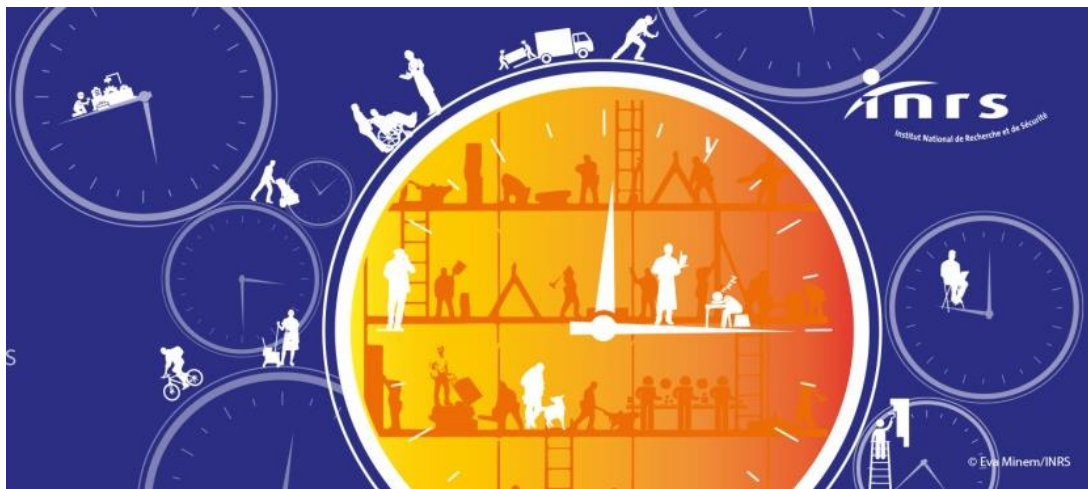


LES HORAIRES ATYPIQUES

Bulletin de veille scientifique : Janvier 2025



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.

Les bulletins de veille sont disponibles sur le [portail documentaire de l'INRS](#). L'abonnement permet de recevoir une alerte mail lors de la publication d'un nouveau bulletin (bouton « M'abonner » disponible après connexion à son compte).

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Horaires atypiques (HA)

Généralités et prévention

Aucun article dans ce bulletin.

Activités physiques

Aucun article dans ce bulletin.

Autres pathologies

Aucun article dans ce bulletin.

Cancers

Aucun article dans ce bulletin.

Risque routier, accidentologie

Aucun article dans ce bulletin.

RPS et QVT

Psychological Well-being Interactively Affected by Long Working Hours and Caregiving Activities.

Park MY, Lee J. *Saf Health Work*. 2024 Dec;15(4):458-63.

BACKGROUND: Long working hours and caregiving responsibilities are prevalent in many societies. These demands can lead to stress and adverse mental health outcomes. This study examines the associations of long working hours and family caregiving on psychological well-being and their interactions among South Korean wage workers. **METHODS:** Using data from the Korean Working Conditions Survey, this cross-sectional study involved 33,063 participants. Long working hours were categorized as 40 and 52 hours a week, and caregiving was assessed through self-reports of non-work-related caregiving activities. The World Health Organization Well-Being Index was used to measure psychological well-being, with Poisson regression models analyzing the associations and interactions between working hours, caregiving activities, and psychological well-being. **RESULTS:** The prevalence of low psychological well-being was significantly higher among individuals with both long working hours and caregiving responsibilities than among those with either or neither stressor (adjusted prevalence ratio = 1.81; 95% confidence interval: 1.42-2.31, multiplicative scale = 1.32; 95% confidence interval: 1.00-1.73). **CONCLUSION:** This study highlights the significant mental health implications of combining long working hours with caregiving responsibilities in the Republic of Korea. The synergistic interaction between these factors suggests that interventions and policies aimed at reducing work-related stress and supporting caregivers could have substantial benefits for mental health.

[Lien vers l'article](#)

Santé psychique

A Longitudinal Analysis of Long Working Hours and the Onset of Psychological Distress.

Ezekekwu E, Johnson C, Karimi S, Lorenz D, Antimisiaris D. *J Occup Environ Med.* 2025 Jan 1;67(1):11-8.

OBJECTIVES: There is a paucity of longitudinal studies examining the relationship between working hours and the development of psychological distress (PD) among US workers. This study utilized a longitudinal approach to examine this relationship. **METHODS:** The 2010-2019 Medical Expenditure Panel Survey (MEPS) data was utilized. PD was analyzed among full-time US employees without PD at baseline using a fixed effect approach. **RESULTS:** The sample comprised 27,548 full-time workers. Individuals working 61 hours or more weekly had the highest risk of PD onset, at 9.9% (95% CI = 1.9%-17.8%, $P < 0.05$), compared to those working 30 to 35 hours weekly. Interestingly, an increased risk of PD onset was found among individuals working 36 to 40 hr/wk at 6.6% (CI = 1.5%-11.6%, $P < 0.05$). **CONCLUSIONS:** Long working hours were associated with the increased development of PD.

[Lien vers l'article](#)

Relationship Between Critically Longer Working Hours, Depressive Symptoms, and Suicidal Ideation Among Obstetricians and Gynecologists in Japan.

Ishikawa M, Seto R, Oguro M, Sato Y. *Healthcare (Basel).* 2024 Nov 26;12(23).

Background/Objectives: The Ministry of Health, Labor and Welfare in Japan has been promoting physicians' working style reforms since 2019. This study aimed to update the relationship between working hours, depressive symptoms, and suicidal ideation among obstetricians and gynecologists, based on the physicians' working style reforms. **Methods:** A questionnaire-based survey was conducted among obstetricians and gynecologists, and valid responses were obtained from 1164 physicians. Multivariable logistic regression analysis was performed to identify significant associations. **Results:** Of the respondents, 49.8% were female, and most physicians were aged 30-39 (32.1%). Precisely, 57.4% worked in public hospitals, and 47.9% worked in urban areas. Physicians working $40 \leq x < 60$ h per week accounted for the largest proportion of physicians. Depressive symptoms and suicidal ideation accounted for 16.4% and 3.6% of participants, respectively. The following factors were significantly associated with depressive symptoms as a dependent variable: other occupation, having two or three children, working 60-80 h or >100 h per week, and working in rural areas. None of these variables was significantly associated with suicidal ideation. **Conclusions:** The physicians' working style reforms have reduced the number of working hours for obstetricians and gynecologists. However, rates of depressive symptoms and suicidal ideation have not improved.

[Lien vers l'article](#)

Troubles cognitifs et de la vigilance

Aucun article dans ce bulletin.

Travail posté et de nuit

Généralités et prévention

Just the facts on healthier shift scheduling: "We're tired of being tired".

Gray S, Cameron B, Rang L. *Cjem*. 2025 Mar;27(3):173-5.

[Lien vers l'article](#)

Expanding clinical placement opportunities: Exploring night shift experiences for nursing students.

Segura V. *J Prof Nurs*. 2024 Nov-Dec;55:162-6.

Academic programs grapple with the daunting task of managing a growing influx of nursing students while ensuring the quality and accessibility of clinical placements, and simultaneously engaging in competition among themselves to secure diverse clinical sites. This article delves into the innovative approach of integrating night shift clinical placements for nursing students to address the challenges posed by growing competition for day shift opportunities in acute care hospital settings. With pressure mounting on academic programs to accommodate a rising number of qualified nursing students while ensuring sufficient clinical placements, this initiative aims to alleviate strain on day shift nursing staff, mitigate teaching fatigue, and provide students with diverse learning experiences. Drawing upon a comprehensive review of literature and practical considerations, this article presents a detailed exploration of the benefits, planning processes, implementation strategies, and evaluation methods associated with night shift clinical placements in prelicensure nursing programs.

[Lien vers l'article](#)

Activités physiques

Aucun article dans ce bulletin.

Autres pathologies

Association between night shift work and the risk of type 2 diabetes mellitus: a cohort-based meta-analysis.

Xie F, Hu K, Fu R, Zhang Y, Xiao K, Tu J. *BMC Endocr Disord*. 2024 Dec 18;24(1):268.

BACKGROUND: The impact of night shift work on the incidence of type 2 diabetes mellitus (T2DM) is not well understood. This meta-analysis assesses the association between night shift work and the risk of developing T2DM and explores this relationship across various subgroups. **METHODS:** We systematically searched PubMed, Web of Science, EBSCO, and the Cochrane Library from their inception until February 2024. We employed hazard ratios (HR) and 95% confidence intervals (95%CI) to quantify the association between night shift work and T2DM risk. **RESULTS:** Our analysis synthesized data from 9 articles encompassing 10 cohort studies. Overall, night shift workers exhibited a 30% increased incidence of T2DM compared to their daytime counterparts (HR = 1.30, 95% CI: [1.18, 1.43], $P < 0.001$). Among females, night shift workers had a higher incidence of T2DM (HR = 1.28, 95% CI: [1.16, 1.41]); however, in males, the association was not statistically significant (95% CI: [0.89, 2.63]). For individuals with a body mass index (BMI) > 30 kg/m², night shift work was associated with an increased T2DM risk (HR = 1.14, $P = 0.007$), whereas there was no significant association for those with a BMI ≤ 30 kg/m² ($P = 0.255$). Further, the risk of T2DM increased with longer durations of night shift work; workers with more than 10 years of night shift work faced a higher T2DM risk than those with 10 years or fewer (HR for > 10 years = 1.17, 95% CI: [1.10, 1.24]; HR for ≤ 10 years = 1.06, 95% CI: [1.03,

1.10]). CONCLUSION: Findings suggest potential link between night shift work and T2DM risk. Longer durations of night shift work may increase the risk of T2DM. There may be gender differences (greater harm in women, but the male sample size is small) and obesity differences.

[Lien vers l'article](#)

Shift Work Increases the Risk of Circadian Syndrome Rather than Metabolic Syndrome: A Cross-Sectional Study of NHANES 2005-2010.

Wang L, Wang S, Wang Y, Jiang Y, He J, Li X. *Metab Syndr Relat Disord*. 2024 Dec;22(10):761-9.

Introduction: Shift work disrupts sleep-wake cycles and may lead to adverse health outcomes, including cardiovascular disease and metabolic disorders. This study examines the association between shift work and the risks of metabolic syndrome (MetS) and circadian syndrome (CircS) in U.S. workers. Methods: We analyzed data from 4173 participants aged 18 and above from the National Health and Nutrition Examination Survey (NHANES) spanning 2005-2010. Shift work status was determined based on work hours, and MetS and CircS were defined using established criteria. Statistical analyses included weighted multivariate logistic regression models, weighted multivariate linear regression models, and inverse probability weighted propensity score matching to ensure accurate comparison between shift and nonshift workers. Results: The study found no significant association between shift work and the prevalence of MetS. However, shift workers exhibited a higher prevalence of CircS compared with nonshift workers. This association was more pronounced in specific subgroups, including those under 60 years of age and various ethnicities. The study highlights the heightened risk of CircS among shift workers, underscoring the potential impact of shift work on circadian rhythm disruptions. Conclusion: Shift work is associated with an increased risk of CircS but not MetS, according to NHANES 2005-2010 data.

[Lien vers l'article](#)

Bladder health in U.S. Shift Workers: A Cross-Sectional Study (NHANES).

Diao J, Xie L, Wu B, Chen L, Jing H. *Urol J*. 2024 Dec 29.

PURPOSE: Working during non-traditional hours is becoming more prevalent in modern societies and presents a significant hurdle to an individual's circadian rhythm. We examined the bladder health of shift workers in the United States by analyzing information obtained from the National Health and Nutrition Examination Survey. MATERIALS AND METHODS: National Health and Nutrition Examination Survey (NHANES) datasets from 2005 to 2010 were utilized. Regression analysis were used to assess the association between shift work and bladder health (stress incontinence, urge incontinence and nocturia) by adjusting age, race, education, smoking, and so on. RESULTS: The percentage of non-Hispanic Black individuals was notably higher among shift workers (25.8% vs. 17.8%). Among shift workers, there was a lower percentage of individuals with a college degree (or higher) compared to day workers. Shift work has been found to be associated with nocturia in men (unadjusted model: OR=1.2, 95%CI=1.0-1.5, p=0.038). However, the adjusted results indicate that the connection is not statistically significant (Adjusted II model: OR=1.2, 95%CI=1.0-1.5, p=0.105). Similarly, no statistically significant association was observed between shift work and nocturia in women. There was also no significant relationship between shift work and Stress Urinary Incontinence (SUI) in men or women. The results from Adjusted II indicate a substantial association between shift work and the prevalence of Urgency Urinary Incontinence (UUI) in women (OR=1.2, 95%CI=1.0-1.5, p=0.041). CONCLUSION: Results of this cross-sectional study indicated that shift work was associated with a higher risk of UUI in women. Further research is needed to explore the relationship.

[Lien vers l'article](#)

The Effect of Meal Frequency and Glycemic Index During the Night Shift on Alertness, Hunger, and Gastrointestinal Complaints in Female Health Care Workers-A Two-Armed Randomized Crossover Trial.

de Rijk MG, Boesveldt S, Feskens EJ, de Vries JH. *J Nutr.* 2024 Dec;154(12):3803-14.

BACKGROUND: Nutrition strategies for night-shift workers could optimize alertness and minimize hunger and reduce gastrointestinal complaints, enhancing safety and well-being. **OBJECTIVES:** This study aimed to investigate the effects of 1 or 3 small meals, with either low or high glycemic index (GI), compared with no meal, on alertness, hunger, and gastrointestinal complaints during the night shift. **METHODS:** Fifty-one female health care workers, aged 18 to 61 y, participated in a 2-armed randomized crossover design. In 1 study arm, participants received 1 yogurt meal during the night shift, AND in the other, they received 3. Each study arm involved 3 intervention periods during night shifts, with participants consuming yogurt with low GI (1LGI or 3LGI) OR high GI (1HGI or 3HGI) carbohydrates, or no meal (ONGI). Objective alertness was assessed using a validated brief psychomotor vigilance task (PVT-B), subjective alertness with the Samn-Perelli scale, and hunger and gastrointestinal complaints through questionnaires. **RESULTS:** Participants in the 1LGI (β : -4.6; 95% CI: 0.0, 9.3) and 3LGI (β : -3.4; 95% CI: 0.0, 6.8) conditions had fewer lapses during the PVT-B than those in the 3HGI condition. No differences were found between meal conditions for median and reciprocal reaction time or subjective alertness. All 4 conditions reported less hunger (β : from -0.6 to -1.2) compared with no meal. The 3LGI condition resulted in more rumbling intestines than the 3HGI (β : 1.1; 95% CI: 0.4, 1.7) and ONGI (β : 0.74; 95% CI: 0.11, 1.37) conditions. **CONCLUSIONS:** Our study suggests that consuming 3 small low GI meals during the night shift helps maintain alertness and reduces lapses compared with 3 high GI meals. It also minimizes hunger but may cause mild gastrointestinal complaints. This trial was registered at International Clinical Trial Registry (<https://trialssearch.who.int/Trial2.aspx?TrialID%3dNL-OMON25574>).

[Lien vers l'article](#)

Cancers

Night shift work and prostate cancer: a large cohort study from UK Biobank and Mendelian randomisation study.

Yang G, Yang Y, Lv K, Wu Y, Song T, Yuan Q. *BMJ Open.* 2024 Dec 26;14(12):e084401.

OBJECTIVE: The global concern regarding the health implications of night shift work has escalated. Nevertheless, variations exist in the observed association between night shift work and prostate cancer (PCa). This study aims to systematically explore the association between night shift work and the risk of PCa. **DESIGN:** Cohort study and Mendelian randomisation (MR) study were used. **SETTING:** Cohort study data was from the UK Biobank (UKB). MR study using data was from the Finngen study and UKB through the Integrative Epidemiology Unit (IEU) Open Genome-Wide Association Study Project. **PARTICIPANTS:** Participants without prior PCa in paid employment or self-employment were included in the current work schedule cohort, participants without PCa who provided employment history formed the lifetime night shift work cohort. **MAIN OUTCOME MEASURES:** The outcome, incident PCa, was obtained from cancer register through linkage to national cancer databases. National cancer registries centralised information received from separate regional cancer centres around the UK. **RESULTS:** A total of 130 853 participants were included in the current work schedule cohort, while the lifetime night shift work cohort comprised 49 511 participants. Over a median follow-up duration of 13.9 years, the current work schedule cohort witnessed 4993 incident cases of PCa, while the lifetime night shift work cohort recorded 2022 PCa cases. In the analysis of the current work schedule, final model showed that no significant association was found between shift work and PCa risk, whether it

involved shift but no night shifts (HR 0.96, 95% CI 0.85 to 1.08), some night shifts (HR 1.16, 95% CI 0.99 to 1.33) and usual night shifts (HR 1.01, 95% CI 0.85 to 1.19). In the analysis of the average frequency of night shift work, final model showed no significant impact of different night shift frequencies (<3/month: HR 0.97, 95% CI 0.73 to 1.29; 3-8/month: HR 0.99, 95% CI 0.83 to 1.19; >8/month: HR 0.89, 95% CI 0.73 to 1.07) on the risk of PCa. No significant association was found for either <10 years (HR 0.89, 95% CI 0.72 to 1.09) or ≥10 years (HR 1.00, 95% CI 0.86 to 1.16) of night shift work. Subsequent subgroup and sensitivity analyses demonstrated consistent results without significant alterations. Furthermore, in the two-sample MR analysis, no statistically significant causal relationship was identified between night shift work and the incidence of PCa. **CONCLUSION:** In both the cohort studies and MR analysis, our investigation did not find any association between night shift work and PCa.

[Lien vers l'article](#)

Risque routier, accidentologie

The association between vigour and flexibility with injury and alertness during shift work.

Di Milia L, Barnes-Farrell JL, Laguerre R, Folkard S. *Chronobiol Int.* 2024 Dec;41(12):1600-9.

Models of shift work and health suggest that individual differences in circadian rhythm characteristics may moderate the relationship between night shift work and injury, but this argument has not been directly tested. In this study, we tested the efficacy of two circadian rhythm characteristics-vigour and flexibility-as moderators of the path between shift work and injury. In addition, we aimed to replicate the association between vigour, flexibility, and alertness by time of day, and the measurement properties of the Circadian Type Inventory. We recruited 401 healthcare workers from Australia and Great Britain. After controlling for confounding variables, the results showed that vigour moderated the association between shift work and injury. Participants with values of vigour at the mean ($\beta = 0.5120$, $p < 0.0013$, 95% CI = [0.2018, 0.8223]) and one standard deviation below the mean ($\beta = 0.9048$, $p < 0.0001$, 95% CI = [0.4648, 1.3447]) reported significantly more injuries. No moderation was found for flexibility. Significant differences in alertness by time of day were observed in participants with higher levels of vigour compared to lower levels of vigour. No differences in alertness were observed for the flexibility scale. These results indicate that vigour may be a robust indicator of shift work tolerance. We replicated the posited two-factor structure of the Circadian Type Inventory, found the scales to have good reliability, and established for the first time, criterion-related validity for the vigour scale.

[Lien vers l'article](#)

RPS et QVT

The Effect of Shift Timing on Cesarean Delivery Outcomes and Operative Noise Levels.

Smith GK, Ulin MA, Ganjineh BM, Urban AR, Fuller RR, Whitham MD. *Am J Perinatol.* 2025 Jan;42(1):113-9.

OBJECTIVE: Intraoperative noise exposure has been associated with an increased risk of complications, communication errors, and stress among surgical team members. This study evaluates intraoperative noise levels in cesarean deliveries during different shift times, for example, night shifts, day shifts, and hand-off times between shifts. **STUDY DESIGN:** This is a secondary analysis of a prospective observational study which measured volume in decibels, percentage of time above safe levels (>60 dB), startle noise events (events with rapid increase of decibel level above baseline noise), and peak levels (>75 dB) for cesarean deliveries during a 3-month preintervention and

postintervention study. This secondary analysis of noise data evaluated whether there were differences in noise for cases occurring during day shifts (6:31 a.m.-4:59 p.m.), night shifts (6:01 p.m.-5:29 a.m.), and hand-off times (5:30 a.m.-6:30 a.m. and 5:00 p.m.-6:00 p.m.). Correlates and postoperative complications during the respective shifts were additionally analyzed. **RESULTS:** Noise data were collected for a total of 312 cesarean deliveries; 203 occurred during the day shift, 94 during the night shift, and 15 during hand-off times. Median noise in decibels, median noise at various key intraoperative points, number of startle events, percentage of time above 60 dB, and above 75 dB had no significant differences throughout the various shift times. Significantly larger numbers of postpartum hemorrhages, unscheduled, urgent, and STAT cesarean deliveries occurred at hand-off times and on night shifts. **CONCLUSION:** Noise levels during cesarean deliveries did not significantly vary when comparing night shifts, day shifts, and hand-off times, despite significantly higher numbers of urgent and STAT cases occurring overnight and during hand-off times. However, more than 60% of case time had noise levels exceeding those considered safe. This suggests that ambient background noise may be contributing more to overall noise levels rather than the specific clinical scenario at hand. **KEY POINTS:** · Noise in cesarean delivery operating rooms frequently exceeded recommended levels.. · Noise in cesarean delivery operating rooms did not vary with shift type.. · Hand-off times had higher rates of urgent and STAT cesareans.. · Night shifts had higher rates of urgent and STAT cesareans..

[Lien vers l'article](#)

Comparison of Nurse Work Hours and Nursing Activities Between High- and Low-Staffed General Wards: A Cross-Sectional Study.

Seong J, Cho SH, Yoon HJ, Sim WH, Kim MS. *Nurs Open*. 2024 Dec;11(12):e70109.

AIM: To compare nurse work hours and nursing activities between high-staffed and low-staffed general wards to examine the effects of increased staffing on nurse workload and nursing care. **DESIGN:** A secondary analysis was conducted using cross-sectional data collected at a tertiary teaching hospital in South Korea in January 2020. **METHODS:** Nursing activities provided by 350 nurses were observed every 10 min during their shifts for three observation days in four high- and four low-staffed wards. Nurse-to-patient ratios, nurse work hours, nursing activities and the composition of nursing hours (direct care, indirect care and associated work) were analysed. **RESULTS:** After excluding non-productive personal time, nurses in the low-staffed wards worked 9.28 h, which indicates 1.28 h of overtime work on average, while the high-staffed wards recorded 7.90 h of productive work time. The nurse-to-patient ratio in the high-staffed wards was 1:4.73, whereas that in the low-staffed wards was 1:8.87. The proportion of direct care hours out of nurse work hours was higher in the low-staffed wards (30.9%) than in the high-staffed wards (25.7%). Nurses in the low-staffed wards provided a greater number of direct care hours, and the largest difference in direct care hours between the two groups was found on night shifts. Nurses in the high-staffed wards spent more time communicating with patients and charting, whereas nurses in the low-staffed wards spent more time on vital signs and medications. **CONCLUSION:** Improved staffing had positive impacts on patients and nurses. Patients benefited from better staffing through increased communication with nurses. Better staffing also reduced overtime work and activities conducted during night shifts. **IMPLICATIONS FOR THE PROFESSION AND PATIENT CARE:** Adequate staffing is essential to improve patient care quality and reduce nurse workload. Nursing activities must be prioritised and redesigned to maximise the benefits of increased staffing on patient and nurse outcomes. **REPORTING METHOD:** We have adhered to the STROBE reporting guidelines. **NO PATIENT OR PUBLIC CONTRIBUTION:** The aim of this study was to compare nurse work hours and nursing activities between high-staffed and low-staffed wards.

[Lien vers l'article](#)

Efficiency of night shifts in Primary Healthcare Centers, Aseer Region, Saudi Arabia: Data envelopment analysis.

Saeed AA, Al Khaldi YM, Falqi TAI, Qarnan MA, Alharthi ZS, Alshafea AA. *J Family Community Med.* 2024 Oct-Dec;31(4):321-6.

BACKGROUND: Efficient allocation of healthcare resources is essential for meeting the increasing demand for healthcare services. This study aimed at exploring the performance of both one- and two-shift Primary Healthcare Centers (PHCCs) and examining the efficiency of healthcare centers to discover how efficiency is affected by the levels of resource allocation and staffing. **MATERIALS AND METHODS:** The study was conducted at 31 PHCCs assigned to cover extended hours, from 4:00 PM to 8:00 AM during May-October 2023. Study employed a quantitative approach and the data envelopment analysis technique to assess the efficiency of PHCCs, specifically focusing on night shift performance. Data were collected through interviews and surveys with primary healthcare staff including 99 doctors, 119 nurses, and 139 support staff using structured questionnaire. The DEA technique was utilized to measure the relative efficiency of the PHCCs by comparing the inputs and outputs. **RESULTS:** Out of 31 PHCCs, 45.2% run two shifts. Over the reported period, a total of 126,619 patient visits were recorded; 81.7% came to the two-shift PHCCs and 18.3% to the one-shift PHCCs. On average, each two-shift PHCC received approximately 161 visits/ shift, and the one-shift received 123 visits. Upper respiratory tract infections accounted for 30% of morbidities and chronic diseases for more than 20%. The performance of the two-shifts PHCCs revealed varying levels of efficiency with a score of 1.00 for the most efficient PHCC and 0.31 for the least efficient PHCC. **CONCLUSION:** This study underscores the importance of data-driven decision-making for healthcare administrators. Ongoing assessments and benchmarking are essential for continuously improving the quality of healthcare service and optimizing utilization of resources. Future research in this field can further explore the factors that contribute to healthcare efficiency and provide deeper insights into healthcare resource management and optimization of service delivery.

[Lien vers l'article](#)

Emergency Department Patient Satisfaction Scores Are Lower for Patients Who Arrive During the Night Shift.

Zitek T, Weber L, Nuñez T, Puron L, Roitman A, Corbea C, et al. *West J Emerg Med.* 2024 Nov;25(6):929-37.

BACKGROUND: Increasingly, patient satisfaction scores are being used to assess emergency physicians. We sought to determine whether the patient satisfaction scores collected by our hospital system are lower for patients who are treated in the emergency department (ED) on night shifts as compared to those treated on day shifts. **METHODS:** We performed a cross-sectional analysis of patient satisfaction scores from three EDs in Florida. We obtained satisfaction data from NRC Health (the company that provides our surveys) using a random sample of 1,000 completed surveys from patients treated in 2022; we also performed manual chart review to obtain clinical data. The satisfaction surveys asked patients how likely they would be to recommend the facility (from 0-10). Patients who provided a score of 9 or 10 were considered "promoters." For our primary analysis, we compared the percentage of promoters for the day shift encounters (7 AM to 7 PM) to the night shift encounters (7 PM to 7 AM). We also performed a multivariable logistic regression analysis using several demographic and clinical variables to further assess the association between night shift arrival and satisfaction scores. **RESULTS:** Of the 1,000 surveys analyzed, 66.3% of patients arrived during the day shift, and 33.7% arrived during the night shift. Of those who arrived during the day shift, 525 (79.2%) were promoters compared to 228 (67.7%) of those who arrived during the night shift, a difference of 11.5% (95% confidence interval [CI] 5.7-17.4%), $P < 0.001$. On multivariable analysis, night shift arrival was associated with a lower chance of a patient being a promoter, with adjusted odds ratio 0.60 (95% CI 0.43-0.84), $P = 0.003$.

CONCLUSION: Patients who presented to the ED during the night shift were less likely to be promoters than patients who arrived during the day shift. Assessments of patient satisfaction data should account for time of visit and other facility-related and operational characteristics.

[Lien vers l'article](#)

Santé psychique

Aucun article dans ce bulletin.

Troubles cognitifs et de la vigilance

A systematic review and meta-analysis on light therapy for sleep disorders in shift workers.

Zhao C, Li N, Miao W, He Y, Lin Y. *Sci Rep*. 2025 Jan 2;15(1):134.

Sleep disorders constitute a significant disruption for shift workers. Beyond medical interventions, phototherapy is recognized as an effective approach to significantly alleviate sleep disorders, particularly among individuals engaged in shift work. However, the effective dose and efficacy evaluation of phototherapy have not yet been determined. This study conducted a systematic review across five databases from January 1, 1990, to December 31, 2023. A total of 11 articles were selected for meta-analysis using a random-effects model. The results showed that light therapy significantly improved the total sleep time (TST) (MD = 32.54, $p < 0.00001$) and sleep efficiency (SE) (MD = 2.91, $p = 0.007$) of shift workers compared to the control group. Subgroup analysis and regression analysis implied that medium illuminance (900-6000 lx) for a long treatment duration (≥ 1 h) during night was more effective in extending total sleep time, whereas higher-illuminance and increasing dose (lx*h) of light therapy was more beneficial for SE. In summary, light therapy has a degree of efficacy in increasing the overall sleep duration and efficiency for shift workers, the findings of the current study contribute reference and evidence for dose setting and experimental design of phototherapy on shift workers' sleep in clinical and research.

[Lien vers l'article](#)

Comment on Elk et al. (2024) 'Effects and implementation of an intervention to improve sleep, fatigue and recovery among healthcare workers with night shifts: A pre- and post-test study'.

Shi SY, Xu Y, Guo YJ. *Int J Nurs Stud*. 2025 Apr;164:105012.

[Lien vers l'article](#)

Effects and implementation of an intervention to improve sleep, fatigue and recovery among healthcare workers with night shifts: A pre- and post-test study.

van Elk F, Lammers-van der Holst HM, Robroek SJW, Burdorf A, Oude Hengel KM. *Int J Nurs Stud*. 2024 Dec;160:104881.

BACKGROUND: Previous intervention studies among night workers mainly focused on single interventions and found inconclusive evidence for effectiveness. A comprehensive intervention approach that includes individual and environmental components has been argued as important. Gaining insight into contributing factors for the implementation of interventions for night workers and effectiveness is important to distinguish between theory and programme failure. OBJECTIVES: To evaluate the effects and implementation of the PerfectFit@Night intervention to improve sleep,

fatigue and recovery of night workers in healthcare, using the RE-AIM framework, which assesses reach, effectiveness, adoption, implementation and maintenance of interventions. DESIGN: A prospective pre-post study design, with two measurements before and three and six months after the intervention. SETTING: Twelve different departments of a university hospital in the Netherlands. PARTICIPANTS: Healthcare workers working night shifts (n = 210). METHODS: PerfectFit@Night consisted of environmental (provision of a powernap bed and healthy food, and workshop healthy rostering) and individual elements (e-learning and sleep coaching) and was implemented for three months in a phased manner. Questionnaires, logbooks and interview data were used. Effects of the intervention on sleep, fatigue and recovery were evaluated with mixed-effects models, and implementation factors of reach, adoption, implementation and maintenance were evaluated. RESULTS: Night shift-related insomnia (-11 %-points, 95 % CI: -19 %, -4 % at three months), need for recovery (β : -2.45, 95 % CI: -4.86, -0.03 at six months) and fatigue (OR: 0.46, 95 % CI: 0.25, 0.86 at six months) decreased significantly after the intervention. No changes were found for subjective sleep quality and sleep duration. Barriers and facilitators for implementation were identified for each intervention element at individual (e.g., dietary preferences), organisational (e.g., responsibilities at work) and workplace levels (e.g., location of power nap bed), and for the intervention itself (e.g., useful information in e-learning). Although satisfaction was high and continuation was preferred, embedding of the intervention in the daily routine was limited. Facilitators for future implementation include a positive attitude towards the intervention, clear guidelines regarding intervention elements, appointment of night workers as ambassadors, and suitable conditions in terms of work demands and for the intervention elements. CONCLUSIONS: The multi-faceted PerfectFit@Night intervention reduced insomnia, fatigue and need for recovery in night workers in healthcare. The most important facilitators to improve the implementation of PerfectFit@Night exist at the organisational level (e.g., positive attitude within the culture and suitable work demands). Combining effect and implementation evaluation is crucial to identify barriers and facilitators that hamper or enhance intervention effects. TRIAL REGISTRATION: The study was registered in the Netherlands Trial Register on 17 January 2021 (trial number NL9224).

[Lien vers l'article](#)

Perceptions of Sleep Quality, Fatigue, and Cognition Among Women Shift Workers.

Nelson KL, Davis JE, Wirth M, Choudhary SK, Wickersham KE. *Nurs Womens Health*. 2024 Dec;28(6):429-37.

OBJECTIVE: To explore the perceptions of sleep quality, levels of fatigue, and cognitive executive function in women shift workers. DESIGN: Qualitative, descriptive study of a sample of participants who participated in a cross-sectional, mixed-methods study. SETTING: Online focus groups. PARTICIPANTS: Women shift workers (N = 14) recruited from the southeastern United States. METHODS: Four focus groups were conducted using the Zoom online videoconferencing platform. Transcripts were coded inductively, and data were analyzed using a thematic analysis approach. RESULTS: Five major themes were developed from the data: Lots of Sleep Lost, Day Sleep Difficulties, Negative Consequences, Missing Out, and Not in My Own Thoughts. CONCLUSION: Shift work is associated with sleep loss, which has a negative impact on women's emotional, mental, and physical health. Further nursing science investigation into strategies to enable women to improve their sleep quality, sleep quantity, and social/domestic environment is warranted. Education to increase sleep knowledge and decrease accidents and errors that can result from insufficient sleep is vital.

[Lien vers l'article](#)

The Association Between Shift Work, Sleep Quality, and Health-Related Quality of Life Among Workers in the Logistics Industry.

Xu Q, Li Y, Xu Q, Wu Y, Ling C, Jordan KP, et al. *J Community Health*. 2024 Dec 16.

The booming online shopping industry has accelerated the growth of logistic services, often subjecting workers to irregular schedules. This study aims to examine the association between night-shift work and health-related quality of life among logistics workers, with a special focus on the mediating role of sleep characteristics. A survey was conducted among logistics workers across China, who filled out an online questionnaire. The questionnaire collected information about shift work, sleep characteristics, health-related quality of life, various sociodemographic factors, and specific job categories. The Insomnia Severity Index measured sleep quality, while the 12-Item Short Form Health Survey assessed health-related quality of life, including the physical and mental components. Linear regression analysis and structural equation modeling were used to examine the proposed associations and conduct mediation analysis, respectively. Out of the 484 respondents, 352 (72.7%) worked night shifts. These workers were predominantly males, smokers, alcohol users, less educated, and those with longer working hours involved in goods transportation and distribution. Our results showed a considerable trend of declining general health when transitioning from day to night shifts. There was a negative association between the frequency of night shift work and physical health. Specifically, those who worked more than 12 night shifts a month reported poorer health compared to those working permanent daytime, after adjustments for confounding variables. Sleep quality emerged as a significant mediator in this relationship. Our findings underscore the need to prioritize improving sleep quality to enhance the health and well-being of logistics workers.

[Lien vers l'article](#)

Effect of serial night shifts on the cognitive, psychomotor, and moral performance of residents in the department of Emergency Medicine.

Mohammed Muthanikkatt A, Nathan B, S MA, Murali S, Krishna NS, Raghavan B, et al. *Acad Emerg Med*. 2024 Dec;31(12):1233-42.

OBJECTIVES: The objective was to study the effect of serial night shifts on the cognitive, psychomotor, and moral performance of emergency medicine residents of an academic Emergency Medicine Department. **METHODS:** This prospective case-crossover study compared emergency medicine residents' sleep time, subjective sleepiness, cognitive function, moral judgment, and psychomotor skills after 5 consecutive days versus night shifts using sleep diaries, activity monitors, and multiple performance tests. Paired t-tests and Wilcoxon signed-rank tests were used to analyze data based on normality. Correlation analysis was done using Spearman's correlation test. Subgroup analysis was also performed to find any difference based on gender and year of residency. **RESULTS:** Twenty-seven emergency medicine residents participated (13 males, 48.1%). The distribution across residency years was as follows: 44.4% in their first year, 25.9% in their second year, and 29.6% in their third year. Following five consecutive night shifts, total sleep duration decreased significantly from 338.1 ± 67.8 to 307.4 ± 71.0 min ($p < 0.001$), while subjective sleepiness scores increased from 9.6 ± 3.3 to 13.6 ± 4.6 . Psychomotor performance and reaction times did not significantly differ between night and day shifts. However, working memory declined, assessed by self-paced three-back test scores (median [IQR] 517.1 [471.9-546.7] vs. 457.6 [334.4-508.8]; $p = 0.034$) and interference test scores (445.5 ± 59.9 vs. 407.2 ± 56.8 ; $p < 0.001$), along with moral judgment (median [IQR] 19 [18-28] vs. 15 [11-21]; $p = 0.010$) after serial night shifts. No correlations existed between performance measures nor differences based on gender or residency year. **CONCLUSIONS:** Residents sleep less following night versus day shifts, reporting the highest sleepiness levels after 5 consecutive nights. Despite this, psychomotor performance and reaction times did not significantly differ. However, considerable

reductions occurred in moral judgment, working memory, and interference test performance after serial night shifts.

[Lien vers l'article](#)

Longitudinal trajectories of sleep inertia among intern nurses with shift work in China: Prevalence, risk factors and outcomes.

Ma Z, Wang D, Yu Z, Zhang X, Wu W, Zhao S, et al. *J Sleep Res.* 2024 Dec 9:e14405.

There is a growing consensus regarding the significant individual differences in responses to sleep inertia. However, little is known about the longitudinal trajectories of sleep inertia. Therefore, we aimed to investigate the incidence rates of sleep inertia, longitudinal trajectories, influencing factors and outcomes among intern nurses with shift work. A total of 1079 intern nurses with shift work completed online surveys at 2 weeks (T1) and 16 weeks (T2) after their clinical internship, respectively. The demographics and willingness to continue working as nurses, circadian type, sleep problems and emotional problems were measured. Hierarchical logistic regressions were used to examine predictors for the distinct longitudinal trajectory of sleep inertia, and binary logistic regressions were used to examine the predictive effects of trajectory memberships of sleep inertia on mental health problems (daytime sleepiness, anxiety, depression) at follow-up. Overall, the incidence rates of severe sleep inertia increased significantly from 20.4% at T1 to 25.3% at T2 among intern nurses with shift work. All participants were classified into four trajectory memberships. Multiple factors were significant predictors of distinct trajectories of sleep inertia. Additionally, individuals with deteriorated and persistent-high sleep inertia were more likely to develop mental health problems at the subsequent point. Sleep inertia is prevalent among intern nurses with shift work, and its distinct change patterns were associated with multiple risk factors and various adverse outcomes. Therefore, these factors should be considered when designing individualized and appropriate interventions for sleep inertia among medical staff.

[Lien vers l'article](#)

The Effect of Meal Frequency and Glycemic Index During the Night Shift on Alertness, Hunger, and Gastrointestinal Complaints in Female Health Care Workers-A Two-Armed Randomized Crossover Trial.

de Rijk MG, Boesveldt S, Feskens EJ, de Vries JH. *J Nutr.* 2024 Dec;154(12):3803-14.

BACKGROUND: Nutrition strategies for night-shift workers could optimize alertness and minimize hunger and reduce gastrointestinal complaints, enhancing safety and well-being. **OBJECTIVES:** This study aimed to investigate the effects of 1 or 3 small meals, with either low or high glycemic index (GI), compared with no meal, on alertness, hunger, and gastrointestinal complaints during the night shift. **METHODS:** Fifty-one female health care workers, aged 18 to 61 y, participated in a 2-armed randomized crossover design. In 1 study arm, participants received 1 yogurt meal during the night shift, AND in the other, they received 3. Each study arm involved 3 intervention periods during night shifts, with participants consuming yogurt with low GI (1LGI or 3LGI) OR high GI (1HGI or 3HGI) carbohydrates, or no meal (ONGI). Objective alertness was assessed using a validated brief psychomotor vigilance task (PVT-B), subjective alertness with the Samn-Perelli scale, and hunger and gastrointestinal complaints through questionnaires. **RESULTS:** Participants in the 1LGI (β : -4.6; 95% CI: 0.0, 9.3) and 3LGI (β : -3.4; 95% CI: 0.0, 6.8) conditions had fewer lapses during the PVT-B than those in the 3HGI condition. No differences were found between meal conditions for median and reciprocal reaction time or subjective alertness. All 4 conditions reported less hunger (β : from -0.6 to -1.2) compared with no meal. The 3LGI condition resulted in more rumbling intestines than the 3HGI (β : 1.1; 95% CI: 0.4, 1.7) and ONGI (β : 0.74; 95% CI: 0.11, 1.37) conditions. **CONCLUSIONS:** Our study suggests that consuming 3 small low GI meals during the night shift helps maintain alertness and reduces lapses compared with 3 high GI

meals. It also minimizes hunger but may cause mild gastrointestinal complaints. This trial was registered at International Clinical Trial Registry (<https://trialssearch.who.int/Trial2.aspx?TrialID%3dNL-OMON25574>).

[Lien vers l'article](#)

Adaptive sleep behaviours and shift work tolerance during the transition to shift work.

Harris R, Drummond SPA, Meadley B, Rajaratnam SMW, Williams B, Smith K, et al. *Sleep Med.* 2024 Dec;124:483-93.

OBJECTIVE: To evaluate whether recruit paramedics adapt their sleep behaviour during the first 12-months of shift work and to identify sleep behaviours that are associated with better shift work tolerance (SWT) after 12-months of shift work. **METHODS:** Recruit paramedics (n = 105; M(age) = 25.81 years; 51.38% female) were evaluated before (baseline), and after six- and 12-months of shift work. At each timepoint, participants completed questionnaires evaluating their mental health and sleep. Participants also underwent 14 days of sleep and shift monitoring (sleep/work diaries and actigraphy) at each timepoint to examine sleep behaviours, including sleep opportunity (SO), sleep regularity and number of sleep episodes. **RESULTS:** Linear mixed models found SO increased (on day shifts and rest days), and sleep regularity decreased between baseline and follow-up timepoints. There were no changes in SO (on day shifts, nightshifts, and rest days) or sleep regularity between six- and 12-months of shift work. Latent profile analysis at 12-months follow-up identified high (n = 52), medium (n = 27), and low (n = 9) SWT levels (measured via depression, anxiety, insomnia, sleep quality and sleep efficiency) in paramedics. Reduced sleep regularity (i.e., more irregular sleep) between six- and 12-months of work and prioritising major sleep (rather than naps) at six-months predicted high SWT. **CONCLUSIONS:** These findings suggest clear SWT levels exist early in paramedics' careers whereby symptoms of depression, anxiety, and insomnia were the strongest contributors to SWT. New paramedics' sleep behaviours, including sleep regularity and prioritisation of longer sleep between nightshifts, may play an important role in influencing how paramedics tolerate shift work.

[Lien vers l'article](#)

Sleep quality and hours of nurses according to shift type and schedule: A cross-sectional study.

Chang HE. *Chronobiol Int.* 2024 Dec;41(12):1591-9.

This study investigated the quality and duration of sleep among shift-working nurses. In this cross-sectional survey, nurses from eight units across two tertiary hospitals in South Korea's capital region participated. We collected data on sleep quality and duration from 117 nurses. We used the Mann-Whitney test, analysis of variance, or the Kruskal-Wallis test to analyze differences in sleep quality and duration across different shifts. The nurses generally reported low sleep quality, with sleep disturbances being the most common issue. The worst subjective sleep quality was associated with the night shift, while the shortest sleep duration was reported for the day shift. Nurses working two consecutive night shifts reported the poorest sleep quality and shortest sleep duration. The quality and duration of sleep for shift-working nurses varied depending on the shift type. There were also differences based on the arrangement of multiple consecutive shifts. The findings of this study suggest that planning for nurses' shift work should consider sleep quality and duration. Specifically, nurses working the night shift reported poor sleep quality and duration, indicating a need for strategies to ensure they get sufficient rest after their shifts.

[Lien vers l'article](#)

HA comme facteur de risque

Généralités et prévention

Aucun article dans ce bulletin.

Activités physiques

Aucun article dans ce bulletin.

Autres pathologies

Infection Rate and Risk Factors of SARS-CoV-2 Infection in Retail Workers at the Onset of the COVID-19 Pandemic, Quebec, Canada.

Santerre K, Thériault M, Brousseau N, Langlois MA, Arnold C, Pelletier JN, et al. *Infect Dis Rep.* 2024 Dec 16;16(6):1240-53.

Background/Objectives: During the pandemic, client-facing workers were perceived to be at greater risk of SARS-CoV-2 infection. This study investigated the risk factors for SARS-CoV-2 infection among a cohort of 304 retail workers in the Quebec City metropolitan area. Methods: After providing consent, participants were interviewed to gather information on demographic, socioeconomic, behavioural, and occupational variables. They were subsequently followed for up to five visits, scheduled every 12 ± 4 weeks. The study covered critical periods before and during the emergence of the Omicron variants and included retrospective reporting of COVID-19 symptoms and virus detection tests to capture the pandemic's early stages. Results: During the observation period, 173 (57%) participants experienced a first episode of COVID-19. Serological evidence of recent infection was detected in 160 participants (53%), while 117 (38%) reported a positive virus detection test. In adjusted analyses, risk factors for infection included younger age, a diagnosis of lung disease, longer weekly working hours, more frequent social gatherings, and having received fewer than three doses of vaccine. Notably, the increased risk associated with younger age and longer working hours was observed only after the relaxation of public health measures in the spring of 2022. Conclusions: These data suggest that during the early years of the pandemic when strict public health measures were in place, retail work was not a significant risk factor for SARS-CoV-2 infection in Quebec City metropolitan area. These findings highlight the complex dynamics of COVID-19 transmission and the effectiveness of workplace protective measures.

[Lien vers l'article](#)

Cancers

Aucun article dans ce bulletin.

Risque routier, accidentologie

Aucun article dans ce bulletin.

RPS et QVT

World-wide-working-web: How to be successful on global teams.

Yanez Arteta M, Zhou L, Tehler U, Bak A. *J Pharm Sci.* 2025 Jan;114(1):10-7.

The day and age where pharmaceutical institutions were securely nestled within solid walls in one country, without much communication and collaboration with other sites and external collaborators, are long gone. The move to more global communication and collaboration has been beneficial for science exploration, however, it has presented scientists with the challenge of working on global teams. This article will explore this world-wide-working web and provide guidance on how to be successful in this new environment in the pharmaceutical industry and related work institutions. Four angles will be explored - intercultural awareness, virtual working and non-standard working hours, personal and team goals and how to be authentic in this new environment. The article will conclude with a road-map that the reader can follow, when embarking on the global team journey.

[Lien vers l'article](#)

Role of turnover, downsizing, overtime and night shifts on workplace violence against healthcare workers: a seven-year ecological study.

Giusti EM, Veronesi G, Forest H, Ghelli M, Persechino B, Borchini R, et al. *BMC Public Health.* 2024 Dec 4;24(1):3371.

BACKGROUND: About one-third of workers identify organisational factors as contributors to workplace violence (WPV), but the associations between these factors and WPV have primarily been explored retrospectively and with measures of perceived organisational constraints, hence providing limited information for prevention. Therefore, we assessed whether objectively measured ward-level indicators of turnover, downsizing, overtime, and night shifts are associated with the occurrence of WPV and whether these associations vary by ward type. **METHODS:** We conducted an ecological study at a university hospital in northern Italy from 2016 to 2022, using wards as statistical unit (average: 230 wards per year). Active surveillance of WPV was based on an in-hospital incident reporting procedure, updated in November 2021 based on Health Regional Administration guidelines; 2021 was therefore excluded as a transition year. Individual-level administrative data were used to compute ward-level yearly indicators of turnover, downsizing, overtime and night shifts per active worker. Using generalised linear models, we estimated rate ratios (RRs) for yearly WPV counts per 1 SD increase in the indicators, controlling for study period, ward type (emergency department [ED], psychiatric ward, other) and ward sociodemographic composition. **RESULTS:** A total of 337 WPV episodes occurred in the 1381 ward-year observations. The WPV rates per 100 active workers per year increased from 1.40 (95%CI: 1.23-1.60) during 2016-2020 to 3.48 (2.90-4.17) in 2022. Higher turnover (RR, 95%CI: 1.47, 1.23-1.75) and downsizing (1.12, 1.00-1.24) were associated with a greater occurrence of WPV across all wards; these associations were consistent across the study periods. In wards with night shift scheduling, turnover (1.64, 1.40-1.92), downsizing (1.21, 1.04-1.40) and the mean number of night shifts (2.50, 1.37-4.56) were associated with WPV. The association between night shifts and WPV was greater in psychiatric wards (RR = 8.73; interaction p-value = 0.02), whereas the role of downsizing was greater in EDs (RR = 1.42, interaction p-value = 0.09) and the role of turnover was greater in the other wards (RR = 1.34, interaction p-value = 0.16). **CONCLUSION:** Work organisational factors are associated with the occurrence of WPV episodes against healthcare workers. Ward type-tailored priorities should be given to minimising turnover and downsizing and promoting a fairer allocation of night shifts to decrease WPV occurrence.

[Lien vers l'article](#)

Risk factors for anxiety, depression, stress, and their comorbidities among nurses: a prospective cohort from 2020 to 2022.

Hu X, Mu W, Zhou J, Zhou H, Yan X, Yue K, et al. *BMC Nurs.* 2024 Dec 18;23(1):916.

BACKGROUND: Nurses are at the forefront of healthcare delivery during the COVID-19, placing them at an increased risk for mental health issues. This study aimed to identify the risk factors for anxiety, depression, stress, and their comorbidities among nurses during the 2020-2022 period. **METHODS:** A prospective cohort of nurses in Zunyi City, China, was followed from 2020 to 2022. The Self-Rating Anxiety Scale (SAS), Self-Rating Depression Scale (SDS), and Perceived Stress Scale (PSS) were used to assess anxiety, depression, and stress, respectively. A self-reported questionnaire was utilized to collect data on demographic characteristics, lifestyle habits, socioeconomic status, work-related factors, and medical history. The Healthy Eating Index (HEI) was calculated to evaluate diet quality. Univariate and multivariate logistic regression analyses were conducted to examine the associations between risk factors and mental health outcomes. **RESULTS:** Among the 516 participating nurses, the incidence rates of new-onset anxiety, depression, and stress were 27.1%, 33.9%, and 39.9%, respectively. Frontline experience with infected patients, night shift work, longer working hours, and higher body mass index were consistently associated with increased risks of anxiety, depression, and stress, whereas a higher healthy eating index score was linked to reduced odds of these mental health outcomes. Notably, higher BMI (≥ 28 : OR = 1.67, 95% CI: 1.12-2.16, $p = 0.011$), night shifts ($> 1/\text{week}$: OR = 5.12, 95% CI: 3.64-5.99, $p < 0.001$), longer working hours ($> 40/\text{week}$: OR = 1.99, 95% CI: 1.66-2.89, $p < 0.001$), and frontline experience (OR = 6.11, 95% CI: 4.52-8.88, $p < 0.001$) significantly increased comorbidity risk, while higher HEI (> 3 : OR = 0.51, 95% CI: 0.36-0.70, $p < 0.001$) reduced the risk. **CONCLUSION:** Our study highlights the considerable mental health burden among nurses during the 2020-2022 period and identifies key risk factors associated with anxiety, depression, stress, and their comorbidities. These findings underscore the importance of providing targeted interventions and support for nurses, including workload management, work-life balance promotion, and healthy lifestyle encouragement, to mitigate the negative consequences of identified risk factors and improve mental health outcomes.

[Lien vers l'article](#)

Attitudes toward and exposure to gender discrimination in work life by pulmonologists and thoracic surgeons: a questionnaire-based survey among Turkish thoracic society members.

Ocakli B, Yorgancioglu A, Gungor S, Topcu F, Senol YY, Goktas B, et al. *Front Med (Lausanne).* 2024;11:1463732.

BACKGROUND: This study aimed to evaluate attitudes toward and exposure to gender discrimination in work life by chest diseases specialists and thoracic surgeons. **METHODS:** A total of 275 members of Turkish Thoracic Society (TTS) were included on a voluntary basis in this online cross-sectional questionnaire-survey using an internal member-only social media platform of TTS. The questionnaire form elicited items on sociodemographic characteristics, occupational characteristics and gender discrimination in work life (general opinions, attitudes and exposure). **RESULTS:** Female doctors (vs. males) were less likely to be a thoracic surgeon (13.8% vs. 34.5%, $p < 0.05$) and a professor of thoracic surgery (0.0% vs. 26.7% vs. $p < 0.05$), and more likely to consider housework as a considerable burden (89.8 vs. 73.6%, $p = 0.02$) and the significant role of discriminatory, negative and dissuasive attitudes of male physicians in their career choice (67.6 vs. 35.6%, $p = 0.039$). Male doctors were more likely to be considered that men are more successful in specialties that require active physical strength (65.5 vs. 27.7%, $p = 0.005$) and those with very long working hours and heavy shifts (57.5 vs. 39.4%, $p = 0.001$). Female thoracic surgeons were more likely than males to consider that specialties with very long working hours and heavy shifts are more suitable for men (26.9 vs. 6.0%, $p = 0.027$) and men are given priority in academic career promotion (64.0 vs. 13.3%, $p < 0.001$). Younger (vs. older) females reported

higher rate of exposure to gender discrimination ($p = 0.041$) and considerable impact of social roles on the specialty ($p = 0.007$), while female doctors working as a resident (33.8%) and a specialist (50.05%) indicated higher rate of exposure to gender discrimination during their career ($p = 0.024$). CONCLUSION: In conclusion, our findings revealed that exposure to gender discrimination in work life was more commonly expressed by female members of TTS, particularly in terms of burden of social roles, career advancement options and leadership positions, along with significant role of discriminatory, negative and dissuasive attitudes of male physicians in their career choice. Accordingly, women remain underrepresented in thoracic surgery, particularly in the academic rank of full professor and in leadership positions with inability to promote after a definite step in their careers.

[Lien vers l'article](#)

Preparing for the Future Pandemic: Impact of Individual and Occupational Factors on Paramedics' Mental Health.

Celen O, Şimsek Z. *Disaster Med Public Health Prep.* 2024 Dec 6;18:e306.

OBJECTIVES: The mental health of paramedics is critical for disaster response in order to provide rapid and effective interventions. This study aimed to determine the prevalence of post-traumatic stress disorder (PTSD) and related individual and occupational factors in Turkish paramedics during the eleventh month of the COVID-19 pandemic. METHODS: The "Sociodemographic Information Form," "Life Events Checklist," and "Post-Traumatic Stress Disorder Checklist" were used to collect data from 440 randomly selected paramedics in this cross-sectional study. RESULTS: The prevalence of PTSD was 59.8% in the 11(th) month of the COVID-19 pandemic. Multiple regression analysis revealed that approximately 25% of the total PTSD score could be independently explained by paramedics' general health situation and sociodemographic characteristics; 27% by crisis management skills, long working hours, a lack of equipment, and intensive work; and 40% by past traumatic experiences due to difficult life events during their professional practice, such as responding to gunshot wounds, becoming a victim of a gunshot attack, or sexual assault ($P < 0.05$). CONCLUSIONS: Integrating a mental health monitoring system into the health and safety program, providing paramedics with supervision and psychological assistance, and engaging them in disaster preparedness planning would be beneficial.

[Lien vers l'article](#)

Santé psychique

Socioeconomic inequalities in depression and the role of job conditions in China.

Ma J, Wu J, Marois G. *Front Public Health.* 2024;12:1464187.

BACKGROUND: The rising prevalence of depression in China, coupled with a tightening job market, highlights concern for the workforce's mental health. Although socioeconomic inequalities in depression have been well documented in high-income countries, the association between socioeconomic status (SES) and depression, along with its work-related mediators, has not been sufficiently studied in China. METHODS: The study participants are 6,536 non-agriculturally employed working adults from the 2020 China Family Panel Studies (CFPS). We build linear regression models to examine the relationship between SES and depression, using education and income as indicators of SES. We also apply a framework based on seemingly unrelated estimation (SUEST) to assess how job conditions, which include job demands and job resources, mediate this relationship. RESULTS: Both education and income are negatively associated with depression, with education's association with depression remaining net of income. Mediation analysis reveals that the well-educated tend to occupy less demanding work with shorter working hours and lower probability of on-call duty, which partially helps explain the education-based depression gap. Higher earners experience more demanding work

with longer working hours and higher probability of on-call duty, which potentially masks the income-based depression gap. Greater job resources including moderate schedule flexibility and better job security, appear to contribute to explaining the depression gap across SES. LIMITATION: The cross-sectional design of this study precludes causal inferences. Not all typical job demands and resources could be included due to data limitations. CONCLUSION: Our study provides insights into socioeconomic inequalities in mental health in the Chinese working population, with implications for policies aimed at preventing depression and improving mental health equity.

[Lien vers l'article](#)

Prevalence and the associated factors of burnout among the critical healthcare professionals during the post-pandemic era: a multi-institutional survey in Taiwan with a systematic review of the Asian literatures.

Lee YL, Dai JW, Li XW, Chiang MY, Chen PT, Lin YC, et al. *BMC Public Health*. 2024 Dec 18;24(1):3480.

BACKGROUND & AIMS: Burnout is a global concern, and critical healthcare professionals have been identified as a high-risk population of burnout. Early identification is crucial, but the prevalence of burnout and its risk factors demonstrate significant geographical variations. This study aims to investigate the prevalence of burnout among critical healthcare professionals and explore potential risk factors during the post-pandemic era in Taiwan. **METHODS:** A web-based questionnaire survey was conducted from December 1, 2023, to January 31, 2024, targeting critical healthcare professionals employed in selected medical institutions affiliated with the Chang Gung Memorial Hospital Foundation, one of Taiwan's largest healthcare organizations. Demographic information, the Subjective Happiness Scale (SHS), current work stressors and self-reported general health data were collected. The study utilized the Maslach Burnout Inventory Human Services Survey for Medical Personnel (MBI-MP). Univariate and multivariate logistic regression were employed to investigate the association between risk factors and each burnout subscales. A systematic review of Asian literature concerning burnout among critical care practitioners was also conducted. **RESULTS:** In our study, 254 participants were enrolled, with an overall burnout rate of 35.4%. The prevalence of high emotional exhaustion (EE) was 70.9%, high depersonalization (DP) was 56.3%, and low personal accomplishment (PA) was 60.6%. Young, unmarried populations, individuals with limited work experience, longer working hours, and night shifts are potential vulnerable groups susceptible to burnout. The top three stressors identified were excessive workload, the burden of administrative tasks, and a shortage of vacation time. Our systematic review included 20 Asian studies on the same issue, with variable burnout prevalence ranging from 16.3 to 82.1%. **CONCLUSION:** The prevalence of burnout was high among critical healthcare professionals in post-pandemic Taiwan, particularly affecting younger, unmarried populations and individuals with limited work experience, longer hours, and more night shifts. The influence of pandemic-related factors has decreased. Regional variations in burnout have been observed across Asia, highlighting the need for further research to identify local risk factors and protect the well-being of professionals and healthcare quality.

[Lien vers l'article](#)

Risk factors for anxiety, depression, stress, and their comorbidities among nurses: a prospective cohort from 2020 to 2022.

Hu X, Mu W, Zhou J, Zhou H, Yan X, Yue K, et al. *BMC Nurs*. 2024 Dec 18;23(1):916.

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assess anxiety, depression, and stress, respectively. A self-reported questionnaire was utilized to collect data on demographic characteristics, lifestyle habits, socioeconomic status, work-related factors, and medical history. The Healthy Eating Index (HEI) was calculated to evaluate diet quality. Univariate and multivariate logistic regression analyses were conducted to examine the associations between risk factors and mental health outcomes. RESULTS: Among the 516 participating nurses, the incidence rates of new-onset anxiety, depression, and stress were 27.1%, 33.9%, and 39.9%, respectively. Frontline experience with infected patients, night shift work, longer working hours, and higher body mass index were consistently associated with increased risks of anxiety, depression, and stress, whereas a higher healthy eating index score was linked to reduced odds of these mental health outcomes. Notably, higher BMI (≥ 28 : OR = 1.67, 95% CI: 1.12-2.16, $p = 0.011$), night shifts (> 1 /week: OR = 5.12, 95% CI: 3.64-5.99, $p < 0.001$), longer working hours (> 40 /week: OR = 1.99, 95% CI: 1.66-2.89, $p < 0.001$), and frontline experience (OR = 6.11, 95% CI: 4.52-8.88, $p < 0.001$) significantly increased comorbidity risk, while higher HEI (> 3 : OR = 0.51, 95% CI: 0.36-0.70, $p < 0.001$) reduced the risk. CONCLUSION: Our study highlights the considerable mental health burden among nurses during the 2020-2022 period and identifies key risk factors associated with anxiety, depression, stress, and their comorbidities. These findings underscore the importance of providing targeted interventions and support for nurses, including workload management, work-life balance promotion, and healthy lifestyle encouragement, to mitigate the negative consequences of identified risk factors and improve mental health outcomes.

[Lien vers l'article](#)

Troubles cognitifs et de la vigilance

Aucun article dans ce bulletin.

Travail posté et de nuit facteur de risque

Généralités et prévention

Interventions to reduce burnout in emergency medicine: a national inventory of the Canadian experience to support global implementation of wellness initiatives.

Liu K, Patey C, Norman P, Moellekaer AB, Lim R, Alvarez A, et al. *Intern Emerg Med*. 2024 Dec 9.

Burnout in healthcare workers is a global issue, with Emergency Medicine (EM) particularly impacted. Many countries have tried implementing wellness initiatives to reduce burnout and improve wellness. This paper summarizes interventions implemented in Canada to-date with the aim of supporting the design of wellness interventions in EDs globally. A systematic review and a grey literature search were completed in November 2023. Original studies in both English and French that included the implementation and evaluation of a wellness intervention in EDs in Canada were included. The study design, content of the intervention, target population, and outcomes were extracted and narratively analyzed. 13 studies were included. Each implemented a unique wellness intervention for EDs. All three studies (3/3, 100%) that included a structured wellness curriculum demonstrated significant improvement in burnout as measured by the Maslach Burnout Inventory, physical health (PCS-8), and Brief Resident Wellness Profile (BRWP). Other interventions included Ice Cream Rounds, therapy dogs, changing the duration of night shifts, and sessions on resilience and self-care. Our Canada-wide analysis of wellness interventions identified initiatives geared towards trainees, staff, or entire ED workforce groups. Examples include educational programs, dedicated sessions for compassion literacy and resilience, critical events debriefing, and optimizing shift schedules. Structured wellness curriculums seem to be effective, and this area warrants further study. Moreover, we identify a need for global collaboration to build wellness programs and for more easily translatable standardized outcome measures for assessing the efficacy of wellness programs in EM.

[Lien vers l'article](#)

Activités physiques

Aucun article dans ce bulletin.

Autres pathologies

Back to Roots: Dysbiosis, Obesity, Metabolic Syndrome, Type 2 Diabetes Mellitus, and Obstructive Sleep Apnea-Is There an Objective Connection? A Narrative Review.

Protasiewicz-Timofticiuc DC, Bădescu D, Moța M, Ștefan AG, Mitrea A, Clenciu D, et al. *Nutrients*. 2024 Nov 26;16(23).

In recent decades, it has become clear that the gut is more than just a digestive organ; it also functions as an immune organ with regulatory capabilities and acts as a "second brain" that influences brain function due to the presence and regulatory roles of the gut microbiota (GM). The GM is a crucial component of its host and significantly impacts human health. Dysbiosis, or microbial imbalance, has been closely linked to various diseases, including gastrointestinal, neurological, psychiatric, and metabolic disorders. The aim of this narrative review is to highlight the roles of the GM in maintaining metabolic health. Sleep is a vital biological necessity, with living organisms having evolved an internal sleep-wake rhythm that aligns with a roughly 24 h light/dark cycle, and this is known as the circadian rhythm. This cycle is essential for tissue repair, restoration, and overall optimal body functioning. Sleep irregularities have become more prevalent in modern society, with fast-paced lifestyles often disrupting normal sleep patterns. Urban living factors, such as fast food consumption, shift work,

exposure to artificial light and nighttime noise, medications, and social activities, can adversely affect circadian rhythms, with dysbiosis being one of the many factors incriminated in the etiology of sleep disorders.

[Lien vers l'article](#)

Cancers

A narrative review of sleep and breast cancer: from epidemiology to mechanisms.

Zhang B, Tang M, Li X. *Cancer Causes Control*. 2024 Dec 28.

Breast cancer is the leading cause of cancer-related death and the most common cancer among women worldwide. It is crucial to identify potentially modifiable risk factors to intervene and prevent breast cancer effectively. Sleep factors have emerged as a potentially novel risk factor for female breast cancer. Current epidemiologic studies suggest a significant impact of sleep factors on breast cancer. Exposure to abnormal sleep duration, poor sleep quality, sleep disorders, sleep medication use, or night shift work can increase the risk of breast cancer by decreasing melatonin secretion, disrupting circadian rhythm, compromising immune function, or altering hormone levels. However, there are still controversies regarding the epidemiologic association, and the underlying mechanisms have yet to be fully elucidated. This paper summarizes the epidemiologic evidence on the associations between sleep factors, including sleep duration, sleep quality, sleep disorders, sleep medication use, sleep habits, and night shift work, and the development of breast cancer. The potential mechanisms underlying these associations were also reviewed.

[Lien vers l'article](#)

Risque routier, accidentologie

Aucun article dans ce bulletin.

RPS et QVT

Facilitating planned home death: A qualitative study on home care nurses' experiences of enablers and barriers.

Sørstrøm AK, Ludvigsen MS, Kymre IG. *J Adv Nurs*. 2025 Jan;81(1):340-52.

AIM: The aim of this study was to explore home care nurses' experience of enablers and barriers for planned home death in municipal health care. DESIGN: A focused ethnography. METHODS: This qualitative study collected data from 20 semi-structured interviews of home care nurses and 8.5 h of participant observations. Data was analyzed using thematic analysis. RESULTS: The findings in our study show that home care nurses consider supportive cultures, a commitment to safety and continuity when facilitating planned home deaths and family rotations to be enablers for planned home deaths. Barriers to planned home deaths involve a lack of palliative experience affecting confidence, shortages of nurses and medical supplies and night shift challenges. CONCLUSION: This study underscores the need for supportive organizational cultures, ongoing education and improved communication and staffing policies to enhance the quality of care and the experiences of patients and home care nurses, especially in the context of planned home deaths. IMPACT: The study adds knowledge to the evidence base of the practice of facilitating planned home deaths. The findings of the study could offer valuable insights for shaping future policies or devising effective implementation

strategies. REPORTING METHOD: Adherence to the COREQ guidelines for reporting qualitative research was maintained. PATIENT OR PUBLIC CONTRIBUTION: No patient or public contribution. WHAT DOES THIS ARTICLE CONTRIBUTE TO THE WIDER GLOBAL CLINICAL COMMUNITY?: Identified enablers and barriers provide a new perspective, contributing to a comprehensive understanding of planning home deaths. The study emphasizes supportive cultures, safety commitment and family rotations as crucial for planned home deaths, guiding healthcare professionals to adopt best practices and enhance palliative care quality.

[Lien vers l'article](#)

The Relationship Between Resilience and Mental Health Status Among Nurses With Workplace Violence Experiences: A Cross-Sectional Study.

Pien LC, Wang CH, Cheng WJ, Lin YH, Chou KR, Hsu CY. *Int J Ment Health Nurs*. 2025 Feb;34(1):e13497.

Nurses encounter many stressors and challenges at work, which can negatively affect their mental and physical health. Modern theories of resilience suggest that resilience is a dynamic process of positive adaptation to adversity. This process involves personal growth through adversity, developing effective coping strategies and inculcating the ability to cope with stress. The resilience process involves individual characteristics, social support and environmental factors, including workplace culture. Strengthening nurses' resilience can help them cope with adversity, maintain their mental health and well-being and support their provision of care. The aim of this study was to examine the associations between workplace characteristics, resilience and mental health status among nurses with experiences of workplace violence. The study objectives were to analyse the relationships between workplace characteristics, resilience and mental health status among nurses with experiences of workplace violence and to investigate the effects of resilience on nurses' mental health outcomes. In this cross-sectional study, full-time nurses at a medical centre in Taiwan completed a questionnaire survey. Of 600 distributed questionnaires, 334 nurses were identified to have experienced workplace violence. The questionnaires included items on workplace violence, resilience, mental health status (burnout and mental distress), sleep quality, work characteristics (job control, psychological job demands and workplace justice) and demographic characteristics. Data were analysed through chi-square tests and multivariate logistic regression. Nurses with low resilience tended to be younger, work more rotating/night shifts and perceive lower levels of job control and workplace justice. They also reported higher risks of burnout and mental distress and lower sleep quality. Multivariate logistic regression revealed that psychological job demands, workplace justice and resilience significantly influenced nurses' mental health status. Nurses with high resilience exhibited a lower risk of mental distress and higher sleep quality. However, resilience was not associated with burnout. The findings revealed how workplace factors and resilience influence nurses' mental health. The findings help nurse managers and policymakers develop strategies to promote nurses' resilience and mental health and mitigate the adverse effects of negative workplace events.

[Lien vers l'article](#)

Occupational Stress and Sleep of Military Police Officers From Rio de Janeiro, Brazil.

Garcia LOR, Moreira R, Silva MG. *Am J Hum Biol*. 2025 Jan;37(1):e24184.

OBJECTIVE: Military Police officers of Rio de Janeiro's State have been considered the most lethal security forces in Brazil, corresponding to 52.35% of deaths in policing actions. The main aim of this study was to identify occupational stress among military police officers in Rio de Janeiro State and its relationship with the psychosocial environment, sleep quality, and daytime sleepiness. METHODS: Two hundred and forty-two military policemen, divided into two groups (elite and non-elite), were evaluated occupational stress by the Lipp's Stress Symptoms Inventory (LSSI), daytime sleepiness (DS) by the Epworth Sleepiness Scale and sleep quality (SQ) by the Pittsburgh Sleep Quality Index. RESULTS:

Military police officers (entire sample) showed dissatisfaction related to psychological support from the military institution ($p = 0.004$), about the inefficiency of the judicial system ($p < 0.001$) and their low popularity towards society ($p = 0.009$). The group of elite police officers slept significantly less ($p = 0.026$) and, in general, suffered more from severe daytime sleepiness, had poorer SQ and showed lower levels of occupational stress than their peers. It was possible to identify that stress can be detected, developed, and intensified in military police officers as a result of the environment in which they are exposed and this interferes significantly in sleep and daytime sleepiness ($p < 0.05$). CONCLUSION: Through this study, it is hoped that measures can be implemented to enhance the work environment and thereby improve the quality of life for this military population. Furthermore, it is intended to stimulate more comprehensive and longitudinal studies, particularly inclusive of female military personnel.

[Lien vers l'article](#)

Factors associated with workplace stress and health promotion behaviours among Chinese emergency nurses: A cross-sectional study.

Zhou Y, Ye L, Chen X, Zhang J. *Int J Nurs Pract.* 2024 Dec;30(6):e13294.

THE AIM: To explore and describe workplace stress levels and health-promoting behaviours reported by emergency nurses in China, and to investigate factors associated with workplace stress and health-promoting lifestyle behaviours among emergency nurses. METHODS: A cross-sectional study was conducted between October 2019 and January 2020. Nurses ($n = 1565$) were recruited from the emergency departments of 54 hospitals within the Sichuan Province of West China. Each subject completed the Chinese versions of the Nurse Workplace Stress Scale, the Health-Promoting Lifestyle Profile (HPLP-II) and demographic questions. Linear regression analyses were used to identify associations between workplace stress and the health-promoting lifestyle and risk factors correlated with these two measurements. RESULTS: Workplace stress was negatively associated with health-promoting behaviours. Linear regression analysis showed that gender, marital status, whether wages met expected standards and professional rank were found to be associated with health promotion behaviours; marital status, whether income met expected standards, the number of night shifts per month and health promotion behaviours were found to be associated with workplace stress. CONCLUSION: Higher levels of workplace stress are associated with lower levels of engagement in health-promoting behaviours, suggesting the potential for reducing workplace stress through the adoption of healthier habits. Policies should prioritize workplace stress by promoting healthy lifestyle initiatives.

[Lien vers l'article](#)

Work Reward Moderates the Association Between Work Effort and Workplace Violence Among Medical Staff in China.

Zhao Y, Zhang A, Zhang W, Sun L. *J Multidiscip Healthc.* 2024;17:5763-74.

PURPOSE: Workplace violence (WPV) against healthcare workers is a significant public health issue in China and globally. Although the effort-reward imbalance theory claimed that work rewards may moderate the relationship between work effort and WPV, the quantitative evidence is limited. This study aimed to examine if work reward could moderate the associations between work effort and WPV against medical staff based on the effort-reward imbalance theory. METHODS: This is a cross-sectional study, which was conducted in 12 hospitals in Shandong, China. Data collected from 3426 medical staff were analyzed in this study. Work effort was evaluated by working hours and night shift work times per month (NSWM), and work reward was evaluated by monthly income and perceived social status. WPV, occupational characteristics, physical disease, and social-demographic variables were also evaluated in this study. RESULTS: There were 1788 (52.2%) medical staff, who reported the experience

of workplace violence. Working hours, NSWMM, and perceived social status were associated with WPV (all $p < 0.001$). Monthly income could moderate the associations between monthly income and WPV or verbal violence ($p < 0.05$), and perceived social status could moderate the associations between NSWMM and WPV ($p < 0.001$). **CONCLUSION:** Monthly income could moderate the associations between monthly income and WPV (verbal violence), and perceived social status could moderate the associations between NSWMM and WPV, which could be explained by the effort-reward imbalance model. These findings also can be translated into practices to control WPV against medical staff.

[Lien vers l'article](#)

Comfort and its related factors in Iranian nurses: a cross-sectional study.

Tagharrobi Z, Ghanbari-Afra L, Sharifi K, Alavi NM. *Sci Rep.* 2024 Dec 30;14(1):31801.

This study aimed to investigate comfort and its related factors in clinical nurses working in teaching hospitals of Kashan University of Medical Sciences in Iran. In this cross-sectional study, 300 nurses were selected by stratified random sampling method (2022). Data were collected using the Persian version of the nurse comfort questionnaire and a questionnaire of possible related factors. Data were analyzed using SPSS-16 and One-Way ANOVA, independent t-test, Kruskal-Wallis, Pearson and Spearman-Brown correlation coefficients, and multiple linear regression. On a scale of 30 to 120, nurses' comfort score was 85.453 ± 11.975 (%95CLM: 84.10-86.81). The simultaneous presence of the variables of interest in nursing, work position, dominant shift, work experience in the current position, length of nursing experience, and education level was significant in the model ($F = 32.477$, $R(2) = 0.399$, $P < 0.0001$). Interest in nursing accounted for the largest proportion of variance in comfort (30.2%). The comfort level of clinical nurses working in Kashan teaching hospitals was moderate. It seems that the selection of students and nurses among those interested in the nursing profession will improve the condition of this feeling among working nurses. Additionally, nursing managers need to pay attention to the factors that affect nurses' comfort in order to improve the quality of nursing care.

[Lien vers l'article](#)

Attitudes toward and exposure to gender discrimination in work life by pulmonologists and thoracic surgeons: a questionnaire-based survey among Turkish thoracic society members.

Ocakli B, Yorgancioglu A, Gungor S, Topcu F, Senol YY, Goktas B, et al. *Front Med (Lausanne).* 2024;11:1463732.

BACKGROUND: This study aimed to evaluate attitudes toward and exposure to gender discrimination in work life by chest diseases specialists and thoracic surgeons. **METHODS:** A total of 275 members of Turkish Thoracic Society (TTS) were included on a voluntary basis in this online cross-sectional questionnaire-survey using an internal member-only social media platform of TTS. The questionnaire form elicited items on sociodemographic characteristics, occupational characteristics and gender discrimination in work life (general opinions, attitudes and exposure). **RESULTS:** Female doctors (vs. males) were less likely to be a thoracic surgeon (13.8% vs. 34.5%, $p < 0.05$) and a professor of thoracic surgery (0.0% vs. 26.7% vs. $p < 0.05$), and more likely to consider housework as a considerable burden (89.8 vs. 73.6%, $p = 0.02$) and the significant role of discriminatory, negative and dissuasive attitudes of male physicians in their career choice (67.6 vs. 35.6%, $p = 0.039$). Male doctors were more likely to be considered that men are more successful in specialties that require active physical strength (65.5 vs. 27.7%, $p = 0.005$) and those with very long working hours and heavy shifts (57.5 vs. 39.4%, $p = 0.001$). Female thoracic surgeons were more likely than males to consider that specialties with very long working hours and heavy shifts are more suitable for men (26.9 vs. 6.0%, $p = 0.027$) and men are given priority in academic career promotion (64.0 vs. 13.3%, $p < 0.001$). Younger (vs. older) females reported higher rate of exposure to gender discrimination ($p = 0.041$) and considerable impact of social roles on the specialty ($p = 0.007$), while female doctors working as a resident (33.8%) and a specialist (50.05%)

indicated higher rate of exposure to gender discrimination during their career ($p = 0.024$).
CONCLUSION: In conclusion, our findings revealed that exposure to gender discrimination in work life was more commonly expressed by female members of TTS, particularly in terms of burden of social roles, career advancement options and leadership positions, along with significant role of discriminatory, negative and dissuasive attitudes of male physicians in their career choice. Accordingly, women remain underrepresented in thoracic surgery, particularly in the academic rank of full professor and in leadership positions with inability to promote after a definite step in their careers.

[Lien vers l'article](#)

Risk factors for anxiety, depression, stress, and their comorbidities among nurses: a prospective cohort from 2020 to 2022.

Hu X, Mu W, Zhou J, Zhou H, Yan X, Yue K, et al. *BMC Nurs.* 2024 Dec 18;23(1):916.

BACKGROUND: Nurses are at the forefront of healthcare delivery during the COVID-19, placing them at an increased risk for mental health issues. This study aimed to identify the risk factors for anxiety, depression, stress, and their comorbidities among nurses during the 2020-2022 period. **METHODS:** A prospective cohort of nurses in Zunyi City, China, was followed from 2020 to 2022. The Self-Rating Anxiety Scale (SAS), Self-Rating Depression Scale (SDS), and Perceived Stress Scale (PSS) were used to assess anxiety, depression, and stress, respectively. A self-reported questionnaire was utilized to collect data on demographic characteristics, lifestyle habits, socioeconomic status, work-related factors, and medical history. The Healthy Eating Index (HEI) was calculated to evaluate diet quality. Univariate and multivariate logistic regression analyses were conducted to examine the associations between risk factors and mental health outcomes. **RESULTS:** Among the 516 participating nurses, the incidence rates of new-onset anxiety, depression, and stress were 27.1%, 33.9%, and 39.9%, respectively. Frontline experience with infected patients, night shift work, longer working hours, and higher body mass index were consistently associated with increased risks of anxiety, depression, and stress, whereas a higher healthy eating index score was linked to reduced odds of these mental health outcomes. Notably, higher BMI (≥ 28 : OR = 1.67, 95% CI: 1.12-2.16, $p = 0.011$), night shifts ($> 1/\text{week}$: OR = 5.12, 95% CI: 3.64-5.99, $p < 0.001$), longer working hours ($> 40/\text{week}$: OR = 1.99, 95% CI: 1.66-2.89, $p < 0.001$), and frontline experience (OR = 6.11, 95% CI: 4.52-8.88, $p < 0.001$) significantly increased comorbidity risk, while higher HEI (> 3 : OR = 0.51, 95% CI: 0.36-0.70, $p < 0.001$) reduced the risk. **CONCLUSION:** Our study highlights the considerable mental health burden among nurses during the 2020-2022 period and identifies key risk factors associated with anxiety, depression, stress, and their comorbidities. These findings underscore the importance of providing targeted interventions and support for nurses, including workload management, work-life balance promotion, and healthy lifestyle encouragement, to mitigate the negative consequences of identified risk factors and improve mental health outcomes.

[Lien vers l'article](#)

Developing nurse and midwife centred rostering principles using co-design: a mixed-methods study.

Holton S, Rasmussen B, Long K, Bellizia M, Mathieson JC, Crowe S, et al. *BMC Nurs.* 2024 Dec 20;23(1):938.

BACKGROUND: Current nursing and midwifery rosters are based on guidelines which may no longer adequately meet the needs of health services or staff and often result in decreased job satisfaction, poor health and wellbeing, and high turnover. Little is known about the rostering needs and preferences of contemporary nurses and midwives in Australia. The aim of this study was to identify the rostering concerns, needs and preferences of nurses and midwives, and co-design acceptable, equitable and feasible rostering principles. **METHODS:** A mixed-methods design using a co-design approach with three components: survey, discussion groups, and co-design workshops. Nurses and

midwives employed at three public health services in Victoria, Australia were invited to participate. The quantitative (survey) data were analysed using descriptive statistics and the qualitative (discussion groups and co-design workshops) data using thematic analysis. RESULTS: Surveys were completed by 715 nurses and midwives including unit (n = 14) and roster (n = 13) managers. Nurses and midwives (n = 688) were mostly satisfied with their roster (mean satisfaction score = 57.4). Many had responsibilities or commitments which impacted their roster availability (n = 406, 61.6%) and over half had taken personal leave due to roster-related fatigue (n = 335, 59.1%) or unmet roster requests (n = 310, 54.7%). Midwives reported significantly less satisfaction ($p < 0.001$) and more challenges with current roster practices than nurses. Roster and unit managers described spending considerable time preparing and reworking rosters. Thirty-nine nurses and midwives participated in a focus group and outlined concerns about the fairness and equity of current roster practices, and the adverse impact on their health, work, and personal lives. Ninety-one nurses and midwives participated in a co-design workshop and identified a need for roster practices and guidelines which ensure flexibility, fairness and equity, and fatigue management. CONCLUSIONS: Although nurses and midwives were mostly satisfied with their rosters, they often experienced frustrations and challenges with current roster guidelines and practices as well as adverse effects on their health and work and personal lives. Nurses and midwives identified a preference for fair and equitable rosters which provide flexibility and enable them to manage their other commitments and responsibilities, reduce roster-related fatigue, and provide high quality patient care.

[Lien vers l'article](#)

Role of turnover, downsizing, overtime and night shifts on workplace violence against healthcare workers: a seven-year ecological study.

Giusti EM, Veronesi G, Forest H, Ghelli M, Persechino B, Borchini R, et al. *BMC Public Health*. 2024 Dec 4;24(1):3371.

BACKGROUND: About one-third of workers identify organisational factors as contributors to workplace violence (WPV), but the associations between these factors and WPV have primarily been explored retrospectively and with measures of perceived organisational constraints, hence providing limited information for prevention. Therefore, we assessed whether objectively measured ward-level indicators of turnover, downsizing, overtime, and night shifts are associated with the occurrence of WPV and whether these associations vary by ward type. METHODS: We conducted an ecological study at a university hospital in northern Italy from 2016 to 2022, using wards as statistical unit (average: 230 wards per year). Active surveillance of WPV was based on an in-hospital incident reporting procedure, updated in November 2021 based on Health Regional Administration guidelines; 2021 was therefore excluded as a transition year. Individual-level administrative data were used to compute ward-level yearly indicators of turnover, downsizing, overtime and night shifts per active worker. Using generalised linear models, we estimated rate ratios (RRs) for yearly WPV counts per 1 SD increase in the indicators, controlling for study period, ward type (emergency department [ED], psychiatric ward, other) and ward sociodemographic composition. RESULTS: A total of 337 WPV episodes occurred in the 1381 ward-year observations. The WPV rates per 100 active workers per year increased from 1.40 (95%CI: 1.23-1.60) during 2016-2020 to 3.48 (2.90-4.17) in 2022. Higher turnover (RR, 95%CI: 1.47, 1.23-1.75) and downsizing (1.12, 1.00-1.24) were associated with a greater occurrence of WPV across all wards; these associations were consistent across the study periods. In wards with night shift scheduling, turnover (1.64, 1.40-1.92), downsizing (1.21, 1.04-1.40) and the mean number of night shifts (2.50, 1.37-4.56) were associated with WPV. The association between night shifts and WPV was greater in psychiatric wards (RR = 8.73; interaction p-value = 0.02), whereas the role of downsizing was greater in EDs (RR = 1.42, interaction p-value = 0.09) and the role of turnover was greater in the other wards (RR = 1.34, interaction p-value = 0.16). CONCLUSION: Work organisational factors are associated with the occurrence of WPV episodes against healthcare workers. Ward type-tailored priorities should

be given to minimising turnover and downsizing and promoting a fairer allocation of night shifts to decrease WPV occurrence.

[Lien vers l'article](#)

Exploring barriers and facilitators in nurses' reporting of patient and visitor violence: a cross-sectional study in China.

Cai J, Ying Y, Wang H, Yu W, Wu S, Zhang Y, et al. *BMJ Open*. 2024 Dec 9;14(12):e091232.

OBJECTIVES: The current status of patient and visitor violence (PVV) reporting among nurses has proven insufficient. Therefore, we explored the barriers and facilitators in nurses' reporting of PVV. **DESIGN:** Cross-sectional study. **SETTING:** General and specialised hospitals in Jiangsu Province, China. **PARTICIPANTS:** A convenience sampling of 3363 nurses in Jiangsu Province was collected between January and July 2023. **MAIN OUTCOME MEASURE:** The reporting rate of PVV was assessed by the hospital workplace violence questionnaire-revised version; multivariable logistic regression analyses were performed to determine factors associated with PVV reporting at the 5% significance level. **RESULTS:** Out of the 3363 surveyed nurses, 1813 (53.9%) reported experiencing PVV within the past year. Notably, only 16.1% of these nurses proactively reported PVV incidents after encountering them. Factors that facilitated reporting of PVV comprised being male (OR 1.832, 95% CI 1.083 to 3.101), working in specialised hospitals (OR 2.335, 95% CI 1.517 to 3.594), serving in emergency (OR 1.788, 95% CI 1.105 to 2.892), outpatient (OR 3.153, 95% CI 1.697 to 5.860), paediatrics (OR 3.808, 95% CI 1.976 to 7.338), possessing agreeableness personality (OR 2.112, 95% CI 1.140 to 3.911), prior hearing of PVV (OR 1.749, 95% CI 1.305 to 2.346) and having hospitals that actively encouraged reporting (OR 2.700, 95% CI 1.848 to 3.946) while safeguarding staff interests (OR 2.072, 95% CI 1.010 to 4.248) and emphasising nurses more (OR 2.109, 95% CI 1.123 to 3.958). Conversely, factors impeding nurses from reporting PVV included having night shifts 5-9 times per month (OR 0.481, 95% CI 0.282 to 0.819) and selectively reporting based on the severity of the violence (OR 0.550, 95% CI 0.344 to 0.878). **CONCLUSION:** The reporting rate of PVV among nurses was notably low. Nursing managers should consider implementing comprehensive measures that address both the facilitating and blocking factors identified in the study. This strategic approach aims to enhance the reporting rate of PVV incidents among nurses, fostering a safer and more supportive environment within healthcare settings.

[Lien vers l'article](#)

Santé psychique

Multidimensional perspectives on nurse burnout in China: a cross-sectional study of subgroups and predictors.

Wang Y, Wang X, Li X, Wen S. *BMC Nurs*. 2024 Dec 21;23(1):941.

BACKGROUND: Burnout is a state of physical and mental exhaustion triggered by long-term work stress, which is manifested mainly as emotional exhaustion, depersonalization, and a decreased sense of accomplishment. Among them, emotional exhaustion is its core feature, which often leads to a significant decrease in an individual's enthusiasm for work. Owing to the high intensity of the work environment and the special requirements of emotional labor, the nursing community is more vulnerable to burnout. This burnout not only affects the quality of care but also significantly increases nurses' willingness to leave their jobs. **OBJECTIVES:** This study aimed to identify burnout subgroups among Chinese nurses and explore the predictors of each subgroup. **DESIGN:** A cross-sectional study. **METHODS:** A total of 500 nurses were recruited for this study via convenience sampling, of whom 470 completed the survey. Nurses' burnout subgroups were identified through latent profile analysis of 15 items on the Burnout Scale. Relationships between subgroups and sociodemographic variables were

subsequently explored via one-way ANOVA, chi-square tests, and multivariate logistic regression analyses. RESULTS: Three burnout subgroups were identified: low depersonalization with low achievement burnout (26.2%, n = 123), overall moderate burnout (52.1%, n = 245), and high emotional exhaustion with low achievement burnout (21.7%, n = 102). The results of multiple logistic regression analysis revealed that age, years of working experience, marital status, education level, and number of night shifts per month were significant predictors of different burnout subgroups among nurses. CONCLUSION: This study applied latent profile analysis to explore the subgroups of burnout among Chinese nurses, and the results revealed the diversity of burnout and provided a new perspective for future nursing research. Continued attention to the multifaceted factors affecting burnout and its dynamic changes is recommended to better understand and address the challenges facing the nursing profession.

[Lien vers l'article](#)

Risk factors for anxiety, depression, stress, and their comorbidities among nurses: a prospective cohort from 2020 to 2022.

Hu X, Mu W, Zhou J, Zhou H, Yan X, Yue K, et al. *BMC Nurs.* 2024 Dec 18;23(1):916.

BACKGROUND: Nurses are at the forefront of healthcare delivery during the COVID-19, placing them at an increased risk for mental health issues. This study aimed to identify the risk factors for anxiety, depression, stress, and their comorbidities among nurses during the 2020-2022 period. METHODS: A prospective cohort of nurses in Zunyi City, China, was followed from 2020 to 2022. The Self-Rating Anxiety Scale (SAS), Self-Rating Depression Scale (SDS), and Perceived Stress Scale (PSS) were used to assess anxiety, depression, and stress, respectively. A self-reported questionnaire was utilized to collect data on demographic characteristics, lifestyle habits, socioeconomic status, work-related factors, and medical history. The Healthy Eating Index (HEI) was calculated to evaluate diet quality. Univariate and multivariate logistic regression analyses were conducted to examine the associations between risk factors and mental health outcomes. RESULTS: Among the 516 participating nurses, the incidence rates of new-onset anxiety, depression, and stress were 27.1%, 33.9%, and 39.9%, respectively. Frontline experience with infected patients, night shift work, longer working hours, and higher body mass index were consistently associated with increased risks of anxiety, depression, and stress, whereas a higher healthy eating index score was linked to reduced odds of these mental health outcomes. Notably, higher BMI (≥ 28 : OR = 1.67, 95% CI: 1.12-2.16, $p = 0.011$), night shifts ($> 1/\text{week}$: OR = 5.12, 95% CI: 3.64-5.99, $p < 0.001$), longer working hours ($> 40/\text{week}$: OR = 1.99, 95% CI: 1.66-2.89, $p < 0.001$), and frontline experience (OR = 6.11, 95% CI: 4.52-8.88, $p < 0.001$) significantly increased comorbidity risk, while higher HEI (> 3 : OR = 0.51, 95% CI: 0.36-0.70, $p < 0.001$) reduced the risk. CONCLUSION: Our study highlights the considerable mental health burden among nurses during the 2020-2022 period and identifies key risk factors associated with anxiety, depression, stress, and their comorbidities. These findings underscore the importance of providing targeted interventions and support for nurses, including workload management, work-life balance promotion, and healthy lifestyle encouragement, to mitigate the negative consequences of identified risk factors and improve mental health outcomes.

[Lien vers l'article](#)

Prevalence of burnout and associated factors among nurses working in public hospitals, southern Ethiopia: a multi-center embedded mixed study.

Efa AG, Lombebo AA, Nuriye S, Facha W. *Sci Rep.* 2024 Dec 28;14(1):31268.

Burnout is a global concern because of its potential to affect the health of nurses and the quality of service provided. However, less consideration has been given to research in the study setting. Therefore, the study aimed to assess the prevalence of burnout and associated factors among nurses

working in public hospitals of Wolaita zone, Southern Ethiopia. Institution based embedded mixed method was employed on 374 nurses working in public hospitals of Wolaita zone from July to August, 2022. A systematic and criterion purposive sampling was employed. Burnout was assessed by the Maslach Burnout Inventory- Human Services Survey (MBI-HSS). Quantitative data were entered into Epi data version 4.6.2 and then exported to SPSS version 25 for analysis. Qualitative data was analyzed by open code version 4.3. Binary logistic regression followed by multivariable logistic regression was used and P-value of < 0.05 was considered statistically significant with confidence level of 95%. Thematic analysis was used for qualitative data. A total 360 nurses participated in this study with a response of 96.2%. The prevalence of burnout among nurses was 49.2% (95% CI: 43.9, 54.5). Nurses working in primary hospitals (AOR = 2.56, 95%CI:1.38,4.77), night shifts (AOR = 2.84, 95% CI:1.31, 6.16), poor work satisfaction (AOR = 2.54, 95% CI: 1.36,4.71), alcohol drinking (AOR = 3.81, 95% CI:1.19,12.16), poor social support (AOR = 1.79,95%CI:1.01,3.20), anxiety (AOR = 2.62,95%CI:1.37,5.00) and depression (AOR = 3.02, 95%CI:1.58,5.77) were significantly associated with burnout. Resource- reward disparities, poor social support and suboptimal work environments are the qualitative study findings which supplement the quantitative data. In this study about half of the nurses working in public hospitals of Wolaita zone had burnout. It is recommended to have a holistic approach towards nurses' mental and physical wellbeing.

[Lien vers l'article](#)

Prevalence and the associated factors of burnout among the critical healthcare professionals during the post-pandemic era: a multi-institutional survey in Taiwan with a systematic review of the Asian literatures.

Lee YL, Dai JW, Li XW, Chiang MY, Chen PT, Lin YC, et al. *BMC Public Health*. 2024 Dec 18;24(1):3480.

BACKGROUND & AIMS: Burnout is a global concern, and critical healthcare professionals have been identified as a high-risk population of burnout. Early identification is crucial, but the prevalence of burnout and its risk factors demonstrate significant geographical variations. This study aims to investigate the prevalence of burnout among critical healthcare professionals and explore potential risk factors during the post-pandemic era in Taiwan. **METHODS:** A web-based questionnaire survey was conducted from December 1, 2023, to January 31, 2024, targeting critical healthcare professionals employed in selected medical institutions affiliated with the Chang Gung Memorial Hospital Foundation, one of Taiwan's largest healthcare organizations. Demographic information, the Subjective Happiness Scale (SHS), current work stressors and self-reported general health data were collected. The study utilized the Maslach Burnout Inventory Human Services Survey for Medical Personnel (MBI-MP). Univariate and multivariate logistic regression were employed to investigate the association between risk factors and each burnout subscales. A systematic review of Asian literature concerning burnout among critical care practitioners was also conducted. **RESULTS:** In our study, 254 participants were enrolled, with an overall burnout rate of 35.4%. The prevalence of high emotional exhaustion (EE) was 70.9%, high depersonalization (DP) was 56.3%, and low personal accomplishment (PA) was 60.6%. Young, unmarried populations, individuals with limited work experience, longer working hours, and night shifts are potential vulnerable groups susceptible to burnout. The top three stressors identified were excessive workload, the burden of administrative tasks, and a shortage of vacation time. Our systematic review included 20 Asian studies on the same issue, with variable burnout prevalence ranging from 16.3 to 82.1%. **CONCLUSION:** The prevalence of burnout was high among critical healthcare professionals in post-pandemic Taiwan, particularly affecting younger, unmarried populations and individuals with limited work experience, longer hours, and more night shifts. The influence of pandemic-related factors has decreased. Regional variations in burnout have been observed across Asia, highlighting the need for further research to identify local risk factors and protect the well-being of professionals and healthcare quality.

[Lien vers l'article](#)

Depression and its associated factors among textile factory workers at the Almeda textile factory, North Ethiopia.

Begashaw TD, Andualem F. *Front Public Health*. 2024;12:1393581.

BACKGROUND: Depression is becoming a significant burden and a potential cause of disability worldwide. According to a World Health Organization (WHO) study conducted in both developed and developing countries, the prevalence of depression is 10.4%. There are differences in the prevalence of depression among the population based on a number of variables, including concomitant medical problems, substance abuse, employment environment, and demographics. The purpose of this study was to evaluate the prevalence of depression and its associated risk factors among textile industrial workers. **METHODS:** A cross-sectional study was conducted on 409 workers from the Almeda Textile Factory in Adwa from May to June 2020. The outcome variable was depression, assessed using the Patient Health Questionnaire-9 (PHQ-9). Variables with p-values of <0.25 in the bivariate analysis were included in the multivariate analysis. An adjusted odds ratio with a 95% confidence interval was computed. Statistical significance was determined at a p-value of <0.05. **RESULTS:** The total prevalence of depression at a PHQ-9 cutoff score of 10, PHQ-9(10+), was 24.4%. At a cutoff score of 5, PHQ-9(5+) was 51.1%. In the multivariate analysis, low social support, working rotating day and night shifts, and having a physical injury at the workplace were significantly associated with depression at both PHQ-9(5+) and PHQ-9(10+). In addition, advanced age of 45 years and above and being diagnosed with chronic medical disease were significantly associated with depression at PHQ-9(10+) ($p < 0.05$). **CONCLUSION:** The prevalence of depression varied based on the PHQ-9 cutoff score, and it is high at both PHQ-9(5+) and PHQ-9(10+). Low social support, working rotating day and night shifts, physical injury at the workplace, advanced age, and chronic medical disease were significantly associated with depression. Our findings suggest that the workers at the Almeda Textile Factory should be screened and managed accordingly.

[Lien vers l'article](#)

Troubles cognitifs et de la vigilance**Occupational Stress and Sleep of Military Police Officers From Rio de Janeiro, Brazil.**

Garcia LOR, Moreira R, Silva MG. *Am J Hum Biol*. 2025 Jan;37(1):e24184.

OBJECTIVE: Military Police officers of Rio de Janeiro's State have been considered the most lethal security forces in Brazil, corresponding to 52.35% of deaths in policing actions. The main aim of this study was to identify occupational stress among military police officers in Rio de Janeiro State and its relationship with the psychosocial environment, sleep quality, and daytime sleepiness. **METHODS:** Two hundred and forty-two military policemen, divided into two groups (elite and non-elite), were evaluated occupational stress by the Lipp's Stress Symptoms Inventory (LSSI), daytime sleepiness (DS) by the Epworth Sleepiness Scale and sleep quality (SQ) by the Pittsburgh Sleep Quality Index. **RESULTS:** Military police officers (entire sample) showed dissatisfaction related to psychological support from the military institution ($p = 0.004$), about the inefficiency of the judicial system ($p < 0.001$) and their low popularity towards society ($p = 0.009$). The group of elite police officers slept significantly less ($p = 0.026$) and, in general, suffered more from severe daytime sleepiness, had poorer SQ and showed lower levels of occupational stress than their peers. It was possible to identify that stress can be detected, developed, and intensified in military police officers as a result of the environment in which they are exposed and this interferes significantly in sleep and daytime sleepiness ($p < 0.05$). **CONCLUSION:** Through this study, it is hoped that measures can be implemented to enhance the work environment and thereby improve the quality of life for this military population. Furthermore, it is

intended to stimulate more comprehensive and longitudinal studies, particularly inclusive of female military personnel.

[Lien vers l'article](#)

Back to Roots: Dysbiosis, Obesity, Metabolic Syndrome, Type 2 Diabetes Mellitus, and Obstructive Sleep Apnea-Is There an Objective Connection? A Narrative Review.

Protasiewicz-Timofticiuc DC, Bădescu D, Moța M, Ștefan AG, Mitrea A, Clenciu D, et al. *Nutrients*. 2024 Nov 26;16(23).

In recent decades, it has become clear that the gut is more than just a digestive organ; it also functions as an immune organ with regulatory capabilities and acts as a "second brain" that influences brain function due to the presence and regulatory roles of the gut microbiota (GM). The GM is a crucial component of its host and significantly impacts human health. Dysbiosis, or microbial imbalance, has been closely linked to various diseases, including gastrointestinal, neurological, psychiatric, and metabolic disorders. The aim of this narrative review is to highlight the roles of the GM in maintaining metabolic health. Sleep is a vital biological necessity, with living organisms having evolved an internal sleep-wake rhythm that aligns with a roughly 24 h light/dark cycle, and this is known as the circadian rhythm. This cycle is essential for tissue repair, restoration, and overall optimal body functioning. Sleep irregularities have become more prevalent in modern society, with fast-paced lifestyles often disrupting normal sleep patterns. Urban living factors, such as fast food consumption, shift work, exposure to artificial light and nighttime noise, medications, and social activities, can adversely affect circadian rhythms, with dysbiosis being one of the many factors incriminated in the etiology of sleep disorders.

[Lien vers l'article](#)

Chronobiologie

Animal

Genetic synchronization of the brain and liver molecular clocks defend against chrono-metabolic disease.

Woodie LN, Alberto AJ, Krusen BM, Melink LC, Lazar MA. *Proc Natl Acad Sci U S A*. 2024 Dec 17;121(51):e2417678121.

Nearly every cell of the body contains a circadian clock mechanism that is synchronized with the light-entrained clock in the suprachiasmatic nucleus (SCN). Desynchrony between the SCN and the external environment leads to metabolic dysfunction in shift workers. Similarly, mice with markedly shortened endogenous period due to the deletion of circadian REV-ERB α/β nuclear receptors in the SCN (SCN DKO) exhibit increased sensitivity to diet-induced obesity (DIO) on a 24 h light:dark cycle while mice with REV-ERBs deleted in hepatocytes (HepDKO) display exacerbated hepatosteatosis in response to a high-fat diet. Here, we show that inducing deletion of hepatocyte REV-ERBs in SCN DKO mice (Hep-SCN DDKO) rescued the exacerbated DIO and hepatic triglyceride accumulation, without affecting the shortened behavioral period. These findings suggest that metabolic disturbances due to environmental desynchrony with the central clock are due to effects on peripheral clocks which can be mitigated by matching peripheral and central clock periods even in a desynchronous environment. Thus, maintaining synchrony within an organism, rather than between endogenous and exogenous clocks, may be a viable target for the treatment of metabolic disorders associated with circadian disruption.

[Lien vers l'article](#)

KATP channel mutation disrupts hippocampal network activity and nocturnal gamma shifts.

Burkart ME, Kurzke J, Jacobi R, Vera J, Ashcroft FM, Eilers J, et al. *Brain*. 2024 Dec 3;147(12):4200-12.

ATP-sensitive potassium (KATP) channels couple cell metabolism to cellular electrical activity. Humans affected by severe activating mutations in KATP channels suffer from developmental delay, epilepsy and neonatal diabetes (DEND syndrome). While the aetiology of diabetes in DEND syndrome is well understood, the pathophysiology of the neurological symptoms remains unclear. We hypothesized that impaired activity of parvalbumin-positive interneurons (PV-INs) may result in seizures and cognitive problems. We found, by performing electrophysiological experiments, that expressing the DEND mutation Kir6.2-V59M selectively in mouse PV-INs reduced intrinsic gamma frequency preference and short-term depression as well as disturbed cognition-associated gamma oscillations and hippocampal sharp waves. Furthermore, the risk of seizures was increased and the day-night shift in gamma activity disrupted. Blocking KATP channels with tolbutamide partially rescued the network oscillations. The non-reversible part may, to some extent, result from observed altered PV-IN dendritic branching and PV-IN arrangement within CA1. In summary, PV-INs play a key role in DEND syndrome, and this provides a framework for establishing treatment options.

[Lien vers l'article](#)

Sex-dependent effects of chronic jet lag on circadian rhythm and metabolism in mice.

Ma T, Matsuo R, Kurogi K, Miyamoto S, Morita T, Shinozuka M, et al. *Biol Sex Differ*. 2024 Dec 5;15(1):102.

BACKGROUND: The circadian clock integrates external environmental changes into the internal physiology of organisms. Perturbed circadian clocks due to misaligned light cycles increase the risk of diseases, including metabolic disorders. However, the effects of sex differences in this context remain unclear. **METHODS:** Circadian misalignment was induced by a chronic jet lag (CJL) shift schedule (light-on time advanced by 6 h every 2 days) in C57BL/6N male and female mice. Core body temperature and

activity rhythms were recorded using a nano tag, and the gene expression rhythms of clock and clock-controlled genes in the liver and adrenal glands were analyzed using qPCR. Glucose metabolism and insulin response were evaluated using glucose tolerance, insulin sensitivity, and glucose response assays. Castration and testosterone replacement were performed to assess the fundamental role of testosterone in male phenotypes under CJL. RESULTS: Under CJL treatment, male mice exhibited increased weight gain, whereas females exhibited decreased weight gain compared to that of the respective controls. CJL treatment induced a lower robustness of circadian rhythms in core body temperature and a weaker rhythm of clock gene expression in the liver and adrenal glands in females, but not in males. Only male mice exhibited glucose intolerance under CJL conditions, without the development of insulin resistance. Castrated mice without testosterone exhibited decreased weight gain and reduced robustness of body temperature rhythm, as observed in intact females. Testosterone replacement in castrated mice recovered the CJL-induced weight gain, robustness of temperature rhythm, and glucose intolerance observed in intact males. CONCLUSIONS: Significant sex-based differences were observed in circadian clock organization and metabolism under CJL. Testosterone plays a crucial role in maintaining the circadian clock and regulating CJL metabolism in males.

[Lien vers l'article](#)

A night shift for histone methylation in DNA damage control.

Balcerowicz M. *Plant J.* 2024 Dec;120(6):2323-4.

[Lien vers l'article](#)

Homme

Fasting as an intervention to alter the impact of simulated night-shift work on glucose metabolism in healthy adults: a cluster randomised controlled trial.

Centofanti S, Heilbronn LK, Wittert G, Dorrian J, Coates AM, Kennaway D, et al. *Diabetologia.* 2025 Jan;68(1):203-16.

AIMS/HYPOTHESIS: Night-shift work causes circadian misalignment and impairs glucose metabolism. We hypothesise that food intake during night shifts may contribute to this phenomenon. METHODS: This open-label, multi-arm, single-site, parallel-group controlled trial involved a 6 day stay at the University of South Australia's sleep laboratory (Adelaide, SA, Australia). Healthy, non-shift-working adults without obesity (N=55; age 24.5 ± 4.8 years; BMI 24.8 ± 2.8 kg/m²) were assigned to the next available run date and cluster randomised (1:1:1) to fasting-at-night (N=20), snack-at-night (N=17), or meal-at-night (N=18) conditions. One participant withdrew from each group, prior to starting the study. Due to study design, neither participants nor people collecting their measurements could be blinded. Statistical and laboratory staff were concealed to study allocation. Participants were fed at calculated energy balance, with the macronutrient composition of meals being similar across conditions. The primary outcomes were a linear mixed-effects model of glucose, insulin and NEFA AUC in response to a 75 g OGTT that was conducted prior to and after 4 consecutive nights of shift work plus 1 night of recovery sleep. Insulin sensitivity, insulinogenic and disposition indexes were also calculated. RESULTS: Night-shift work impaired insulin sensitivity, as measured by insulin AUC ($p=0.035$) and the insulin sensitivity index ($p=0.016$) across all conditions. Insulin secretion, as measured by the insulinogenic index, was increased in the fasting-at-night condition only ($p=0.030$), resulting in a day \times condition interaction in glucose AUC ($p<0.001$) such that glucose tolerance was impaired in the meal-at night ($+2.00$ [95% CI 1.45, 2.56], $p<0.001$) and snack at-night ($+0.96$ [0.36, 1.56], $p=0.022$) conditions vs the fasting-at-night ($+0.34$ [-0.21, 0.89]) condition. A day \times condition interaction was also observed in NEFA AUC ($p<0.001$), being higher in the meal-at-night ($+0.07$ [0.03,

0.10]. $p=0.001$) and snack-at-night (0.01 [-0.03, 0.05], $p=0.045$) conditions vs the fasting-at-night condition (-0.02 [-0.06, 0.01]). No adverse events occurred. CONCLUSIONS/INTERPRETATION: The timing of food intake has a critical effect on glucose metabolism during simulated night-shift work, which was readily amendable to a meal re-timing intervention. TRIAL REGISTRATION: Australian New Zealand Clinical Trials Registry (ANZCTR) ACTRN12616001556437 FUNDING: This work was funded by the National Health and Medical Research Council (NHMRC), APP1099077.

[Lien vers l'article](#)

A systematic review and meta-analysis on light therapy for sleep disorders in shift workers.

Zhao C, Li N, Miao W, He Y, Lin Y. *Sci Rep.* 2025 Jan 2;15(1):134.

Sleep disorders constitute a significant disruption for shift workers. Beyond medical interventions, phototherapy is recognized as an effective approach to significantly alleviate sleep disorders, particularly among individuals engaged in shift work. However, the effective dose and efficacy evaluation of phototherapy have not yet been determined. This study conducted a systematic review across five databases from January 1, 1990, to December 31, 2023. A total of 11 articles were selected for meta-analysis using a random-effects model. The results showed that light therapy significantly improved the total sleep time (TST) (MD = 32.54, $p < 0.00001$) and sleep efficiency (SE) (MD = 2.91, $p = 0.007$) of shift workers compared to the control group. Subgroup analysis and regression analysis implied that medium illuminance (900-6000 lx) for a long treatment duration (≥ 1 h) during night was more effective in extending total sleep time, whereas higher-illuminance and increasing dose (lx*h) of light therapy was more beneficial for SE. In summary, light therapy has a degree of efficacy in increasing the overall sleep duration and efficiency for shift workers, the findings of the current study contribute reference and evidence for dose setting and experimental design of phototherapy on shift workers' sleep in clinical and research.

[Lien vers l'article](#)

Power analysis for personal light exposure measurements and interventions.

Zauner J, Udovicic L, Spitschan M. *PLoS One.* 2024;19(12):e0308768.

BACKGROUND: Light exposure regulates the human circadian system and more widely affects health, well-being, and performance. With the rise in field studies on light exposure's effects, the amount of data collected through wearable loggers and dosimeters has also grown. These data are more complex than stationary laboratory measurements. Determining sample sizes in field studies is challenging, as the literature shows a wide range of sample sizes (between 2 and 1,887 from a recent review of the field and approaching 105 participants in first studies using large-scale 'biobank' databases). Current decisions on sample size for light exposure data collection lack a specific basis rooted in power analysis. Therefore, there is a need for clear guidance on selecting sample sizes. METHODS: Here, we introduce a novel procedure based on hierarchical bootstrapping for calculating statistical power and required sample size for wearable light and optical radiation logging data and derived summary metrics, taking into account the hierarchical data structure (mixed-effects model) through stepwise resampling. Alongside this method, we publish a dataset that serves as one possible basis to perform these calculations: one week of continuous data in winter and summer, respectively, for 13 early-day shift-work participants (collected in Dortmund, Germany; lat. 51.514° N, lon. 7.468° E). RESULTS: Applying our method on the dataset for twelve different summary metrics (luminous exposure, geometric mean, and standard deviation, timing/time above/below threshold, mean/midpoint of darkest/brightest hours, intradaily variability) with a target comparison across winter and summer, reveals required sample sizes ranging from as few as 3 to more than 50. About half of the metrics—those that focus on the bright time of day—showed sufficient power already with the smallest sample. In contrast, metrics centered around the dark time of the day and daily patterns required higher

sample sizes: mean timing of light below mel EDI of 10 lux (5), intradaily variability (17), mean of darkest 5 hours (24), and mean timing of light above mel EDI of 250 lux (45). The geometric standard deviation and the midpoint of the darkest 5 hours lacked sufficient power within the tested sample size. CONCLUSIONS: Our novel method provides an effective technique for estimating sample size in light exposure studies. It is specific to the used light exposure or dosimetry metric and the effect size inherent in the light exposure data at the basis of the bootstrap. Notably, the method goes beyond typical implementations of bootstrapping to appropriately address the structure of the data. It can be applied to other datasets, enabling comparisons across scenarios beyond seasonal differences and activity patterns. With an ever-growing pool of data from the emerging literature, the utility of this method will increase and provide a solid statistical basis for the selection of sample sizes.

[Lien vers l'article](#)

Back to Roots: Dysbiosis, Obesity, Metabolic Syndrome, Type 2 Diabetes Mellitus, and Obstructive Sleep Apnea-Is There an Objective Connection? A Narrative Review.

Protasiewicz-Timofticiuc DC, Bădescu D, Moța M, Ștefan AG, Mitrea A, Clenciu D, et al. *Nutrients*. 2024 Nov 26;16(23).

In recent decades, it has become clear that the gut is more than just a digestive organ; it also functions as an immune organ with regulatory capabilities and acts as a "second brain" that influences brain function due to the presence and regulatory roles of the gut microbiota (GM). The GM is a crucial component of its host and significantly impacts human health. Dysbiosis, or microbial imbalance, has been closely linked to various diseases, including gastrointestinal, neurological, psychiatric, and metabolic disorders. The aim of this narrative review is to highlight the roles of the GM in maintaining metabolic health. Sleep is a vital biological necessity, with living organisms having evolved an internal sleep-wake rhythm that aligns with a roughly 24 h light/dark cycle, and this is known as the circadian rhythm. This cycle is essential for tissue repair, restoration, and overall optimal body functioning. Sleep irregularities have become more prevalent in modern society, with fast-paced lifestyles often disrupting normal sleep patterns. Urban living factors, such as fast food consumption, shift work, exposure to artificial light and nighttime noise, medications, and social activities, can adversely affect circadian rhythms, with dysbiosis being one of the many factors incriminated in the etiology of sleep disorders.

[Lien vers l'article](#)

Chronotype, temporal patterns of eating and diet composition on work and work-free days.

Phoi YY, Dorrian J, Rogers M, Bonham MP, Coates AM. *Chronobiol Int*. 2024 Dec;41(12):1556-65.

Temporal patterns of eating and diet composition are influenced by factors including circadian preference (chronotype) and work schedule, yet their combined influence is unknown. We investigated relationships between chronotype, temporal eating patterns (duration of eating window (DEW), time of first (FEO) and last (LEO) eating occasions), and diet composition on workdays (WD) and work-free days (FD). Non-shift workers (n = 39) completed the Chrononutrition Questionnaire (CNQ) (age: 38.8 ± 17.2 years, BMI: 24.8 ± 4.78 kg/m²), 82% female) that captures chronotype and temporal eating patterns, and returned work diaries (work schedule) and 7-day food diaries (diet composition) after 2 weeks. Twenty-nine participants provided dietary data for at least two work and work-free days. Later chronotype was associated with later FEO on FD (r(s) = 0.45, p = 0.004), later LEO on FD (r(s) = 0.60, p < 0.001) and WD (r(s) = 0.61, p < 0.001), and longer DEW on WD (r(s) = 0.37, p = 0.024). Relationships between chronotype and diet composition were small. Later FEO was associated with higher % energy from fat (r(s) = 0.39, p = 0.043) and lower fibre intake (r(s) = -0.69, p < 0.001) on WD. Later chronotypes had shorter and later eating windows on FD than WD. Our findings suggest that relationships between chronotype, temporal eating patterns, and diet

composition differ by day type. Further investigation may inform dietary strategies that are day-specific.

[Lien vers l'article](#)

Circadian disruption and its impact on the cardiovascular system.

Young MJ, Heanue S, Kanki M, Moneghetti KJ. *Trends Endocrinol Metab.* 2024 Dec 19.

Circadian rhythms are highly conserved biorhythms of ~24 h that govern many fundamental biological processes, including cardiovascular (CV) homeostasis. Disrupting the timing of cellular oscillators promotes cellular stress, and induction of pathogenic pathways underpins the pathogenesis of many CV diseases (CVDs). Thus, shift work, late eating, sleep disturbances, and other disruptors can result in an elevated risk of heart disease and increased incidence of adverse CV events. Here, we discuss the importance of circadian rhythms for CV homeostasis, recent developments in understanding the impact of disrupted circadian rhythms on CV health and disease progression, and how understanding the interactions between circadian and CV physiology is crucial for improving interventions to mitigate CVD, especially in populations impacted by disrupted circadian rhythms.

[Lien vers l'article](#)

Exploring the relationships between chronotypes, attachment styles, and mental health in flight attendants.

Noureldin K, Rehman A. *Chronobiol Int.* 2024 Dec;41(12):1574-90.

Circadian rhythm-related individual differences such as chronotypes (morningness/eveningness) are associated with mental health though not elucidated in circadian-disrupted populations such as flight attendants. International flight attendants (n = 288) aged 21 to 55 (70.8% female, 76.4% white) completed an online survey assessing chronotypes, attachment, depression, and anxiety to investigate the associations between these variables. Results showed a prevalence of intermediate (41.6%) and evening types (40.6%). Evening chronotype was associated with and significantly predicted depression but not anxiety. Individuals who scored higher in attachment anxiety or avoidance had higher levels of depression and anxiety. Exploratory mediation showed that attachment avoidance partially mediated the relationship between anxiety and depression. Overall, chronotypes and attachment are implied as transdiagnostic factors for mental health outcomes and highlighted using a Chrono-Attachment Health Model. Further research is needed to confirm these findings among flight attendants and shift workers.

[Lien vers l'article](#)

Predicting circadian phase in community-dwelling later-life adults using actigraphy data.

Mayer C, Kim DW, Zhang M, Lee MP, Forger DB, Burgess HJ, et al. *J Sleep Res.* 2024 Dec 8:e14425.

The accurate estimation of circadian phase in the real-world has a variety of applications, including chronotherapeutic drug delivery, reduction of fatigue, and optimal jet lag or shift work scheduling. Recent work has developed and adapted algorithms to predict time-consuming and costly laboratory circadian phase measurements using mathematical models with actigraphy or other wearable data. Here, we validate and extend these results in a home-based cohort of later-life adults, ranging in age from 58 to 86 years. Analysis of this population serves as a valuable extension to our understanding of phase prediction, since key features of circadian timekeeping (including circadian amplitude, response to light stimuli, and susceptibility to circadian misalignment) may become altered in older populations and when observed in real-life settings. We assessed the ability of four models to predict ground truth dim light melatonin onset, and found that all the models could generate predictions with mean absolute errors of approximately 1.4 h or below using actigraph activity data. Simulations of the model

with activity performed as well or better than the light-based modelling predictions, validating previous findings in this novel cohort. Interestingly, the models performed comparably to actigraph-derived sleep metrics, with the higher-order and nonphotic activity-based models in particular demonstrating superior performance. This work provides evidence that circadian rhythms can be reasonably estimated in later-life adults living in home settings through mathematical modelling of data from wearable devices.

[Lien vers l'article](#)

The real-world association between digital markers of circadian disruption and mental health risks.

Lee MP, Kim DW, Fang Y, Kim R, Bohnert ASB, Sen S, et al. *NPJ Digit Med.* 2024 Dec 5;7(1):355.

While circadian disruption is recognized as a potential driver of depression, its real-world impact is poorly understood. A critical step to addressing this is the noninvasive collection of physiological time-series data outside laboratory settings in large populations. Digital tools offer promise in this endeavor. Here, using wearable data, we first quantify the degrees of circadian disruption, both between different internal rhythms and between each internal rhythm and the sleep-wake cycle. Our analysis, based on over 50,000 days of data from over 800 first-year training physicians, reveals bidirectional links between digital markers of circadian disruption and mood both before and after they began shift work, while accounting for confounders such as demographic and geographic variables. We further validate this by finding clinically relevant changes in the 9-item Patient Health Questionnaire score. Our findings validate a scalable digital measure of circadian disruption that could serve as a marker for psychiatric intervention.

[Lien vers l'article](#)

Investigation of the possible effects of night shift on telomere length and mtDNA copy number in nurses.

Koyuncu H, Kara N, Dabak Ş. *Nucleosides Nucleotides Nucleic Acids.* 2024;43(11):1346-59.

In this study, we aimed to investigate the impacts of altered circadian rhythm on telomere length and mtDNA copy number (mtDNA-CN) in nurses working night shifts. In our study, 52 healthy nurses working in shifts at Ondokuz Mayıs University Hospital and 45 healthy control subjects working during the day were included. qRT-PCR technique was used for the determination of telomere length and mtDNA-CN. It was observed that the shift-work group had poor sleep quality ($p = 0.004$), feeling tired ($p < 0.01$) and stressed ($p = 0.02$) more than control group working during the day. Nurses working in shifts were found to have 1.18 times longer telomeres with respect to the control group working during the day ($p = 0.005$). When compared among shift workers, poor sleep quality and insufficient sleep duration shortened telomeres ($r = 0.32$; $p = 0.02$). There was no statistically significant disparity regarding mtDNA-CN among the nurses working in shifts and the control group working during the day ($p = 0.07$). Insufficient sleep was associated with decreased mtDNA-CN when shift-working nurses were compared according to sleep quality ($p = 0.006$). Furthermore, mtDNA-CN of nurses with poor sleep quality was correlated with lower mtDNA-CN in comparison to nurses with good sleep quality ($r = 0.284$; $p = 0.04$). The mtDNA-CN of the nurses was positively associated with the sleep duration the night sleep before the night shift ($r = 0.32$; $p = 0.02$). Inadequate sleep duration and quality were observed to cause a reduction in mtDNA-CN of nurses. In conclusion, it has been observed that poor sleep quality and duration are related to shortened telomere length and decreased mtDNA-CN in night shift nurses.

[Lien vers l'article](#)

Identification of Predictors of Shift Work Adaptation and Its Association With Immune, Hormonal and Metabolite Biomarkers.

Harding BN, Espinosa A, Castaño-Vinyals G, Pozo OJ, Skene DJ, Bustamante M, et al. *J Pineal Res.* 2024 Nov;76(8):e70017.

We explored predictors of shift work adaptation and how it relates to disease risk biomarker levels. These analyses included 38 male, rotating shift workers, sampled twice at the end of a 3-week night shift and a 3-week day shift rotation. Participants collected all 24-h urine voids, wore activity sensors, and responded to questionnaires during each shift. Using cosinor analysis, we derived the main period of urinary 6-sulfatoxymelatonin (aMT6s) production. Adaptation was defined as the overlap between the main aMT6s production period and sleep period assessed with actigraphy. We used linear models to identify predictors of adaptation to each shift and assessed associations between adaptation profiles and hormone, cytokine, and metabolite biomarker levels. The median duration of overlap (adaptation) was 3.85 h (IQR 2.59-5.03) in the night and 2.98 (IQR 2.17-4.11) in the day shift. In the night shift, a later chronotype (coeff: -1.16, 95% CI -1.87, -0.45) and increased light at night (coeff: -0.97, 95% CI -1.76, -0.18) were associated with poorer adaptation, while longer sleep duration was associated with better adaptation (coeff: 0.46, 95% CI 0.04, 0.88). In the day shift, later sleep onset was associated with worse adaptation (coeff: -0.06, 95% CI -0.12, -0.01), while longer sleep duration was associated with better adaptation (coeff: 0.54, 0.26, 0.81). Results suggest higher androgen and inflammatory marker levels and lower levels of several metabolite markers among less adapted individuals. Chronotype, sleep, and light at night were all associated with night or day shift adaptation. Given the small sample size, results should be viewed as exploratory, but may inform interventions to optimize adaptation of rotating shift workers.

[Lien vers l'article](#)

Comparative Analysis of Methods of Evaluating Human Fatigue.

de Mello MT, Guerreiro RC, Santarelli R, Brant VM, Barreto AT, Silva FRD, et al. *Sleep Sci.* 2024 Dec;17(4):e339-e49.

The present study used four different methods to estimate fatigue. Forty-seven volunteers (45 men and 2 women), 41.3 ± 7.5 years old, truck operators for 11.5 ± 6.0 years, were included. All participants accepted the invitation to be included in the study. Actigraphy and core temperature were evaluated. The 5-minute psychomotor vigilance test, the Karolinska Sleepiness Scale (KSS), and the postural assessment using the Light Sonometer™ (Belo Horizonte, Minas Gerais, Brazil) were performed. Fatigue prediction was performed using the Fatigue Avoidance Scheduling Tool (FAST) program. In response to the Pittsburgh Sleep Quality Index (PSQI), 51.06% had good sleep quality and 48.94% had poor sleep quality with an average efficiency of 81.6%. In response to the actigraphy, workers slept an average of 7.2 hours a day with 93.5% efficiency. The workers' core body temperature (CBT) cosinor analysis showed a preserved circadian curve. Core body temperature showed differences between the 6 hours worked in each shift. Similarly, the light sound level meter showed lower risk scores for fatigue in day shifts. Only the variable of the fastest 10% of the Psychomotor Vigilance Test (PVT) showed worse results, while no significant differences were observed by the KSS. The risk analysis by FAST showed a strong influence of the circadian factor. In conclusion, each method has positive and negative points, and it is up to the evaluator/manager to identify the method that best suits the purpose of the evaluation, as well as the local culture and conditions. We recommend using different methods of risk assessment and management in combination with fatigue prediction by Sonometer as well as carrying out assessments, which enable researchers to estimate performance and fatigue throughout the working day, since these may change over the duration of the working day.

[Lien vers l'article](#)

Sleep on it: exploring the psychology of sleep amidst contemporary challenges.

Denisova K, Motomura Y, Song C. *Sci Rep.* 2024 Dec 16;14(1):30501.

Throughout history, poets, scholars, and scientists have acknowledged the profound link between sleep and psychological well-being. The wisdom of “sleep on it”, ingrained in both Western and Eastern traditions, highlights the crucial role sleep plays in restoring and enhancing cognitive functions. In today’s fast-paced, highly-interconnected, technology-driven world, where cognitive demands are ever-growing, quality sleep has become both more vital and more elusive. This collection delves into the evolving role of sleep in maintaining psychological well-being amidst contemporary challenges. It brings together a diverse array of behavioral and brain imaging studies from researchers across the globe, focusing on three key areas: the beneficial effects of sleep on learning and education, the detrimental consequences of sleep disruption on mental health, and the rising prevalence of sleep disruption in vulnerable populations. These studies offer compelling insights, revealing, for instance, how sleep consolidates conceptual networks of knowledge, how sleep disruption can signal suicidal tendencies a month before suicide attempts, and how heatwaves negatively affect infant sleep. This body of work not only underscores the cognitive benefits of sleep but also illuminates how contemporary challenges—such as climate change, poverty, and shift work—undermine sleep health. It calls for targeted interventions to improve sleep health and psychological well-being in response to these contemporary challenges, urging scholars and policymakers to prioritize sleep health as a foundational element in building a healthier, more resilient society.

[Lien vers l'article](#)

The association between vigour and flexibility with injury and alertness during shift work.

Di Milia L, Barnes-Farrell JL, Laguerre R, Folkard S. *Chronobiol Int.* 2024 Dec;41(12):1600-9.

Models of shift work and health suggest that individual differences in circadian rhythm characteristics may moderate the relationship between night shift work and injury, but this argument has not been directly tested. In this study, we tested the efficacy of two circadian rhythm characteristics—vigour and flexibility—as moderators of the path between shift work and injury. In addition, we aimed to replicate the association between vigour, flexibility, and alertness by time of day, and the measurement properties of the Circadian Type Inventory. We recruited 401 healthcare workers from Australia and Great Britain. After controlling for confounding variables, the results showed that vigour moderated the association between shift work and injury. Participants with values of vigour at the mean ($\beta = 0.5120$, $p < 0.0013$, 95% CI = [0.2018, 0.8223]) and one standard deviation below the mean ($\beta = 0.9048$, $p < 0.0001$, 95% CI = [0.4648, 1.3447]) reported significantly more injuries. No moderation was found for flexibility. Significant differences in alertness by time of day were observed in participants with higher levels of vigour compared to lower levels of vigour. No differences in alertness were observed for the flexibility scale. These results indicate that vigour may be a robust indicator of shift work tolerance. We replicated the posited two-factor structure of the Circadian Type Inventory, found the scales to have good reliability, and established for the first time, criterion-related validity for the vigour scale.

[Lien vers l'article](#)

Interaction of Clock gene variants and behavioral parameters influences adiposity-related traits.

Anwar Bhatti A, Rana S, Fatima N. *Chronobiol Int.* 2024 Dec;41(12):1545-55.

Obesity, a major health concern, is influenced by an individual's genetic makeup and lifestyle factors (eating, sedentary lifestyle, and sleep disruptions) that affect circadian clock and metabolism. This study investigates the impact of Clock gene variants rs6843722 and rs4864548 on obesity measures in

the Pakistani population. Genetic-behavior interaction studies have focused on Western populations, overlooking South Asians. We included 306 overweight/obese and 306 normal-weight controls, matched for age and gender. Anthropometric measures (BMI, waist circumference, waist-to-height ratio, and body fat percentage) were taken using standard procedures while behavioral data (dietary and sleep-related behaviors, shiftwork, and physical activity) was collected by questionnaire. Genotyping was performed by Taqman assays. Data was analyzed using SPSS 19.0. Rank-based inverse normal transformation was executed for quantitative non-normal variables. The linear regression revealed that both Clock gene variants interacted significantly with dietary and sleep-related behaviors and low physical activity, impacting adiposity measures regardless of age and gender. Shiftwork interacted specifically with rs6843722, increasing body fat percentage. This study indicates that Clock gene variants, when interacting with lifestyle factors, play a substantial role in increasing obesity risk highlighting the link between lifestyle choices and disturbances in circadian rhythms controlled by Clock gene variations, ultimately leading to obesity.

[Lien vers l'article](#)

The relationship between REM sleep prior to analog trauma and intrusive memories.

Alkalame L, Ogden J, Clark JW, Porcheret K, Risbrough VB, Drummond SPA. *Sleep*. 2024 Dec 11;47(12).

Intrusive memories are a common experience following trauma exposure but can develop into a symptom of posttraumatic stress disorder (PTSD). Recent research has observed a relationship between sleep disturbance and intrusive memory frequency following analog trauma exposure and disruptions in rapid eye movement (REM) sleep are found to contribute to emotional dysregulation and an amplified reaction to negative emotional stimuli. The current study examined the association between REM sleep prior to analog trauma and intrusive memories. To manipulate REM sleep, 27 healthy adults (MAge = 25.4, standard deviation = 2.89) were randomized to either a circadian misalignment (CM) condition or normal control (NC) condition for 4 nights. In CM, participants slept normally for 2 nights followed by a 4-hour phase advance on night 3 and an additional 4-hour phase advance on night 4. In NC, participants had 8-hour sleep opportunities each night. On day 5, participants watched a trauma film and kept an intrusive memory diary for the next 3 days. Greater REM sleep percentage ($p = .004$) and REM efficiency ($p = .02$) across 4 nights prior to analog trauma, independent of the group, were significantly associated with fewer intrusive memories in the 3 days after viewing the film. Findings suggest REM sleep may serve to protect individuals against experiencing intrusive memories. This is consistent with evidence suggesting REM sleep influences emotional memory regulation. Occupations (e.g. emergency services/military personnel) who experience circadian disruptions likely to decrease REM sleep (e.g. from shift work) may be at heightened risk of experiencing intrusive memories after trauma exposure, and thus at increased risk of developing PTSD.

[Lien vers l'article](#)

Conduites addictives

Prevalence and multiple-level determinants of smoking among women in the workforce in China.

Lin H, Liu C, Sun Y, Liu Y, Zhang L, Zhang C, et al. *Nicotine Tob Res.* 2024 Dec 21.

INTRODUCTION: To describe the prevalence of smoking among Chinese women in the workforce and to investigate its potential associated factors from a multi-level perspective. **METHODS:** The study was based on data collected from the "Asia Best Workplace" program in 2021. We obtained a sample of 6,260 women in the workforce and collected the data using a self-administered questionnaire, including occupational characteristics, utilization of workplace health services, and mental health status. We employed univariate and multivariate logistic regression analyses to examine the associations between interested variables and the smoking status of women in the workforce. **RESULTS:** The prevalence of smoking among Chinese women in the workforce was 3.4%. After controlling for potential confounders, factors that were associated with smoking included field sales personnel (Adjusted Odds Ratio, AOR=3.45, 95% Confidence Interval, CI: 2.29-5.18, reference: white collar), mixed shift workers (AOR=2.42, 95% CI: 1.66-3.53), working overtime every day (AOR=2.27, 95% CI: 1.38-3.74, reference: no overtime work), having depressive (AOR=1.10, 95% CI: 1.07-1.13) or anxiety symptoms (AOR=1.25, 95% CI: 1.13-1.39), and daily exposure to secondhand smoke (AOR=12.54, 95% CI: 8.70-18.05). Women with access to infirmaries (AOR=0.38, 95% CI: 0.18-0.81) and fitness facilities (AOR=0.60, 95% CI: 0.38-0.96) were less likely to smoke. **CONCLUSIONS:** The prevalence of smoking among Chinese women in the workforce was low. Smoking cessation programs in women in the workforce may benefit from taking into account the nature of their work, whether there were night shifts and overtime working. **IMPLICATIONS:** Smoking takes a huge toll on women, and women in the workforce face additional health challenges. Little is known about the specific factors associated with smoking among women in the workforce. Women who were field sales personnel, managers, working night or irregular shifts, and frequent overtime workers should be considered vulnerable sub-populations for smoking. Providing accessible workplace health services and resources is associated with a lower likelihood of smoking. Smoking cessation programs may consider the specific occupational and workplace factors that influence smoking behavior in this population, as well as address mental health needs.

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Reproduction

Correlates of multidimensional sleep in premenopausal women: The BioCycle study.

Wu X, Dunietz GL, Shedden K, Chervin RD, Jansen EC, Lyu X, et al. *Sleep Epidemiol.* 2024 Dec;4.

PURPOSE: To identify sleep dimensions (characteristics) that co-occur in premenopausal women. The second aim was to examine associations between multiple dimensions of sleep and a set of demographic, lifestyle, and health correlates. The overarching goal was to uncover patterns of poor-sleep correlates that might inform interventions to improve sleep health of women in this age group. **METHODS:** The BioCycle Study included 259 healthy women aged 18-44y recruited between 2005 and 2007 from Western New York. Participants reported sleep data through daily diaries and questionnaires that were used to create five sleep health dimensions (duration, variability, timing, latency, and continuity). We used multivariate analysis - canonical correlation methods - to identify links among dimensions of sleep health and patterns of demographic, psychological, and occupational correlates. **RESULTS:** Two distinct combinations of sleep dimensions were identified. The first - primarily determined by low variability in nightly sleep duration, low variability in bedtime (timing), greater nocturnal awakening, and less sleep onset latency - was distinguished from the second - primarily determined by sleep duration. The first combination of sleep dimensions was associated with older age and higher parity, fewer depressive symptoms, and higher stress level. The second combination of sleep dimensions was associated with perception of longer sleep duration as optimal, lower parity, not engaging in shift work, older age, lower stress level, higher prevalence of depressive symptoms, and White race. **CONCLUSION:** Among premenopausal women, we demonstrated distinct patterns of sleep dimensions that co-occur and vary by demographic, health, and lifestyle correlates. These findings shed light on the correlates of sleep health vulnerabilities among young women.

[Lien vers l'article](#)

Bladder health in U.S. Shift Workers: A Cross-Sectional Study (NHANES).

Diao J, Xie L, Wu B, Chen L, Jing H. *Urol J.* 2024 Dec 29.

PURPOSE: Working during non-traditional hours is becoming more prevalent in modern societies and presents a significant hurdle to an individual's circadian rhythm. We examined the bladder health of shift workers in the United States by analyzing information obtained from the National Health and Nutrition Examination Survey. **MATERIALS AND METHODS:** National Health and Nutrition Examination Survey (NHANES) datasets from 2005 to 2010 were utilized. Regression analysis were used to assess the association between shift work and bladder health (stress incontinence, urge incontinence and nocturia) by adjusting age, race, education, smoking, and so on. **RESULTS:** The percentage of non-Hispanic Black individuals was notably higher among shift workers (25.8% vs. 17.8%). Among shift workers, there was a lower percentage of individuals with a college degree (or higher) compared to day workers. Shift work has been found to be associated with nocturia in men (unadjusted model: OR=1.2, 95%CI=1.0-1.5, p=0.038). However, the adjusted results indicate that the connection is not statistically significant (Adjusted II model: OR=1.2, 95%CI=1.0-1.5, p=0.105). Similarly, no statistically significant association was observed between shift work and nocturia in women. There was also no significant relationship between shift work and Stress Urinary Incontinence (SUI) in men or women. The results from Adjusted II indicate a substantial association between shift work and the prevalence of Urgency Urinary Incontinence (UUI) in women (OR=1.2, 95%CI=1.0-1.5, p=0.041). **CONCLUSION:** Results of this cross-sectional study indicated that shift work was associated with a higher risk of UUI in women. Further research is needed to explore the relationship.

[Lien vers l'article](#)

Premenstrual Symptoms Risk Factors Among Newly Graduated Nurses in Shift Work: A Prospective Longitudinal Study.

Huh I, Choi-Kwon S, Ki J, Kim S, Baek J. *Asian Nurs Res (Korean Soc Nurs Sci)*. 2024 Dec;18(5):501-8.

PURPOSE: The premenstrual symptoms (PMSs) are a common health issue affecting women of reproductive age and are associated with various physiological, psychological, and situational factors. Newly graduated nurses, when suddenly exposed to excessive workloads and shift work, may experience disturbances such as sleep disorders, fatigue, depression, and stress. These factors are related to PMS, and their occurrence varies. Therefore, this study aimed to understand the changes in PMS and its risk factors among newly graduated nurses across shift work periods, and investigate the longitudinal relationships between PMS and its risk factors based on the theory of unpleasant symptoms. **METHODS:** This study constituted a secondary data analysis and employed a prospective longitudinal design. Newly graduated nurses were assessed three times: before starting shift work, six months after initiating shift work, and 18 months thereafter. Physiological (age, body mass index, alcohol consumption, dietary behavior), psychological (sleep quality, fatigue, depression, stress, life satisfaction), and situational (social support) factors were included as PMS-related factors. **RESULTS:** PMS worsened six months after the initiation of shift work compared with those before, and this aggravation persisted even after 18 months of shift work ($p < .001$). Age ($p = .043$), sleep quality ($p = .004$), and fatigue ($p < .001$) were associated with PMS. An interaction between time and depression that affected PMS was observed ($p = .021$). **CONCLUSION:** Newly graduated nurses need to pay attention to the exacerbation of PMS after initiating shift work. Interventions to improve sleep quality and reduce fatigue are crucial for novice nurses, irrespective of shiftwork duration. Additionally, it is important to assess depressive symptoms before starting shift work and implement early interventions. Furthermore, the need for interventions addressing depression escalates with the increase in shiftwork duration.

[Lien vers l'article](#)

Circadian Disruption Impacts Fetal Development in Mice Using High-Frequency Ultrasound.

Britz SM, Nelson S, Earhart KM, Pru JK, Schmitt EE. *J Circadian Rhythms*. 2024;22:4.

The developmental origins of health and disease theory suggests that environmental exposures during early life, particularly during prenatal life, can greatly influence health status later in life. Irregular light-dark cycles, such as those experienced during shift work, result in the repeated disruption of circadian rhythms, which negatively impacts physiological and behavioral cycles. The purpose of our study was to assess parameters in the developing mouse embryo and fetus using high frequency ultrasound when exposed to circadian disruption. Pregnant female mice were subjected to a seven-hour advanced circadian disrupted protocol or remained on a normal 12/12 light-dark cycle throughout pregnancy. Significant differences were observed in placental length ($p = 0.00016$), placental thickness ($p = 0.0332$), and stomach diameter ($p = 0.0186$) at E14.5-18.5. These findings suggest that circadian disruption in pregnant dams, mimicking shift work, alters embryonic and fetal development in specific organs in utero.

[Lien vers l'article](#)

Polyexposition

Expert-based assessment of chemical and physical exposures, and organizational factors, in past agricultural jobs.

Guindo Y, Parent ME, Richard H, Luce D, Barul C. *Environ Res.* 2024 Dec 15;263(Pt 3):120238.

BACKGROUND: Limited data document the spectrum of exposures in the agricultural environment. We describe here the wide range of chemical and physical agents, and organizational factors, encountered in agricultural jobs held in the past in Canada and abroad. **METHODS:** We used data from a population-based case-control study of prostate cancer including 3,925 male participants residing in Montreal, Canada in 2005-2012. Lifetime occupational histories and detailed job descriptions were collected in-person. Industrial hygienists and an agronomist conducted semi-quantitative evaluations of exposure, including intensity and reliability, to some 300 chemical and physical agents in each job held. Analyses focused on the 156 agricultural jobs ever held in the study population. Clusters of agricultural co-exposures were derived. **RESULTS:** Agricultural jobs had taken place in 1946-2012, 53% ending in 1970 or after. Jobs were often (43%) held in Quebec, Canada; 22% in Italy, Portugal or Greece, and 10% in Haiti. Jobs entailed exposure to an average of 10 chemical agents (± 7) and most were characterized by long working hours, high physical activity levels, and did not provoke stress or anxiety. Few involved early morning shifts. Exposure to 78 agents was assigned with probable or definite certainty. The most common definite or probable carcinogens were ultraviolet radiation (92% of jobs), environmental tobacco smoke (39%), diesel engine exhaust (23%), wood dust (20%), lubricating oils and greases (20%) and lead (15%). Pesticide exposure (as a group) occurred in 31% of jobs. Fifty-four percent of jobs entailed exposure to ≥ 2 recognized carcinogens. Exposure clusters varied according to countries and type of agricultural activities (general, animal, crops, horticulture, vineyards, etc.). **CONCLUSIONS:** Findings highlight the heterogeneity of exposure patterns in past agricultural environments based on their setting and activities involved. Studies on health-related effects of farming should account for numerous potential exposures, beyond their typical focus on pesticides.

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The effect of sleep and shift work on the primary immune response to messenger RNA-based COVID-19 vaccination.

Brouwers TMJ, Çobanoğlu Ü G, Geers D, Rietdijk WJR, Gommers L, Bogers S, et al. *J Sleep Res.* 2024 Dec 10:e14431.

Shift work can cause circadian misalignment, which often results in sleeping problems and has been associated with immune dysfunction. To better understand the impact of shift work on a primary immune response to vaccination, we compared severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2)-specific humoral and cellular immune responses after one injection of the messenger RNA (mRNA)-1273 vaccine between day workers ($n = 24$) and night shift workers ($n = 21$). In addition, duration and quality of sleep were assessed for a period of 7 days around the time of vaccination using actigraphy and daily sleep diaries, and their relationship with immunogenicity of mRNA-1273 vaccination was studied. We found that median total sleep time on the 2 days immediately after vaccination, which coincided with the days that night shift workers worked night shifts, was significantly lower in night shift workers (342 and 318 min) than day workers (431 and 415 min) (both $p < 0.001$). There was no difference in sleep quality between day workers and night shift workers. Furthermore, no difference in the antibody response between the two groups was observed, yet night shift workers had a significantly higher virus-specific T-cell response than day workers 28 days after immunisation ($p = 0.013$). Multivariate regression analysis showed no association between sleep duration, sleep quality and SARS-CoV-2-specific humoral or cellular immune responses. Collectively, these findings indicate that shift work-induced sleep loss and night shift work have little to no effect on the primary immune response to mRNA-based COVID-19 vaccination.

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Pathologies cardiovasculaires

The impact of working night shifts on cardiac autonomic nervous regulation during the six-minute walk test in nurses.

Zhan T, Wei X, Zhang Z, Shi Z, Xie H, Ma X, et al. *BMC Nurs*. 2024 Dec 18;23(1):907.

BACKGROUND: Clinical nurses frequently face the necessity of working night shifts, often with insufficient opportunities for timely sleep recovery, which may negatively impact autonomic nervous system regulation. The aim of this study was to evaluate changes in heart rate variability (HRV) after the six-minute walk test (6MWT) in nurses post-night shift and to explore the impact of night shift work on cardiac autonomic regulation. **METHODS:** Thirty-five female nurses, with a mean age of 28.7 years (range 21.0-37.0 years), participated in this study. On the first and second mornings after a night shift, the nurses performed the 6MWT. During the test, electrocardiogram (ECG) signals, blood pressure, and walking distance were recorded simultaneously. **RESULTS:** Compared with the second postshift morning, on the first postshift morning, nurses presented higher ratings of perceived exertion (RPE), higher Borg scale scores, and a slower pulse rate before and after the 6MWT but covered a shorter walking distance. Additionally, HRV indicators such as the SDNN, RMSSD, pNN50, TP, VLF, LF, and HF were all higher on the first postshift morning. Regarding the amplitude of cardiac autonomic nervous regulation, variations in the RMSSD and pNN50 were both greater during the 6MWT on the first postshift morning, although there was no significant difference in post-6MWT recovery. **CONCLUSIONS:** Night shifts appear to increase the activity of the autonomic nervous system in nurses on the first postshift morning and exert a greater inhibitory effect on parasympathetic activity during the 6MWT. Therefore, it is important to ensure timely recovery sleep and improve autonomic regulation after working night shifts. **KEYWORDS:** Heart rate variability; Night shift; Autonomic nervous system; Six-minute walk test; Nurses. **TRIAL REGISTRATION:** This study was retrospectively registered in the Clinicaltrials.gov. Registration Date: August 1, 2024. **CLINICALTRIALS:** gov ID: NCT06542510.

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Shift Work Increases the Risk of Circadian Syndrome Rather than Metabolic Syndrome: A Cross-Sectional Study of NHANES 2005-2010.

Wang L, Wang S, Wang Y, Jiang Y, He J, Li X. *Metab Syndr Relat Disord*. 2024 Dec;22(10):761-9.

Introduction: Shift work disrupts sleep-wake cycles and may lead to adverse health outcomes, including cardiovascular disease and metabolic disorders. This study examines the association between shift work and the risks of metabolic syndrome (MetS) and circadian syndrome (CircS) in U.S. workers. **Methods:** We analyzed data from 4173 participants aged 18 and above from the National Health and Nutrition Examination Survey (NHANES) spanning 2005-2010. Shift work status was determined based on work hours, and MetS and CircS were defined using established criteria. Statistical analyses included weighted multivariate logistic regression models, weighted multivariate linear regression models, and inverse probability weighted propensity score matching to ensure accurate comparison between shift and nonshift workers. **Results:** The study found no significant association between shift work and the prevalence of MetS. However, shift workers exhibited a higher prevalence of CircS compared with nonshift workers. This association was more pronounced in specific subgroups, including those under 60 years of age and various ethnicities. The study highlights the heightened risk of CircS among shift workers, underscoring the potential impact of shift work on circadian rhythm disruptions. **Conclusion:** Shift work is associated with an increased risk of CircS but not MetS, according to NHANES 2005-2010 data.

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Circadian disruption and its impact on the cardiovascular system.

Young MJ, Heanue S, Kanki M, Moneghetti KJ. *Trends Endocrinol Metab.* 2024 Dec 19.

Circadian rhythms are highly conserved biorhythms of ~24 h that govern many fundamental biological processes, including cardiovascular (CV) homeostasis. Disrupting the timing of cellular oscillators promotes cellular stress, and induction of pathogenic pathways underpins the pathogenesis of many CV diseases (CVDs). Thus, shift work, late eating, sleep disturbances, and other disruptors can result in an elevated risk of heart disease and increased incidence of adverse CV events. Here, we discuss the importance of circadian rhythms for CV homeostasis, recent developments in understanding the impact of disrupted circadian rhythms on CV health and disease progression, and how understanding the interactions between circadian and CV physiology is crucial for improving interventions to mitigate CVD, especially in populations impacted by disrupted circadian rhythms.

[Lien vers l'article](#)

Incorporating sex and gender considerations in research on psychosocial work exposures and cardiovascular diseases: A systematic review of 55 prospective studies.

Zahiriarsini A, Gilbert-Ouimet M, Hervieux V, Trudel X, Matteau L, Jalbert L, et al. *Neurosci Biobehav Rev.* 2024 Dec;167:105916.

Cardiovascular diseases (CVDs) are a leading cause of morbidity and mortality, with disparities observed between males and females. Psychosocial work exposures (PWE), including workload, job control, reward and long working hours, are associated with CVD development. Despite higher prevalence among females, the association with CVD is consistently observed in males, with limited explanations for these differences. This study aimed to examine the consideration of sex and gender in prospective studies within systematic reviews on PWE - specifically, the demand-control model, the effort-reward imbalance model, and long working hours - and CVD. Conducting a systematic review, we assessed sex and gender considerations using criteria from the Sex and Gender Equity in Research (SAGER) guidelines. While most studies recognized potential sex and gender differences in the associations between PWE and CVD, only about half of the 28 studies that included both sexes (15 studies) analyzed females and males separately. Moreover, few studies included criteria for sex- and gender-based analyses. Less than half of the studies (23 studies) incorporated a sex and/or gender perspective to discuss observed differences and similarities between men and women. Although there is a rising trend in integrating sex and gender considerations, significant gaps persist in methodologies and reporting, highlighting the need for comprehensive incorporation of sex and gender considerations to bolster CVD prevention strategies and policies.

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Analysis of the Relationship between Atherosclerosis Cardiovascular Disease Risk Profile and Occupational Profile to the WHO Cardiovascular Risk Chart 2019 for South-East Asia in Oil and Gas Industry.

Akbar F, Sugiharto A, Putra MI, Kekalih A, Soemarmo DS, Firdaus I. *Indian J Occup Environ Med.* 2024 Jul-Sep;28(3):245-54.

The World Health Organization (WHO) has launched a new 10-year cardiovascular risk prediction recommendation known as the WHO Cardiovascular Risk Chart 2019 (WHO CRC). However, there is currently no assessment available regarding the relationship between ASCVD classic and occupational profiles to WHO CRC, specifically in occupational settings and in the context of the Indonesian Heart Association's (IHA) adjusted version of the WHO CRC for South-East Asia (WHO CRC-INA). This study aims to fill this gap by examining the relationship between classic (Atherosclerosis Cardiovascular

Disease) ASCVD and occupational profiles within the oil and gas industry, specifically the WHO CRC-INA. This study is analytical cross-sectional research data were analyzed using the Chi-square test and logistic regression, with a significance level of $P < 0.05$. The research using total sampling method amounted to 240 workers from January to May 2022 of Medical Check Up (MCU) in a major oil and gas company. The ASCVD risk measurement instrument uses the final score of the WHO CRC-INA, grouped into low- and medium-high risk. Analysis showed that occupational profiles had a relationship with WHO CRC-INA medium-high risk, as seen in the bivariate analysis for shift work and work type ($P = 0.018$; $OR = 2,045$) had a relationship with WHO CRC-INA medium-high risk.

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Is Farming a Risk Occupation for Cardio-cerebrovascular Diseases? A Scoping Review on Cardio-cerebrovascular Disease Risk in Farmers.

Kim H, Jung W, Jung S, Cho S, Jung I, Song H, et al. *J Prev Med Public Health*. 2024 Nov;57(6):521-9.

OBJECTIVES: In Korea, cardio-cerebrovascular disease (CCVD) is recognized as an occupational disease when sufficient evidence of a work-related burden exists. In 2021, approximately 26.8% of the payments from occupational disease insurance under the Industrial Accident Compensation Insurance Act were allocated to CCVDs. However, due to the specific nature of insurance policies for farmers, CCVD is not acknowledged as an occupational disease in their case. **METHODS:** We reviewed studies on the differences in the incidence, prevalence, and mortality rates of CCVDs between farmers and the general population or other occupations and described the exposure of farmers to risk factors for CCVDs. **RESULTS:** Several studies showed that farming is a high-risk occupation for CCVDs, with the following risk factors: long working hours, night work, lack of holidays, and strenuous physical labor; physical factors (noise, cold, heat, humidity, and vibration); exposure to hazardous gases (diesel exhaust, carbon monoxide, hydrogen sulfide, carbon disulfide, nitrogen oxides, and polycyclic aromatic hydrocarbons), pesticides, and dust (particulate matter, silica, and organic dust); exposure to a hypoxic environment; and job-related stress. Social isolation and lack of accessible medical facilities also function as additional risk factors by preventing farmers from receiving early interventions. **CONCLUSIONS:** Farmers are exposed to various risk factors for CCVDs and are an occupation at risk for CCVDs. More studies are needed in the future to elucidate this relationship. This study lays the groundwork for future research to develop guidelines for approving CCVDs as occupational diseases among farmers.

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