METHODS: We searched PubMed, Web of Science Core Collection, and CNKI for Chinese- and English-language literature published from January 1, 2015 to March 31, 2026. Search concepts included food delivery riders, platform work, occupational injuries, road traffic injuries, musculoskeletal disorders, fatigue, sleep, mental health, algorithmic management, and occupational health protection. Titles, abstracts, and full texts were screened for relevance, and 47 eligible sources were included. RESULTS: Existing evidence indicates that riders face interrelated risks, including road traffic injuries, work-related musculoskeletal disorders, fatigue, sleep disturbance, occupational stress, anxiety and depressive symptoms, and chronic risks related to irregular eating and limited health management. Risky riding should be understood not only as an individual behavior, but also as a response to delivery deadlines, income pressure, algorithmic control, fatigue, road conditions, and inadequate protection. Key gaps include the predominance of cross-sectional studies, limited longitudinal and intervention evidence, insufficient subgroup analyses of full-time, crowdsourced, and part-time riders, and heavy reliance on self-reported exposure measures. DISCUSSION: Occupational injuries and health risks among food delivery riders should be viewed as occupational and public health issues embedded in platform-based work organization. Prevention should move beyond individual safety education and post-accident compensation to include upstream governance of algorithms, delivery deadlines and working hours, fatigue and sleep management,

traffic and ergonomic protection, accessible occupational health services, privacy-preserving monitoring, and multi-stakeholder support. Longitudinal and intervention studies are needed to clarify causal pathways and evaluate prevention strategies.

Lien vers l'article

RPS et QVT

Status and influencing factors of work-family conflict among operating room nurses in public hospitals: A cross-sectional study.

Wang L, Zhang X, Hu H, Chen M, Tu H. *Medicine (Baltimore)*. 2026 Aug 14;105(33):e50251.

This study investigates the current status of work-family conflict among nurses in operating rooms of public hospitals and explores its influencing factors. A cross-sectional survey was conducted from November to December 2025, involving 572 operating room nurses from 5 tertiary hospitals in Hubei Province. Data were collected via validated scales assessing work-family conflict, perceived organizational support, and work engagement. Statistical analyses included descriptive statistics, Spearman correlation, and multivariate linear regression. The median work-family conflict score was 54.00 (IQR: 43.25-58.00); perceived organizational support and work engagement scores were 45.00 (IQR:40.00-55.00) and 32.00 (IQR:25.00-40.00). Regression analysis revealed that monthly night shifts, weekly working hours, income, years of experience, emotional/instrumental support, and work engagement collectively explained 61.2% of work-family conflict variance (adjusted R2 = 0.612, P < .001). Elevated work-family conflict levels among operating room nurses are significantly influenced by occupational and organizational factors. Targeted interventions, such as optimizing shift schedules, enhancing organizational support, and fostering work engagement, are recommended to mitigate work-family conflict and improve nursing service quality.

Lien vers l'article

The relationship between work-family conflict and occupational stress in emergency department nurses: a cross-sectional correlational study.

Wang P, Zhang H, Chen X, Tong L. *Front Public Health*. 2026;14:1892914.

BACKGROUND: Emergency department (ED) nurses work in high-stress environments and face multiple role pressures simultaneously, making occupational stress and work-family conflict increasingly prominent occupational health concerns in this population. However, the prevalence and correlates of these two constructs have not been systematically examined in the Chinese ED nursing context. OBJECTIVES: This study aimed to describe the current status of occupational stress and work-family conflict among emergency department nurses, and to examine the association between the two constructs and identify potential influencing factors. METHODS: A cross-sectional design was adopted. From December 26, 2023, to January 18, 2024, a total of 1,540 emergency department (ED) nurses from 30 tertiary hospitals across 20 provinces, autonomous regions, and municipalities in China were recruited using a stratified cluster sampling method. Occupational stress and work-family conflict were assessed using a self-designed general information questionnaire, the occupational stress questionnaire, and the Work-Family Behavioral Role Conflict Scale. Data were analyzed using SPSS 25.0, employing descriptive statistics, Pearson correlation analysis, and multiple linear regression to examine the associations between occupational stress and work-family conflict. RESULTS: A total of 1,540 valid questionnaires were included in the final analysis. The majority of participants were female, aged 30-39 years, held a bachelor's degree, were married with children, and had a junior professional title. The mean total occupational stress score was 55.55 ± 16.78, with dimension scores of 19.22 ± 5.35 for effort, 23.72 ± 9.10 for reward, and 12.60 ± 4.74 for overcommitment. The mean total work-

family conflict score was 42.48 ± 16.21, with subscale scores of 18.27 ± 6.88 for work-to-family conflict and 24.21 ± 10.75 for family-to-work conflict. Pearson correlation analysis revealed that the total work-family conflict score and both of its dimensions were positively correlated with the total occupational stress score and all three dimensions, with correlation coefficients ranging from 0.462 to 0.664 (all P < 0.001), indicating moderate-to-strong associations between work-family conflict and occupational stress. Multiple linear regression identified the following factors as independently associated with occupational stress: bachelor's degree or above (B = 1.928, 95% CI: 0.021-3.835, P = 0.048), senior professional title (B = 4.744, 95% CI: 1.046-8.441, P = 0.012), weekly working hours of 41-48 h (B = 1.585, 95% CI: 0.292-2.877, P = 0.016), 49-58 h (B = 5.419, 95% CI: 3.073-7.765, P < 0.001), and ≥59 h (B = 7.353, 95% CI: 4.144-10.562, P < 0.001), monthly night shift frequency >8 times/month (B = 2.975, 95% CI: 0.689-5.261, P = 0.011), work-to-family conflict (B = 1.244, 95% CI: 1.123-1.365, P < 0.001), and family-to-work conflict (B = 0.319, 95% CI: 0.243-0.395, P < 0.001). CONCLUSIONS: Work-family conflict is significantly associated with elevated occupational stress among emergency department nurses. Nurses with higher education levels, senior professional titles, longer working hours, and higher monthly night shift frequency tend to report higher levels of occupational stress. These findings suggest that nursing managers may consider controlling working hours, monitoring night shift frequency (>8 shifts per month) and fostering a family-supportive organizational culture as potential strategies to alleviate occupational stress in this population. However, given the cross-sectional design of this study, these associations should not be interpreted as causal, and the proposed strategies should be validated through future longitudinal research.

Lien vers l'article

Mental health and well-being among military remotely piloted aircraft systems personnel: a systematic review.

Simms A, Greenberg N, Leightley D, Fear NT. *BMJ Mil Health*. 2026 Sep 4.

INTRODUCTION: Remotely piloted aircraft systems (RPAS) are integral to military operations. Although geographically removed from the battlefield, RPAS personnel are exposed to operational, organisational and moral stressors. This review synthesises evidence on the mental health and well-being of military RPAS personnel. METHODS: This review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines and Cochrane methodology. The protocol was preregistered on PROSPERO. Searches were conducted in MEDLINE, EMBASE, PsycINFO, CINAHL, Web of Science, ScienceDirect and PILOTS for studies from January 2002 to June 2025. Peer-reviewed studies examining mental health outcomes among military RPAS personnel were included while grey literature and technical repositories were screened for context. Study quality was assessed using NICE (National Institute for Health and Care Excellence) public health guidance checklists. Given variation in study designs and outcome measures, findings were synthesised narratively. RESULTS: Fourteen studies met the inclusion criteria, comprising nine cross-sectional surveys, two retrospective record analyses, one cohort study, one physiological experiment and one qualitative study. The prevalence of probable post-traumatic stress disorder (PTSD) ranged from 3.3% to 6.7%, which is broadly comparable to other military populations. Psychological distress was reported in 13.0%-16.0% of personnel, and high emotional exhaustion in 25.0%-37.0%. Suicidal ideation ranged from 4.4% to 8.0%. Subthreshold PTSD symptoms, sleep disturbance and functional impairment were frequently reported. The identified risk factors were predominantly organisational rather than combat-related, including long working hours, shift instability, understaffing, role conflict and sleep disruption. Protective factors included leadership support, team cohesion, adequate sleep and positive help-seeking attitudes. CONCLUSIONS: RPAS personnel do not show significantly higher rates of diagnosable mental disorder than other military groups. However, they do experience considerable occupational strain. Across the literature, adverse outcomes were more often linked to chronic organisational stressors than to direct battlefield exposure. Future research should prioritise longitudinal designs, comparative cohorts and

the evaluation of targeted occupational interventions. PROSPERO REGISTRATION NUMBER: CRD42022329937.

Lien vers l'article

Gaps in intravenous medication safety practices: A study on nurse compliance in Vietnam.

Tran Minh T, Nguyen Viet Dang K, Le Thi Huynh N, Luu Thi B, Luong Bao K, Nguyen Trong K, et al. *J Healthc Qual Res*. 2026 Sep 2;41(6):101232.

INTRODUCTION AND OBJECTIVES: Intravenous therapy is widely used in hospital settings, however, nurse practice compliance remains suboptimal in many contexts. Although standardized initiatives have been introduced to address this issue, gaps in regulatory guidance and empirical evidence persist in Vietnam. This study aimed to evaluate nurses' compliance with newly implemented program and to identify factors associated with non-compliance in inpatient care settings. MATERIALS AND METHODS: A cross-sectional descriptive study was conducted at the tertiary military hospital in Southern Vietnam. Data were collected from 255 nurses using a peripheral IV drug preparation and administration processes assessment form based on JCI standards. RESULTS: Compliance with standard IV medication preparation and injection procedures was 33.7% and 38%, respectively, with the mandatory step of "checking for drug interactions" achieved in only 38.8% of cases. Nurses with more than 10 years of experience demonstrated lower compliance with medication preparation procedures (AOR=0.44, 95% CI: 0.20-0.96; p=0.041). Significant differences in drug administration compliance were observed between emergency rooms and general wards (AOR=0.31, 95% CI: 0.15-0.63; p=0.001), weekdays and weekends (AOR=0.42, 95% CI: 0.21-0.83; p=0.001), and day and night shifts (AOR=0.30, 95% CI: 0.14-0.62; p=0.023), whereas gender, age, and professional level were not significantly associated. CONCLUSIONS: Nurse compliance with both IV medication preparation and administration procedures were low. Continuous international training programs for all nurses is essential to ensure medication safety.

Lien vers l'article

Sleep Health Is Not Optional, It's Operational: Introducing the Biopsychosocial Model of Sleep Deprivation on Warfighter Readiness.

Rodden J, Rogers T, Dolan D, Paxton Willing MM. *Mil Med*. 2026 Aug 1;191(Supplement_1):417–24.

Warfighter readiness encompasses personnel, training, equipment and supplies, and maintenance and necessitates service members operate physically and mentally at the highest levels. Total force fitness focuses on eight key domains to support service members' fitness and well-being, with a strong focus on physical, psychological, and social functioning, commonly referred to as biopsychosocial factors, to ensure optimal readiness. Due to its role in biopsychosocial functioning, adequate sleep is paramount for mission success. Yet, many service members are chronically sleep deprived for a myriad of reasons such as irregular shift schedules, operational demands, and high- stress environments. When sleep deprived, warfighter readiness is impaired. A comprehensive review of the growing body of literature on the biopsychosocial factors impacted by sleep deprivation is provided. Sleep deprivation can greatly impede physical, or biological, readiness through reduced muscular performance, increased risk of obesity, and impacted anaerobic and aerobic capacity. Similarly, psychological readiness necessitates attention, reaction time, memory, and emotional functioning, which are significantly related to sleep. Finally, social factors such as leadership abilities, interpersonal skills, emotional intelligence, and teamwork are worsened by sleep deprivation and negatively impact the likelihood of mission success. A biopsychosocial model of sleep deprivation on warfighter readiness was developed to visually represent the relationship between sleep and the biopsychosocial domains, providing an accessible tool for service members. Increased discussions on the effects of sleep deprivation on biopsychosocial factors associated with warfighter readiness may offer avenues for increasing buy-in from service

members to improve their sleep health, or patients to engage in treatment, thereby increasing warfighter readiness. Infographics, informed by the review of the literature and the biopsychosocial model, are provided to offer actionable tools for leadership and healthcare providers to effectively communicate the importance of prioritizing sleep within the force.

Lien vers l'article

Factors affecting job stress among health workers and support staff: A case study of an affiliated private hospital in Thailand.

Sirisawasd S, Wortong D, Wisedsammapan C, Treesak C, Eksaengsri P, Lawbundis D, et al. *Work*. 2026 Aug 17:10519815261476681.

BackgroundManaging an affiliated private hospital through various hospital groups in Thailand may increase job stress among health workers and support staff.ObjectivesTo determine the prevalence and identify the factors affecting job stress among 2242 health workers and support staff in an affiliated private hospital in Thailand.MethodsThis cross-sectional analytical study included, via convenience sampling, health workers and support staff who worked at seven hospitals of an affiliated private hospital located in the Bangkok Metropolitan Region (BMR) and the Eastern Economic Corridor (EEC) of Thailand. Online-based questionnaires about personal and working factors and the Thai version of the job content questionnaires (Thai-JCQ) were used as research instruments. Descriptive statistics were used to explain personal and working factors and determine the prevalence of job stress. Multiple logistic regressions were used to identify the factors affecting job stress among health workers and support staff.ResultsAbout 16.01% of the participants experienced job stress. The results of multiple logistic regressions showed that gender, age, educational level, sufficiency of income, hospital location, working hours per week, shift work, physical job demand, social support, and hazards at work were the factors affecting job stress among health workers and support staff.ConclusionRelevant private hospital groups may utilize the findings of this study to develop a sustainable system of job stress management for health workers and support staff by emphasizing the significance of personal and working factors.

Lien vers l'article

Effect of Occupational Stress on Cognitive Functions Among Resident Doctors.

Raza MS, Irani FB, Kadam PM. *Cureus*. 2026 Jul;18(7):e113425.

Background Occupational stress is highly prevalent among postgraduate medical residents due to heavy workload, prolonged duty hours, emergency responsibilities, and sleep deprivation. Chronic stress may adversely affect cognitive functions, compromising both the physician's well-being and patient care. This study aimed to assess occupational stress among postgraduate resident doctors and evaluate its effect on cognitive functions. Methods A cross-sectional observational study was conducted in the Department of Physiology, Mahatma Gandhi Mission Medical College and Hospital, Aurangabad, Maharashtra, India, from April 2024 to March 2026. A total of 281 resident doctors aged 25-45 years were enrolled and categorized into clinical, para-clinical, and pre-clinical departments. Occupational stress was assessed using the Professional Psychological Stress Test based on the David Fontana protocol. Cognitive functions, including attention, perception, execution, and working memory, were evaluated using standardized computerized cognitive tests. Data were analyzed using Statistical Product and Service Solutions (SPSS, version 24; IBM SPSS Statistics for Windows, Armonk, NY). Quantitative variables were expressed as mean ± SD and categorical variables as proportions. Chi-square test, one-way ANOVA, unpaired t-test, and Pearson's correlation coefficient were used, with $p < 0.05$ considered statistically significant. Results A total of 281 resident doctors were enrolled, including 239 (85.1%) clinical, 31 (11.0%) para-clinical, and 11 (3.9%) pre-clinical residents. Moderate occupational stress was observed in 133 (47.3%) participants, while 126 (44.8%) experienced high

stress, with significantly higher stress levels among clinical residents (p<0.00001). Clinical residents also had significantly longer working hours, more emergency duty calls, shorter sleep duration, and higher systolic and diastolic blood pressure than para-clinical and pre-clinical residents (all p<0.001). Cognitive assessment demonstrated significantly poorer attention, perception, and executive function among clinical residents (p<0.05), whereas working memory did not differ significantly across departments. In the clinical group, occupational stress showed significant positive correlations with impaired attention (r=0.172, p=0.008), executive function (r=0.249, p<0.0001), and working memory performance (r=0.340, p<0.0001), while no significant correlations were observed among para-clinical and pre-clinical residents. Conclusion Occupational stress is highly prevalent among postgraduate resident doctors, particularly in clinical specialties. Increased stress is associated with impaired cognitive functions, especially attention, executive function, and working memory. Heavy workload, sleep deprivation, unhealthy lifestyle habits, and elevated blood pressure further contribute to these adverse effects. Institutional stress-management strategies, promotion of healthy lifestyles, and mental health support are essential to improve resident well-being, cognitive performance, and quality of patient care.

Lien vers l'article

Social Identity and Organisational Citizenship Behaviour: Key Predictors of Critical Care Nursing Practice.

Oweidat I, Ziadeh A, Othman MI, Al-Tarawneh A, Al-Mugheed K, Baghdadi NA, et al. *Nurs Crit Care*. 2026 Sep;31(5):e70632.

BACKGROUND: Organisational Citizenship Behaviour (OCB) and Social Group Membership (SGM) are critical for enhancing organisational effectiveness and nurse well-being. While SGM's role in fostering OCB is acknowledged globally, its bidirectional relationship remains underexplored in nursing contexts. AIM: To identify predictors of SGM and OCB among critical care nurses and examine their reciprocal relationship. STUDY DESIGN: A cross sectional, correlational study was conducted. Validated tools, the Multiple Group Membership (MGM) Scale and Organizational Citizenship Behavior Scale (OCBS) were used. Data were analysed via Pearson correlation and multiple linear regression. RESULTS: Among 163 critical care nurses were included, significantly predicted OCB (β = 0.643, p < 0.001), explaining 78.2% of its variance. Work-related factors, including nursing experience (β = 0.503), weekly workload (β = 0.350) and night shifts (β = 0.482), also predicted OCB. Conversely, OCB predicted SGM (β = 0.643, p < 0.001), with 47.2% variance explained. Age, experience and night shifts further influenced SGM. A bidirectional relationship between SGM and OCB was confirmed, moderated by organisational demands and support structures. CONCLUSIONS: Enhancing nurses' engagement in professional and social networks fosters a reinforcing cycle of prosocial behaviour and social connectivity. Hospital administrators should prioritise SGM-promoting strategies, such as mentorship and professional associations, to improve OCB, job satisfaction and patient care outcomes. RELEVANCE TO CLINICAL PRACTICE: This study is relevant to critical care practice as it highlights how social identity and OCB influence teamwork, collaboration and voluntary supportive actions among nurses. Strong professional identification enhances cooperation, reduces conflict and improves communication, leading to better coordination, efficiency and ultimately higher quality patient care in critical settings.

Lien vers l'article

Empathy is positively associated with compassion fatigue among nurses working in neonatal and pediatric intensive care: A cross-sectional study.

Mutlu B, Yildirim Balkan Z, Cumur Baskir E. *An Sist Sanit Navar*. 2026 Aug 21;49(2).

BACKGROUND: This study examined the association between empathy and compassion fatigue among nurses working in neonatal and pediatric intensive care units. METHODS: A cross-sectional study was

conducted among nurses employed in neonatal and pediatric intensive care units at three hospitals in Turkey. Sociodemographic and occupational data were collected, and participants completed the Jefferson Scale of Empathy and the Compassion Fatigue Short Scale. Pearson´s correlation and linear regression analyses were performed to examine the association between empathy, compassion fatigue, and other study variables. RESULTS: Sixty-five nurses participated in the study, representing 90.3% of the target population. Mean empathy and compassion fatigue scores were 79.77 ± 8.69 and 52.09 ± 20.44, respectively. A moderate positive correlation was observed between empathy and compassion fatigue (r = 0.484). Empathy explained 22.2% of the variance in compassion fatigue (R^2 = 0.222; B = 1.139; 95% CI: 0.621 - 1.657; p < 0.001). Nurses who had voluntarily chosen nursing reported significantly lower compassion fatigue scores than those who had not (49.14 ± 19.39 vs 61.93 ± 21.42; p = 0.032). Working more than 50 hours per week was associated with higher empathy scores (84.06 ± 11.58 vs 78.82 ± 6.46; p = 0.046), but not with compassion fatigue. CONCLUSIONS: Higher empathy associates with greater compassion fatigue among nurses working in neonatal and pediatric intensive care units. Voluntarily choosing nursing associates with lower compassion fatigue, whereas longer working hours associate with higher empathy.

Lien vers l'article

Women's Work and its Effects on Personal Wellbeing and Satisfaction with Life: A Cross-Sectional Comparative Study.

Mohammed H, Awaad A, El-Gilany AH, Abdelraouf S, El-Refaay E. *Med Lav*. 2026 Aug 3;117(4):18572.

BACKGROUND: Women's participation in the workforce has increased substantially, raising important questions about how employment is associated with their subjective well-being and satisfaction with life. This study aimed to assess differences in personal well-being and life satisfaction between working and non-working women and to identify their significant socio-demographic and occupational predictors. METHODS: A cross-sectional comparative study was conducted among 402 women (192 working, 210 non-working) attending outpatient clinics at Mansoura University and primary healthcare centers. Data were collected using an interviewer-administered questionnaire covering sociodemographic factors, occupational characteristics, the Personal Well-being Index-Adult (PWI-A), and the Life Satisfaction Scale(LSS). Bivariate and binary logistic regression analyses identified the independent predictors. RESULTS: Working women reported significantly higher well-being (PWI-A: 72.06 ± 13.03) and life satisfaction (LSS: 21.52 ± 5.76) than non-working women (PWI-A: 67.42 ± 10.14; LSS: 17.55 ± 5.91). University education (AOR = 2.81) and sufficient income (AOR = 2.94) were strong predictors of higher wellbeing. Subjective well-being (AOR = 21.67) was a significant predictor of life satisfaction. Among working women, professional (AOR = 4.76) and administrative/technical occupations (AOR = 7.40), and absence of shift work (AOR = 6.53) were associated with better wellbeing. Shorter working hours (≤40 h/week; AOR = 14.34) were linked to higher life satisfaction. CONCLUSION: In Mansoura, working women exhibit higher subjective well-being and life satisfaction than non-working women. These outcomes were associated with education, income, and occupational conditions. Improving work conditions may contribute to better well-being among working women.

Lien vers l'article

Disability management and work ability in healthcare workers with a history of breast cancer: An occupational medicine perspective.

Crispino V, Garzillo EM, Reggiani L, Porciello G, Lauro A, Monaco MGL, et al. *Work*. 2026 Aug 21:10519815261477094.

BackgroundBreast cancer is the most common cancer among working-age women, with implications for employment continuity, particularly in the healthcare sector.ObjectiveThis study aims to characterize the clinical and professional profile of healthcare workers with a history of breast cancer

and to assess their residual work capacity using the Work Ability Index (WAI) in relation to their work history, cancer treatments and post-diagnosis organizational adjustments.Methodsan observational cross-sectional study was conducted on 20 affected healthcare workers, all women (mean age 55.5 years), 60% nurses, with high exposure to night work (95%, mean duration 21 years) and multimodal treatments in 77-85% of cases.ResultsOverall work capacity was moderate, with a mean WAI 1 score of 8/10, balanced physical and mental demands (WAI 2: 4/5). Over 70% reported fewer than 25 days of absence in the previous year. No statistically significant associations were found between total WAI and year of birth, age at menopause or year of diagnosis. A trend towards lower scores was observed in workers with greater exposure to night shifts, total mastectomy or conditional fitness assessments. Approximately half of the sample was deemed fit with limitations (exemption from night shifts, reduction in load handling) and benefited from job transitions to departments with lower physical demands.ConclusionsOur observations suggest that healthcare workers with a history of breast cancer can maintain satisfactory residual work capacity, and that targeted health surveillance, systematic WAI use, and personalized organizational accommodations may support occupational reintegration.

Lien vers l'article

Reimagining Hospital Medicine for Long-Term Sustainability.

Murray-Bainer S, Shyu M, Peterson R, Hendricks M, Welles C, Astik G, et al. *J Gen Intern Med*. 2026 Aug 18.

BACKGROUND: High rates of burnout and turnover exist in the field of hospital medicine. Factors that make the career less sustainable and impact hospitalists as they age are not well understood. OBJECTIVE: To identify factors that promote or impede hospitalist career longevity and understand job- and age-related challenges faced by older hospitalists. DESIGN: Mixed-methods study of semi-structured qualitative focus groups within a national hospitalist consortium followed by a brief participant survey. Focus group discussions were recorded, summarized, and analyzed using matrix analyses to identify themes and subthemes. PARTICIPANTS: Thirty-seven attendees of the HOMERuN collaborative session in November 2024 participated in the focus groups, and 24 completed the survey. MAIN MEASURES: Information sought in the survey included demographics, years practicing as a hospitalist, full- or part-time workload, their estimated age of retirement, and their opinions about whether they would still be working in hospital medicine and at what capacity. The focus groups sought to understand how aging impacts hospitalists' ability to perform their work, and what work structure or group factors support retention as a hospitalist. KEY RESULTS: Most survey participants were hospitalists for 10-14 years. Nearly two-thirds (63%) anticipated they would have a lower clinical load as they approached retirement. Three major themes emerged in the qualitative data: (1) aging affects the work in both positive and negative ways; (2) stage of parenting and generation appear to matter more than age; (3) career sustainability increases with influence over one's schedule, reduction in clinical load, and reduction or elimination of nighttime work. CONCLUSIONS: As a field, hospital medicine needs better structure to achieve career sustainability. Retention until traditional retirement age is thought to be more likely when hospitalists have flexible schedules, diversification of roles, reduction in clinical workloads, reduction or elimination of night shifts, and benefits with rising seniority.

Lien vers l'article

Santé psychique

Mental health and well-being among military remotely piloted aircraft systems personnel: a systematic review.

Simms A, Greenberg N, Leightley D, Fear NT. *BMJ Mil Health*. 2026 Sep 4.

INTRODUCTION: Remotely piloted aircraft systems (RPAS) are integral to military operations. Although geographically removed from the battlefield, RPAS personnel are exposed to operational, organisational and moral stressors. This review synthesises evidence on the mental health and well-being of military RPAS personnel. METHODS: This review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines and Cochrane methodology. The protocol was preregistered on PROSPERO. Searches were conducted in MEDLINE, EMBASE, PsycINFO, CINAHL, Web of Science, ScienceDirect and PILOTS for studies from January 2002 to June 2025. Peer-reviewed studies examining mental health outcomes among military RPAS personnel were included while grey literature and technical repositories were screened for context. Study quality was assessed using NICE (National Institute for Health and Care Excellence) public health guidance checklists. Given variation in study designs and outcome measures, findings were synthesised narratively. RESULTS: Fourteen studies met the inclusion criteria, comprising nine cross-sectional surveys, two retrospective record analyses, one cohort study, one physiological experiment and one qualitative study. The prevalence of probable post-traumatic stress disorder (PTSD) ranged from 3.3% to 6.7%, which is broadly comparable to other military populations. Psychological distress was reported in 13.0%-16.0% of personnel, and high emotional exhaustion in 25.0%-37.0%. Suicidal ideation ranged from 4.4% to 8.0%. Subthreshold PTSD symptoms, sleep disturbance and functional impairment were frequently reported. The identified risk factors were predominantly organisational rather than combat-related, including long working hours, shift instability, understaffing, role conflict and sleep disruption. Protective factors included leadership support, team cohesion, adequate sleep and positive help-seeking attitudes. CONCLUSIONS: RPAS personnel do not show significantly higher rates of diagnosable mental disorder than other military groups. However, they do experience considerable occupational strain. Across the literature, adverse outcomes were more often linked to chronic organisational stressors than to direct battlefield exposure. Future research should prioritise longitudinal designs, comparative cohorts and the evaluation of targeted occupational interventions. PROSPERO REGISTRATION NUMBER: CRD42022329937.

Lien vers l'article

Too Demanding to Stay? Fatigue and Depressive Symptoms as Mediators of Turnover Intention in Romanian Anaesthesia and Intensive Care Nurses: A Cross-Sectional Study.

Mazilu DC, Nedelcu V, Voicu I, Grigoraș I. *Nurs Rep*. 2026 Jul 30;16(8).

Background/Objectives: Nurses working in Anaesthesia and Intensive Care Units (AICUs) face high job demands that may negatively affect their well-being and increase turnover intention. In healthcare systems experiencing workforce shortages, such as Romania, understanding these mechanisms is essential for developing effective retention strategies. This study examined the relationship between job demands and turnover intention among Romanian AICU nurses, focusing on the mediating roles of professional fatigue and depressive symptoms. Methods: A cross-sectional survey was conducted among 1001 nurses from the AICUs of 68 Romanian public hospitals. Job demands were measured using a composite index including night shifts, long working hours, schedule changes, exposure to aggressive patients, calls from home, and alarm-related stress. Professional fatigue was assessed as subjective exhaustion after work, depressive symptoms with the Patient Health Questionnaire-9, and turnover intention as the intention to leave the workplace within 12 months. Mediation analyses were performed using PROCESS macro (Model 4) with logistic regression. Results: Job demands were positively associated with turnover intention. Higher job demands predicted increased professional

fatigue and depressive symptoms, both significantly associated with turnover intention. Mediation analyses demonstrated significant indirect associations through both professional fatigue and depressive symptoms, indicating partial mediation. Conclusions: Job demands are related to turnover intention among Romanian AICU nurses both directly and indirectly through professional fatigue and depressive symptoms. Retention strategies should address not only workload reduction, but also prevention and coping interventions targeting fatigue and psychological distress.

Lien vers l'article

Working conditions and mental health among doctors and nurses in the European Union, Iceland, and Norway: a cross-sectional survey.

Mediavilla R, Arrona-Gómez V, Zapata T, Lazëri L, Redlich C, Langins M, et al. *Lancet Reg Health Eur*. 2026 Oct;69:101809.

BACKGROUND: Europe faces persistent challenges in retaining and recruiting healthcare workers. Poor working conditions and deteriorating wellbeing may contribute to attrition and turnover intentions, yet large-scale studies examining associations between working conditions and mental health in Europe after the COVID-19 pandemic remain scarce. METHODS: We conducted a cross-sectional online survey between October 2024 and April 2025 among a non-probabilistic sample of doctors and nurses in the 27 EU countries, Iceland, and Norway. Working conditions included job demands, hazards, resources, and organisational support structures. Mental health outcomes were symptoms of depression and anxiety, probable alcohol dependence, and suicidal thoughts. Associations were estimated using adjusted Poisson regression models with random intercepts for countries. FINDINGS: We recruited 90,171 respondents, of whom 51,702 (58%) were nurses and 70,249 (78%) were females. Depressive symptoms affected almost one in three respondents (26,837, 30%), probable anxiety 18,677 (23%), probable alcohol dependence 2756 (2-4%), and suicidal thoughts 11,671 (13%). Physical violence affected 3673 doctors (10%) and 9545 nurses (18%). More than one in four doctors worked >50 h per week (10,441, 28%), and 13,262 doctors (35%) and 20,458 nurses (39%) worked more than one night shift per week. Adverse working conditions were strongly associated with poor mental health (adjusted prevalence ratios 0·98-1·94), while job resources and organisational support were associated with better outcomes (adjusted PRs 1·06-0·56). Dose-response and weighted analyses confirmed robustness. INTERPRETATION: Mental health problems are highly prevalent among European doctors and nurses and are systematically associated with working conditions. Improving working conditions and well-being may help address the ongoing healthcare workforce crisis. FUNDING: European Commission.

Lien vers l'article

Troubles cognitifs et de la vigilance

Associated factors and a risk prediction model for comorbid circadian rhythm sleep-wake disorders in patients with chronic fatigue syndrome: implications for early screening and sleep health management.

Shao X, Yang F, Qin LL, Shi JN, Chen M, Ge WJ, et al. *Front Psychiatry*. 2026;17:1826328.

OBJECTIVE: To characterize comorbid circadian rhythm sleep-wake disorders (CRSWDs) in patients with chronic fatigue syndrome (CFS), identify factors independently associated with CRSWDs, and develop a risk prediction model for early screening and sleep health management. METHODS: This retrospective study included 610 patients with CFS, who were randomly divided into a training cohort (n = 427) and a validation cohort (n = 183) in a 7:3 ratio. Demographic characteristics, lifestyle factors, and sleep-related variables were analyzed using univariable and multivariable logistic regression. A

nomogram was developed on the basis of the final model. Its discriminative ability, calibration, and public health usefulness were evaluated using receiver operating characteristic (ROC) analysis, the Hosmer-Lemeshow goodness-of-fit test, and decision curve analysis (DCA), respectively. RESULTS: Among the 427 patients with CFS in the training cohort, 208 (48.7%) had comorbid CRSWDs. Univariable analysis showed that gender, BMI, fatigue severity (Fatigue Scale-14, FS-14), slow-wave sleep (SWS, N3%), duration of screen use before bedtime and shift-work schedule type were significantly associated with CRSWDs ($P \leq 0.05$). Multivariable logistic regression analysis identified 12-hour rotating shifts (OR = 6.981, 95% CI: 2.603-18.720), 24-hour shifts (OR = 5.316, 95% CI: 2.197-12.863), 8-hour rotating shifts (OR = 3.982, 95% CI: 1.698-9.339), FS-14 (OR = 1.984, 95% CI: 1.442-2.728) and female sex (OR = 1.892, 95% CI: 1.178-3.037) as independently associated with an increased incidence of CRSWDs. By contrast, an increase in SWS (N3%) was independently associated with decreased odds of CRSWDs (OR = 0.982, 95% CI: 0.971-0.992). The AUCs in the training and validation cohorts demonstrated good model performance (AUC: 0.808, 0.767, respectively), and the Hosmer-Lemeshow test revealed a satisfactory fit. CONCLUSION: Female sex, greater fatigue severity, reduced N3 sleep, and rotating shift schedules were independently associated with comorbid CRSWDs in patients with CFS. The model may be useful for early screening and risk stratification and may help inform sleep hygiene education and schedule-related health management in individuals at elevated risk.

Lien vers l'article

Travail posté et de nuit facteur de risque

Généralités et prévention

Beyond burnout: occupational risk pathways linking stress, sleep, and multisystem morbidity in correctional officers.

Sun S, Xing P, Liu Y, Jia D. *Front Public Health*. 2026;14:1901314.

BACKGROUND: Correctional officers work in security-intensive environments characterized by organizational strain, threat exposure, shift work, staffing shortages, and restricted autonomy. Psychological outcomes have been most studied, yet sleep disruption, cardiometabolic risk, musculoskeletal pain, and fatigue are accumulating but often examined separately, obscuring multisystem occupational morbidity and prevention priorities. OBJECTIVE: To synthesize mental and emerging physical health risks among correctional officers using an integrated occupational risk pathways framework linking upstream exposures, bridging mechanisms, downstream outcomes, and intervention levers. METHODS: A structured narrative review informed by SANRA was conducted. Literature was identified from PubMed, Web of Science, Scopus, PsycINFO, and CNKI through February 2026. Two independent reviewers screened 405 records on title and abstract; 127 records proceeded to full-text review, of which 58 were excluded and 69 sources were retained for narrative synthesis. Evidence domains were classified as established, moderate, emerging, or plausible. RESULTS: The synthesis indicates substantial mental health burden (burnout, depression, anxiety, PTSD, moral injury, suicide risk) and emerging physical health evidence (cardiometabolic risk, musculoskeletal pain, fatigue). Sleep disruption, chronic stress, allostatic load, and hypervigilance emerge as central bridging mechanisms. Individual-focused interventions may have limited durability when organizational exposures persist; Total Worker Health-informed strategies integrating staffing, schedule reform, procedural justice, sleep and fatigue management, and surveillance are more consistent with multi-pathway risk. CONCLUSION: Correctional officer health should be treated as a public health and occupational safety issue rather than individual resilience failure. Future research should prioritize longitudinal cohorts, objective sleep and biomarker assessment, and rigorous evaluation of organizational interventions.

Lien vers l'article

The Impact of the Aging Workforce on Occupational Medicine: A Narrative Review.

Jogie JA, Ramlal R, Maharaj M, Maraj K, Singh M, Phillip K, et al. *Cureus*. 2026 Jul;18(7):e113037.

Population aging is changing the workforce and the practice of occupational medicine. Older workers bring experience, judgment, and knowledge. But they may also have wider differences in physical reserve, sensory function, sleep tolerance, chronic disease, and recovery after illness or injury. This review examines the effects of these changes on work ability, fitness-for-work assessment, injury prevention, health surveillance, sickness absence, return to work, and workplace accommodation. We conducted a narrative review of PubMed-indexed, English-language human studies from database inception to June 2026. The search covered aging workers, occupational medicine, work ability, physical and cognitive capacity, chronic disease, work injury, shift work, workplace accommodation, return to work, and age management. We included 46 publications after screening for relevance. We grouped the evidence by theme. We did not perform a meta-analysis or formal risk-of-bias assessment. The evidence supports assessment based on function, job demands, hazards, and available controls rather than age alone. The strongest evidence supports broad principles. These include reducing the mismatch between worker capacity and job demands, improving ergonomic and fatigue controls, supporting chronic disease management, and using individual, time-limited accommodations. Other important issues include multimorbidity, polypharmacy, frailty, sarcopenia, burnout, ageism, organizational justice, and digital adaptation. But the intervention evidence is varied and limited by observational study designs, inconsistent definitions, and the healthy worker effect. Occupational

medicine is moving from one-time medical clearance to long-term management of work ability. Occupational physicians should combine clinical findings with job analysis, prevention, rehabilitation, and organizational advice. Sustainable work needs age-inclusive design, fair access to training and accommodation, and regular review of risk controls.

Lien vers l'article

Activités physiques

Aucun article dans ce bulletin.

Autres pathologies

Early Auditory and Psychological Shifts in Newly Enlisted Republic of Korea Air Force Soldiers Exposed to Aircraft Noise: A Pilot Prospective Study.

Park K, Lee S, Kim HC, Cho HH. *Noise Health*. 2026 Jul–Aug 01;28(133):972–84.

INTRODUCTION: Aircraft noise is an occupational and environmental stressor associated with auditory injury and adverse mental health outcomes, but prospective evidence in newly enlisted personnel remains limited. This pilot study examined early changes in hearing thresholds and psychological well-being among Republic of Korea Air Force soldiers. METHODS: Newly enlisted soldiers were enrolled at baseline (n = 96); 52 completed 8-month follow-up. Air-conduction thresholds were measured at 250 to 8000 Hz. Psychological and sleep outcomes were assessed using the Patient Health Questionnaire-9 (PHQ-9), Beck Depression Inventory (BDI), Center for Epidemiologic Studies Depression Scale-Revised (CESD-R), Beck Anxiety Inventory (BAI), Pittsburgh Sleep Quality Index, and Insomnia Severity Index. Regression models adjusted for noise exposure and shift work evaluated associations between threshold shifts and psychological changes. RESULTS: Subclinical threshold shifts of 2 to 3 dB occurred at 4000 Hz in the right ear [False Discovery Rate-adjusted P -values (PFDR) = 0.007] and left ear (PFDR = 0.047), and at 250 Hz in the right ear (PFDR = 0.038). PHQ-9, CESD-R, and BAI scores increased over follow-up (all Praw < 0.05), although these changes were not significant after FDR adjustment (all PFDR > 0.05). No incident tinnitus was reported. In adjusted models, 4000 Hz threshold shifts showed borderline associations with increased BDI (β = 0.350, PFDR = 0.057) and CESD-R scores (β = 0.384, PFDR = 0.057). CONCLUSION: Short-term aircraft noise exposure was associated with early subclinical auditory shifts and numerical worsening of psychological measures. The 4000 Hz shift may represent a preliminary marker of depressive symptom emergence, supporting further investigation of sensory-psychological interactions in high-noise military environments.

Lien vers l'article

A qualitative exploration of occupational influences on hydration, urination habits, food patterns, and self-care among patients with urolithiasis.

Nixon A, Lazar VR, Sekar K, Penchatholi A, Pendem S, Aiyappan SK, et al. *BMC Nephrol*. 2026 Jul 8;27(1).

BACKGROUND: Urolithiasis prevention depends on sustained fluid intake, timely urination, and appropriate dietary and lifestyle practices. However, occupational routines may make these behaviors difficult to maintain. This study explored participants' perceptions of how occupational routines relate to stone-preventive self-care among individuals with CT-confirmed urolithiasis. METHODS: An observational qualitative exploratory study was conducted at a tertiary care teaching hospital in South India. Adults with CT-confirmed urolithiasis and at least one calculus measuring 3 mm or more were recruited using maximum-variation purposive sampling across physically demanding or heat-exposed,

sedentary or professional, travel-based or mobile, and shift-based or irregular work contexts. Face-to-face semi-structured interviews were conducted in Tamil between February and July 2025. Contemporaneous interview notes were expanded after each interview, translated into English, and analysed using thematic analysis. Clinical and CT-related variables were summarized descriptively to characterize the sample. RESULTS: Twenty-four of 32 approached participants were included. The median maximum stone diameter was 7 mm (interquartile range, 5-10 mm), 15 participants had hydronephrosis and/or obstructive features, and 9 had recurrent stone disease. Six themes were identified: occupationally shaped inadequate hydration; restricted or delayed urination in relation to work setting; disruption of meal timing and food quality; occupational absorption and neglect of self-care; schedule instability, travel, and disruption of daily routines; and stone disease understood as multifactorial, with occupation interacting with other perceived contributors. Across themes, participants described three interconnected pathways through which work routines could make preventive self-care difficult to sustain: infrastructural and access constraints, schedule instability and routine disruption, and cognitive-attentional absorption. Family history, dietary and lifestyle practices, supplements, smoking, alcohol use, and comorbidities were also described as contextual contributors. CONCLUSIONS: Occupational routines may influence the feasibility of maintaining stone-preventive self-care among individuals with urolithiasis. The findings support occupation-sensitive counselling and practical workplace strategies that consider water and toilet access, break opportunities, travel demands, shift work, and workload. Longitudinal and implementation studies should assess whether such approaches improve preventive behaviours and stone-related outcomes.

Lien vers l'article

Quantifying hydration-related measures and their association with wearable-derived ergonomic risk in warehouse workers.

Agostinelli PJ, Ozga M, Murphy C, Isaacs Z, De Chavez PJD, Brown LR, et al. *Front Public Health*. 2026;14:1903472.

INTRODUCTION: Warehouse workers may experience prolonged heat exposure and sweat loss, which can influence fatigue and movement patterns related to ergonomic risk. However, evidence in this occupational group remains limited. Therefore, we aimed to quantify acute (pre- and post-shift) and across-week (Days 1-4) changes in urine specific gravity (USG) and explore the associations between hydration-related measures (Δ urine color, sweat rate, and total fluid intake), wearable-derived ergonomic risk metrics, and self-reported fatigue. METHODS: A total of 25 employees at a Florida beverage bottling facility completed pre- and post-shift urine sampling over four workdays, recorded total fluid intake, and self-reported fatigue/energy. Sweat volume, sweat rate, sweat sodium concentration, and ergonomic risk metrics were measured on Days 2-4 using wearable devices. Linear mixed-effects models were used to assess USG changes by time point and day. Multiple linear regression was used to examine the associations between predictors (Δ urine color, sweat rate, and total fluid intake) and ergonomic risk outcomes and pre-to-post-shift changes in fatigue/energy. RESULTS: USG increased from pre- to post-shift ($p = 0.03$), with no significant effect of day across the workweek ($p = 0.58$). Change in urine color was significantly associated with the injury risk score ($p = 0.03$), total elevated risk movement count ($p < 0.01$), and mild-risk movement count ($p < 0.01$). Sweat rate was a significant predictor of changes in physical fatigue from pre- to post-shift ($p = 0.03$). Night-shift workers demonstrated higher activity scores and sweat sodium loss than morning-shift workers ($p < 0.01$). CONCLUSION: Workers frequently presented with concentrated urine both pre- and post-shift, and a greater within-shift worsening of urine color was associated with a higher occurrence of certain wearable-derived ergonomic risk movements.

Lien vers l'article

Cohort profile: Guangdong Pharmaceutical University Occupational Health Cohort in Xishan Coal Electricity Group (GDPU-OHC).

Lin H, Zhang H, Zhang Z, Yi S, Li L, Dai Y, et al. *Front Public Health*. 2026;14:1877648.

PURPOSE: Non-communicable diseases (NCDs) are an important public health concern among coal miners, who may experience occupational hazards, demanding working conditions, and unhealthy lifestyles. The Guangdong Pharmaceutical University Occupational Health Cohort in Xishan Coal Electricity Group (GDPU-OHC) is an ambispective occupational cohort established to characterize NCD burden, identify high-risk occupational groups, support future longitudinal analyses, and inform occupational health management in China. PARTICIPANTS: GDPU-OHC was conducted in Shanxi Province, China, with a retrospective component covering 2009-2022 and a prospective component initiated in May 2023. Among 36,577 workers with routine health examination records in 2023, 25,597 eligible employees (median age: 41.00 years, IQR: 35.00-50.00; 89.19% male) were recruited into the prospective cohort. All baseline participants were asked to provide fasting blood and urine samples. The main cohort is scheduled for follow-up every 3-5 years. Planned sub-studies include occupational protection improvement (N = 200), work pattern optimization (N = 600), dietary optimization (N = 600), and a gut microbiota modulation pilot study (N = 50). FINDINGS TO DATE: Among baseline participants, the crude prevalence of obesity, hypertension, type 2 diabetes, hyperuricemia, and hyperlipidemia was 22.64, 23.18, 13.89, 27.87, and 47.93%, respectively. Occupational hazards, including dust, noise, toxic gasses, and shift work, and lifestyle factors, including high oil/salt intake, smoking, and alcohol consumption, were common in this cohort and will serve as key exposures for future longitudinal analyses of NCD risks. These findings are descriptive; temporal trends and exposure-outcome associations were not assessed in the present cohort profile. FUTURE PLANS: The GDPU-OHC will continue prospective follow-up to capture long-term NCD outcomes and repeated occupational health information. Future studies will evaluate longitudinal associations between occupational/lifestyle exposures and NCD risks, develop planned sub-studies, and conduct mechanistic analyses involving oxidative stress, inflammatory markers, metabolomics, and gene-environment interactions. Study findings will be disseminated through serial publications.

Lien vers l'article

Cancers

Aucun article dans ce bulletin.

Risque routier, accidentologie

Heterogeneity and associated factors of palliative care core competency among oncology nurses: a latent profile analysis.

Yu Y, Luoye F, You D, Xu Z, Liu Y, Wu L, et al. *PeerJ*. 2026;14:e21645.

BACKGROUND: Global cancer incidence is expected to rise by 60% by 2040, intensifying the burden experienced by patients and their families. Palliative care improves quality of life in advanced disease and depends on oncology nurses' competencies in ethical decision-making, symptom management, and psychological resilience. Despite moderate overall proficiency, psychosocial shortcomings and heterogeneity in competency remain insufficiently characterized. This study utilized latent profile analysis (LPA), guided by shared decision-making and symptom management theories, to identify competency subgroups and associated factors among Chinese oncology nurses, aiming to guide targeted training interventions. METHODS: A cross-sectional survey was conducted among 241

oncology nurses from five hospitals in Shenzhen, China, between April and September 2025, using cluster sampling. Data were collected using a general information questionnaire, the 32-item Core Competency Questionnaire, and the Nurses' Professional Identity Scale. LPA models (1-4 classes) were fitted using R software (version 4.4.0). Univariate analyses, Analysis of Variance or Kruskal-Wallis H tests, and multivariate logistic regression were performed with SPSS 29.0 to evaluate demographic and occupational factors associated with profile membership. RESULTS: The mean core competency score was 76.02 ± 23.85 (59.3% of maximum). LPA revealed three distinct profiles: low-competency (27%), moderate -competency (45%), and high-competency (28%). The three-profile solution was selected by considering model fit indices, entropy, class proportions, and substantive interpretability (entropy = 0.931; Lo-Mendell-Rubin and bootstrap likelihood ratio tests $P < 0.001$). High-competency nurses scored 1.8-fold higher in ethical care, 2.4-fold higher in clinical practice, and 2.0-fold higher in psychological self-adjustment compared with the low-competency group (all $P < 0.001$). Systematic palliative care training was associated with higher odds of membership in the high-competency profile rather than the moderate-competency profile (OR = 3.210, 95% CI [1.298-7.940], P = 0.012). Higher average monthly night-shift frequency was associated with lower odds of membership in the low-competency profile rather than the moderate-competency profile (OR = 0.887, 95% CI [0.788-0.998], P = 0.046). Profiles diverged significantly in professional identity ($F = 24.11$, $P < 0.001$, $\eta (2) = 0.17$). CONCLUSION: Oncology nurses exhibit heterogeneous palliative care competencies characterized by strong ethical, moderate clinical, and weak psychological capacities. Systematic training was associated with high-competency profile membership, and targeted programs focusing on psychological self-adjustment may be explored in future longitudinal or interventional studies.

Lien vers l'article

RPS et QVT

Latent profiles of role overload and associated factors among nursing students: A cross-sectional study.

Zhang H, Meng Y, Xia Z. *Nurse Educ Today*. 2026 Nov;166:107294.

BACKGROUND: Nursing students experience role overload due to the dual pressures of academic coursework and clinical internships, which can lead to stress and negative mental health outcomes. However, there is limited research on the heterogeneity of role overload and its effects on nursing students' psychological well-being. OBJECTIVE: This study aims to explore the latent categories of role overload among nursing students, analyze the characteristics of these categories, and identify factors influencing role overload, providing insights for educational and psychological interventions. METHODS: A cross-sectional survey was conducted with 512 nursing students, and role overload was measured using the Role Overload Scale. Latent Profile Analysis (LPA) was used to classify students into different role overload categories, and multiple regression analysis was performed to identify predictive factors. RESULTS: The analysis revealed three categories of role overload: low, moderate, and high. Significant differences were observed among groups in night shift frequency, physical exercise, sleep regularity, and weekly working days (all $p < 0.05$). Factors such as night shift frequency, physical exercise, sleep regularity, and the number of patients cared for were significant predictors of role overload. Students in the high overload group reported frequent night shifts, irregular sleep, and a lack of physical exercise. CONCLUSION: The results indicate that role overload among nursing students varies across individuals, with high overload linked to unhealthy lifestyle habits and high work demands. Strategies such as improving sleep quality, reducing night shifts, and encouraging physical exercise may help alleviate role overload and support students' mental health.

Lien vers l'article

The relationship between work-family conflict and occupational stress in emergency department nurses: a cross-sectional correlational study.

Wang P, Zhang H, Chen X, Tong L. *Front Public Health*. 2026;14:1892914.

BACKGROUND: Emergency department (ED) nurses work in high-stress environments and face multiple role pressures simultaneously, making occupational stress and work-family conflict increasingly prominent occupational health concerns in this population. However, the prevalence and correlates of these two constructs have not been systematically examined in the Chinese ED nursing context. OBJECTIVES: This study aimed to describe the current status of occupational stress and work-family conflict among emergency department nurses, and to examine the association between the two constructs and identify potential influencing factors. METHODS: A cross-sectional design was adopted. From December 26, 2023, to January 18, 2024, a total of 1,540 emergency department (ED) nurses from 30 tertiary hospitals across 20 provinces, autonomous regions, and municipalities in China were recruited using a stratified cluster sampling method. Occupational stress and work-family conflict were assessed using a self-designed general information questionnaire, the occupational stress questionnaire, and the Work-Family Behavioral Role Conflict Scale. Data were analyzed using SPSS 25.0, employing descriptive statistics, Pearson correlation analysis, and multiple linear regression to examine the associations between occupational stress and work-family conflict. RESULTS: A total of 1,540 valid questionnaires were included in the final analysis. The majority of participants were female, aged 30-39 years, held a bachelor's degree, were married with children, and had a junior professional title. The mean total occupational stress score was 55.55 ± 16.78, with dimension scores of 19.22 ± 5.35 for effort, 23.72 ± 9.10 for reward, and 12.60 ± 4.74 for overcommitment. The mean total work-family conflict score was 42.48 ± 16.21, with subscale scores of 18.27 ± 6.88 for work-to-family conflict and 24.21 ± 10.75 for family-to-work conflict. Pearson correlation analysis revealed that the total work-family conflict score and both of its dimensions were positively correlated with the total occupational stress score and all three dimensions, with correlation coefficients ranging from 0.462 to 0.664 (all $P < 0.001$), indicating moderate-to-strong associations between work-family conflict and occupational stress. Multiple linear regression identified the following factors as independently associated with occupational stress: bachelor's degree or above ($B = 1.928$, 95% CI: 0.021-3.835, $P = 0.048$), senior professional title ($B = 4.744$, 95% CI: 1.046-8.441, $P = 0.012$), weekly working hours of 41-48 h ($B = 1.585$, 95% CI: 0.292-2.877, $P = 0.016$), 49-58 h ($B = 5.419$, 95% CI: 3.073-7.765, $P < 0.001$), and ≥59 h ($B = 7.353$, 95% CI: 4.144-10.562, $P < 0.001$), monthly night shift frequency >8 times/month ($B = 2.975$, 95% CI: 0.689-5.261, $P = 0.011$), work-to-family conflict ($B = 1.244$, 95% CI: 1.123-1.365, $P < 0.001$), and family-to-work conflict ($B = 0.319$, 95% CI: 0.243-0.395, $P < 0.001$). CONCLUSIONS: Work-family conflict is significantly associated with elevated occupational stress among emergency department nurses. Nurses with higher education levels, senior professional titles, longer working hours, and higher monthly night shift frequency tend to report higher levels of occupational stress. These findings suggest that nursing managers may consider controlling working hours, monitoring night shift frequency (>8 shifts per month) and fostering a family-supportive organizational culture as potential strategies to alleviate occupational stress in this population. However, given the cross-sectional design of this study, these associations should not be interpreted as causal, and the proposed strategies should be validated through future longitudinal research.

Lien vers l'article

Status and influencing factors of work-family conflict among operating room nurses in public hospitals: A cross-sectional study.

Wang L, Zhang X, Hu H, Chen M, Tu H. *Medicine (Baltimore)*. 2026 Aug 14;105(33):e50251.

This study investigates the current status of work-family conflict among nurses in operating rooms of public hospitals and explores its influencing factors. A cross-sectional survey was conducted from

November to December 2025, involving 572 operating room nurses from 5 tertiary hospitals in Hubei Province. Data were collected via validated scales assessing work-family conflict, perceived organizational support, and work engagement. Statistical analyses included descriptive statistics, Spearman correlation, and multivariate linear regression. The median work-family conflict score was 54.00 (IQR: 43.25-58.00); perceived organizational support and work engagement scores were 45.00 (IQR:40.00-55.00) and 32.00 (IQR:25.00-40.00). Regression analysis revealed that monthly night shifts, weekly working hours, income, years of experience, emotional/instrumental support, and work engagement collectively explained 61.2% of work-family conflict variance (adjusted R2 = 0.612, P < .001). Elevated work-family conflict levels among operating room nurses are significantly influenced by occupational and organizational factors. Targeted interventions, such as optimizing shift schedules, enhancing organizational support, and fostering work engagement, are recommended to mitigate work-family conflict and improve nursing service quality.

Lien vers l'article

Gaps in intravenous medication safety practices: A study on nurse compliance in Vietnam.

Tran Minh T, Nguyen Viet Dang K, Le Thi Huynh N, Luu Thi B, Luong Bao K, Nguyen Trong K, et al. *J Healthc Qual Res*. 2026 Sep 2;41(6):101232.

INTRODUCTION AND OBJECTIVES: Intravenous therapy is widely used in hospital settings, however, nurse practice compliance remains suboptimal in many contexts. Although standardized initiatives have been introduced to address this issue, gaps in regulatory guidance and empirical evidence persist in Vietnam. This study aimed to evaluate nurses' compliance with newly implemented program and to identify factors associated with non-compliance in inpatient care settings. MATERIALS AND METHODS: A cross-sectional descriptive study was conducted at the tertiary military hospital in Southern Vietnam. Data were collected from 255 nurses using a peripheral IV drug preparation and administration processes assessment form based on JCI standards. RESULTS: Compliance with standard IV medication preparation and injection procedures was 33.7% and 38%, respectively, with the mandatory step of "checking for drug interactions" achieved in only 38.8% of cases. Nurses with more than 10 years of experience demonstrated lower compliance with medication preparation procedures (AOR=0.44, 95% CI: 0.20-0.96; p=0.041). Significant differences in drug administration compliance were observed between emergency rooms and general wards (AOR=0.31, 95% CI: 0.15-0.63; p=0.001), weekdays and weekends (AOR=0.42, 95% CI: 0.21-0.83; p=0.001), and day and night shifts (AOR=0.30, 95% CI: 0.14-0.62; p=0.023), whereas gender, age, and professional level were not significantly associated. CONCLUSIONS: Nurse compliance with both IV medication preparation and administration procedures were low. Continuous international training programs for all nurses is essential to ensure medication safety.

Lien vers l'article

Factors affecting job stress among health workers and support staff: A case study of an affiliated private hospital in Thailand.

Sirisawasd S, Wortong D, Wisedsammapan C, Treesak C, Eksaengsri P, Lawbundis D, et al. *Work*. 2026 Aug 17:10519815261476681.

BackgroundManaging an affiliated private hospital through various hospital groups in Thailand may increase job stress among health workers and support staff.ObjectivesTo determine the prevalence and identify the factors affecting job stress among 2242 health workers and support staff in an affiliated private hospital in Thailand.MethodsThis cross-sectional analytical study included, via convenience sampling, health workers and support staff who worked at seven hospitals of an affiliated private hospital located in the Bangkok Metropolitan Region (BMR) and the Eastern Economic Corridor (EEC) of Thailand. Online-based questionnaires about personal and working factors and the Thai

version of the job content questionnaires (Thai-JCQ) were used as research instruments. Descriptive statistics were used to explain personal and working factors and determine the prevalence of job stress. Multiple logistic regressions were used to identify the factors affecting job stress among health workers and support staff.ResultsAbout 16.01% of the participants experienced job stress. The results of multiple logistic regressions showed that gender, age, educational level, sufficiency of income, hospital location, working hours per week, shift work, physical job demand, social support, and hazards at work were the factors affecting job stress among health workers and support staff.ConclusionRelevant private hospital groups may utilize the findings of this study to develop a sustainable system of job stress management for health workers and support staff by emphasizing the significance of personal and working factors.

Lien vers l'article

Mental health and well-being among military remotely piloted aircraft systems personnel: a systematic review.

Simms A, Greenberg N, Leightley D, Fear NT. *BMJ Mil Health*. 2026 Sep 4.

INTRODUCTION: Remotely piloted aircraft systems (RPAS) are integral to military operations. Although geographically removed from the battlefield, RPAS personnel are exposed to operational, organisational and moral stressors. This review synthesises evidence on the mental health and well-being of military RPAS personnel. METHODS: This review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines and Cochrane methodology. The protocol was preregistered on PROSPERO. Searches were conducted in MEDLINE, EMBASE, PsycINFO, CINAHL, Web of Science, ScienceDirect and PILOTS for studies from January 2002 to June 2025. Peer-reviewed studies examining mental health outcomes among military RPAS personnel were included while grey literature and technical repositories were screened for context. Study quality was assessed using NICE (National Institute for Health and Care Excellence) public health guidance checklists. Given variation in study designs and outcome measures, findings were synthesised narratively. RESULTS: Fourteen studies met the inclusion criteria, comprising nine cross-sectional surveys, two retrospective record analyses, one cohort study, one physiological experiment and one qualitative study. The prevalence of probable post-traumatic stress disorder (PTSD) ranged from 3.3% to 6.7%, which is broadly comparable to other military populations. Psychological distress was reported in 13.0%-16.0% of personnel, and high emotional exhaustion in 25.0%-37.0%. Suicidal ideation ranged from 4.4% to 8.0%. Subthreshold PTSD symptoms, sleep disturbance and functional impairment were frequently reported. The identified risk factors were predominantly organisational rather than combat-related, including long working hours, shift instability, understaffing, role conflict and sleep disruption. Protective factors included leadership support, team cohesion, adequate sleep and positive help-seeking attitudes. CONCLUSIONS: RPAS personnel do not show significantly higher rates of diagnosable mental disorder than other military groups. However, they do experience considerable occupational strain. Across the literature, adverse outcomes were more often linked to chronic organisational stressors than to direct battlefield exposure. Future research should prioritise longitudinal designs, comparative cohorts and the evaluation of targeted occupational interventions. PROSPERO REGISTRATION NUMBER: CRD42022329937.

Lien vers l'article

Job Satisfaction and Career Development Outlooks for Pediatric Hematology/Oncology Physician Hospitalists.

Prudowsky ZD, Freedman J, Johnson LM, Slone JS. *Pediatr Blood Cancer*. 2026 Sep;73(9):e70591.

Increasing complexity of inpatient pediatric hematology/oncology (PHO) with evolving workforce infrastructure has led many institutions to develop PHO hospitalist programs. As these programs grow,

so too does the need to sustain staffing models and provide career growth opportunities for physicians in the role. We surveyed PHO physician hospitalists to assess their views on job satisfaction and career development potential. Hospitalists reported a predominance of night-shift work with few protected opportunities for academic projects as negative aspects of the role. Most reported high job satisfaction and work/life balance but perceived fewer opportunities for promotion and awards. These responses highlight aspects of the hospitalist role worth strengthening to allow for retention in the role.

Lien vers l'article

Social Identity and Organisational Citizenship Behaviour: Key Predictors of Critical Care Nursing Practice.

Oweidat I, Ziadeh A, Othman MI, Al-Tarawneh A, Al-Mugheed K, Baghdadi NA, et al. *Nurs Crit Care*. 2026 Sep;31(5):e70632.

BACKGROUND: Organisational Citizenship Behaviour (OCB) and Social Group Membership (SGM) are critical for enhancing organisational effectiveness and nurse well-being. While SGM's role in fostering OCB is acknowledged globally, its bidirectional relationship remains underexplored in nursing contexts. AIM: To identify predictors of SGM and OCB among critical care nurses and examine their reciprocal relationship. STUDY DESIGN: A cross sectional, correlational study was conducted. Validated tools, the Multiple Group Membership (MGM) Scale and Organizational Citizenship Behavior Scale (OCBS) were used. Data were analysed via Pearson correlation and multiple linear regression. RESULTS: Among 163 critical care nurses were included, significantly predicted OCB ($\beta = 0.643$, $p < 0.001$), explaining 78.2% of its variance. Work-related factors, including nursing experience ($\beta = 0.503$), weekly workload ($\beta = 0.350$) and night shifts ($\beta = 0.482$), also predicted OCB. Conversely, OCB predicted SGM ($\beta = 0.643$, $p < 0.001$), with 47.2% variance explained. Age, experience and night shifts further influenced SGM. A bidirectional relationship between SGM and OCB was confirmed, moderated by organisational demands and support structures. CONCLUSIONS: Enhancing nurses' engagement in professional and social networks fosters a reinforcing cycle of prosocial behaviour and social connectivity. Hospital administrators should prioritise SGM-promoting strategies, such as mentorship and professional associations, to improve OCB, job satisfaction and patient care outcomes. RELEVANCE TO CLINICAL PRACTICE: This study is relevant to critical care practice as it highlights how social identity and OCB influence teamwork, collaboration and voluntary supportive actions among nurses. Strong professional identification enhances cooperation, reduces conflict and improves communication, leading to better coordination, efficiency and ultimately higher quality patient care in critical settings.

Lien vers l'article

Flexibility That Retains: How Scheduling Practices Influence Nurses' Decisions to Stay.

Odaibat R, Shosha GA, Oweidat I, Othman MI, Alsaeed HA, Al-Mugheed K, et al. *J Nurs Manag*. 2026;2026(1):e1548034.

BACKGROUND: Nurse retention is a pressing issue globally, particularly in Jordan, where governmental hospitals face significant challenges in maintaining a stable nursing workforce. AIM: This study aims to investigate the relationship between NMs' scheduling flexibility and nurse retention. METHODS: A cross-sectional correlational study was conducted involving 155 nurses from five governmental hospitals across Jordan. Data were collected from 1 October-1 November, 2024 using the Work Schedule Flexibility Survey (WSFS) and the Revised Casey-Fink Nurse Retention Survey. RESULTS: Nurses reported low levels of scheduling flexibility ($M = 1.52$, $SD = 0.28$) and retention factors ($M = 49.9$, $SD = 10.5$). Scheduling flexibility was positively correlated with job retention ($r = 0.79$, $p < 0.01$). Age and years of nursing experience were significant positive predictors of retention, whereas excessive night shifts, increased workload, and demanding work schedules were significant negative predictors. CONCLUSION: Improving scheduling flexibility, reducing workload, and strengthening

managerial support may enhance nurse retention. This study provides context-specific evidence from Jordanian nurses to inform workforce policies and sustainable retention strategies in health care. IMPLICATIONS FOR NURSING MANAGEMENT: Flexible scheduling is an important nursing management strategy that enhances nurses' job satisfaction and well-being. Since high turnover rates remain a global challenge, nurse managers should promote flexible work arrangements to improve work-life balance, reduce burnout, and strengthen staff retention. Such practices can also enhance organizational commitment and quality of patient care.

Lien vers l'article

Epidemiological Profile, Causes, and Trends of Mortality in the Emergency Department of a Tertiary Hospital in Northern India: A Five-Year Retrospective Study.

Mufti S, Junaid S, Amin I, Ali T, Mufti S. *Cureus*. 2026 Jul;18(7):e113759.

BACKGROUND: Emergency departments (EDs) in tertiary care hospitals serve as the primary interface for critically ill patients and are key indicators of health system performance. Mortality data from EDs provide actionable insights for quality improvement, resource allocation, and policy planning. OBJECTIVES: The objective of this study was to analyse patterns of emergency mortality at a tertiary care teaching hospital over five years (2021-2025) across temporal, demographic, diagnostic, and specialty-specific dimensions. METHODS: A retrospective analysis of 38,818 emergency admissions from January 2021 to December 2025 was performed. Medical records data coded with the International Classification of Diseases, Tenth Revision (ICD-10) were analysed after correction of coding errors and diagnostic reclassification. Statistical analyses included Kaplan-Meier survival analysis, chi-square tests, Mann-Whitney U and Kruskal-Wallis H tests, binary logistic regression, and the Standardized Mortality Ratio (SMR). RESULTS: A total of 7,318 deaths were recorded, for an overall crude mortality rate of 18.9%. Mortality declined from 26.2% in 2021 to 12.7% in 2025. Winter (23.6%), the dawn period (04:00-07:59 hours; 34.3%), and the night shift (27.3%) carried the highest mortality. Elderly patients aged 61+ years accounted for 3,879 (53.0%) deaths, at a 33.3% mortality rate. The circulatory system was the leading cause (1,954 deaths; 26.7%), while septicaemia (A41.9) was the single most common diagnosis (742 deaths). Increasing age was the strongest independent predictor of death (adjusted OR (aOR) 5.21, 95% CI 4.63-5.86). The SMR fell from 2.62 to 1.27 but remained above unity throughout. CONCLUSION: The ED demonstrates significant temporal, demographic, and diagnostic mortality patterning. The declining SMR reflects meaningful quality improvement, yet persistent excess mortality during winter, at night, and among the elderly identifies clear targets for system-level intervention.

Lien vers l'article

Problems, Causes, Impact, and Preventive Measures for Addressing Violence Faced by Nurses in Healthcare Settings in Thailand.

Mahawan N, Jantasuwan R, Pairoh H. *Int J Environ Res Public Health*. 2026 Aug 4;23(8).

Workplace violence (WPV) is a major occupational hazard for nurses in Thailand, negatively affecting psychological well-being, professional confidence, and patient care. In this quantitative cross-sectional analytic study involving 415 nurses, 43.61% reported experiencing at least one incident of WPV during the previous 12 months. Verbal abuse (41.20%) and physical violence (13.25%) were the most frequently reported forms, with a higher prevalence observed in urban hospitals than in rural hospitals (53.66% vs. 33.81%). Higher WPV risk was associated with working in medical wards (adjusted incidence rate ratio [Adj IRR] 3.33) and emergency departments (Adj IRR 2.47), caring for male-only patients (Adj IRR 1.87), younger age (Adj IRR 3.31), divorced or separated status (Adj IRR 3.05), rotating day and night shifts (Adj IRR 2.03), and extreme concern about WPV (Adj IRR 4.57). The psychological impact was considerable. Hypervigilance was the most common response (66.30%), especially

following physical violence (76.36%). More than 41% of affected nurses reported intentions to resign or transfer and reduced professional confidence. Reporting incidents was often perceived as ineffective, contributing to underreporting. Nurses identified clear disciplinary measures, increased staffing, improved workplace environments, stronger security systems, and organizational support as key prevention priorities. These findings highlight the urgent need for context-specific interventions, targeted staff training, and organizational strategies to protect nurse well-being, strengthen workforce resilience, and maintain quality patient care.

Lien vers l'article

Acceptance and normalization of aromatherapy in emergency department rest areas: a mixed-methods study using Normalization Process Theory.

Liu J, He Z, Yang X, Xu F. *Front Public Health*. 2026;14:1900791.

OBJECTIVE: To examine factors associated with emergency department nurses' acceptance of aromatherapy interventions in rest areas and to explore the internal relationships among core mechanisms of Normalization Process Theory (NPT). METHODS: An explanatory sequential mixed-methods design was employed. In Phase I, a cross-sectional survey was conducted among 601 emergency department nurses from 30 tertiary Grade A hospitals across multiple regions in China. An NPT-informed acceptance questionnaire was developed, and its structure was refined into a 19-item model using exploratory factor analysis (development sample, n = 300) and confirmatory factor analysis (validation sample, n = 301). Exploratory path analysis was then performed in the full sample (n = 601). In Phase II, 18 nurses were purposively selected based on quantitative findings for semi-structured interviews. Thematic analysis was used to contextualize and explain the quantitative results. RESULTS: A total of 601 nurses were included. The mean acceptance score was 73.74 ± 12.07 (95% CI: 72.77-74.71), indicating a moderately high level of acceptance. In univariate analyses, educational level, job role, allergy history, chronic respiratory conditions or odor sensitivity, and odor-related discomfort in the past year were associated with acceptance (all $p < 0.05$). In multiple regression analysis, higher night shift frequency ($\beta = -0.128$, $p = 0.003$), absence of a definite allergy history ($\beta = 0.118$, $p = 0.006$), and no odor-related discomfort in the past year ($\beta = 0.178$, $p < 0.001$) remained independently associated with acceptance. Split-sample validation demonstrated that the revised 19-item model provided a better fit than the initial 23-item five-factor model and showed good fit in the full sample. Path analysis revealed theory-consistent positive relationships from coherence to cognitive participation and reflexive monitoring, which in turn predicted collective action. Perceived barriers were negatively associated with collective action (all $p < 0.001$). Model fit was acceptable. CONCLUSION: Emergency department nurses demonstrated a moderately high level of acceptance of aromatherapy interventions in rest areas. This study provides preliminary evidence on the interrelationships among core NPT mechanisms and identifies perceived barriers as an independent constraint on collective action. Given the cross-sectional design and the use of a single dataset for both model refinement and path analysis, these findings should be interpreted as exploratory. It is important to note that this study assessed acceptance as an implementation outcome and did not evaluate the clinical effectiveness of aromatherapy.

Lien vers l'article

How Do Professional Nurses Practice Happiness in the Unstable Work Environment? Qualitative Inquiry.

Kawalya C, Mulira F, Gukiina J, Lwanga F. *Hosp Top*. 2026 Aug 28:1–11.

This study explores how professional nurses practice happiness in the unstable environment of Uganda's public hospitals. The study adopted an exploratory qualitative methodology using data collected through an open-ended instrument. Utilizing the qualitative data analysis software QSR

NVivo 9, the data were analyzed following Gioia's methodology. Verbatim text was used to explain the emergent themes. The study findings show that to successfully perform happiness practices, public hospital managers in Uganda engage, set positive goals, and put in place meaningful duties. The practices undertaken include socializing, saving lives, shift work, job fit, good working conditions, having a career, and calling. In future studies, it would be valuable to use longitudinal observations and experiments of the actual happiness practices. With the CAS of the dynamic environment, HR managers, hospital managers, and senior professional nurses can help health employees update their deep sense of purpose, and care delivery. It could help professional nurses and public hospitals address major happiness practices. The study produces a pioneering result on how professional nurses practice happiness in unstable work environments.

Lien vers l'article

Factors Associated with Wearable-Derived Physiological Stress Indicators Among Clinical Nurses: A Longitudinal Observational Study Using Continuous Monitoring.

Hsu WY, Tsai LY, Lai CY, Chen JP, Chen IC, Chen DR, et al. *Healthcare (Basel)*. 2026 Jul 27;14(15).

Background: Work-related stress affects both nursing care quality and workforce wellbeing, yet conventional self-report assessment is prone to recall bias and is unable to capture real-time fluctuations. This study used a consumer-grade wearable device to continuously monitor physiological stress and identify associated factors among clinical nurses. Methods: In this longitudinal observational study, 52 clinical nurses at a tertiary medical center located in Taiwan wore a Garmin Vivosmart 4 over a period of 90 consecutive days. The wearable-derived stress score (0-100), computed from heart rate variability, was then averaged to a daily mean per nurse. A multivariable generalized estimating equation (GEE) model identified independent predictors of daily mean stress. Results: Older age was associated with lower physiological stress (β = -0.55 per year of age; p = 0.001). Relative to day shift, night-shift work was associated with substantially lower stress (β = -11.97; p < 0.001), whereas evening shift work did not differ significantly from day shift work. Two or more shift changes monthly were associated with lower stress than a consistent schedule (β = -14.74; p = 0.002). A higher daily step count was associated with higher stress (β = 1.06 per 1000 steps/day; p < 0.001). Education, position, and department showed no significant association. Conclusions: Younger age, day shift work, a consistent schedule, and a higher daily step count were associated with higher scores on the wearable-derived physiological stress indicator. Wearable-based monitoring may offer a feasible, objective complement to traditional self-report assessment. Our findings require confirmation against validated self-report measures before informing occupational-health decisions.

Lien vers l'article

Prevalence and influencing factors of workplace violence among psychiatric nurses in China: a cross-sectional study.

Deng L, Wang Z, Cao G, Li X, Zhou M, Fan J, et al. *Front Public Health*. 2026;14:1822574.

OBJECTIVE: To investigate the prevalence of workplace violence (WPV) among psychiatric nurses in China and to identify factors associated with WPV, thereby providing evidence for the prevention and management of workplace violence in psychiatric nursing practice. METHODS: From September 2024 to September 2025, a cross-sectional survey was conducted among on-duty nurses from 20 psychiatric hospitals in Jiangsu Province, China. Data were collected using the Workplace Violence Scale (WVS), the Simplified Coping Style Questionnaire (SCSQ), the Chinese Perceived Stress Scale (CPSS), and the Survey of Perceived Organizational Support (SPOS). Multivariable logistic regression analyses were performed to examine factors associated with overall workplace violence, physical workplace violence, and non-physical workplace violence. RESULTS: A total of 43.9% of psychiatric nurses reported experiencing at least one form of workplace violence during the past 12 months. Multivariable logistic

regression analyses showed that sex, years of work experience, hospital level, department, number of monthly night shifts, and perceived organizational support were independently associated with overall workplace violence (all $p < 0.05$). Further analyses demonstrated that physical and non-physical workplace violence shared several common associated factors, including sex, years of work experience, hospital level, department, number of monthly night shifts, and perceived organizational support. Negative coping was independently associated only with non-physical workplace violence. CONCLUSION: Workplace violence remains highly prevalent among psychiatric nurses. Physical and non-physical workplace violence share common associated factors but may involve partly different underlying mechanisms. Physical workplace violence appeared to be more closely related to work-environmental and immediate patient-care conditions, whereas non-physical workplace violence was additionally associated with negative coping. These differences highlight the need to combine system-level prevention measures with targeted interventions addressing coping styles and non-physical aggression in psychiatric healthcare settings.

Lien vers l'article

Contributors to perceived workload strain in the pediatric intensive care unit.

Collins C, Hansen D, Levin A, Fackler J, Rosen M, Khaleghzadegan S, et al. *Intensive Care Med Paediatr Neonatal*. 2026;4(1):22.

OBJECTIVES: Patient outcomes worsen during periods of high intensive care units (ICU) capacity strain. Common metrics used to determine workload strain are overall patient census, turnover, and various patient acuity surrogates. We aimed to identify factors that increase perceived workload strain in the pediatric intensive care unit (PICU) using the NASA Task Load Index (TLX) and single item stress scores (SISS). METHODS: This is a single-center, prospective observational study with survey and electronic medical record (EMR) data. We used multiple NASA TLX and SISS metrics per PICU shift as markers of perceived workload strain. These data, collected from physician fellows and PICU charge nurses, were compared to various objective unit- and patient-level factors. We used exploratory visual techniques as well as linear mixed-effect models to characterize relationships between strain and individual variables. Data was collected during the COVID-19 pandemic between October 2020 and April 2021. RESULTS: Workload strain was perceived to be higher during day shifts than night shifts and higher for physicians than nurses. Patient volume, turnover, and acuity metrics as well as reported strain showed significant variation during data collection. Patient-level factors associated with increased strain included more patients per shift requiring renal replacement therapy or mechanical/positive pressure ventilation. Unit-level factors associated with increased strain included increases in the totals of patients admitted and discharged, number of blood draws, patient hours, and continuous medication infusions. CONCLUSIONS: We find that the PICU is a dynamic environment with variable demands and thresholds beyond which healthcare workers begin to feel increased strain. These findings provide depth and granularity for the study of workload strain in the PICU and could have implications for future improvements in patient care. SUPPLEMENTARY INFORMATION: The online version contains supplementary material available at 10.1007/s44253-026-00126-4.

Lien vers l'article

Santé psychique

Can Burnout Be Linked to Suicide Among Healthcare Professionals? A Cross-Sectional Study.

Ungurianu A, Marina V. *Nurs Rep*. 2026 Aug 6;16(8).

Background: Burnout, defined by emotional exhaustion, depersonalization, and reduced personal accomplishment, is a major occupational health concern among healthcare professionals. Burnout has

been linked to depression, anxiety, and medical errors, but its association with suicidality in healthcare settings remains insufficiently explored. Objective: To investigate the association between burnout dimensions and suicidality among healthcare professionals, and to identify occupational and demographic factors influencing this relationship. Methods: A cross-sectional study was conducted among 195 healthcare professionals in Romania, recruited through voluntary participation in an anonymized online survey. Burnout was assessed using an adapted tool inspired by the Maslach Burnout Inventory, while suicidality outcomes included suicidal ideation, self-harm, and suicide attempts. Descriptive statistics were calculated for demographic and professional variables. Pearson correlations and multivariable linear regression analyses, adjusted for age, professional experience, and shift work, were performed to evaluate associations between burnout dimensions and suicidality. Results: Emotional exhaustion ($r = 0.42$, $p < 0.001$) and depersonalization ($r = 0.37$, $p < 0.001$) were positively correlated with suicidality, while reduced personal accomplishment was negatively correlated ($r = -0.29$, $p = 0.002$). In multivariable regression, emotional exhaustion remained the only statistically significant independent predictor of suicidality after adjustment for demographic and occupational characteristics. Younger age and rotating/night-shift work were associated with higher suicidality in unadjusted analyses but were not independent predictors after multivariable adjustment. Strong correlations between burnout dimensions and physical symptoms highlighted the interplay between psychosocial strain and somatic health. Conclusions: Burnout, particularly emotional exhaustion, was independently associated with suicidality among healthcare professionals, while depersonalization demonstrated a significant unadjusted association that did not remain statistically significant after multivariable adjustment. Younger clinicians, shift workers, and those with less experience appear especially vulnerable. These findings emphasize that burnout is a multifactorial construct with both psychological and somatic dimensions, shaped by systemic workplace stressors. These findings support further evaluation of systematic screening, organizational reforms, mentorship programs, and confidential mental health support as potential components of suicide-prevention strategies for healthcare professionals.

Lien vers l'article

Physical and mental health among seasonal migrant farmworkers: Evidence from a survey conducted in northwestern Italy.

Sodano B, Catalano A, Avanzi S, Gebru KT, Bentsik A, Ricceri F. *Public Health*. 2026 Aug 25;259:106472.

OBJECTIVES: Farmworkers exhibit a higher prevalence of musculoskeletal disorders, levels of anxiety, depression, and work-related stress compared with general population. However, few studies have investigated the main predictors of these outcomes. Therefore, this study aimed to identify the key factors associated with musculoskeletal and psychological conditions among farmworkers. STUDY DESIGN: Cross-sectional study. METHODS: The data were collected from June 2025 to August 2025 through a voluntary survey conducted among farmworkers who operated in Saluzzo, Cuneo, Piedmont. Four outcomes were analyzed: musculoskeletal pain, work-related stress, depression, and anxiety. Age, length of service, working hours, smoking, physical activity, Body Mass Index (BMI), social support, and work-related stress were the predictors investigated. Multinomial logistic regression (through Odds Ratios (ORs)) and Poisson regression models (through Prevalence Ratios (PRs)) were used to analyze musculoskeletal pain and work-related stress, depression, and anxiety, respectively. Moreover, Spearman's correlation was measured among the outcomes. RESULTS: The population consisted of 155 male farmworkers of foreign origin. Smoking (musculoskeletal pain 2-4: OR:4.52; 95%CI:1.64-12.49) and higher BMI (musculoskeletal pain 2-4: OR:2.59; 95%CI:1.14-5.87) were identified as the main predictors of an increased risk of musculoskeletal disorders, while physical activity appeared to be protective (musculoskeletal pain 2-4: OR:0.31; 95%CI:0.12-0.84 considering 1-2 h). Moreover, physical activity was associated with higher levels of work-related stress (PR:1.90; 95%CI:1.15-3.14 and PR:2.82; 95%CI:1.62-4.92 considering 1-2 and 3+ hours, respectively). Finally, longer working hours (PR:2.33; 95%CI:1.61-4.66) and work-related stress (PR:16.48; 95%CI:2.12-

128.32) were associated with increased anxiety levels, whereas social support had a protective effect (PR: 0.39; 95%CI:0.19-0.81). CONCLUSIONS: Higher BMI and smoking were the main risk factors for musculoskeletal pain; physical activity was associated with higher work-related stress, while longer working hours and work-related stress with increased anxiety. In contrast, physical activity appeared protective against musculoskeletal pain, and social support was associated with lower anxiety levels. These findings highlight the need for preventive strategies tailored to this vulnerable population, including interventions aimed at reducing excessive physical workload, regulating working hours, improving psychosocial working conditions, and strengthening social support.

Lien vers l'article

Burnout and Associated Risk Factors a Cross-Sectional Study Among Staff of Radiology Clinics in Slovakia.

Slašťan M, Lesňáková A, Kubiš P. *Healthcare (Basel)*. 2026 Aug 4;14(15).

Background: With the rising demand for fast and reliable diagnosis the radiology departments struggle to keep up. In Slovakia however it is difficult to find more employees for radiology clinics and departments, therefore the employees are ever more overburdened, which may lead to burnout. Objective: The aim of our study was to assess the burnout situation among radiology clinics and departments employees and asses the specific causes that increase the risk of burnout. Compare the burnout profile of radiologists and technicians. And look for potential targets for intervention in order to stabilize and improve the situation. Methods: Standardized Burnout assessment tool (BAT), validated in Slovak and an author-developed exploratory instrument were distributed among employees of ten hospitals in Slovakia. Convenience sampling was used in ten radiology clinics and departments in big, small and specialized hospitals. The entire questionnaire consisted of 55 questions. The received responses were processed statistically and correlations were analyzed. Results: There have been 213 questionnaires distributed and 105 complete and valid responses received. 26 respondents (24.76%) had an overall BAT score at or above 3.02 and can be considered at risk of burnout. The dominants dimensions of burnout in our set were exhaustion (3.06) and cognitive impairment (2.76). The highest score in the author-developed exploratory instrument was in visual exhaustion of radiologists (3.78). In the group of workers with 5 or more 24 shifts monthly mental distance is elevated (3.05). Burnout profiles in equal groups (N = 46) of radiologists and radiology technicians were compared with significantly higher levels of cognitive impairment found in radiologist. Conclusions: In our study 24.76% of respondents can be considered in risk of burnout, with highest scores in exhaustion and cognitive impairment dimensions, emotional impairment was relatively lower. Cognitive impairment seems to be more prevalent among radiologist compared to radiology technicians. Higher number of 24-h shifts was associated with higher mental distance scores. The highest Likert scale scores in the author developed exploratory instrument are in visual exhaustion, professional isolation and the feeling of anonymous service.

Lien vers l'article

Mental health and well-being among military remotely piloted aircraft systems personnel: a systematic review.

Simms A, Greenberg N, Leightley D, Fear NT. *BMJ Mil Health*. 2026 Sep 4.

INTRODUCTION: Remotely piloted aircraft systems (RPAS) are integral to military operations. Although geographically removed from the battlefield, RPAS personnel are exposed to operational, organisational and moral stressors. This review synthesises evidence on the mental health and well-being of military RPAS personnel. METHODS: This review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines and Cochrane methodology. The protocol was preregistered on PROSPERO. Searches were conducted in MEDLINE, EMBASE, PsycINFO, CINAHL, Web

of Science, ScienceDirect and PILOTS for studies from January 2002 to June 2025. Peer-reviewed studies examining mental health outcomes among military RPAS personnel were included while grey literature and technical repositories were screened for context. Study quality was assessed using NICE (National Institute for Health and Care Excellence) public health guidance checklists. Given variation in study designs and outcome measures, findings were synthesised narratively. RESULTS: Fourteen studies met the inclusion criteria, comprising nine cross-sectional surveys, two retrospective record analyses, one cohort study, one physiological experiment and one qualitative study. The prevalence of probable post-traumatic stress disorder (PTSD) ranged from 3.3% to 6.7%, which is broadly comparable to other military populations. Psychological distress was reported in 13.0%-16.0% of personnel, and high emotional exhaustion in 25.0%-37.0%. Suicidal ideation ranged from 4.4% to 8.0%. Subthreshold PTSD symptoms, sleep disturbance and functional impairment were frequently reported. The identified risk factors were predominantly organisational rather than combat-related, including long working hours, shift instability, understaffing, role conflict and sleep disruption. Protective factors included leadership support, team cohesion, adequate sleep and positive help-seeking attitudes. CONCLUSIONS: RPAS personnel do not show significantly higher rates of diagnosable mental disorder than other military groups. However, they do experience considerable occupational strain. Across the literature, adverse outcomes were more often linked to chronic organisational stressors than to direct battlefield exposure. Future research should prioritise longitudinal designs, comparative cohorts and the evaluation of targeted occupational interventions. PROSPERO REGISTRATION NUMBER: CRD42022329937.

Lien vers l'article

Working conditions and mental health among doctors and nurses in the European Union, Iceland, and Norway: a cross-sectional survey.

Mediavilla R, Arrona-Gómez V, Zapata T, Lazëri L, Redlich C, Langins M, et al. *Lancet Reg Health Eur*. 2026 Oct;69:101809.

BACKGROUND: Europe faces persistent challenges in retaining and recruiting healthcare workers. Poor working conditions and deteriorating wellbeing may contribute to attrition and turnover intentions, yet large-scale studies examining associations between working conditions and mental health in Europe after the COVID-19 pandemic remain scarce. METHODS: We conducted a cross-sectional online survey between October 2024 and April 2025 among a non-probabilistic sample of doctors and nurses in the 27 EU countries, Iceland, and Norway. Working conditions included job demands, hazards, resources, and organisational support structures. Mental health outcomes were symptoms of depression and anxiety, probable alcohol dependence, and suicidal thoughts. Associations were estimated using adjusted Poisson regression models with random intercepts for countries. FINDINGS: We recruited 90,171 respondents, of whom 51,702 (58%) were nurses and 70,249 (78%) were females. Depressive symptoms affected almost one in three respondents (26,837, 30%), probable anxiety 18,677 (23%), probable alcohol dependence 2756 (2-4%), and suicidal thoughts 11,671 (13%). Physical violence affected 3673 doctors (10%) and 9545 nurses (18%). More than one in four doctors worked >50 h per week (10,441, 28%), and 13,262 doctors (35%) and 20,458 nurses (39%) worked more than one night shift per week. Adverse working conditions were strongly associated with poor mental health (adjusted prevalence ratios 0·98-1·94), while job resources and organisational support were associated with better outcomes (adjusted PRs 1·06-0·56). Dose-response and weighted analyses confirmed robustness. INTERPRETATION: Mental health problems are highly prevalent among European doctors and nurses and are systematically associated with working conditions. Improving working conditions and well-being may help address the ongoing healthcare workforce crisis. FUNDING: European Commission.

Lien vers l'article

Too Demanding to Stay? Fatigue and Depressive Symptoms as Mediators of Turnover Intention in Romanian Anaesthesia and Intensive Care Nurses: A Cross-Sectional Study.

Mazilu DC, Nedelcu V, Voicu I, Grigoraș I. *Nurs Rep*. 2026 Jul 30;16(8).

Background/Objectives: Nurses working in Anaesthesia and Intensive Care Units (AICUs) face high job demands that may negatively affect their well-being and increase turnover intention. In healthcare systems experiencing workforce shortages, such as Romania, understanding these mechanisms is essential for developing effective retention strategies. This study examined the relationship between job demands and turnover intention among Romanian AICU nurses, focusing on the mediating roles of professional fatigue and depressive symptoms. Methods: A cross-sectional survey was conducted among 1001 nurses from the AICUs of 68 Romanian public hospitals. Job demands were measured using a composite index including night shifts, long working hours, schedule changes, exposure to aggressive patients, calls from home, and alarm-related stress. Professional fatigue was assessed as subjective exhaustion after work, depressive symptoms with the Patient Health Questionnaire-9, and turnover intention as the intention to leave the workplace within 12 months. Mediation analyses were performed using PROCESS macro (Model 4) with logistic regression. Results: Job demands were positively associated with turnover intention. Higher job demands predicted increased professional fatigue and depressive symptoms, both significantly associated with turnover intention. Mediation analyses demonstrated significant indirect associations through both professional fatigue and depressive symptoms, indicating partial mediation. Conclusions: Job demands are related to turnover intention among Romanian AICU nurses both directly and indirectly through professional fatigue and depressive symptoms. Retention strategies should address not only workload reduction, but also prevention and coping interventions targeting fatigue and psychological distress.

Lien vers l'article

Moral distress risk profiling in ICU nurses: A cross-sectional study.

Hu W, Li X. *Nurs Ethics*. 2026 Aug 13:9697330261474090.

BackgroundMoral distress is common among ICU nurses and has been linked to burnout, diminished care quality, and turnover. Which factors matter most - and how they combine to shape individual risk - remains poorly characterised.Research objectiveTo identify factors associated with moral distress in ICU nurses and develop a parsimonious, exploratory risk-profiling model.Research designMulticentre cross-sectional survey with machine learning analysis.Participants and research contextA total of 318 registered nurses were recruited from ICUs of multiple tertiary hospitals across China between January and June 2025. Participants completed the Chinese-validated Moral Distress Assessment in Professional Practice Scale, the Connor-Davidson Resilience Scale, and the Pittsburgh Sleep Quality Index. High moral distress was present in 28.6% of participants. Data were split into training (n = 223) and test (n = 95) sets. LASSO regression selected 12 predictors from 29 variables, and 11 machine learning algorithms were compared. SHapley Additive exPlanations (SHAP) analysis guided feature reduction.Ethical considerationsApproved by the Ethics Committee of Jinzhou Medical University (No. JZMULL2025136). All participants gave written informed consent.FindingsGradient boosting machine (GBM) achieved the best balanced performance among all models (F1 = 0.767). SHAP-guided reduction to six features preserved full discriminative accuracy (AUC = 0.907, 95% CI: 0.834-0.980; DeLong p = 0.969 vs the 12-feature model). The six predictors, in order of importance, were monthly night shifts, financial responsibility role, psychological resilience, sleep quality, nurse-to-patient ratio, and weekly working hours. The model was well-calibrated (Hosmer-Lemeshow p = 0.220; Brier score = 0.097) and demonstrated net clinical benefit in decision curve analysis. Night shift frequency exhibited a nonlinear relationship with moral distress risk.ConclusionsSix modifiable or assessable factors accounted for most of the predictive signal. These exploratory findings suggest directions for future research and

potential intervention - night-shift arrangements, financial strain, and resilience- and sleep-focused support - but the model requires external validation before any clinical application.

Lien vers l'article

Associations of Night-Shift Work, Sleep Duration, and Physical Activity with Burnout Among Healthcare Workers in Bucharest, Romania: A Cross-Sectional Study Using the Burnout Assessment Tool.

El-Agha N, Moldovan AD, Tudorache SI, Spirea C, Nemeş R. *Healthcare (Basel)*. 2026 Aug 12;14(16).

Background/Objectives: Occupational burnout is a major challenge among healthcare workers. Night-shift work, insufficient sleep, and lifestyle factors may contribute to higher burnout levels. This study examined associations of night-shift work, sleep duration, and physical activity with burnout using the Burnout Assessment Tool (BAT). Methods: This cross-sectional study included 213 healthcare workers undergoing routine occupational health assessments in Bucharest, Romania, between January and April 2026. Burnout was assessed using the BAT-23 core questionnaire and BAT Secondary Symptoms module. Data on night-shift work, sleep duration, physical activity, age, sex, and professional experience were analyzed using group comparisons, correlations, and multivariable linear regression. Results: Night-shift workers had higher burnout scores than non-night-shift workers (3.36 ± 0.43 vs. 2.44 ± 0.41, $p < 0.001$), while physically active participants had lower scores than sedentary workers (2.46 ± 0.44 vs. 3.23 ± 0.52, $p < 0.001$). Burnout correlated negatively with sleep duration ($r = -0.336$, $p < 0.001$) and physical activity ($r = -0.655$, $p < 0.001$), and positively with night-shift work ($r = 0.798$, $p < 0.001$). In adjusted analysis, night-shift work (B = 0.831, 95% CI 0.637-1.024, $p < 0.001$), shorter sleep duration (B = -0.079, 95% CI -0.127 to -0.031, $p = 0.001$), and female sex (B = 0.162, 95% CI 0.029-0.295, $p = 0.017$; male = 0, female = 1) were associated with higher burnout; the model explained 58.6% of the variance. Conclusions: Night-shift work and shorter self-reported sleep duration were independently associated with higher burnout. Physical activity was associated with lower burnout only in unadjusted analyses. Owing to the cross-sectional design and self-reported exposures, findings should be interpreted as associations and confirmed longitudinally.

Lien vers l'article

Compassion-Fatigue Latent Profile Analysis A Cross-Sectional Study of Psychiatric Nurses' Typologies and Their Predictors.

Dou L, Shen H, Dou J, Wang X, Yao X, Zhang A, et al. *J Psychiatr Ment Health Nurs*. 2026 Aug 12.

INTRODUCTION: Workplace stress is prevalent in psychiatric nursing, with compassion fatigue significantly challenging nurses' well-being and care quality. Effective prevention requires identifying at-risk nurses using validated assessment frameworks. The contemporary approach to workforce mental health emphasises proactive, targeted interventions tailored to individual risk profiles. Nurses play a central role in sustaining therapeutic environments, and their psychological resources are critical to this process. However, the heterogeneity of compassion fatigue among psychiatric nurses remains underexplored. AIM: To empirically identify distinct subtypes of compassion fatigue among psychiatric nurses and examine their key predictors: METHODS: Using convenience sampling, 297 psychiatric nurses were selected from five Chinese hospitals to participate in a cross-sectional online survey. Measures of sociodemographic traits, occupational stress, social support, psychological resilience, coping methods, and compassion fatigue (as measured by the Professional Quality of Life Scale) were all filled out by the participants. Standardised scores for burnout, secondary traumatic stress, and compassion satisfaction were used as indicators in latent profile analysis. To find the ideal number of profiles, model fit indices such as the Lo-Mendell-Rubin likelihood ratio test, entropy, Bayesian information criterion, and Akaike information criterion were compared. Subsequent multivariate logistic regression examined predictors of profile membership. Data analysis was conducted using

statistical methods, and the STROBE guideline was followed in reporting. RESULTS: Three distinct compassion fatigue profiles were identified among psychiatric nurses: Mild Fatigue-Traumatic Stress (18.5%, n = 55), Moderate Fatigue-Low Burnout (64.0%, n = 190), and Severe Fatigue (17.5%, n = 52). Multivariate logistic regression revealed that older age, higher work stress, and greater use of negative coping were significant risk factors for more severe profiles, whereas not working night shifts, higher social support, greater positive coping, and higher psychological resilience were associated with reduced risk. The Severe Fatigue group exhibited the most adverse profile-highest work stress, lowest resilience and support, and greatest reliance on negative coping. Conversely, the group with the highest levels of resilience and social support was Mild Fatigue-Traumatic Stress. CONCLUSION: There are different subgroups of psychiatric nurses who feel compassion fatigue, each with unique risk and protective characteristics. These results highlight the necessity of profile-specific, focused treatments that address organisational and personal issues. Early career nurses and those working night shifts may benefit from priority support to mitigate occupational psychological burden and enhance workforce well-being.

Lien vers l'article

Sleep quality and anxiety among final-year medical interns during a family medicine clerkship: a cross-sectional study with implications for primary care training.

Çolak EK, Şimşek E. *BMC Prim Care*. 2026 Jul 29;27(1).

BACKGROUND: Sleep problems and anxiety are common but often under-recognised concerns in primary care. Final-year medical interns, who are medical students undertaking their final year of supervised clinical training, represent an important group for sleep health research because they face clinical responsibilities and concerns related to night shifts, emergency department work, direct patient care, and career-related stressors. This study aimed to evaluate sleep quality and its association with anxiety among medical interns during a Family Medicine clerkship. METHODS: This single-centre cross-sectional study was conducted at Ankara Yıldırım Beyazıt University Faculty of Medicine between June 2023 and September 2023. Data were collected from medical interns during their Family Medicine clerkship. Participants with previously diagnosed psychiatric disorders or sleep disorders were excluded. Face-to-face questionnaires were used, including a sociodemographic and lifestyle characteristics form, the Pittsburgh Sleep Quality Index, and the Beck Anxiety Inventory. Descriptive statistics, comparative analyses, correlation analysis, and multivariable logistic regression analysis were performed to evaluate factors associated with poor sleep quality. RESULTS: A total of 219 medical interns were included. Poor sleep quality was identified in 59.4% of participants. The mean Pittsburgh Sleep Quality Index score was 6.59 ± 3.36, the mean sleep duration was 6.73 h, and the mean Beck Anxiety Inventory score was 9.63 ± 8.45. Pittsburgh Sleep Quality Index and Beck Anxiety Inventory scores were positively correlated ($r = 0.320$, $p < 0.001$). In the multivariable logistic regression model, higher BAI scores, sex, and self-reported concern about taking night shifts were associated with poor sleep quality. Each one-point increase in the BAI score was associated with higher odds of poor sleep quality (odds ratio [OR] = 1.075; 95% confidence interval [CI]: 1.021-1.131; $p = 0.006$), while self-reported concern about taking night shifts was associated with 2.48-fold higher odds (OR = 2.483; 95% CI: 1.160-5.317; $p = 0.019$). Female sex was associated with lower odds of poor sleep quality compared with male sex (OR = 0.513; 95% CI: 0.265-0.994; $p = 0.048$); however, this finding was less robust in sensitivity analyses and should be considered exploratory. CONCLUSION: Poor sleep quality was common among medical interns and was associated with higher anxiety symptoms and self-reported concern about taking night shifts. These findings support consideration of sleep health and anxiety-related concerns within Family Medicine training. However, the cross-sectional design does not permit causal inference, and intervention studies are needed to determine whether educational, screening, or supportive approaches improve interns' well-being or future clinical practice.

Lien vers l'article

Troubles cognitifs et de la vigilance

Analysis of factors influencing post-pandemic sleep quality among hospital clinical staff in Haikou, China.

Wang Y, Xu S, Guo J, Stephens TN. *Front Psychiatry*. 2026;17:1791327.

INTRODUCTION: Factors contributing to poor sleep quality among healthcare professionals in the period immediately following the COVID pandemic are incompletely understood. METHODS: Clinical staff from one tertiary hospital in Haikou, China, were invited in April 2023 via social media groups to complete a 33-item questionnaire comprised of demographic data, factors influencing sleep quality, and the Chinese versions of the Pittsburgh Sleep Quality Index (PSQI), the simplified Generalized Anxiety Disorder Scale (GAD-2), and the simplified Patient Health Questionnaire (PHQ-2). Data were analyzed using descriptive and multiple linear regression statistics. RESULTS: The prevalence of poor sleep quality (PSQI score ≥7) was 55.8% (293/525). Sleep quality was significantly poorer in nurses as compared to physicians and other clinical staff (p=0.001). Staff with higher levels of education reported better sleep quality (p=0.039). Anxiety and depression symptoms were associated with poor sleep quality, prolonged sleep onset, decreased total sleep time, decreased sleep efficiency, sedative-hypnotic use, and daytime functional impairment (p<0.001). Multiple linear regression analysis found independent statistically significant associations between sleep quality and profession type, education level, night shift work, and anxiety and depression symptoms (p<0.05). DISCUSSION: In the period immediately following the COVID pandemic, nurses were found to have poorer sleep quality than physicians and other hospital clinical staff. Night shift work, lower education level, and anxiety and depressive symptoms demonstrated the largest associations with poor sleep quality. Further research should investigate methods for identifying hospital clinical staff at risk of poor sleep and its consequences and effective preventive and mitigation measures.

Lien vers l'article

Associated factors and a risk prediction model for comorbid circadian rhythm sleep-wake disorders in patients with chronic fatigue syndrome: implications for early screening and sleep health management.

Shao X, Yang F, Qin LL, Shi JN, Chen M, Ge WJ, et al. *Front Psychiatry*. 2026;17:1826328.

OBJECTIVE: To characterize comorbid circadian rhythm sleep-wake disorders (CRSWDs) in patients with chronic fatigue syndrome (CFS), identify factors independently associated with CRSWDs, and develop a risk prediction model for early screening and sleep health management. METHODS: This retrospective study included 610 patients with CFS, who were randomly divided into a training cohort (n = 427) and a validation cohort (n = 183) in a 7:3 ratio. Demographic characteristics, lifestyle factors, and sleep-related variables were analyzed using univariable and multivariable logistic regression. A nomogram was developed on the basis of the final model. Its discriminative ability, calibration, and public health usefulness were evaluated using receiver operating characteristic (ROC) analysis, the Hosmer-Lemeshow goodness-of-fit test, and decision curve analysis (DCA), respectively. RESULTS: Among the 427 patients with CFS in the training cohort, 208 (48.7%) had comorbid CRSWDs. Univariable analysis showed that gender, BMI, fatigue severity (Fatigue Scale-14, FS-14), slow-wave sleep (SWS, N3%), duration of screen use before bedtime and shift-work schedule type were significantly associated with CRSWDs (P ≤ 0.05). Multivariable logistic regression analysis identified 12-hour rotating shifts (OR = 6.981, 95% CI: 2.603-18.720), 24-hour shifts (OR = 5.316, 95% CI: 2.197-12.863), 8-hour rotating shifts (OR = 3.982, 95% CI: 1.698-9.339), FS-14 (OR = 1.984, 95% CI: 1.442-2.728) and female sex (OR = 1.892, 95% CI: 1.178-3.037) as independently associated with an increased incidence of CRSWDs. By contrast, an increase in SWS (N3%) was independently associated with decreased odds of CRSWDs (OR = 0.982, 95% CI: 0.971-0.992). The AUCs in the training and validation cohorts demonstrated good model performance (AUC: 0.808, 0.767, respectively), and the Hosmer-

Lemeshow test revealed a satisfactory fit. CONCLUSION: Female sex, greater fatigue severity, reduced N3 sleep, and rotating shift schedules were independently associated with comorbid CRSWDs in patients with CFS. The model may be useful for early screening and risk stratification and may help inform sleep hygiene education and schedule-related health management in individuals at elevated risk.

Lien vers l'article

From Occupational Hazard to Public Health Concern: A Bibliometric and Knowledge-Mapping Analysis of Sleep Disorders Among Nurses Worldwide (1985-2025).

Lu S, Wen J, Wang D, Xu M, Dai Y, Chen L, et al. *J Nurs Manag*. 2026;2026(1):e7621317.

PURPOSE: Sleep disorders among nurses are highly prevalent, affecting well-being, clinical performance, and patient safety. A comprehensive mapping of global research trends is lacking. This study evaluates the evolution and focal points of research on sleep disorders among nurses over the last 4 decades, utilizing bibliometric analyses. METHODS: We performed a bibliometric analysis of 1553 English-language publications retrieved from the Web of Science Core Collection (WoSCC) (1985-2025). Publication trends, country and institutional contributions, collaboration networks, cocitation, and keyword co-occurrence were analyzed. RESULTS: Research output increased steadily, with a sharp surge after 2020, reflecting the impact of COVID-19. The United States and China were leading contributors, but international collaboration was sparse. Core themes included insomnia and sleep quality, shift work and circadian misalignment, and psychological sequelae such as stress, depression, and burnout. Recent hotspots emphasized patient safety, measurement validation, and intervention trials. CONCLUSION: The field is expanding rapidly yet remains fragmented. Harmonized measurement, system-level interventions, and stronger international collaboration are required to translate research into sustainable improvements in nurse health and patient safety.

Lien vers l'article

Protecting episodic memory after sleep loss: Similar benefits of exercise and naps via distinct neural contributions.

Lotlikar MS, Ayotte B, Choi A, Seo F, Robertson EM, Maso FD, et al. *Proc Natl Acad Sci U S A*. 2026 Aug 11;123(32):e2528246123.

Sleep loss is a public health concern requiring widely accessible cost-effective interventions to counteract the cognitive and brain health impairments caused by it. Sleep loss impairs the brain's capacity to form new episodic memories, which is critical for everyday cognition, future planning, and decision-making. In this study, we compared the protective effect of a 20-min exercise and a 90-min nap against a no-intervention control condition on the capacity to encode episodic memory after 30 h of uninterrupted wakefulness and examined underlying neural mechanisms using electroencephalography. Both exercise and nap preserved episodic memory after sleep loss, with an average of 22% higher memory performance than the control condition. Electroencephalography revealed distinct neural mechanisms within the intervention groups, which significantly contributed to memory performance. After napping, the brain-state markers of neural fatigue and sleep pressure determined memory performance more than episodic memory markers and after exercise, only episodic memory markers significantly contributed to memory performance. In contrast, in the control group, none of these markers explained memory performance. Instead, those markers were associated with fatigue, suggesting compensatory neural efforts. Consistent with the principle of neural degeneracy, in which different brain mechanisms can yield similar outcomes, after sleep loss exercise facilitates efficient neural processing while napping makes the brain state conducive to new learning. These results warrant implementation studies within safety-critical occupations such as healthcare, shiftwork, mining, and transportation, where implementing sleep hygiene recommendations to

counteract sleep loss is not effective or practical, but preserving brain and cognitive health is of global importance.

Lien vers l'article

Validation and Feasibility of a Consumer-Grade Wearable Sleep Monitoring Device and an Exploratory Evaluation of Sleep Characteristics and Associated Factors Among Nurses: Observational Cohort Study.

Lim SH, Aloweni F, Ong P, Ang SY. *JMIR Nurs*. 2026 Aug 19;9:e96912.

BACKGROUND: Shift work disorder and insufficient sleep are prevalent among nurses, leading to fatigue, reduced well-being, and potential safety concerns. The increasing use of wearable sleep-tracking devices presents an opportunity to evaluate nurses' sleep quality objectively. OBJECTIVE: The primary objective was to evaluate the feasibility of wearable-based sleep monitoring and to obtain preliminary evidence of agreement with validated actigraphy among nurses. The secondary objective was to describe nurses' sleep characteristics and to examine exploratory associations between sociodemographic characteristics, shift patterns, sleep hygiene, and sleep parameters. METHODS: A 2-phase feasibility observational cohort study was conducted in a tertiary hospital in Singapore. In phase 1, 5 nurses concurrently wore a consumer-grade, wrist-worn Apple Watch Series 10 and a validated actigraph (GENEActiv; ActivInsights Ltd) for 2 weeks. Preliminary agreement between the Apple Watch and GENEActiv was examined using intraclass correlation coefficients. Feasibility was determined through wear-time compliance and data completeness. In phase 2, 50 nurses working rotating or single shifts completed demographic and work-related questionnaires and the Sleep Hygiene Index. Multiple linear regression analyses were performed to examine exploratory associations between selected covariates and sleep parameters, with adjustment for age, sex, BMI, parental status, workplace, total length of service, and sleep hygiene. RESULTS: The Apple Watch showed preliminary evidence of agreement with GENEActiv for total sleep time, in-bed wake time, and sleep efficiency (intraclass correlation coefficients of 0.95, 0.72, and 0.69, respectively), with high wear compliance and minimal missing data, supporting its feasibility for sleep monitoring. Mean total sleep time was 381 (SD 55) minutes, and mean sleep efficiency was 94.77% (SD 4.11%). Shift nurses reported poorer sleep hygiene than nonshift nurses; however, shift work status was not independently associated with sleep outcomes after adjustment. Higher BMI was associated with shorter total sleep time (unstandardized coefficient B=-3.76 min/kg/m^2; P=.01), reduced rapid eye movement sleep (unstandardized coefficient B=-1.18 min; P=.03), shorter core sleep (unstandardized coefficient B=-2.72 min; P=.02), and reduced time in bed (unstandardized coefficient B=-4.05 min; P<.01=.008). Age was negatively associated with deep sleep duration, with older age associated with less deep sleep (unstandardized coefficient B=-1.00 min/y; P=.003). CONCLUSIONS: Apple Watch-based monitoring was feasible and showed preliminary agreement with actigraphy. Nurses slept less than recommended, and BMI and age were associated with sleep outcomes in exploratory analyses. These findings support larger studies and workplace strategies to improve sleep opportunity and healthy sleep behaviors.

Lien vers l'article

Prevalence of poor sleep quality and its associated factors in nurses: a multicenter cross-sectional study.

Li M, Zheng XF, Yin XC, Mou QQ. *Front Public Health*. 2026;14:1927513.

BACKGROUND: Although poor sleep quality has been significantly associated with burnout, medical errors, and patient safety, its prevalence and associated factors among nurses remain underexplored. This study aimed to determine the prevalence of poor sleep quality and identify its associated factors in nurses. METHODS: In this multicenter cross-sectional study, convenience sampling was employed to enroll nurses from eight tertiary hospitals across Sichuan Province, China, between October and

December 2025. Participants completed a demographic questionnaire, the Pittsburgh Sleep Quality Index, the NASA Task Load Index, and the Self-Regulatory Fatigue Scale. Univariate analysis and binary logistic regression were used to examine the correlates of poor sleep quality. RESULTS: A total of 1,289 nurses were included, with 813 (63.1%) reporting poor sleep quality. Age (31-45 years: OR = 1.628, 95% CI: 1.200-2.209, p = 0.002; 46-60 years: OR = 2.440, 95% CI: 1.608-3.702, p < 0.001), work unit (pediatric ward: OR = 2.063, 95% CI: 1.407-3.024, p < 0.001; intensive care unit: OR = 3.178, 95% CI: 1.993-5.068, p < 0.001; emergency department: OR = 2.492, 95% CI: 1.664-3.732, p < 0.001), work experience (11-20 years: OR = 1.430, 95% CI: 1.031-1.984, p = 0.032; > 20 years: OR = 2.237, 95% CI: 1.422-3.518, p < 0.001), night shift (OR = 1.857, 95% CI: 1.381-2.498, p < 0.001), workload (OR = 1.223, 95% CI: 1.142-1.261, p < 0.001), and self-regulatory fatigue (OR = 1.346, 95% CI: 1.221-1.384, p < 0.001) were identified as significantly associated factors of poor sleep quality in nurses. CONCLUSION: Poor sleep quality was highly prevalent among nurses and was significantly associated with age, work unit, work experience, night shift, workload, and self-regulatory fatigue. These findings highlight the importance of prioritizing high-risk populations, particularly older nurses and those working in high-acuity settings, with lengthy service, and on rotating night schedules. Moreover, comprehensive strategies addressing workplace stressors and individual resilience may help reduce sleep problems.

Lien vers l'article

Sleep quality and anxiety among final-year medical interns during a family medicine clerkship: a cross-sectional study with implications for primary care training.

Çolak EK, Şimşek E. *BMC Prim Care*. 2026 Jul 29;27(1).

BACKGROUND: Sleep problems and anxiety are common but often under-recognised concerns in primary care. Final-year medical interns, who are medical students undertaking their final year of supervised clinical training, represent an important group for sleep health research because they face clinical responsibilities and concerns related to night shifts, emergency department work, direct patient care, and career-related stressors. This study aimed to evaluate sleep quality and its association with anxiety among medical interns during a Family Medicine clerkship. METHODS: This single-centre cross-sectional study was conducted at Ankara Yıldırım Beyazıt University Faculty of Medicine between June 2023 and September 2023. Data were collected from medical interns during their Family Medicine clerkship. Participants with previously diagnosed psychiatric disorders or sleep disorders were excluded. Face-to-face questionnaires were used, including a sociodemographic and lifestyle characteristics form, the Pittsburgh Sleep Quality Index, and the Beck Anxiety Inventory. Descriptive statistics, comparative analyses, correlation analysis, and multivariable logistic regression analysis were performed to evaluate factors associated with poor sleep quality. RESULTS: A total of 219 medical interns were included. Poor sleep quality was identified in 59.4% of participants. The mean Pittsburgh Sleep Quality Index score was 6.59 ± 3.36, the mean sleep duration was 6.73 h, and the mean Beck Anxiety Inventory score was 9.63 ± 8.45. Pittsburgh Sleep Quality Index and Beck Anxiety Inventory scores were positively correlated (r = 0.320, p < 0.001). In the multivariable logistic regression model, higher BAI scores, sex, and self-reported concern about taking night shifts were associated with poor sleep quality. Each one-point increase in the BAI score was associated with higher odds of poor sleep quality (odds ratio [OR] = 1.075; 95% confidence interval [CI]: 1.021-1.131; p = 0.006), while self-reported concern about taking night shifts was associated with 2.48-fold higher odds (OR = 2.483; 95% CI: 1.160-5.317; p = 0.019). Female sex was associated with lower odds of poor sleep quality compared with male sex (OR = 0.513; 95% CI: 0.265-0.994; p = 0.048); however, this finding was less robust in sensitivity analyses and should be considered exploratory. CONCLUSION: Poor sleep quality was common among medical interns and was associated with higher anxiety symptoms and self-reported concern about taking night shifts. These findings support consideration of sleep health and anxiety-related concerns within Family Medicine training. However, the cross-sectional design does not permit

causal inference, and intervention studies are needed to determine whether educational, screening, or supportive approaches improve interns' well-being or future clinical practice.

Lien vers l'article

Chronobiologie

Animal

Sex differences in the effects of shift work-like schedules on gut microbiome and intestinal barrier in relation to stroke survival.

Barnum E, Turck JL, Souza KA, Mani KK, Pilla R, Selvamani A, et al. *PLoS One*. 2026;21(8):e0355842.

Disturbances of 24-hour or circadian rhythms imposed by everyday irregular work and/or social schedules have been linked to vascular disease, including ischemic stroke. Using an established shift work-like paradigm and preclinical model for ischemic stroke, we have shown that environment-induced circadian dysregulation exacerbates stroke outcomes differentially to a greater extent in male than female rats. Because more severe stroke outcomes and circadian rhythm disturbances have been linked to gut pathophysiology, the present study examined the effects of chronic shifts in the LD cycle on gut cytoarchitecture, microbiota composition, metabolites, and inflammatory mediators for evidence of corresponding sex differences. Two independent cohorts of adult (5-7mo) rats exposed for 50d to fixed or shifted (12hr advance/5d) LD 12:12 cycles were used to examine the effects of circadian dysregulation on: fecal microbiome composition in relation to stroke survival (Cohort 1); and gut morphology, metabolites and inflammatory mediators (Cohort 2). Circadian entrainment of activity rhythms was stable during exposure to fixed LD cycles but was severely disrupted in shifted LD rats. Relative to fixed LD controls, male but not female rats exposed to shifted LD cycles were distinguished by significant alterations in the composition of the gut microbiome including reduced alpha diversity, shifts in beta diversity and correlations between the abundance of beneficial gut bacteria and stroke survival. The effects of circadian dysregulation on gut microbiota were accompanied by evidence of pathologic gut morphology (i.e., shorter and blunted villi, crypt hyperplasia, disruption of tight junction proteins and gut barrier integrity), decreased circulating levels of the neuroprotective short-chain fatty acid butyrate, and elevated serum concentrations of endotoxin and proinflammatory cytokine IL-17A in shifted LD male rats. These results suggest that alterations in gut cytoarchitecture, microbiota, metabolites and inflammatory mediators may contribute to sex differences in the effects of circadian dysregulation on ischemic stroke outcomes.

Lien vers l'article

Chronic Mild Circadian Disruption Alters Anxiety-Like Behavior and Spatial Navigation in Adult Mice.

Gearey JEJ, Wong C, Yang AK, Antle MC. *J Biol Rhythms*. 2026 Aug 10:7487304261471574.

Sleep and circadian disruption adversely impacts mental health and physiology. Such disruption varies in degree and emerges from numerous causes, ranging from severe disruption arising from rotating shift work or frequent jetlag to more mild circadian stress experienced by people with circadian rhythm sleep disorders (CRSD). While the effects of extreme circadian disruption such as jetlag are established through animal studies, less is understood about more subtle mismatches between external zeitgeber cycles and internal circadian periods as is observed with CRSDs. The present study employed a slightly mismatched ~1-h disruption paradigm, whereby Black and Tan BRachyury (BTBR) and C57BL/6 mice were housed from conception onwards in a conventional 24-h light/dark (LD) cycle or a 22.75-h LD cycle closer to the endogenous period of BTBR mice. Starting on postnatal day 90-110, mice underwent a battery of anxiety screens (open field, LD box, elevated plus maze) or a spatial navigation task (Morris water maze) to assess how mild circadian disruption impacts learning and anxiety-like behavior in these strains. Mice raised in a LD cycle that was mismatched from their endogenous rhythm (LD22.75 for C57BL/6 and LD24 for BTBR) displayed more anxiety-like behavior during the open field test and the LD box test and more impulsive behavior during the elevated plus maze. While both disrupted mice and controls showed evidence of learning during the Morris water maze during training, disrupted female mice did not show significant improvements between day 1 and 5 of training, and disrupted mice spent less time in the target quadrant on the probe day. This shows that even a mild form of

circadian disruption throughout the lifespan is sufficient to elicit deficits in learning and memory and increased anxiety-like behavior in mice. While circadian disruption in humans may be confounded with other factors, such as diet and socioeconomic status, this study demonstrates that mild circadian disruption alone can alter cognitive and psychological functioning in mice.

Lien vers l'article

Encapsulated Leptin-Producing Cells Facilitate Entrainment of Circadian Rhythms in Rodents and Nonhuman Primates.

Fleury ST, Lin X, Rios PD, Olker C, Song EJ, Perez AC, et al. *Adv Sci (Weinh)*. 2026 Aug 13:e77191.

Both the timing and composition of food intake have gained recognition for their effects on circadian (daily) rhythms in mammals, however the mechanisms by which these effects are exerted are incompletely understood. The present studies focus on synchronization of circadian rhythms to the environmental light-dark cycle, particularly re-entrainment following a phase shift such as occurs with travel across time zones or shift work. To examine the role and therapeutic potential of the peptide hormone leptin in these effects, we create and characterize injectable leptin factories consisting of encapsulated human retinal pigment epithelium (RPE) cells engineered to constitutively produce leptin. Subcutaneous injections of these leptin factories result in sustained elevation of blood leptin over more than a day, and accelerate entrainment to both phase delays and phase advances. Leptin factory administration to diurnal cynomolgus macaques is safe and effectively reduced entrainment rate by approximately 1 day. In addition, capsule administration in cynomolgus macaques has no demonstrable adverse effects on sleep, increasing Non-Rapid Eye Movement sleep (NREM sleep) slow-wave energy. Taken together, these results implicate metabolic regulation as a novel approach to accelerating adaptation to changing schedules and suggest that leptin can be used to therapeutically decrease entrainment time.

Lien vers l'article

Functional deficiency of circadian regulator PER2 enhances breast cancer susceptibility and progression with immunosuppression.

Duan Y, Alexandrou AT, Huang J, Zhang HS, Zhang H, Zhang X, et al. *Oncogene*. 2026 Aug 12.

Circadian rhythm (CR) governs systemic and tissue physiological homeostasis by regulating sleep-wake cycles, hormone secretion, and metabolism. CR disruption (CRD), such as shift work, has been associated with increased cancer risk, particularly female breast cancer (BC), yet the mechanisms underlying breast tumorigenesis and immunosuppression resulting from a specific clock gene dysfunction remain unclear. Here, we identify that circadian regulator Period 2 (PER2) is significantly downregulated in BC and correlates with poor prognosis. PER2 functional deficiency mice (PAS-B domain deletion, Per2(m/m)) display high susceptibility to DMBA/MPA-induced breast tumors. Tumor microenvironment (TME) profiling reveals that compared with Per2(wt) tumors induced in Per2(wt) mice, Per2(m/m) tumors generated in Per2(m/m) mice show reduced $CD8^+$ T cells and M1-like macrophages infiltration and increased Foxp3(+) Tregs and M2-like macrophages. Of note, reciprocal transplantation of Per2(m/m) and Per2(wt) tumors into Per2(wt) or Per2(m/m) mouse hosts reveals that systemic PER2 functional deficiency status not only boosts tumor growth but also promotes immunosuppression in TME. Consistently, Per2 knockdown in tumor cells enhances tumor cell proliferation and immune evasion in WT hosts. Mechanistically, PER2 knockdown leads to aberrant CLOCK transactivation, which upregulates the co-expression of HER2 and CD47, thereby leading to tumor aggressive growth with limited macrophage immune checkpoint surveillance. Collectively, our findings suggest that PER2 functional deficiency-driven CLOCK-HER2/CD47 axis promotes BC susceptibility and tumor immunosuppression, which provides a potential therapeutic target to mitigate CRD-associated BC risk and aggressiveness. Lien vers l'article

Homme

Genetic architecture of a Circadian Imbalance Index: genome-wide association, phenome-wide association, and Mendelian randomisation analyses.

Żebrowska M, Wielscher M, Zhang J, Saksvik-Lehouillier I, DiMilia L, Burns A, et al. *EBioMedicine*. 2026 Aug;130:106380.

BACKGROUND: Circadian disruption affects multiple aspects of human health, but the genetic architecture of individual susceptibility remains unclear. We examined the genetics of the Circadian Imbalance Index (CII), an additive 0-5 score combining evening chronotype, short/long sleep, high neuroticism, atypical caffeinated coffee intake, and low vitamin D. METHODS: We ran a genome-wide association study (GWAS) of CII in 312,935 European-ancestry UK Biobank participants, compared signals with component-specific and leave-one-component-out (LOCO) GWASs, and tested sex and shift work interactions. CII polygenic score (PRS) PheWAS analyses were evaluated in Mass General Brigham Biobank (N = 50,908) and All of US (N = 98,182), with component-weighted PRS sensitivity analyses. Replication was assessed in Nurses' Health Study II women (N = 11,344). We estimated genetic correlations and performed bidirectional two-sample Mendelian randomisation (MR) with MR-Egger, weighted median and LOCO sensitivity analyses. FINDINGS: We identified 27 loci mapping to 72 genes, including genes with reported links to circadian regulation or circadian-related pathways, such as CALCA, DHCR7, KDM5A, HAL, and CRX. Five genes (EPHB1, SERPING1, C12orf74, PLEKHG7, and EEA1) were observed in the CII analysis but not in component-specific analyses. LOCO analyses indicated that the CII genetic signal was not reducible to any single component. The CII PRS was associated with metabolic and psychiatric phenotypes. CII was genetically correlated with insomnia, mood swings, body mass index, type 2 diabetes, coronary artery disease, and myocardial infarction. MR analyses provided suggestive directional evidence, strongest for reverse associations of mood swings and coronary artery disease with CII. INTERPRETATION: The CII captures a polygenic composite susceptibility signal associated with cardiometabolic and mood outcomes, with suggestive evidence of directional relationships. FUNDING: European Research Council Advanced Grant CLOCKrisk (101053225).

Lien vers l'article

Associations of Shift Work and Chronotype with Physical Activity and Eating Behaviors in Adult Women.

Turan N, Dumlupınar B, Oymak HG, Ertem RE, Aydın BK, Karamollaoğlu İ, et al. *Nutrients*. 2026 Aug 3;18(15).

Background: Shift work and chronotype may influence dietary habits, physical activity, and eating behaviors. However, research examining the combined associations of shift work and chronotype with these behaviors in women is limited. This study examined these associations, together with anthropometric outcomes, among women attending an obesity counseling center. Methods: A cross-sectional study included 190 women aged 18-64 years (mean age: 33.31 ± 7.87 years) attending an obesity counseling center in Istanbul. Sociodemographic data, dietary habits, work schedules and behavioral data were collected using structured questionnaires, whereas anthropometric measurements were obtained using standardized procedures. Chronotype, physical activity, and eating behaviors were assessed using the Morningness-Eveningness Questionnaire (MEQ), International Physical Activity Questionnaire (IPAQ), and Dutch Eating Behavior Questionnaire (DEBQ). Statistical analyses included chi-square tests, parametric-nonparametric group comparisons, and multivariable linear and logistic regression models. Results: Compared to fixed-schedule workers, shift workers had more frequent meals (77.9% vs. 59.6%; $p = 0.007$, $V = 0.195$) and breakfast (51.2% vs. 16.3%; $p < 0.001$,$V = 0.371$) skipping. Participants with obesity had higher emotional eating, external eating, total DEBQ, and total meal-number values than the other BMI groups. Chronotype scores varied

according to age, smoking, alcohol consumption and occupational factors, but were not directly correlated with anthropometric measurements. Conclusions: Shift work was associated with irregular eating habits and altered eating behaviors. These findings should be interpreted with caution because the cross-sectional, single-center design limits causal inference and generalizability. To better understand the relationship between chronotype, lifestyle, and obesity-related behaviors, as well as to develop effective interventions, larger prospective studies are needed.

Lien vers l'article

Associated factors and a risk prediction model for comorbid circadian rhythm sleep-wake disorders in patients with chronic fatigue syndrome: implications for early screening and sleep health management.

Shao X, Yang F, Qin LL, Shi JN, Chen M, Ge WJ, et al. *Front Psychiatry*. 2026;17:1826328.

OBJECTIVE: To characterize comorbid circadian rhythm sleep-wake disorders (CRSWDs) in patients with chronic fatigue syndrome (CFS), identify factors independently associated with CRSWDs, and develop a risk prediction model for early screening and sleep health management. METHODS: This retrospective study included 610 patients with CFS, who were randomly divided into a training cohort (n = 427) and a validation cohort (n = 183) in a 7:3 ratio. Demographic characteristics, lifestyle factors, and sleep-related variables were analyzed using univariable and multivariable logistic regression. A nomogram was developed on the basis of the final model. Its discriminative ability, calibration, and public health usefulness were evaluated using receiver operating characteristic (ROC) analysis, the Hosmer-Lemeshow goodness-of-fit test, and decision curve analysis (DCA), respectively. RESULTS: Among the 427 patients with CFS in the training cohort, 208 (48.7%) had comorbid CRSWDs. Univariable analysis showed that gender, BMI, fatigue severity (Fatigue Scale-14, FS-14), slow-wave sleep (SWS, N3%), duration of screen use before bedtime and shift-work schedule type were significantly associated with CRSWDs ($P \leq 0.05$). Multivariable logistic regression analysis identified 12-hour rotating shifts (OR = 6.981, 95% CI: 2.603-18.720), 24-hour shifts (OR = 5.316, 95% CI: 2.197-12.863), 8-hour rotating shifts (OR = 3.982, 95% CI: 1.698-9.339), FS-14 (OR = 1.984, 95% CI: 1.442-2.728) and female sex (OR = 1.892, 95% CI: 1.178-3.037) as independently associated with an increased incidence of CRSWDs. By contrast, an increase in SWS (N3%) was independently associated with decreased odds of CRSWDs (OR = 0.982, 95% CI: 0.971-0.992). The AUCs in the training and validation cohorts demonstrated good model performance (AUC: 0.808, 0.767, respectively), and the Hosmer-Lemeshow test revealed a satisfactory fit. CONCLUSION: Female sex, greater fatigue severity, reduced N3 sleep, and rotating shift schedules were independently associated with comorbid CRSWDs in patients with CFS. The model may be useful for early screening and risk stratification and may help inform sleep hygiene education and schedule-related health management in individuals at elevated risk.

Lien vers l'article

Are humans cathemeral? The diurnal activity model of Homo sapiens challenged.

Samson DR. *J Hum Evol*. 2026 Aug 8;219:103875.

Humans are traditionally classified as diurnal primates, although field evidence from small-scale societies complicates a rigid behavioral reading of that designation. Here, I evaluate the Human Diel Flexibility hypothesis-the idea that Homo sapiens retains diurnal circadian physiology while expressing unusually flexible 24-hour activity for a large-bodied anthropoid. In study 1, I conducted actigraphy-based comparisons of diel (i.e., 24 hour) activity patterns across 10 primate species, including Hadza hunter-gatherers, gibbons (Hylobates), and seven lemur species. Functional linear modeling and Bayesian multivariate analysis revealed that Hadza individuals exhibit elevated night-time activity and a significantly lower day-to-night time ratio (DNTR) than gibbons, overlapping with some lemur genera

in this dataset. In study 2, I compiled a comparative dataset of day-to-night activity ratios from 24 primate species and conducted phylogenetic generalized least squares analyses. I found that humans maintain a relatively high cathemerality index in this comparative framework by ecological and morphological variables and that endocranial volume is a significant positive predictor of diel flexibility. Evolutionary model comparisons are consistent with a two-regime Ornstein-Uhlenbeck model with distinct optima for humans and nonhuman primates, suggesting divergent selective pressures on human sleep-wake architecture. I propose the Social Sleep Theory to explain this pattern: through sociotechnological niche construction-group vigilance, fire, and shelter-humans evolved short, flexible, and high-quality sleep that enabled activity redistribution across the diel cycle. These findings challenge a rigid behavioral model of human diurnality while preserving the distinction between circadian physiology and activity expression and expand our understanding of how temporal niche plasticity has contributed to the ecological success of H. sapiens.

Lien vers l'article

Maternal circadian disruption during pregnancy and offspring diabetic cardiovascular disease risk.

Saedi S, Bing H, Wu J, Gao Y, Wang C, Chu Q, et al. *Front Cell Dev Biol*. 2026;14:1879135.

Circadian rhythm disruption during pregnancy has been recognized as a growing public health concern, affecting approximately 20% of the workforce due to shift work and prevalent lifestyle-related factors. Grounded in the developmental origins of health and disease (DOHaD) paradigm, emerging evidence indicates that maternal circadian disruption (MCD) may have profound transgenerational effects, programming offspring susceptibility to diabetes mellitus and its cardiovascular complications. This narrative review synthesizes current mechanistic evidence linking MCD to offspring cardiometabolic disease (CMD), emphasizing the integrated clock-metabolic-oxidative stress axis. Disruption of core clock genes, including CLOCK, BMAL1, and CRY/PER, lead to impaired glucose homeostasis, mitochondrial function, and antioxidant defense, subsequently promoting generation of reactive oxygen species (ROS) and exacerbating oxidative stress. These disturbances contribute to endothelial dysfunction, vascular inflammation, and accelerated atherogenesis in offspring. Chronotherapeutic approaches, particularly melatonin supplementation and circadian-aligned lifestyle modifications, represent promising strategies in mitigating these programmed deficits. Elucidating this clock-metabolic-oxidative stress axis will provide essential insights to develop preventive and therapeutic interventions to address the developmental origins of CMD across generations.

Lien vers l'article

Work-Influenced Circadian Disruption Connected to Disease Risk but Not Microbiomes in a Cohort of Philadelphia Nurses.

Super C, Asif M, Compher C, Schurr TG, Hoke MK. *Am J Hum Biol*. 2026 Aug;38(8):e70314.

OBJECTIVES: Circadian rhythms influence activity cycles in humans, and circadian rhythm disruption (CRD) can negatively impact cardiometabolic disease risk and microbiome composition. This study documented CRD in a sample of nurses in Philadelphia, examining connections between CRD, disease risk, and work environment factors, proposing the concept of work-influenced circadian disruption (WICD). MATERIALS AND METHODS: A total of 75 nurses were recruited for the study. Disease risk indicators included triglycerides (TRG), C-reactive protein (hs-CRP), blood pressure (BP), and fecal gut microbiome composition. Surveys recorded CRD via sleep/exhaustion levels, weekly exercise, mealtime timing/length, shift diet, and night shift work. Work environment variables included staff/resources, physician-nurse relations, break times, and patient care assignments. Mixed multiple regression models assessed CRD's associations with cardiometabolic disease risk indicators (H1) and work environment variables (H2). Microbiome similarity by CRD variables was tested using PERMANOVAs. RESULTS: Lower exercise levels were associated with higher hs-CRP ($\beta = -4.2$, $p = 0.05$),

TRG (β = -9.8, p = 0.03), BP (β = -3.6, p = 0.01), and less break time (β = 0.1, p = 0.01). Higher exhaustion was linked to elevated hs-CRP (β = 6.0, p = 0.02) and fewer staff/resources (β = -0.7, p = 0.01). Less mealtime was associated with higher BP (β = -0.2, p = 0.05) and shorter breaks (β = 0.2, p = 0.04). Night shifts were linked to higher BP (β = 6.3, p = 0.01). CRD variables were not significantly associated with microbiome profiles. CONCLUSIONS: CRD is associated with disease risk indicators and with work environment variables but not with microbiome profiles, suggesting these relationships may operate through other pathways. Further studies should explore biobehavioral networks in WICD.

Lien vers l'article

Circadian Rhythm Disruption and Cutaneous Carcinogenesis.

Popp R, Elston D. *Anticancer Res*. 2026 Sep;46(9):4791–6.

BACKGROUND/AIM: Circadian rhythms regulate DNA repair, cell-cycle control, apoptosis, pigmentation, barrier function, and immune surveillance in skin, and their disruption may increase susceptibility to ultraviolet-induced carcinogenesis. MATERIALS AND METHODS: This narrative review synthesizes mechanistic, experimental, epidemiologic, and translational studies on circadian rhythm disruption and skin neoplasms, with emphasis on melanoma and nonmelanoma skin cancer. RESULTS: Core clock genes such as CLOCK, BMAL1, PER, and CRY orchestrate daily oscillations in cutaneous physiology, including nucleotide excision repair and inflammatory signaling. Experimental studies show that ultraviolet (UV) exposure during circadian phases with low DNA repair capacity produces more persistent lesions and more tumors, while human meta-analytic evidence suggests a modest increase in melanoma risk among shift workers. Evidence for basal cell carcinoma and squamous cell carcinoma is less consistent, likely because of differences in UV exposure, occupation, and confounding by behavior. CONCLUSION: Circadian disruption is a plausible modifier of skin cancer risk, particularly for melanoma, through effects on UV DNA repair, immune surveillance, melatonin signaling, and tumor biology. Further prospective studies using objective circadian biomarkers and dermatology-specific endpoints are needed.

Lien vers l'article

Surgeon Social Jet Lag and Patient Risk of Major Adverse Events.

Pascal L, Polazzi S, Skinner SC, Lifante JC, Mazza S, Duclos A. *JAMA Surg*. 2026 Aug 1;161(8):795–803.

IMPORTANCE: Sleep timing regularity is increasingly recognized as a determinant of cognitive performance, yet its influence on surgeons' well-being and patient safety remains unexplored. OBJECTIVE: To evaluate the association between surgeons' sleep timing regularity and major adverse events in their patients. DESIGN, SETTING, AND PARTICIPANTS: This multicenter prospective cohort study was conducted from November 1, 2020, to December 31, 2021, across 14 surgical departments in 7 specialties at 4 university hospitals in France. Patients were excluded if they were younger than 18 years, underwent palliative surgery, had incomplete operative time stamps, or were operated on by surgeons with invalid sleep data. Study data were analyzed from January to June 2025. EXPOSURES: Surgeons' sleep was continuously monitored using actigraphy. Sleep timing regularity in the 30 days preceding surgery was quantified using midsleep time (midpoint between bedtime and get-up time). Social jet lag (SJL) was defined as the absolute difference between midsleep times on free days and workdays, and midsleep time variability was the SD of daily midsleep times. MAIN OUTCOMES AND MEASURES: Outcomes included major adverse events within 30 days postoperatively, including inpatient death, prolonged intensive care unit stay, reoperation, or severe complications. Mixed-effects multivariable models were adjusted for surgeon sleep duration, midsleep time, age, sex, professional status, working hours, night shifts, patient case mix (ie, a composite risk score incorporating patient comorbidities and surgery characteristics), and time of incision, with a random effect for surgeons. Surgeon burnout was assessed using the Maslach Burnout Inventory. RESULTS:

Among 7117 operations (7117 patients; mean [SD] age, 55.9 [17.5] years; 3877 female [54.5%]) performed by 38 attending surgeons (mean [SD] age at study start, 46.1 [8.5] years; 30 male [79%]), 1410 (19.8%) resulted in a major adverse event. SJL of 2 or more hours (342 operations [4.8%]; 7 surgeons) was associated with increased risk of major adverse events compared with less than 1 hour (adjusted relative risk [RR], 1.36; 95% CI, 1.04-1.69) and 1 to 2 hours (RR, 1.45; 95% CI, 1.12-1.81). Midsleep time variability of 60 minutes or longer (864 operations [12.1%]; 20 surgeons) was not associated with adverse outcomes. Surgeons with burnout had higher median [IQR] social jet lag (75 [47-94] vs 52 [38-61] minutes; P = .04) and midsleep time variability (54 [44-68] vs 43 [36-48] minutes; P = .01) than those without burnout. CONCLUSIONS AND RELEVANCE: Patients operated on by surgeons experiencing substantial social jet lag had a higher associated risk of major adverse events. Interventions promoting regular sleep timing and reducing circadian misalignment may improve surgeon burnout and patient safety.

Lien vers l'article

Circadian Biology and Phase Response: Fundamental Mechanisms and Clinical Applications.

Mul Fedele ML, Cardinali DP. *Clocks Sleep*. 2026 Aug 21;8(3).

The circadian clock, located in the mammalian hypothalamus, regulates biological rhythms with a period of approximately 24 h, influencing nearly all body functions. Its timing is synchronised daily by external cues, primarily light, which align internal rhythms with the environmental cycle. Through this entrainment, the circadian system orchestrates physiological processes such as the sleep-wake cycle, feeding behaviour, gene expression and body temperature regulation. Melatonin, secreted by the pineal gland, also plays a key role as a synchroniser by facilitating sleep onset. Changes in environmental time cues, such as those experienced by shift workers, can disrupt the body's natural 24-h rhythms. This situation can lead to fatigue, significantly impacting accident rates and productivity, and, in the long term, to an increased risk of various health conditions. A Phase Response Curve (PRC) illustrates how the clock's phase is affected by stimuli administered at different points in the circadian cycle. In particular, both light and melatonin can induce phase shifts, but the direction and magnitude of this shift depend on the timing of administration. Understanding the PRC enables the design of interventions to realign circadian rhythms and improve adaptation to shift work. This review explores the physiological and clinical effects of circadian disruption in shift workers and discusses strategies to mitigate its impact.

Lien vers l'article

From Occupational Hazard to Public Health Concern: A Bibliometric and Knowledge-Mapping Analysis of Sleep Disorders Among Nurses Worldwide (1985-2025).

Lu S, Wen J, Wang D, Xu M, Dai Y, Chen L, et al. *J Nurs Manag*. 2026;2026(1):e7621317.

PURPOSE: Sleep disorders among nurses are highly prevalent, affecting well-being, clinical performance, and patient safety. A comprehensive mapping of global research trends is lacking. This study evaluates the evolution and focal points of research on sleep disorders among nurses over the last 4 decades, utilizing bibliometric analyses. METHODS: We performed a bibliometric analysis of 1553 English-language publications retrieved from the Web of Science Core Collection (WoSCC) (1985-2025). Publication trends, country and institutional contributions, collaboration networks, cocitation, and keyword co-occurrence were analyzed. RESULTS: Research output increased steadily, with a sharp surge after 2020, reflecting the impact of COVID-19. The United States and China were leading contributors, but international collaboration was sparse. Core themes included insomnia and sleep quality, shift work and circadian misalignment, and psychological sequelae such as stress, depression, and burnout. Recent hotspots emphasized patient safety, measurement validation, and intervention trials. CONCLUSION: The field is expanding rapidly yet remains fragmented. Harmonized

measurement, system-level interventions, and stronger international collaboration are required to translate research into sustainable improvements in nurse health and patient safety.

Lien vers l'article

Association of shift work and shift patterns with thyroid function: A NHANES-based cross-sectional study.

Li Z, Peng W, Liao Z. *Medicine (Baltimore)*. 2026 Sep 4;105(36):e50583.

This cross-sectional study examined the association between shift work and thyroid function using data from the National Health and Nutrition Examination Survey 2007 to 2010. Weighted univariate and multivariate regression models were applied, with additional subgroup and interaction analyses performed. A total of 3578 participants were included (mean age 41.17 ± 13.31 years). After adjusting for potential confounders, shift workers exhibited significantly higher levels of thyroid-stimulating hormone (TSH) (β = 0.30; 95% CI: 0.14-0.45), thyroglobulin antibody (TgAb) (β = 11.62; 95% CI: 3.49-19.74), and thyroid peroxidase antibody (TPOAb) (β = 8.74; 95% CI: 1.07-16.40), alongside an increased prevalence of autoimmune thyroiditis (AIT) (OR = 1.69; 95% CI: 1.26-2.26) compared with day workers (all P < .05). Analyses stratified by shift type revealed that regular evening shifts were most strongly associated with elevated TSH (β = 0.58), subclinical hypothyroidism (SCH) (OR = 2.63), and AIT (OR = 2.29). Additionally, rotating shifts were specifically linked to higher TgAb levels and AIT risk. These findings indicate that shift work, particularly evening and rotating shift patterns, is associated with adverse thyroid-related outcomes.

Lien vers l'article

Altered local functional synchronization in night-shift nurses: Associations with peripheral metabolic variation and depressive symptoms.

Kang Y, Yang F, Zhao C, Gao M, Wang G, Zhang Y. *J Affect Disord*. 2026 Dec 1;414:122393.

BACKGROUND: Night-shift work in nurses is associated with circadian disruption, sleep disturbance, and increased vulnerability to affective symptoms. However, the neural and metabolic correlates of these alterations remain insufficiently understood. METHODS: A total of 121 female nurses, including 59 day-shift nurses (DSN) and 62 night-shift nurses (NSN), underwent resting-state functional MRI. Regional homogeneity (ReHo) was calculated to assess local functional synchronization. Between-group ReHo differences were examined, followed by transcriptomic and neurotransmitter decoding analyses. Untargeted serum metabolomics was performed to assess peripheral metabolic differences and their associations with ReHo. RESULTS: Compared with DSN, NSN showed decreased ReHo in the left superior temporal cortex and left anterior hippocampus, and increased ReHo in the right medial amygdala and right superior parietal lobule. The cortical ReHo pattern was associated with gene expression profiles enriched for cellular responses to stress, protein phosphorylation, and mitochondrion organization, and showed spatial correspondence with dopamine D1 receptor distribution. Serum metabolomics revealed widespread between-group metabolic differences. In NSN, metabolite PC1 was positively associated with right medial amygdala ReHo, and an exploratory indirect association between metabolite PC1 and Beck Depression Inventory scores through right medial amygdala ReHo was observed. CONCLUSIONS: Night-shift work in nurses is associated with alterations in peripheral metabolism, local functional synchronization, and depressive symptoms. Right medial amygdala ReHo may represent a neural correlate associated with peripheral metabolic variation and affective symptom burden.

Lien vers l'article

Sleep loss as a cardiometabolic risk factor: a narrative review of clinical and public health implications.

Ghanem FK, Attarian H, Al-Khalil Z, Kabrita CS. *J Clin Sleep Med*. 2026 Aug 3;22(1).

PURPOSE: To synthesize current evidence on how sleep deprivation, impaired sleep architecture, and circadian misalignment affect cardiovascular and metabolic regulation across autonomic, hormonal, inflammatory, and behavioral pathways, and to highlight remaining research gaps in cardiometabolic sleep medicine. METHODS: A structured literature search was conducted using PubMed, Scopus, and Google Scholar to identify peer-reviewed primary and review articles published within the past decade, using chronobiological and cardiometabolic search terms. Reference lists of retrieved articles were screened to identify additional relevant studies. RESULTS: Experimental and epidemiologic data consistently link short or disturbed sleep with increased incidence of hypertension, coronary artery disease, stroke, obesity, type 2 diabetes, and metabolic syndrome. Sleep loss activates the sympathetic nervous system and elevates cortisol, while suppressing growth hormone, thereby promoting vasoconstriction, endothelial dysfunction, and cardiac remodeling. Parallel disruption of leptin, ghrelin, and endocannabinoid signaling increases hunger, caloric intake, and preference for energy-dense foods, driving weight gain, visceral adiposity, and insulin resistance. Circadian misalignment from shift work and social jet lag further amplifies inflammatory signaling and metabolic risk across the lifespan. Limited interventional data suggest that sleep extension can improve appetite regulation, blood pressure, and some glycemic indices, but mechanistic and long-term outcomes remain underexplored. CONCLUSION: Sleep deprivation and circadian disruption mediate cardiometabolic disease through converging neuroendocrine, autonomic, inflammatory, and behavioral pathways. Future research should employ longitudinal designs and integrated multi-"omics" approaches combined with sleep phenotyping to clarify causal mechanisms and identify novel biomarkers and therapeutic targets in clinical sleep medicine.

Lien vers l'article

Suicide and Sleep Disorders: The Role of Insomnia, Nightmares, and Circadian Disruption.

Debellotte O, Shetty AR, Wang Y, Amin A, Mann V, Fadayomi M, et al. *Cureus*. 2026 Jul;18(7):e112319.

Suicide remains a leading global cause of preventable mortality, with sleep disturbances, particularly insomnia, nightmares, and circadian disruption, emerging as critical yet underrecognized contributors to suicidal ideation and behavior. This narrative review synthesizes current evidence on the multifaceted links between sleep disorders and suicidality, integrating findings from epidemiological, neurobiological, and interventional studies. Insomnia contributes to suicide risk through pathways of hyperarousal, hopelessness, and impaired emotion regulation, while nightmares are associated with increased risk of suicidal ideation and attempts, potentially exerting an effect distinct from other sleep disorders. Circadian misalignment, including shift work and evening chronotype, further exacerbates vulnerability through neuroendocrine and molecular alterations involving the hypothalamic-pituitary-adrenal axis, serotonergic imbalance, and disrupted clock gene expression. Shared biological mechanisms, such as inflammation, hypothalamic-pituitary-adrenal (HPA) dysregulation, and serotonergic depletion, intersect with cognitive-emotional deficits, compounding risk. Clinically, interventions such as cognitive behavioral therapy for insomnia (CBT-I), imagery rehearsal therapy, and chronotherapeutic approaches have demonstrated efficacy in improving sleep continuity and mitigating suicidality. Routine assessment of sleep quality and circadian patterns should be integrated into suicide risk evaluation across psychiatric and primary care settings. Future research incorporating objective sleep measures, biomarker profiling, and digital monitoring platforms may enable precision risk stratification and early intervention. However, the current evidence base is limited by heterogeneity in study designs, the predominance of observational and cross-sectional studies, and potential confounding from psychiatric comorbidities, warranting cautious interpretation of causal

relationships. By addressing sleep as a core modifiable risk factor, clinicians can move toward a holistic, biologically informed, and preventive model of suicide care.

Lien vers l'article

Endogenous metabolomic responses in circadian disrupted night shift working populations: a scoping review.

Heibati B, Lacy P, Makris KC. *J Natl Cancer Cent*. 2026 Aug;6(4):432–46.

Night shift work (NSW) has been known for its linkage with circadian disruption, while the NSW carcinogenic potential is well documented. However, there has been little research on the NSW-associated biological pathways and small molecules that may be implicated with the early stages of carcinogenicity. Metabolomics platforms are novel exposomics tools that act as intermediate biological layers of information linking NSW schedules with the downstream endogenous response in humans. To this extent, we conducted a scoping review to answer the question: how does NSW impact the endogenous human metabolome using metabolomics tools? Thus, this work critically reviewed human studies on the association between NSW and the associated endogenous biological response. Online databases were screened, and 13 original publications were included in the analysis; eight studies were conducted in occupational settings, and the remaining studies were well-controlled laboratory experiments simulating NSW. This work summarized the consistent reporting of the most frequently reported metabolites and associated biological pathways enriched in actual NSW, or in simulated NSW conditions of occupational and experimental laboratory studies, respectively. Further research is warranted to better understand the complex metabolic changes associated with NSW, informing strategies to mitigate early-stage carcinogenic effects, ultimately improving health and well-being of shift workers.

Lien vers l'article

A step beyond the cage: How infradian and circadian research in mice translates to humans.

Ciecko EC, Lakhani R, Guarino VC, Larsen JD, Maxa GE. *J Physiol*. 2026 Aug 6.

Lien vers l'article

Biological rhythms, sleep disturbances, and the skin - a narrative review.

Biegański K, Takamine S, Sato M, Pawlaczyk M, Litwinowicz M, Wakamura T, et al. *Sleep Med Rev*. 2026 Aug 25;90:102360.

Sleep, circadian rhythms, light exposure, and environmental factors are increasingly recognized as important regulators of skin physiology. The skin contains peripheral clocks and exhibits circadian rhythmicity in barrier function, immune activity, pigmentation, temperature, blood flow, and repair processes. This review aims to summarize the current evidence linking sleep disturbances, circadian regulation, light exposure, seasonal variation, environmental temperature, and circadian desynchronization with skin physiology and some dermatoses. Sleep loss and disturbances in sleep duration may alter immune function and impair skin barrier integrity, potentially contributing to inflammatory dermatoses, including atopic dermatitis, psoriasis, and eczema. Light is the principal synchronizer of biological rhythms, whereas light at night, jet lag, and shift work may disrupt circadian organization, alter melatonin secretion, and impair central and peripheral clock regulation. These disturbances may be relevant to skin aging, impaired repair, inflammatory skin diseases, and potential skin carcinogenesis. Further studies are needed to better understand how circadian disruption influences skin homeostasis, repair processes, and disease development.

Lien vers l'article

Light, melanin, and the microbial clock: Rewiring the gut-brain-skin axis.

Clark A, Mach N. *Front Neuroendocrinol*. 2026 Jul;82:101271.

Sunlight exposure has shaped the evolutionary biology of most life forms through circadian entrainment. Full-spectrum sunlight regulates circadian rhythms, modulates gut and skin microbiomes, influences the gut-brain-skin axis, and drives dermal melanin and vitamin D synthesis. The skin acts as the body's largest photoreceptive organ and neuroendocrine hub. Melanocytes, keratinocytes, and immune cells in the skin translate photons into hormonal, metabolic, and neuronal signals. Melanin, present across vertebrate tissues, bacteria, and fungi, is a unifying photoreceptive molecule whose redox properties and signaling within the melanocortin pathway bridge host and microbial photic cues. Light signals the suprachiasmatic nucleus, triggering hypothalamic-pituitary-adrenal glucocorticoid release and peripheral clock expression throughout the gut-brain-skin axis, influencing rhythmic gastrointestinal functions, short-chain fatty acid production, and vagal feedback to the brain. Microbial photoreceptors, including melanin, flavins, and cryptochromes, extend the photoneuroendocrinology into the holobiont, revealing a shared molecular pathway through which light calibrates the host-microbe interactions. Shift work, nocturnal blue light, sun avoidance, abnormal feeding times, and circadian desynchrony disrupt the gut-brain-skin axis, resulting in dysbiosis, intestinal and skin epithelial barrier dysfunction, shifts in immune signaling, and metabolic disorders. Vitamin D intersects with these pathways, yet its possible circadian regulation remains unknown. This review synthesizes evidence positioning host and microbial melanin as the key signaling molecule of the melanocortin pathway, which is inherently circadian-regulated, governing metabolic and immune homeostasis across the gut-brain-skin axis. We outline mechanistic models and research gaps, and propose that reframing melanin as a holobiont photoreceptor opens therapeutic opportunities across dermatology, gastroenterology, and neuroendocrinology.

Lien vers l'article

A systematic review of genetic variations and DNA methylation alterations underlying circadian rhythm sleep-wake disorders.

Barros CN, Mayer RA, Garcia-Borreguero D, Álvaro AR, Gaspar LS. *Sleep Med Rev*. 2026 Aug 28;90:102364.

Circadian rhythm sleep-wake disorders (CRSWDs) arise from alterations in the circadian timing system or from misalignments between endogenous circadian rhythms and environmental or behavioral demands, leading to sleep disturbances and impaired functioning. Diagnosis remains challenging and largely reliant on subjective assessments, highlighting the need for biologically informed markers. Although genetic and epigenetic factors have been implicated in circadian regulation, their contribution to clinically defined CRSWDs has not previously been systematically evaluated across disorders. This systematic review, registered in PROSPERO (ID: 1117673), examined genetic polymorphisms and epigenetic modifications associated with CRSWDs in studies published up to October 2024. Of 871 articles screened, 38 met the inclusion criteria. Delayed sleep-wake phase disorder was investigated in 18 studies (47 %), shift work disorder in 17 studies (45 %), and non-24-h sleep-wake rhythm disorder in eight studies (21 %). Of these, 27 examined genetic variants, predominantly using candidate-gene approaches targeting core clock genes and circadian-related pathways. Ten studies investigated epigenetic alterations, all limited to DNA methylation and conducted exclusively in the context of shift work disorder. Only one study assessed both genetic and epigenetic variations. The findings suggest that genetic variations, particularly in but not limited to core clock genes, are implicated in an increased susceptibility to CRSWDs. In addition, DNA methylation changes in clock genes and genes as MTNR1B, SIRT1, and SLC6A4 may play a role in modulating circadian adaptation, particularly in the context of shift work. However, substantial heterogeneity in phenotypic definitions, study design, and confounder control limits causal inference and cross-disorder

comparison. Only five findings met the review-defined evidentiary standards: the functionally validated PER2 S662G and CSNK1D T44A mutations causing familial advanced sleep phase syndrome (FASPS), the independently replicated PER2 p.Val1205Met and RORC rs3828057 associations with delayed sleep-wake phase disorder (DSWPD), and the MTNR1B rs10830963 × night-shift-work interaction associated with prostate cancer risk. All other reported genetic and epigenetic associations remain exploratory. In conclusion, this review identifies a fragmented and uneven evidence base, with major gaps in epigenetic research and integrative genetic-epigenetic analyses across CRSWDs. Epigenetic studies have been conducted almost exclusively in shift work populations, leaving intrinsic CRSWDs largely unexplored. Future research should prioritize longitudinal, genome-wide, and systematically phenotyped studies involving diverse populations and genetic backgrounds. Expanding epigenetic investigation across CRSWD subtypes will be essential to improve the generalizability of findings and advance biomarker development and personalized approaches in circadian and sleep medicine.

Lien vers l'article

Conduites addictives

Aucun article dans ce bulletin.

Reproduction

Maternal circadian disruption during pregnancy and offspring diabetic cardiovascular disease risk.

Saedi S, Bing H, Wu J, Gao Y, Wang C, Chu Q, et al. *Front Cell Dev Biol*. 2026;14:1879135.

Circadian rhythm disruption during pregnancy has been recognized as a growing public health concern, affecting approximately 20% of the workforce due to shift work and prevalent lifestyle-related factors. Grounded in the developmental origins of health and disease (DOHaD) paradigm, emerging evidence indicates that maternal circadian disruption (MCD) may have profound transgenerational effects, programming offspring susceptibility to diabetes mellitus and its cardiovascular complications. This narrative review synthesizes current mechanistic evidence linking MCD to offspring cardiometabolic disease (CMD), emphasizing the integrated clock-metabolic-oxidative stress axis. Disruption of core clock genes, including CLOCK, BMAL1, and CRY/PER, lead to impaired glucose homeostasis, mitochondrial function, and antioxidant defense, subsequently promoting generation of reactive oxygen species (ROS) and exacerbating oxidative stress. These disturbances contribute to endothelial dysfunction, vascular inflammation, and accelerated atherogenesis in offspring. Chronotherapeutic approaches, particularly melatonin supplementation and circadian-aligned lifestyle modifications, represent promising strategies in mitigating these programmed deficits. Elucidating this clock-metabolic-oxidative stress axis will provide essential insights to develop preventive and therapeutic interventions to address the developmental origins of CMD across generations.

Lien vers l'article

Management of Endometriosis in the Workplaces: Preliminary Results from a Cross-Sectional Knowledge, Attitudes and Practices Study (Italy, 2026).

Riccò M, Bottazzoli M, Scilli S, Magnavita N. *Healthcare (Basel)*. 2026 Jul 29;14(15).

Background: Endometriosis is a chronic condition affecting a substantial proportion of women of reproductive age and leading to impaired quality of life. Despite its potential occupational implications, evidence on how occupational physicians (OPs) manage workers affected by endometriosis remains scarce. This study aimed to assess the knowledge, attitudes, and practices (KAP) regarding endometriosis among Italian OPs. Methods: A cross-sectional web-based survey was conducted between 1 and 18 April 2026 by recruiting a convenience sample of 155 occupational physicians. The questionnaire was specifically designed and investigated knowledge status, risk perception, perceived barriers to workplace management, and previous experience of participating professionals. Results: Most respondents considered themselves adequately informed about endometriosis (78.1%) and reported previous professional experience with affected workers (81.3%). Knowledge gaps were identified, particularly regarding disease prevalence (26.5% correct responses), familial predisposition (34.8%), and diagnostic pathways (31.6%). Overall, 65.8% of participants reported having previously issued conditioned fitness-for-work appraisals, most frequently recommending increased work breaks, avoidance of night shifts, or limitations on shift work. In multivariable analysis, male gender (adjusted odds ratio [aOR] 5.69, 95% confidence interval [95% CI] 1.84-17.58), participation in continuing medical education activities (aOR 85.72, 95% CI 6.60-1114.21), information obtained from colleagues (aOR 4.67, 95% CI 1.23-17.77), and employment in healthcare settings (aOR 5.91, 95% CI 1.92-18.16) were independently associated with having previously issued restricted fitness-for-work judgments, whereas relying exclusively on undergraduate medical education was negatively associated with this outcome (aOR 0.07, 95% CI 0.01-0.39). Conclusions: Among the sampled Italian OPs, endometriosis was recognized as a clinically relevant condition frequently encountered in daily practice. Continuous professional education, interdisciplinary exchange, and practical experience were more strongly associated with occupational decision-making than undergraduate training alone. These findings support the development of targeted educational interventions and shared occupational

recommendations aimed at improving workplace management and promoting the inclusion and retention of women affected by endometriosis in the workforce.

Lien vers l'article

Association between maternal work environment and health-related quality of life during pregnancy using the 8-item short-form health survey (SF-8): the Japan Environment and Children's Study.

Kobayashi S, Saijo Y, Itoh M, Tamura N, Tojo M, Iwata H, et al. *Eur J Obstet Gynecol Reprod Biol*. 2026 Sep;325:115286.

OBJECTIVES: Reports on the association between maternal work environment and health-related quality of life (HR-QOL) during pregnancy are limited. We hypothesized that the work environment in the first trimester would affect HR-QOL in the second/third trimester. Therefore, we examined the association between maternal work environment and HR-QOL among pregnant women. Prospective birth cohort data from the Japan Environment and Children's Study were used. Information on maternal occupational groups, type of employment, working hours, and shift work was obtained using a self-administered questionnaire in the first trimester. Information on HR-QOL was obtained using a self-administered Short-Form Health Survey-8 (SF-8) questionnaires in the second/third trimester. Associations between the maternal work environment and HR-QOL were examined using generalized linear models adjusted for confounding factors. RESULTS: In total, 43,625 pregnant women worked during their first trimester. In the physical component summary (PCS) score, average weekly working hours of ≥ 51 h/week decreased by 0.306 (95% confidence interval: 0.094-0.519). Monthly shift work of ≥ 5 days/month decreased by 0.897 (0.689-1.105). The combination of average weekly working hours of ≥ 51 h/week and monthly shift work of ≥ 5 days/month resulted in a decrease of 1.622 (1.121-2.124). Associations between employment type and PCS scores were also observed. However, the maternal occupational group was not associated with HR-QOL. We found an association between the maternal work environment and HR-QOL. CONCLUSIONS: The change in HR-QOL was meaningful from a public health perspective; however, it was small.

Lien vers l'article

Associations of employment characteristics and psychosocial work factors with severe menopausal symptoms among working women: a longitudinal study.

Iida M, Toki R, Miyake A, Matsumoto M, Hirata A, Edagawa S, et al. *Occup Environ Med*. 2026 Aug 17.

OBJECTIVES: To investigate whether employment characteristics and psychosocial work factors are associated with the development of severe menopausal symptoms among working women. METHODS: We longitudinally analysed 648 working women aged 35-55 years without menopausal symptoms interfering with daily life at baseline (2012-2014). Employment characteristics included employment status, managerial position, shift work and working hours. Psychosocial work factors included workload, job control, job strain and effort-reward imbalance. At follow-up (2018-2020), women in the menopausal transition or postmenopause who reported menopausal symptoms that interfered with daily life during follow-up were classified as having developed severe menopausal symptoms. Associations between baseline work factors and the development of severe menopausal symptoms were examined using modified Poisson regression adjusted for age, follow-up duration, body mass index, smoking, drinking and educational attainment. Symptom domains (vasomotor, psychological and physical) were also evaluated. RESULTS: During 5.3±0.5 years of follow-up, 68 women (10.5%) developed severe menopausal symptoms. Per 1-SD increase, higher workload (risk ratio (RR) 1.34, 95% CI 1.04 to 1.73), job strain ratio (RR 1.30, 95% CI 1.10 to 1.54) and effort-reward ratio (RR 1.23, 95% CI 0.99 to 1.51) were associated with a higher risk, whereas higher job control was protective (RR 0.78, 95% CI 0.63 to 0.97). Results were similar after additional adjustment for menopausal, marital and parental status. Domain-specific analyses showed similar associations across

symptoms, strongest for physical symptom severity. CONCLUSIONS: Psychosocial work factors, particularly high workload, low job control and high job strain, were associated with the development of severe menopausal symptoms. These findings highlight the importance of psychosocial work environments in supporting women during the menopausal transition.

Lien vers l'article

Working conditions and reproductive health among healthcare professionals: Insights from a pilot study.

Gogova T, Mivšek PA, Jančar N. *Eur J Midwifery*. 2026;10.

INTRODUCTION: Despite rising awareness of occupational health, preconception health remains overlooked, particularly in demanding healthcare environments. The pilot study aimed to examine the associations between working conditions, workplace-related risks and the reproductive health of nurses and midwives. METHODS: A cross-sectional pilot study was conducted in Slovenia in 2022, including 41 participants. Associations between occupational factors and reproductive health outcomes were analyzed using descriptive statistics, the Mann-Whitney U test and the likelihood-ratio χ^2 test (G^2), based on Kullback-Leibler divergence. RESULTS: Findings suggest possible associations between factors such as single shift work, overtime, lifting and work stress and reproductive problems. Discrimination by patients, relatives and colleagues was significantly associated with sexual desire, frequency of sexual activity and general sexual behavior. Among participants, 34.2% reported menstrual problems, 29.2% conception difficulties and 44.7% reproductive diagnoses. Post hoc effect size analysis revealed six large and two medium effect sizes, indicating potential clinical relevance beyond mere statistical significance. CONCLUSIONS: These preliminary findings indicate that certain occupational and psychosocial stressors may be linked to adverse reproductive outcomes among healthcare professionals. Addressing these risks through targeted preventive strategies could help protect the reproductive health of female healthcare professionals, most of whom are of reproductive age.

Lien vers l'article

Polyexposition

Occupational electromagnetic field exposure and sleep disturbances: The predominant role of high-frequency electric fields.

Soumillion M, Remy VFM, Petrovic D, Dil JH, Guseva Canu I. *Int J Hyg Environ Health*. 2026 Aug;277:114886.

Electromagnetic fields (EMFs) are ubiquitous and include low-frequency magnetic fields (LF-MF) from alternating currents, low-frequency electric fields (LF-EF) from wiring and equipment, and high-frequency electric fields (HF-EF) from wireless technologies and broadcast antennas. Bus drivers are exposed to an EMF mixture and report higher rates of sleep disorders than the general population. This study aimed to examine associations between sleep disturbances and cumulative occupational EMF exposure over 12 months, considering individual components and the mixture. EMF exposure estimates from the Swiss bus-exposure matrix were matched to the occupational history of 351 TRAPHEAC study bus drivers. Sleep quality, insomnia, and excessive daytime sleepiness (EDS) were assessed using the Global Sleep Assessment Questionnaire. Associations with cumulative EMF exposure were evaluated using multivariable linear regression controlled for age, sex, occupational noise, and nightshift work, and heat exposure. Mixture effects were analyzed with Bayesian Kernel Machine Regression (BKMR), and the influence of non-occupational EMF exposure was examined via stratification. Multivariable linear regression showed positive associations of HF-EF, but not LF-EF or LF-MF, with insomnia and EDS, although models explained little variance. BKMR confirmed the predominance of HF-EF in the mixture effect, with a positive but statistically non-significant dose-response for the EMF mixture. Stratified analyses suggested stronger associations among drivers with low non-occupational EMF exposure. These findings suggest a dose-response relationship between occupational EMF mixture exposure and sleep disturbances, primarily driven by HF-EF. However, the overall variance explained by EMF exposure is small, highlighting the role of other risk factors in sleep disturbances among bus drivers.

Lien vers l'article

Pathologies cardiovasculaires

Maternal circadian disruption during pregnancy and offspring diabetic cardiovascular disease risk.

Saedi S, Bing H, Wu J, Gao Y, Wang C, Chu Q, et al. *Front Cell Dev Biol*. 2026;14:1879135.

Circadian rhythm disruption during pregnancy has been recognized as a growing public health concern, affecting approximately 20% of the workforce due to shift work and prevalent lifestyle-related factors. Grounded in the developmental origins of health and disease (DOHaD) paradigm, emerging evidence indicates that maternal circadian disruption (MCD) may have profound transgenerational effects, programming offspring susceptibility to diabetes mellitus and its cardiovascular complications. This narrative review synthesizes current mechanistic evidence linking MCD to offspring cardiometabolic disease (CMD), emphasizing the integrated clock-metabolic-oxidative stress axis. Disruption of core clock genes, including CLOCK, BMAL1, and CRY/PER, lead to impaired glucose homeostasis, mitochondrial function, and antioxidant defense, subsequently promoting generation of reactive oxygen species (ROS) and exacerbating oxidative stress. These disturbances contribute to endothelial dysfunction, vascular inflammation, and accelerated atherogenesis in offspring. Chronotherapeutic approaches, particularly melatonin supplementation and circadian-aligned lifestyle modifications, represent promising strategies in mitigating these programmed deficits. Elucidating this clock-metabolic-oxidative stress axis will provide essential insights to develop preventive and therapeutic interventions to address the developmental origins of CMD across generations.

Lien vers l'article

Cardiovascular Risk Factors in 101 Night-shift and Day Workers in Industry: A Cross-sectional Study.

Skogstad M, Alsaedi S, Sirnes PA, Mamen A, Skare Ø, Goffeng E, et al. *J Occup Environ Med*. 2026 Sep 1;68(9):756–65.

OBJECTIVE: This cross-sectional study assesses cardiovascular disease (CVD) risk factors in industrial rotating night-shift and day workers. METHODS: We examined 27 day workers, 40 night-shift workers with high night load, and 34 night-shift workers with low night loads. We assessed sleep, blood pressure, pulse wave velocity, carotid intima-media thickness, maximal oxygen uptake ( ), glycosylated hemoglobin, lipids, focusing on inflammatory markers, and adipokines. RESULTS: High-load night-shift workers had higher inflammation and lower adiponectin level compared with other shift workers and day workers. Night shifts of 8 and 12 hours shortened sleep. The number of night shifts was positively associated with inflammatory markers and negatively associated with adiponectin. CONCLUSIONS: Night-shift work is associated with CVD risk factors. Shift schedules with fewer night shifts and longer recovery periods could mitigate it.

Lien vers l'article

Work-Influenced Circadian Disruption Connected to Disease Risk but Not Microbiomes in a Cohort of Philadelphia Nurses.

Super C, Asif M, Compher C, Schurr TG, Hoke MK. *Am J Hum Biol*. 2026 Aug;38(8):e70314.

OBJECTIVES: Circadian rhythms influence activity cycles in humans, and circadian rhythm disruption (CRD) can negatively impact cardiometabolic disease risk and microbiome composition. This study documented CRD in a sample of nurses in Philadelphia, examining connections between CRD, disease risk, and work environment factors, proposing the concept of work-influenced circadian disruption (WICD). MATERIALS AND METHODS: A total of 75 nurses were recruited for the study. Disease risk indicators included triglycerides (TRG), C-reactive protein (hs-CRP), blood pressure (BP), and fecal gut microbiome composition. Surveys recorded CRD via sleep/exhaustion levels, weekly exercise, mealtime timing/length, shift diet, and night shift work. Work environment variables included

staff/resources, physician-nurse relations, break times, and patient care assignments. Mixed multiple regression models assessed CRD's associations with cardiometabolic disease risk indicators (H1) and work environment variables (H2). Microbiome similarity by CRD variables was tested using PERMANOVAs. RESULTS: Lower exercise levels were associated with higher hs-CRP (β = -4.2, p = 0.05), TRG (β = -9.8, p = 0.03), BP (β = -3.6, p = 0.01), and less break time (β = 0.1, p = 0.01). Higher exhaustion was linked to elevated hs-CRP (β = 6.0, p = 0.02) and fewer staff/resources (β = -0.7, p = 0.01). Less mealtime was associated with higher BP (β = -0.2, p = 0.05) and shorter breaks (β = 0.2, p = 0.04). Night shifts were linked to higher BP (β = 6.3, p = 0.01). CRD variables were not significantly associated with microbiome profiles. CONCLUSIONS: CRD is associated with disease risk indicators and with work environment variables but not with microbiome profiles, suggesting these relationships may operate through other pathways. Further studies should explore biobehavioral networks in WICD.

Lien vers l'article

Risk of Cardiovascular Disease According to Standard Industrial Sectors: A Nationwide Longitudinal Study.

Park HJ, Park Y, Oh J, Lee J, Sim J, Yun B, et al. *J Korean Med Sci*. 2026 Aug 10;41(31):e203.

BACKGROUND: Cardiovascular disease (CVD) is a leading global cause of morbidity and mortality, with occupational factors significantly contributing to risk. However, industry-specific CVD risks in Asia remain understudied. This study evaluates CVD and all-cause mortality risks across industrial sectors in Republic of Korean (South Korea) using a nationally representative dataset. METHODS: This study examined middle-aged paid workers (aged 40-59 years) using data from the National Health Insurance Service database, which integrates biennial health screening data with insurance claims. We included individuals who underwent health examinations between 2009 and 2010 and followed them to identify CVD events through insurance claims records. Age-standardized incidence ratios were calculated using indirect standardization with the entire population as the control group, and 95% confidence intervals (CIs) were estimated using the Poisson distribution, with results stratified by sex. Population-attributable fractions were calculated to estimate each sector's contribution to the CVD burden. RESULTS: Among males, the highest standardized incident ratios for CVD were observed in the "A. Agriculture, Forestry and Fishing" (1.20; 95% CI, 1.10-1.31) and "H. Transportation and Storage" (1.19; 1.17-1.21) sectors. For females, elevated standardized incidence ratios were found in the "D. Electricity, Gas, Steam and Air Conditioning Supply" (1.31; 1.09-1.57) and "H. Transportation and Storage" (1.15; 1.10-1.20) sectors. The "H. Transportation and Storage" sector showed the highest population-attributable fraction for males (3.34%), while the "I. Accommodation and Food Service Activities" sector led for females (1.64%). CONCLUSION: This study provides the first comprehensive analysis of industry-specific CVD risks in Asia, highlighting elevated risks in transportation possibly due to long working hours, sedentary behavior, and occupational stress. Targeted interventions are needed to address these occupational health disparities.

Lien vers l'article

Non-Pharmacological Strategies in Atherosclerotic Cardiovascular Disease: From Molecular Mechanisms to Clinical Integration.

Kovyanova TI, Nerush MO, Karagodin VP, Borodko DD, Rozhkova UV, Antonov SA, et al. *Biomedicines*. 2026 Aug 20;14(8).

Atherosclerotic cardiovascular disease (ASCVD) remains the leading cause of morbidity and mortality worldwide, driven by complex interactions among dyslipidemia, chronic inflammation, insulin resistance, endothelial dysfunction, and gut microbiome-derived metabolites. This review synthesizes mechanistic and clinical evidence on non-pharmacological strategies that modulate these pathways and contribute to ASCVD risk reduction. Dietary patterns such as Mediterranean, DASH, and plant-

based diets improve lipid metabolism, attenuate inflammation, and enhance endothelial function. Chrononutrition approaches, including time-restricted feeding and structured fasting protocols, influence circadian regulation of glucose and lipid homeostasis. Circadian misalignment-including irregular sleep timing, shift work, and disrupted feeding-fasting cycles-independently contributes to ASCVD through impaired glucose tolerance, dyslipidemia, endothelial dysfunction, and systemic inflammation. Modulation of the gut microbiome, particularly through increased short-chain fatty acid production and reduced TMAO formation, provides additional cardiometabolic benefits. Key nutraceuticals-phytosterols, omega-3 fatty acids, and berberine-demonstrate clinically meaningful effects through micellar competition, inflammation-resolving lipid mediators, and AMPK activation, respectively. When combined with evidence-based pharmacotherapy, these interventions exert synergistic effects on cardiometabolic risk factors. This integrative biomedical framework highlights the importance of combining lifestyle, metabolic, microbiome-targeted, and nutraceutical strategies for comprehensive ASCVD prevention.

Lien vers l'article

Role of Life's Essential 8 in the association of night shift work with cardiovascular disease and mortality: a prospective cohort study of UK Biobank participants.

Huang Y, Xiang Y, Li T, Lip GYH, Gao Y, Zhang J. *J Glob Health*. 2026 Aug 14;16:04198.

BACKGROUND: Night shift work is linked to higher risks of cardiovascular disease (CVD) and mortality, but mechanisms remain unclear. Lifestyle, captured by the American Heart Association's Life's Essential 8 (LE8), may act as a modifiable mediator. We aimed to examine the associations of night shift work with CVD and mortality and quantify the mediating role of LE8. METHODS: We analysed 131,844 employed participants without baseline CVD from the UK Biobank (2006-2010). We categorised night shift work as day workers, shift but never/rarely night shifts, some night shifts, and usual/permanent night shifts. LE8 scores included diet, physical activity, nicotine exposure, sleep, body mass index, blood pressure, lipids, and blood glucose. Primary outcomes were incident CVD and all-cause mortality, and secondary outcomes included myocardial infarction (MI), stroke, and atrial fibrillation (AF). We used Cox models to estimate associations and counterfactual mediation analysis to quantify the proportion mediated by LE8. RESULTS: Over a median follow-up of 13.78 years (interquartile range = 13.09-14.42), 39,115 (29.7%) developed CVD and 5474 (4.2%) died. Compared with day workers, usual/permanent night shifts had higher risks of CVD (hazard ratio (HR) = 1.24; 95% confidence interval (CI) = 1.18-1.31), all-cause mortality (HR = 1.23; 95% CI = 1.07-1.41), AF (HR = 1.31; 95% CI = 1.13-1.51), and MI (HR = 1.29; 95% CI = 1.09-1.51), but not cardiovascular mortality. LE8 mediated 39.2% of the CVD association, 33.1% of all-cause mortality, and 40.8% of MI. Counterfactual analyses suggested that improving cardiovascular health (CVH) could prevent 35.1% of CVD events and 30.2% of deaths among night shift workers. CONCLUSIONS: Night shift work is associated with higher risks of CVD, AF, MI, and all-cause mortality. A substantial proportion of this burden may be preventable through improved CVH. Further studies are needed to evaluate integrated lifestyle interventions in night shift workers.

Lien vers l'article

Coronary heart disease risk factors in taxi drivers in Medellín.

Gómez-Gallego DM, Rodríguez-Niño DE, González-Castaño JD, Castañeda-Quintero V, Callejas-Valencia JA, Montoya Castillo M, et al. *Occup Med (Lond)*. 2026 Aug 10.

BACKGROUND: Cardiovascular diseases are the leading cause of death worldwide. Taxi drivers constitute a high-risk occupational group due to prolonged sedentary work, extended shifts and chronic stress, beyond traditional cardiovascular risk factors. AIMS: To describe the prevalence of coronary heart disease (CHD) risk factors and their sociodemographic and occupational associations

among taxi drivers in Medellín, Colombia. METHODS: We conducted a cross-sectional study of 484 taxi drivers recruited citywide. We obtained data using a structured questionnaire on sociodemographic and occupational factors and self-reported diagnoses of hypertension, dyslipidaemia and diabetes. We assessed physical activity with the International Physical Activity Questionnaire, and alcohol and tobacco use with the Alcohol, Smoking and Substance Involvement Screening Test. We estimated prevalences and analysed associations with multiple risk factors using chi-squared test and Poisson regression with a robust error variance. RESULTS: Sedentary lifestyle prevalence was 71%; hypertension 30%; dyslipidaemia 24%; hazardous alcohol use 25%; hazardous tobacco use 14%; and diabetes 10%. Overall, 52% of participants had two or more CHD risk factors. In adjusted models, a higher prevalence of multiple risk factors was observed among drivers with primary education (adjusted prevalence ratio [aPR] = 1.71; 95% CI 1.26-2.32) and secondary education (aPR = 1.43; 95% CI 1.06-1.93), more than 10 years of driving experience (aPR = 1.39; 95% CI 1.09-1.75) and mixed day and night shifts (aPR = 1.18; 95% CI 1.01-1.40), after adjustment for sociodemographic and occupational variables. CONCLUSIONS: Taxi drivers in Medellín show a high burden of CHD risk factors, underscoring the need for targeted occupational health interventions addressing modifiable conditions.

Lien vers l'article

Effects of a worksite health promotion program on cardiometabolic risk factors among healthcare workers in Taiwan.

Fabian Chong GL, Lin YH, Chen YC, Chen IJ, Chen JY. *J Occup Environ Med*. 2026 Aug 18.

OBJECTIVE: To evaluate the effects of a 12-week worksite health promotion program on cardiometabolic risk factors among healthcare workers. METHODS: A non-randomized controlled trial was conducted in Taoyuan, Taiwan (2019-2021), comparing an intervention group receiving active appointment surveillance and physical training referrals with a control group receiving conventional health education, with measurements taken at baseline and 12 weeks. RESULTS: Among 94 eligible participants, the intervention group showed significant reductions in waist circumference, body mass index, blood pressure, fasting plasma glucose, gamma-glutamyl transferase, and lipid profiles compared with the control group. CONCLUSION: The 12-week worksite health promotion program effectively improved cardiometabolic risk factors and may enhance healthcare worker wellness.

Lien vers l'article

Sleep loss as a cardiometabolic risk factor: a narrative review of clinical and public health implications.

Ghanem FK, Attarian H, Al-Khalil Z, Kabrita CS. *J Clin Sleep Med*. 2026 Aug 3;22(1).

PURPOSE: To synthesize current evidence on how sleep deprivation, impaired sleep architecture, and circadian misalignment affect cardiovascular and metabolic regulation across autonomic, hormonal, inflammatory, and behavioral pathways, and to highlight remaining research gaps in cardiometabolic sleep medicine. METHODS: A structured literature search was conducted using PubMed, Scopus, and Google Scholar to identify peer-reviewed primary and review articles published within the past decade, using chronobiological and cardiometabolic search terms. Reference lists of retrieved articles were screened to identify additional relevant studies. RESULTS: Experimental and epidemiologic data consistently link short or disturbed sleep with increased incidence of hypertension, coronary artery disease, stroke, obesity, type 2 diabetes, and metabolic syndrome. Sleep loss activates the sympathetic nervous system and elevates cortisol, while suppressing growth hormone, thereby promoting vasoconstriction, endothelial dysfunction, and cardiac remodeling. Parallel disruption of leptin, ghrelin, and endocannabinoid signaling increases hunger, caloric intake, and preference for energy-dense foods, driving weight gain, visceral adiposity, and insulin resistance. Circadian

misalignment from shift work and social jet lag further amplifies inflammatory signaling and metabolic risk across the lifespan. Limited interventional data suggest that sleep extension can improve appetite regulation, blood pressure, and some glycemic indices, but mechanistic and long-term outcomes remain underexplored. CONCLUSION: Sleep deprivation and circadian disruption mediate cardiometabolic disease through converging neuroendocrine, autonomic, inflammatory, and behavioral pathways. Future research should employ longitudinal designs and integrated multi-"omics" approaches combined with sleep phenotyping to clarify causal mechanisms and identify novel biomarkers and therapeutic targets in clinical sleep medicine.

Lien vers l'article