

## REFERENCES

- Abbas, A., Al-Otaibi, T., Gheith, O.A., Nagib, A.M., Farid, M.M. & Walaa, M. 2021. "Sleep Quality Among Healthcare Workers During the COVID-19 Pandemic and Its Impact on Medical Errors: Kuwait Experience". *Turk Thorac J.* Vol. 22. (2): pp. 142-148.
- Abu Saad, H., Low, P.K., Jamaluddin, R. & Chee, H.P. 2020. "Level of physical activity and its associated factors among primary healthcare workers in Perak, Malaysia". *International journal of environmental research and public health.* Vol. 17 (16): pp. 5947.
- Afifi, M., Setambah, B. & Ain, N. 2017. "Adventure-Based Learning Module: Content Validity and Reliability Process". *International Journal of Academic Research in Business and Social Science.* Vol. 7. (2): pp. 615.
- Aiken, L.H., Sloane, D.M., Clarke, S., Poghosyan, L., Cho, E., You, L. & Aunguroch, Y. 2011. "Importance of work environments on hospital outcomes in nine countries". *International Journal for Quality in Health Care.* Vol. 23. (4): pp. 357-364.
- Airila, A., Hakanen, J., Punakallio, A., Lusa, S. & Luukkonen, R. 2012. "Is work engagement related to work ability beyond working conditions and lifestyle factors?" *Int Arch Occup Environ Health.* Vol. 85. pp. 915-925.
- Al-Ansari, B., Thow, A.M., Day, C.A. & Conigrave, K.M. 2016. "Extent of alcohol prohibition in civil policy in Muslim majority countries: the impact of globalization". *Addiction.* Vol. 111 (10): pp. 1703-1713.
- Almajwal, A.M. 2016. "Stress, shift duty, and eating behavior among nurses in Central Saudi Arabia". *Saudi Med J.* Vol. 37. (2): pp. 191-198.
- Almajwal, A.M. 2015. "Correlations of Physical Activity, Body Mass Index, Shift Duty, and Selected Eating Habits among Nurses in Riyadh, Saudi Arabia, Ecology of Food and Nutrition".

Alshahrani, S.M., Baqays, A.A., Alenazi, A.A., AlAngari, A.M., AlHadi, A.N. 2017. "Impact of shift work on sleep and daytime performance among health care professionals". *Saudi Med J*. Vol. 38. (8): pp. 846-851.

Anderson, E. & Durstine, J.L. 2019. "Physical activity, exercise, and chronic diseases: A brief review". *Sports Medicine and Health Science*. Vol. 1. (1): pp. 3-10.

Antunes, H.K.M., Leite, G.S.F., Lee, K.S., Barreto, A.T., Santos, R.V.T. & dos Souza, H. 2016. "Exercise deprivation increases negative mood in exercise-addicted subjects and modifies their biochemical markers". *Physiol. Behav.* Vol. 156. pp. 182–190.

Anversa, R.G., Muthmainah, M., Sketriene, D., Gogos, A., Sumithran, P. & Brown, R.M. 2021. "A review of sex differences in the mechanisms and drivers of overeating". *Front. Neuroendocrinol.* Vol. 63. pp. 100941.

Arafa, A., Mohammed, Z., Mahmoud, O., Elshazley, M. & Ewis, A. 2021. "Depressed, anxious, and stressed: What have healthcare workers on the frontlines in Egypt and Saudi Arabia experienced during the COVID-19 pandemic?" *J. Affect. Disord.* Vol. 278. pp. 365–371.

Arlinghaus, A., Bohle, P., Iskra-Golec, I., Jansen, N., Jay, S. & Rotenberg, L. 2019. "Working Time Society consensus statements: Evidence-based effects of shift work and non-standard working hours on workers, family and community". *Industrial health*. Vol. 57. (2): pp. 184-200.

ASEAN Briefing. Labour Contracts in ASEAN. 2019. Retrieved from: <https://www.aseanbriefing.com/news/2019/03/21/labor-contracts-asean.html> (Accessed on 26 November 2020).

Aslama, M., Madhua, S.V., Keithellakpama, K., Mehndirattab, M., Mishraa, B.K. & Neha, V. 2021. "Long term effects of rotational night shift work on expression of circadian genes and its association with postprandial triglyceride levels—A pilot study". *Chronobiology International*. pp. 1-9.

Azmi, N.A.S.M., Juliana, N., Azmani, S., Mohd Effendy, N., Abu, I.F., Mohd Fahmi Teng, N.I. & Das, S. 2021. "Cortisol on Circadian Rhythm and its Effect on Cardiovascular System". *Int. J. Environ. Res. Public Health*. Vol. 18. pp. 676.

Azmi, N.A.S.M., Juliana, N., Teng, N.I.M.F., Azmani, S., Das, S. & Effendy, N. 2020. "Consequences of circadian disruption in shift workers on chrononutrition and their psychosocial well-being". *Int J Environ Res Public Health*. Vol. 17. (6): pp. 2043.

Babiolakis, C.S., Kuk, J.L. & Drake, J.D.M. 2015. "Differences in lumbopelvic control and occupational behaviours in female nurses with and without a recent history of low back pain due to back injury". *Ergonomics*. Vol. 58. (2): pp. 235-245.

Bakker, A.B., Demerouti, E. & Sanz-Vergel, A.I. 2014. "Burnout and work engagement: The JD-R approach". *Annual review of organizational psychology and organizational behaviour*. Vol. 1. (1): pp. 389-411.

Balieiro, L.C.T., Rossato, L., Waterhouse, J., Paim, S.L., Mota, M.C. & Crispim, C.A. 2014. "Nutritional status and eating habits of bus drivers during the day and night". *Chronobiol. Int*. Vol. 31. pp. 1123-1129.

Banakhar, M. 2017. "The impact of 12-hour shifts on nurses' health, wellbeing, and job satisfaction: A systematic review". *Journal of Nursing Education and Practice*. Vol. 7. (11): pp. 69-83.

Bandín, C., Scheer, F.A.J.L., Luque, A.J., Ávila-Gandía, V., Zamora, S., Madrid, J.A., Gómez-Abellán, P. & Garaulet, M. 2014. "Meal timing affects glucose tolerance, substrate oxidation and circadian-related variables: A randomized, crossover trial". *Int. J. Obes*. Vol. 39. pp. 828-833.

Barbadoro, P., Santarelli, L. & Croce, N. 2013. "Rotating shift-work as an independent risk factor for overweight Italian workers: a cross-sectional study". *PLOS ONE*. Vol. 8. pp. e63289.

Baumgardner, C.Z. 2014. "Critical demographic and workplace factors that influence work engagement in nursing practice in Pennsylvania" (Doctoral dissertation).

Beaudreau, S.A., Spira, A.P., Stewart, A., Kezirian, E.J., Lui, L.Y., Ensrud, K. & Study of Osteoporotic Fractures. 2012. "Validation of the Pittsburgh Sleep Quality Index and the Epworth Sleepiness Scale in older black and white women". *Sleep medicine*. Vol. 13. (1): pp. 36-42.

- Binks, H., Vincent, G.E., Irwin, C., Heidke, P., Vandelanotte, C., Williams, S.L. & Khalesi, S. 2021. "Associations between sleep and lifestyle behaviours among Australian nursing students: A cross-sectional study". *Collegian*. Vol. 28. (1): pp. 97-105.
- Boivin, D.B. & Boudreau, P. 2014. "Impacts of shift work on sleep and circadian rhythms". *Pathol. Boil*. Vol. 62. pp. 292-301.
- Bonham, M., Bonnell, E.K., Huggins, C.E. 2016. "Energy intake of shift workers compared to fixed day workers: A systematic review and meta-analysis". *Chronobiol. Int*. Vol. 33. pp. 1086-1100.
- Bonnell, E.K., Huggins, C.E., Huggins, C.T., McCaffrey, T.A., Palermo, C. & Bonham, M. 2017. "Influences on Dietary Choices during Day versus Night Shift in Shift Workers: A Mixed Methods Study". *Nutrients*. Vol. 9. pp. 193.
- Booker, L.A., Magee, M., Rajaratnam, S.M.W., Sletten, T.L. & Howard, M.E. 2018. "Individual vulnerability to insomnia, excessive sleepiness and shift work disorder amongst healthcare shift workers. A systematic review". *Sleep Medicine Reviews*.
- Brawner, C.A., Churilla, J.R. & Keteyian, S.J. 2016. "Prevalence of physical activity is lower among individuals with chronic disease". *Med Sci Sport Exerc*. Vol. 48. (6): pp. 1062-1067.
- Buchvold, H.V., Pallesen, S., Øyane, N.M. & Bjorvatn, B. 2015. "Associations between night work and BMI, alcohol, smoking, caffeine and exercise—a cross-sectional study". *BMC public health*. Vol. 15. (1): pp. 1112.
- Burkert, N. T., Muckenhuber, J., Großschädl, F., Rásky, E. & Freidl, W. 2014. "Nutrition and health—the association between eating behavior and various health parameters: a matched sample study". *PloS one*. Vol. 9. (2): pp. e88278.
- Buss, J. 2012. "Associations between obesity and stress and shift work among nurses". *Workplace Health & Safety*. Vol. 60. (10): pp. 453-458.
- Campbell, A.N. 2015. "A randomized placebo controlled trial of melatonin enriched milk—can it improve symptoms of insomnia". *Sleep*. Vol. 38. pp. A232.

Canuto, R., Pattussi, M.P., Macagnan, J.B.A., Henn, R.L. & Olinto, M.T.A. 2014. "Sleep deprivation and obesity in shift workers in southern Brazil". *Public Health Nutr.* Vol. 17. pp. 2619-2623.

Caruso, C.C. 2014. "Negative impacts of shiftwork and long work hours". *Rehabilitation Nursing.* Vol. 39. (1): pp. 16-25.

Chappel, S.E., Verswijveren, S.J., Aisbett, B., Considine, J. & Ridgers, N.D. 2017. "Nurses' occupational physical activity levels: A systematic review". *International journal of nursing studies.* Vol. 73. pp. 52-62.

Chari, R., Chang, C.C., Sauter, S.L., Petrun Sayers, E.L., Cerully, J.L., Schulte, P., Schill, A.L. & Uscher-Pines, L. 2018. "Expanding the Paradigm of Occupational Safety and Health: A New Framework for Worker Well-Being". *J Occup Environ Med.* Vol. 60. (7): pp. 589-593.

Cheung, T. & Yip, P.S.F. 2015. "Depression, Anxiety and Symptoms of Stress among Hong Kong Nurses: A Cross-sectional Study". *Int. J. Environ. Res. Public Health.* Vol. 12. pp. 11072-11100.

Chien, P.L., Su, H.F., Hsieh, P.C., Siao, R.Y., Ling, P.Y. & Jou, H.J. 2013. "Sleep quality among female hospital staff nurses". *Sleep Dis.* pp. 283490.

Chokroverty, A. & Avidan, A. 2012. Sleep and its disorders. In Daroff, R., Fenichel, G., Jankovic, J., & Mazziotta, J. (Eds.). *Bradley's Neurology in Clinical Practice* (6th ed.). 2012 (pp. 1634-1700). Philadelphia: Saunders Elsevier.

Christofaro, D.G., Tebar, W.R., Silva, G.C., Lofrano-Prado, M.C., Botero, J.P., Cucato, G.G. & Prado, W.L. 2022. "Anxiety is more related to inadequate eating habits in inactive than in physically active adults during COVID-19 quarantine". *Clinical Nutrition ESPEN.*

Chu, A.H.Y. & Moy, F.M. 2012. "Reliability and Validity of the Malay International Physical Activity Questionnaire (IPAQ-M) Among a Malay Population in Malaysia". *Asia Pacific Journal of Public Health.* Vol. 27. (2): NP2381-NP2389.

Cleator, J., Abbott, J., Judd, P., Sutton, C. & Wilding, J.P. 2012. "Night eating syndrome: Implications for severe obesity". *Nutr. Diabetes*. Vol. 2. pp. e44.

Cleary, M., Schafer, C., McLean, L. & Visentin, D.C. 2020. "Mental health and well-being in the health workplace". *Issues in Mental Health Nursing*. Vol. 41. (2): pp. 172-175.

Cleveland Clinic. Sleep work shift disorder. 2013. Retrieved from [http://my.clevelandclinic.org/disorders/Sleep\\_Disorders/hic\\_Shift\\_Work\\_Sleep\\_Disorder.aspx](http://my.clevelandclinic.org/disorders/Sleep_Disorders/hic_Shift_Work_Sleep_Disorder.aspx). (Accessed on 26 May 2021).

Coletro, H. N., de Deus Mendonça, R., Meireles, A.L., Machado-Coelho, G.L.L. & de Menezes, M.C. 2022. "Ultra-processed and fresh food consumption and symptoms of anxiety and depression during the COVID-19 pandemic: COVID Inconfidentes". *Clinical nutrition ESPEN*. Vol. 47. pp. 206-214.

Dall'Ora, C., Griffiths, P., Ball, J., Simon, M. & Aiken, L.H. 2015. "Association of 12 h shifts and nurses' job satisfaction, burnout and intention to leave: findings from a cross-sectional study of 12 European countries". *BMJ open*. Vol. 5 (9).

de Oliveira, S.C., de Oliveira Lopes, M.V. & Fernandes, A.F.C. 2014. "Development and validation of an educational booklet for healthy eating during pregnancy". *Revista Latinoamericana de Enfermagem*. Vol. 22. (4): pp. 611-620.

Demir, I., Toker, A., Zengin, S., Laloglu, E. & Aksoy, H. 2016. "Oxidative stress and insulin resistance in policemen working shifts". *International Archives of Occupational and Environmental Health*. Vol. 89. (3): pp. 407-412.

Department of Statistics. Household Income and Basic Amenities Survey Report. 2019. Retrieved from: [https://www.dosm.gov.my/v1/index.php?r=column/ctwoByCat&parent\\_id=119&menu\\_id=amVoWU54UT10a21NWmdhMjFMMWcyZz09](https://www.dosm.gov.my/v1/index.php?r=column/ctwoByCat&parent_id=119&menu_id=amVoWU54UT10a21NWmdhMjFMMWcyZz09). (Accessed on 26 November 2021).

Devonport, T.J., Nicholls, W. & Fullerton, C. 2019. "A systematic review of the association between emotions and eating behaviour in normal and overweight adult populations". *J Health Psychol*. Vol. 24. (1): pp. 3-24.

Diab, G.M. & El Nagar, M.A. 2019. "Work Engagement of staff nurses and its Relation to Psychological Work Stress". *IOSR Journal of Nursing and Health Science*. Vol. 8. (2): pp. 72-84.

Downey, G. 2014. "Making media work: Time, space, identity, and labor in the analysis of information and communication infrastructures". *Media technologies: Essays on communication, materiality, and society*. pp. 141-166.

Ejike, C.E. 2013. "Association between anxiety and obesity: A study of a young-adult Nigerian population". *J Neurosci Rural Pract*. Vol. 4. (1): pp. S13-18.

El Kissi, Y., Maarouf Bouraoui, M., Amamou, B., Bannour, A.S., Ben Romdhane, A. & Ben Nasr, S. 2014. "Prevalence of anxiety and depressive disorders among the nurses of Sousse Farhat Hached hospital: assessment by the Tunisian version of CIDI". *Tunis Med*. Vol. 92. (1): pp. 18-23.

Elbay, R.Y., Kurtulmuş, A., Arpacioğlu, S. & Karadere, E. 2020. "Depression, anxiety, stress levels of physicians and associated factors in Covid-19 pandemics". *Psychiatry Research*. Vol. 290. pp. 113-130.

Eldevik, M.F., Flo, E., Moen, B.E., Pallesen, S. & Bjorvatn, B. 2013. "Insomnia, excessive sleepiness, excessive fatigue, anxiety, depression and shift work disorder in nurses having less than 11 hours in-between shifts". *PLoS one*. Vol. 8. (8): pp. e70882.

Estryn-Béhar, M. & Beatrice, H. 2012. "Effects of extended work shifts on employee fatigue, health, satisfaction, work/family balance and patient safety". *Work*. Vol. 41. pp. 4283-4290.

European Parliament and Council of The European Union. Directive 2000/34/ EC of the European Parliament and of the Council of 22 June 2000 amending Council Directive 93/104/ EC concerning certain aspects of the organization of working time to cover sectors and activities excluded from that Directive 2000. Official Journal of the European Communities No. L 195/41. Luxembourg: European Union.

Faraut, B., Bayon, V. & Leger, D. 2013. "Neuroendocrine, immune and oxidative stress in shift workers". *SleepMed. Rev*. Vol. 17. pp. 433-444.

- Fariás, R., Sepúlveda, A. & Chamorro, R. 2020. "Impact of shift work on the eating pattern, physical activity and daytime sleepiness among Chilean healthcare workers". *Safety and health at work*. Vol. 11. (3): pp. 367-371.
- Faseleh, J.M., Moattari, M. & Sharif, F. 2013. "Novice nurses' perception of working night shifts: A qualitative study". *Journal of Caring Sciences*. Vol. 2. pp. 169-176.
- Fauzi, M.F.M., Yusoff, H.M., Abd Manaf, M.R., Safian, N., Abd Rahim, M.A., Madrim, M.F., Atil. A., Haddi, A.A. & Saruan, N.A.M. 2019. "Intervention for occupational fatigue and sleepiness among healthcare workers working in shift: a systematic review". *Malaysian Journal of Public Health Medicine*. Vol. 19. (2): pp. 47-53.
- Fekedulegn, D., Andrew, M.E., Shi, M., Violanti, J.M., Knox, S. & Innes, K.E. 2020. "Actigraphy-based assessment of sleep parameters". *Annals of Work Exposures and Health*. Vol. 64. (4): pp. 350-367.
- Ferri, P., Guadi, M., Marcheselli, L., Balduzzi, S., Magnani, D. & DiLorenzo, R. 2016. "The impact of shift work on the psychological and physical health of nurses in a general hospital: A comparison between rotating night shifts and day shifts". *Risk Manag. Health Policy*. Vol. 9. pp. 203-211.
- Fiabane, E., Giorgi, I., Sguazzin, C. & Argentero, P. 2013. "Work engagement and occupational stress in nurses and other healthcare workers: the role of organisational and personal factors". *Journal of Clinical Nursing*. Vol. 22. (17-18): pp. 2614-2624.
- Finnigan, R. & Hale, J.M. 2018. "Working 9 to 5? Union membership and work hours and schedules". *Social Forces*. Vol. 96. (4): pp. 1541-1568.
- Flahr, H., Brown, W.J. & Kolbe-Alexander, T.L. 2018. "A systematic review of physical activity-based interventions in shift workers". *Preventive medicine reports*. Vol. 10. pp. 323-331.
- Forde, C. 2018. "Scoring the international physical activity questionnaire (IPAQ)". *University of Dublin*, 3.

Füzéki, E. & Banzer, W. 2018. "Physical activity recommendations for health and beyond in currently inactive populations". *International journal of environmental research and public health*. Vol. 15. (5): pp. 1042.

Ganasegeran, K., Abdulrahman, S.A., Al-Dubai, S.A.R., Rashid, A., Perumal, M. & Renganathan, P. 2017. "Identifying factors associated with sleep disturbances among health workers using WhatsApp in Malaysia". *Journal of Hospital Management and Health Policy*. Vol. 1. (9): pp. 1-14.

Ganesan, S., Magee, M. & Stone, J.E. 2019. "The Impact of Shift Work on Sleep, Alertness and Performance in Healthcare Workers". *Sci Rep*. Vol. 9. pp. 4635.

Ge, J., He, J., Liu, Y., Zhang, J., Pan, J., Zhang, X. & Liu, D. 2021. "Effects of effort-reward imbalance, job satisfaction, and work engagement on self-rated health among healthcare workers". *BMC Public Health*. Vol. 21. (1): pp. 1-10.

Ghee, L.K. & Kooi, C.W. 2016. "A review of metabolic syndrome research in Malaysia". *Med J Malaysia*. Vol. 71. pp. 21.

Gifkins, J., Johnston, A.N. & Loudoun, R. 2018. "The impact of shift work on eating patterns and self-care strategies utilised by experienced and inexperienced nurses". *Chronobiol Int*. Vol. 35. pp. 811-820.

Goetz, K., Berger, S., Gavartina, A., Zaroti, S. & Szecsenyi, J. 2015. "How psychosocial factors affect well-being of practice assistants at work in general medical care? –a questionnaire survey". *BMC family practice*. Vol. 16. (1): pp. 166.

Golden, L. 2015. "Irregular work scheduling and its consequences". *Economic Policy Institute Briefing Paper*. pp. 394.

Gouzou, M., Karanikola, M., Lemonidou, C., Papathanassoglou, E2. & Giannakopoulou, M. 2015. "Measuring professional satisfaction and nursing workload among nursing staff at a Greek Coronary Care Unit". *Rev Esc Enferm USP*. Vol. 49. pp. 15–21.

- Gracia, P. & Kalmijn, M. 2016. "Parents' Family Time and Work Schedules: The Split-Shift Schedule in Spain". *Journal of Marriage and Family*. Vol. 78. (2): pp. 401-415.
- Gram, B., Holtermann, A., Bültmann, U., Sjøgaard, G. & Sjøgaard, K. 2012. "Does an exercise intervention improving aerobic capacity among construction workers also improve musculoskeletal pain, work ability, productivity, perceived physical exertion, and sick leave?: a randomized controlled trial". *J Occup Environ Med*. Vol. 54. pp. 1520-1526.
- Gu, F.; Han, J. & Laden, F. 2015. "Total and cause-specific mortality of U.S. nurses working rotating night shifts". *Am J Prev Med*. Vol. 48. (3): pp. 241-252.
- Guillot, C. & Keenan, G. 2016. "The evaluation of an information booklet in the use of effective patient communication in the setting of thoracic anesthesia". *Patient Experience Journal*. Vol. 3. (2): pp. 57-66.
- Guo, Y., Rong, Y., Huang, X., Lai, H., Luo, X., Zhang, Z., Liu, Y., He, M., Wu, T. & Chen, W. 2015. "Shift Work and the Relationship with Metabolic Syndrome in Chinese Aged Workers". *PLoS ONE*. Vol. 10. pp. e0120632.
- Gupta, N., Dencker-Larsen, S., Lund Rasmussen, C., McGregor, D., Rasmussen, C.D.N. & Thorsen, S.V. 2020. "The physical activity paradox revisited: a prospective study on compositional accelerometer data and long-term sickness absence". *Int. J. Behav. Nutr. Phys. Activity*. Vol. 17. (1): pp. 93.
- Gupta, C.C., Coates, A., Dorrian, J. & Banks, S. 2018. "The factors influencing the eating behaviour of shiftworkers: What, when, where and why". *Ind. Health*. Vol. 57. pp. 419-453.
- Guthold, R., Stevens, G.A., Riley, L.M. 2018. "Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1.9 million participants". *Lancet Glob Health*. Vol. 6. (10): pp. e1077-e1086.
- Han, K., Choi-Kwon, S. & Kim, K.S. 2016. "Poor dietary behaviors among hospital nurses in Seoul, South Korea". *Appl. Nurs. Res.* Vol. 30. pp. 38-44.

Hansen, A.B., Stayner, L., Hansen, J. & Andersen, Z.J. 2016. "Night shift work and incidence of diabetes in the Danish Nurse Cohort". *Occup Environ Med.* Vol. 73. pp. 262-268.

Harrison, E.M., Walbeek, T.J., Maggio, D.G., Herring, A.A. & Gorman, M.R. 2020. "Circadian profile of an emergency medicine department: scheduling practices and their effects on sleep and performance". *The Journal of emergency medicine.* Vol. 58. (1): pp. 130-140.

Haus, E., Reinberg, A., Mauvieux, B., Le Floc'H, N., Sackett-Lundeen, L. & Touitou, Y. 2016. "Risk of obesity in male shift workers: A chronophysiological approach". *Chronobiol. Int.* Vol. 33. pp. 1018-1036.

Hea Young, L., Mi Sun, K., Oksoo, K., Il-Hyun, L. & Han-Kyoul, K. 2015. "Association between shift work and severity of depressive symptoms among female nurses: The Korea Nurses' Health Study". *Journal of Nursing Management.* Vol. 23. pp. 1-9.

Hemiö, K., Puttonen, S., Viitasalo, K., Härmä, M., Peltonen, M. & Lindstrom, J. 2015. "Food and nutrient intake among workers with different shift systems". *Occup. Environ. Med.* Vol. 72. pp. 513-520.

Herhaus, B. & Petrowski, K. 2021. "The effect of restrained eating on acute stress-induced food intake in people with obesity". *Appetite.* Vol. 159. pp. 105045.

Hirshkowitz, M., Whiton, K., Albert, S.M., Vitiello, M.V., Ware, J.C. & Hillard, P.J. 2015. "National Sleep Foundation's sleep time duration recommendations: methodology and results summary". *Sleep Health: Journal of the National Sleep Foundation.* Vol. 1. (1): pp. 40-43.

Hng, S.H., Maziah, A.M., Evica, L.H.S. & Liew, Q.W. 2019. "Eating Behaviour and Its Associations with Overweight among Nurses on Shift Duty in Teaching Hospital". *Medicine and Health.* pp. 68-77.

Holtermann, A., Krause, N., van der Beek, A.J. & Straker, L. 2018. "The physical activity paradox: six reasons why occupational physical activity (OPA) does not confer the cardiovascular health benefits that leisure time physical activity does". *British Journal of Sports Medicine.* Vol. 52. (3): pp. 149-150.

Human Resources For Health Country Profiles Malaysia (2015-2018). 2020, Planning Division, Ministry of Health Malaysia.

Institute for Public Health. National Health & Morbidity Survey 2015. Volume II: Non-Communicable Diseases, Risk Factors & Other Health Problems. Ministry of Health Malaysia, 2015.

IPAQ Research Committee. 2004. Guidelines for Data Processing and Analysis of the International Physical Activity Questionnaire (IPAQ)-Short Form, Version 2.0.

Jaehne, A., Unbehaun, T., Feige, B., Lutz, U. C., Batra, A. & Riemann, D. 2012. "How smoking affects sleep: a polysomnographical analysis". *Sleep medicine*. Vol. 13. (10): pp. 1286-1292.

James, S.M., Honn, K.A., Gaddameedhi, S. & VanDongen, H.P.A. 2017. "Shift Work: Disrupted Circadian Rhythms and Sleep-Implications for Health and Well-Being". *Curr. Sleep Med. Rep.* Vol. 3. pp. 104-112.

Jantaratnotai, N., Mosikanon, K., Lee, Y. & McIntyre, R.S. 2017. "The interface of depression and obesity". *Obes Res Clin Pract.* Vol. 11. (1): pp. 1-10.

Jehan, S., Zizi, F., Pandi-Perumal, S.R., Myers, A.K., Auguste, E., Jean-Louis, G. & McFarlane, S.I. 2017. "Shift work and sleep: medical implications and management". *Sleep medicine and disorders: international journal*. Vol. 1. (2).

Johari, S.M., Shahar, S., Rajikan, R. & Aziz, S.A. 2011. "Development and acceptance of a nutrition and lifestyle education booklet to improve mild cognitive impairment among elderly". *Jurnal Sains Kesihatan Malaysia*. Vol. 9. (2): pp. 45-50.

Juliana, N., Azmi, N.A.S.M., Effendy, N., Mohd Fahmi Teng, N.I., Azmani, S., Baharom, N., Mohamad Yusuff, A.S. & Abu, I.F. 2022. "Exploring the Associated Factors of Depression, Anxiety, and Stress among Healthcare Shift Workers during the COVID-19 Pandemic". *Int. J. Environ. Res. Public Health*. Vol. 19. pp. 9420.

Kabrita, C.S., Hajjar-Muça, T.A. & Duffy, J.F. 2014. "Predictors of poor sleep quality among Lebanese university students: association between evening typology, lifestyle behaviors, and sleep habits". *Nat Sci Sleep*. Vol. 6. pp. 11-18.

- Kapteyn, A., Banks, J., Hamer, M., Smith, J.P., Steptoe, A. & van Soest, A. 2018. "What they say and what they do: comparing physical activity across the USA, England and the Netherlands". *J. Epidemiol. Commun. Health*. Vol. 72. pp. 471-476.
- Katagiri, R., Asakura, K., Kobayashi, S., Suga, H., Sasaki, S. & Three-generation Study of Women on Diets and Health Study Group. 2014. "Low intake of vegetables, high intake of confectionary, and unhealthy eating habits are associated with poor sleep quality among middle-aged female Japanese workers". *Journal of occupational health*. Vol. 56. (5): pp. 359-368.
- Kaur, G., Tee, G.H., Ariaratnam, S., Krishnapillai, A.S. & China, K. 2013. "Depression, anxiety and stress symptoms among diabetics in Malaysia: A cross sectional study in an urban primary care setting". *BMC Fam. Pract.* pp. 14.
- Kecklund, G. & Axelsson, J. 2016. Health consequences of shift work and insufficient sleep. *BMJ*. Vol. 355. pp. i5210.
- Kheiraoui, F., Gualano, M.R., Mannocci, A., Boccia, A. & La Torre, G. 2012. "Quality of life among healthcare workers: A multicentre cross-sectional study in Italy". *Public Health*. Vol. 126. (7): 624-629.
- Khurshid, F., Noushad, B., Spanjers, I. A. & Al-Darwashji, J. 2018. "Concept animation-a potential instructional scaffolding". *MedEdPublish*. Vol. 7. (153): pp. 153.
- Kim, E.S., Kubzansky, L.D., Soo, J. & Boehm, J.K. 2017. "Maintaining healthy behavior: A prospective study of psychological well-being and physical activity". *Annals of Behavioral Medicine*. Vol. 51. (3): pp. 337-347.
- Kim, H.K., Park, B.Y., Jung, M.S., Song, S.K., Kim, S.T., Lee, J.H. & Kim, S.I. 2017. "The relationship of shift worker and depression using big data". *Advanced science and technology letters*. Vol. 145. pp. 55-59.
- Kim, W., Kim, T.H. & Lee, T.H. 2016. "The impact of shift and night work on health related quality of life of working women: findings from the Korea health panel". *Health Qual Life Outcomes*. Vol. 14. pp. 162.

- Kit, L.P., Abu Saad, H., Jamaluddin, R. & Phing, C.H. 2020. "Prevalence of Overweight and Obesity among Primary Healthcare Workers In Perak, Malaysia". *IJUM Med. J. Malays.* pp. 19.
- Knaflic, C.N. 2015. *Storytelling with data: A data visualization guide for business professionals.* John Wiley & Sons.
- Kolo, E.S., Ahmed, A.O. & Hamisu, A. 2017. "Sleep health of healthcare workers in Kano, Nigeria". *Niger J Clin Pract.* Vol. 20. pp. 479-483.
- Korompeli, A., Muurlink, O., Tzavara, C., Velonakis, E., Lemonidou, C. & Sourtzi, P. 2014. "Influence of shiftwork on Greek nursing personnel". *Safety and Health at Work.*
- Korompeli, A., Chara, T., Chrysoula, L. & Sourtzi, P. 2013. "Sleep disturbance in nursing personnel working shifts". *Nurs Forum.* Vol. 48. (1): pp. 45-53.
- Kovacevic, A., Mavros, Y., Heisz, J.J. & Singh, M.A.F. 2018. "The effect of resistance exercise on sleep: A systematic review of randomized controlled trials". *Sleep medicine reviews.* Vol. 39. pp. 52-68.
- Kubo, T., Oyama, I., Nakamura, T., Shirane, K., Otsuka, H., Kunimoto, M., Kadowaki, K., Maruyama, T., Otomo, H. & Fujino, Y. 2010. "Retrospective cohort study of the risk of obesity among shift workers: Findings from the Industry-based Shift Workers' Health study, Japan". *Occup. Environ. Med.* Vol. 68. pp. 327-331.
- Kucukgoncu, S., Midura, M. & Tek, C. 2015. "Optimal management of night eating syndrome: challenges and solutions". *Neuropsychiatric disease and treatment.* Vol. 11. pp. 751-760.
- Lai, J., Ma, S. & Wang, Y. 2020. "Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019". *JAMA Netw Open.* Vol. 3. (3): pp. e203976.
- Lam, L.C.W., Wong, C.S.M., Wang, M.J., Chan, W.C., Chen, E.Y.H., Ng, R.M.K., Hung, S.F., Cheung, E.F.C., Sham, P.C. & Chiu, H.F.K. 2015. "Prevalence, psychosocial correlates and service utilization of depressive and anxiety disorders in Hong Kong:

The Hong Kong mental morbidity survey (HKMMS)". *Soc. Psychiatry Psychiatr. Epidemiol.* pp. 2.

Laucis, N. C., Hays, R. D. & Bhattacharyya, T. 2015. "Scoring the SF-36 in Orthopaedics: A Brief Guide". *The Journal of Bone and Joint Surgery-American Volume*, Vol. 97. (19): pp. 1628–1634.

Lim, Y.C., Hoe, V.C., Darus, A. & Bhoo-Pathy, N. 2020. "Association between night-shift work, sleep quality and health-related quality of life: a cross-sectional study among manufacturing workers in a middle-income setting". *BMJ open*. Vol. 10. (9): pp. e034455.

Lim, Z.L., Danaee, M. & Jaafar, Z. 2019. "The association between physical activity and work schedule among hospital nurses: A cross-sectional study". *Malaysian Journal of Movement Health and Exercise*. Vol. 8. (1): pp. 15-32.

Lima, A.C.M.A.C.C., Bezerra, K. de C., Sousa, D.M. do N., Rocha, J. de F. & Oriá, M.O.B. 2017. "Development and validation of a booklet for prevention of vertical HIV transmission". *Acta Paulista de Enfermagem*. Vol. 30. (2): pp. 181-189.

Lin, P.C., Chen, C.H., Pan, S.M., Pan, C.H., Chen, C.J., Chen, Y.M., Hung, H.C. & Wu, M.T. 2012. "Atypical work schedules are associated with poor sleep quality and mental health in Taiwan female nurses". *International Archives of Occupational and Environmental Health*. Vol. 85. (8): pp. 877-884.

Lindwall, M., Gerber, M., Jonsdottir, I.H., Börjesson, M. & Ahlberg Jr, G. 2014. "The relationships of change in physical activity with change in depression, anxiety, and burnout: a longitudinal study of Swedish healthcare workers". *Health Psychology*. Vol. 33. (11): pp. 1309.

Liu, H. & Chen, A. 2019. "Roles of sleep deprivation in cardiovascular dysfunctions". *Life sciences*. Vol. 219. pp. 231-237.

Loef, B., van der Beek, A.J., Holtermann, A., Hulsege, G., van Baarle, D. & Proper, K.I. 2018. "Objectively measured physical activity of hospital shift workers". *Scandinavian Journal of Work, Environment & Health*. Vol. 44. (3): pp. 265–273.

- Loef, B., Hulsege, G., Wendel-Vos, G.W., Verschuren, W.M., Vermeulen, R.C., Bakker, M.F., Van Der Beek, A.J. & Proper, K.I. 2017. "Non-occupational physical activity levels of shift workers compared with non-shift workers". *Occupational and environmental medicine*. Vol. 74. (5): pp. 328-35.
- Loprinzi, P.D. 2015. "The effects of shift work on free-living physical activity and sedentary behavior". *Preventive medicine*. Vol. 76. pp. 43-47.
- Lovejoy, P. 2012. "Demographic Variables Influence on Work Engagement of Nurses and Doctors in Hospitals". Thesis, Christ University, Bangalore, Karnataka, India.
- Lovibond, P.F. & Lovibond, S.H. 1995. "The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories". *Behaviour research and therapy*. Vol. 33. (3): pp. 335-343.
- Lowden, A., Öztürk, G., Reynolds, A. & Bjorvatn, B. 2019. "Working Time Society consensus statements: Evidence based interventions using light to improve circadian adaptation to working hours". *Industrial health*. Vol. 57. (2). pp. 213-227.
- Lu, W., Wang, H., Lin, Y. & Li, L. 2020. "Psychological status of medical workforce during the COVID-19 pandemic: A cross-sectional study". *Psychiatry Res*. Vol. 288. pp. 112936.
- Magnavita, N., Tripepi, G. & DiPrinzi, R.R. 2020. "Symptoms in Health Care Workers during the COVID-19 Epidemic. A Cross-Sectional Survey". *Int. J. Environ. Res. Public Health*. Vol. 17. pp. 5218.
- Małachowska, A., Jeżewska-Zychowicz, M. & Gebiski, J. 2021. "Polish Adaptation of the Dutch Eating Behaviour Questionnaire (DEBQ): The Role of Eating Style in Explaining Food Intake—A Cross-Sectional Study". *Nutrients*. Vol. 13. pp. 4486.
- Malaysia Health System Review. 2013. Health Systems in Transition. Vol. 3. (1).
- Malaysian Healthcare Performance Unit. 2018. Malaysian Health at a Glance. Ministry of Health Malaysia: Putrajaya.

Malaysian Healthcare Performance Unit. 2016. Malaysian Mental Healthcare Performance: Technical report. Ministry of Health Malaysia: Putrajaya. pp. 1-67.

Marqueze, E.C., Ulhoa, M.A. & Castro Moreno, C.R. 2014. "Leisure-time physical activity does not fully explain the higher body mass index in irregular-shift workers". *Int Arch Occup Environ Health*. Vol. 87. pp. 229-239.

Marquié, J.C., Tucker, P., Folkard, S., Gentil, C. & Ansiau, D. 2015. "Chronic effects of shift work on cognition: findings from the VISAT longitudinal study". *Occupational and Environmental Medicine*. Vol. 72. (4): pp. 258

Mason, V.M., Leslie, G., Clark, K., Lyons, P., Walke, E., Butler, C. & Griffin, M. 2014. "Compassion fatigue, moral distress, and work engagement in surgical intensive care unit trauma nurses: a pilot study". *Dimensions of Critical Care Nursing*. Vol. 33. (4): pp. 215-225.

Matei, R. & Ginsborg, J. 2020. "Physical Activity, Sedentary Behavior, Anxiety, and Pain Among Musicians in the United Kingdom". *Front. Psychol*. Vol. 11. pp. 560026.

McVicar, A. 2016. "Scoping the common antecedents of job stress and job satisfaction for nurses (2000–2013) using the job demands-resources model of stress". *J Nurs Manag*. Vol. 24. (2): E112-E136.

Ministry of Health Malaysia. 2016. Health Facts: Planning Division, Health Informatics Centre. MOH/SRAN/17.16(AR). Retrieved from: [http://www.moh.gov.my/images/gallery/publications/KKM%20HEALTH%20FACTS %202016.pdf](http://www.moh.gov.my/images/gallery/publications/KKM%20HEALTH%20FACTS%202016.pdf). (Accessed on 18 October 2022).

Monnaatsie, M., Biddle, S.J., Khan, S. & Kolbe-Alexander, T. 2021. "Physical activity and sedentary behaviour in shift and non-shift workers: A systematic review and meta-analysis". *Preventive medicine reports*. Vol. 24. pp. 101597.

Moran-Ramos, S., Baez-Ruiz, A., Buijs, R.M. & Escobar, C. 2016. "When to eat? The influence of circadian rhythms on metabolic health: Are animal studies providing the evidence?" *Nutr. Res. Rev*. Vol. 29. pp. 180-193.

- Moreno, C.R.C., Marqueze, E.C., Sargent, C., Wright Jr, K.P., Ferguson, S.A. & Tucker, P. 2019. "Working Time Society consensus statements: Evidence-based effects of shift work on physical and mental health". *Industrial Health*. Vol. 57. pp. 139-157.
- Moussa, O.M., Ardissino, M., Kulatilake, P., Faraj, A., Muttoni, E., Darzi, A., Ziprin, P., Scholtz, S. & Purkayastha, S. 2019. "Effect of body mass index on depression in a UK cohort of 363,037 obese patients: A longitudinal analysis of transition". *Clin. Obes*. Vol. 9. pp. e12305.
- Murawski, B., Plotnikoff, R.C., Rayward, A.T., Oldmeadow, C., Vandelanotte, C., Brown, W.J. & Duncan, M.J. 2019. "Efficacy of an m-health physical activity and sleep health intervention for adults: a randomized waitlist-controlled trial". *American journal of preventive medicine*. Vol. 57. (4): pp. 503-514.
- Musa, A.F., Yasin, M.S.M., Smith, J. Yakub, M.A. & Nordin, R. 2021. "The Malay version of SF-36 health survey instrument: testing data quality, scaling assumptions, reliability and validity in post-coronary artery bypass grafting (CABG) surgery patients at the National Heart Institute (Institut Jantung Negara—IJN), Kuala Lumpur". *Health Qual Life Outcomes*. Vol 19. pp. 50.
- Naeem, Z. 2012. "Increasing trend of Junk food use in Saudi Arabia and health implications". *International journal of health sciences*. Vol. 6. (1): pp. V.
- Nakata, A., Takahashi, M. & Irie, M. 2012. "Association of overtime work with cellular immune markers among healthy daytime white-collar employees". *Scandinavian journal of work, environment & health*. Vol. 38. pp. 56-64.
- National Institutes of Health. Circadian rhythm fact sheet. 2013. Retrieved from: [http://www.nigms.nih.gov/Education/Factsheet\\_CircadianRhythms.htm](http://www.nigms.nih.gov/Education/Factsheet_CircadianRhythms.htm). (Accessed on 18 August 2022).
- National Sleep Foundation. What is good sleep quality? 2019. Retrieved from: <http://www.sleepfoundation.org/press-release/what-good-quality-sleep>. (Accessed on 23 May 2022).
- Nea, F., Kearney, J., Livingstone, M., Pourshahidi, L. & Corish, C. 2015. "Dietary and lifestyle habits and the associated health risks in shift workers". *Nutrition Research Reviews*. Vol. 28. (2): pp. 143-166.

- Nehme, P., Marqueze, E.C., Ulhôa, M., Moulatlet, E., Codarin, M.A. & Moreno, C.R.C. 2014. "Effects of a carbohydrate-enriched night meal on sleepiness and sleep duration in night workers: A double-blind intervention". *Chronobiol. Int.* Vol. 31. pp. 453–460.
- Nena, E., Katsaouni, M., Steiropoulos, P., Theodorou, E., Constantinidis, T.C. & Tripsianis, G. 2018. "Effect of Shift Work on Sleep, Health, and Quality of Life of Health-care Workers". *Indian J Occup Environ Med.* Vol. 22. (1): pp. 29-34.
- Nishi, D., Suzuki, Y., Nishida, J., Mishima, K. & Yamanouchi, Y. 2017. "Personal lifestyle as a resource for work engagement". *Journal of Occupational Health.* Vol. 59. pp. 17-23.
- Nolan, L.J. & Geliebter, A. 2017. "Validation of the Night Eating Diagnostic Questionnaire (NEDQ) and its relationship with depression, sleep quality, "food addiction", and body mass index. *Appetite.* Vol. 111. pp. 86-95.
- Nordin, R.B., Kaur, A., Soni, T., Por, L.K. & Miranda, S. 2017. "Construct validity and internal consistency reliability of the Malay version of the 21-item depression anxiety stress scale (Malay-DASS-21) among male outpatient clinic attendees in Johor". *J Med J Malaysia.* Vol. 72. (5): pp. 265.
- Nyberg, M. & Wiklund, M. 2017. "Impossible meals? The food and meal situation of flight attendants in Scandinavia—A qualitative interview study". *Appetite.* Vol. 113. pp. 162-171.
- Oftedal, S., Vandelanotte, C. & Duncan, M.J. 2019. "Patterns of diet, physical activity, sitting and sleep are associated with socio-demographic, behavioural, and health-risk indicators in adults". *International journal of environmental research and public health.* Vol. 16. (13): pp. 2375.
- Oh, C.M., Kim, H.Y., Na, H.K., Cho, K.H. & Chu, M.K. 2019. "The effect of anxiety and depression on sleep quality of individuals with high risk for insomnia: A population-based study". *Front. Neurol.* Vol. 10. pp. 849.
- Ohlander, J., Keskin, M.C., Stork, J. & Radon, K. 2015. "Shift work and hypertension: prevalence and analysis of disease pathways in a German car manufacturing company". *American journal of industrial medicine.* Vol. 58. (5): pp. 549-560.

- Oliveira, L.K., Almeida, G.D.A., Lelis, E.R., Tavares, M. & Fernandes Neto, A.J. 2015. "Temporomandibular disorder and anxiety, quality of sleep, and quality of life in nursing professionals". *Brazilian oral research*. Vol. 29. pp. 1-7.
- Ondicho, Z.M., Omondi, D.O. & Onyango, A.C. 2016. "Prevalence and socio-demographic factors associated with overweight and obesity among healthcare workers in Kisumu East sub-county, Kenya". *American Journal of Medicine and Medical Sciences*. Vol. 6. (3): pp. 66-72.
- Osman, M.M., Rosli, N.F. & Rabe, N.S. 2019. "Quality of life assessment based on economic wellbeing perspective: A Case Study Of Johor Bahru And Petaling, Selangor". *Planning Malaysia*. Vol. 17.
- Othman, N. & Nasrudin, A.M. 2012. "Social support and work engagement: a study of Malaysian nurses". *Journal of Nursing Management*. Vol. 21. (8): pp. 1083-1090.
- Palhares, V.D.C., Corrente, J.E. & Matsubara, B.B. 2014. "Association between sleep quality and quality of life in nursing professionals working rotating shifts". *Revista de saude publica*. Vol. 48. pp. 594-601.
- Paquet, M., Courcy, F., Lavoie-Tremblay, M., Gagnon, S. & Maillet, S. 2013. "Psychosocial work environment and prediction of quality-of-care indicators in one Canadian health center". *Worldviews on Evidence-Based Nursing*. Vol. 10. (2): pp. 82-94.
- Park, S., Lee, Y., Yoo, M. & Jung, S. 2019. "Wellness and sleep quality in Korean nursing students: A cross-sectional study". *Applied Nursing Research*. Vol. 48. pp. 13-18.
- Peplonska, B., Bukowska, A. & Sobala, W. 2014. "Rotating night shift work and physical activity of nurses and midwives in the cross-sectional study in Łódź, Poland". *Chronobiol. Int*. Vol. 31. (10): pp. 1152-1159.
- Perry, L., Lamont, S., Brunero, S., Gallagher, R. & Duffield, C. 2015. "The mental health of nurses in acute teaching hospital settings: A cross-sectional survey". *BMC Nurs*. Vol. 14. pp. 1-8.

- Pieh, C., O' Rourke, T., Budimir, S. & Probst, T. 2020. "Relationship quality and mental health during COVID-19 lockdown". *PloS one*. Vol. 15. (9): pp. e0238906.
- Pisanti, R., Montgomery, A.J. & Quick, J.C. 2017. "Editorial: Psychosocial Job Dimensions and Distress/Well-Being". *Issues and Challenges in Occupational Health Psychology*. Vol. 8. pp. 2213.
- Planning Division. 2019. Extended Executive Summary: Supply and Needs-based Requirement Projections of Malaysian Human Resources for Health Using System Dynamics Approach (Doctor, Dentist, Pharmacist, Nurse, Assistant Medical Officer) 2016 – 2030. Wilayah Persekutuan Putrajaya: Ministry of Health, Malaysia.
- Portela, L.F., Kroning Luna, C., Rotenberg, L., Silva-Costa, A., Toivanen, S. & Araujo, T. 2015. "Job Strain and Self-Reported Insomnia Symptoms among Nurses: What about the Influence of Emotional Demands and Social Support?" *BioMed Research International*.
- Pot, G.K., Hardy, R. & Stephen, A.M. 2014. "Irregular consumption of energy intake in meals is associated with a higher cardiometabolic risk in adults of a British birth cohort". *Int. J. Obes*. Vol. 38. pp. 1518-1524.
- Rahimi, A., Vazini, H., Alhani, F. & Anoosheh, M. 2015. "Relationship Between Low Back Pain With Quality of Life, Depression, Anxiety and Stress Among Emergency Medical Technicians". *Trauma Monthly*. Vol. 20. (2).
- Rahmad, S.I.S.S. & Teng, N.I.M.F. 2020. "Development and Validation of Website on Nutrition for Premature Baby". *Malaysian Journal of Medicine and Health Sciences*. Vol. 16. (4): pp. 218-225.
- Ramalho, S.M., Trovisqueira, A., de Lourdes, M., Gonçalves, S., Ribeiro, I., Vaz, A. R. & Conceição, E. 2022. "The impact of COVID-19 lockdown on disordered eating behaviors: The mediation role of psychological distress". *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*. Vol. 27. (1). pp. 179-188.
- Rayward, A.T., Plotnikoff, R.C., Murawski, B., Vandelanotte, C., Brown, W.J., Holliday, E.G. & Duncan, M.J. 2020. "Efficacy of an m-health physical activity and sleep intervention to improve sleep quality in middle-aged adults: the refresh study

randomized controlled trial”. *Annals of Behavioral Medicine*. Vol. 54. (7): pp. 470-483.

Reed, J.L., Prince, S.A., Pipe, A.L., Attallah, S., Adamo, K.B., Tulloch, H.E. & Reid, R.D. 2018. “Influence of the workplace on physical activity and cardiometabolic health: Results of the multi-centre cross-sectional Champlain Nurses’ study”. *International Journal of Nursing Studies*. Vol. 81. pp. 49-60.

Rodwell, J. & Fernando, J. 2016. “Managing work across shifts: Not all shifts are equal. *Journal of Nursing Scholarship*. Vol. 48. pp. 397-405.

Sahu, S. & Dey, M. 2011. “Changes in food intake pattern of nurses working in rapidly rotating shift”. *Al Ameen J Med Sci*. Vol. 4. pp. 14-22.

Sapian, N.H.N.M. & Shamsudin, J. 2021. “Association between stress and eating behaviour among nurses in Hospital Universiti Sains Malaysia”. *Malaysian Journal of Nutrition*. Vol. 27. (3).

Schaufeli, W. 2012. “Work engagement: What do we know and where do we go?” *Romanian Journal of Applied Psychology*. Vol. 14. (1): pp. 3-10.

Schwarz, J., Gerhardsson, A., van Leeuwen, W., Lekander, M., Ericson, M. & Fischer, H. 2018. “Does sleep deprivation increase the vulnerability to acute psychosocial stress in young and older adults? *Psychoneuroendocrinology*. Vol. 96. pp. 155-165.

Science News. 2018. Sleep Loss Linked to Night-Time Snacking, Junk Food Cravings, Obesity, Diabetes. Retrieved from: <https://www.sciencedaily.com/releases/2018/06/180601171900.htm> (Accessed on 25 November 2020).

Serin, Y. & Tek, N.A. 2019. “Effect of circadian rhythm on metabolic processes and the regulation of energy balance”. *Annals of Nutrition and Metabolism*. Vol. 74. (4): pp. 322-330.

Shahidan, A.N.B. 2019. “The Influence of Personality, Person-Environment Fit, and Work Engagement on Adaptive Performance Among Nurses in Malaysian Public Hospitals”. Universiti Utara Malaysia.

Shen, S.H., Yen, M., Yang, S.L. & Lee, C.Y. 2016. "Insomnia, anxiety, and heart rate variability among nurses working different shift systems in Taiwan". *Nursing & health sciences*. Vol. 18. (2). pp. 223-229.

Sidek Mohd Noah. 2001. "*Rekabentuk Penyelidikan*". Serdang, Selangor: Institut Pendidikan dan Pembelajaran Jarak Jauh (IDEAL), Universiti Putra Malaysia.

Silva, L.R.B., Seguro, C.S., de Oliveira, C.G.A., Santos, P.O.S., de Oliveira, J.C.M., de Souza Filho, L.F.M., de Paula Júnior, C.A., Gentil, P. & Rebelo, A.C.S. 2020. "Physical Inactivity is Associated With Increased Levels of Anxiety, Depression, and Stress in Brazilians During the COVID-19 Pandemic: A Cross-Sectional Study". *Front. Psychiatry*. Vol. 11. pp. 565291.

Šimunić, A. & Gregov, L. 2012. "Conflict between work and family roles and satisfaction among nurses in different shift systems in Croatia: A questionnaire survey". *Archives of Industrial Hygiene and Toxicology*. Vol. 63. pp. 189-197.

Singh, N.K.D., Loo, J.L., Ko, A.M.N., Husain, S.S., Dony, J.F. & Rahim, S.S.S.A. 2021. "Obesity and mental health issues among healthcare workers: a cross-sectional study in Sabah, Malaysia". *Journal of Health Research*. Vol. 36. (5): pp. 939-945.

Skinner, J. & Smith, A.C. 2021. "Introduction: sport and COVID-19: impacts and challenges for the future (Volume 1)". *European sport management quarterly*. Vol. 21. (3): pp. 323-332.

Skoufi, G.I., Lialios, G.A., Papakosta, S., Constantinidis, T.C., Galanis, P. & Nena, E. 2017. "Shift Work and Quality of Personal, Professional, and Family Life among Health Care Workers in a Rehabilitation Center in Greece". *Indian J Occup Environ Med*. Vol. 21. (3): pp. 115-120.

Sorić, M., Golubić, R., Milošević, M., Juras, K. & Mustajbegović, J. 2013. "Shift work, quality of life and work ability among Croatian hospital nurses". *Collegium Antropologicum*. Vol. 37. pp. 379-384.

Souza, R.V.D., Sarmiento, R.A., Almeida, J.C.D. & Canuto, R. 2019. "The effect of shift work on eating habits: a systematic review". *Scandinavian journal of work, environment and health*. Helsinki. Vol. 45.(1): pp. 7-21.

Steiner, S. 2018. "Burnout Culture Shift: Strategies and Techniques for Preventing and Addressing Library Worker Fatigue and Demotivation AU - Steiner, Sarah". *International Information & Library Review*. pp. 1-9.

Stephoe, A., Deaton, A. & Stone, A.A. 2015. "Subjective wellbeing, health, and ageing". *Lancet (London, England)*. Vol. 385. (9968): pp. 640648.

Stimpfel, A.W., Brewer, C.S. & Kovner, C.T. 2015. "Scheduling and shift work characteristics associated with risk for occupational injury in newly licensed registered nurses: An observational study". *Int J Nurs Stud*. Vol. 52. (11): pp. 1686-1693.

St-Onge, M.-P., Ard, J., Baskin, M.L., Chiuve, S.E., Johnson, H.M., Kris-Etherton, P. & Varady, K. 2017. "Meal Timing and Frequency: Implications for Cardiovascular Disease Prevention: A Scientific Statement From the American Heart Association". *Circulation*. Vol. 135. pp. e96-e121.

Strickland, J.R., Eyler, A.A., Purnell, J.Q., Kinghorn, A.M., Herrick, C. & Evanoff, B.A. 2015. "Enhancing Workplace Wellness Efforts to Reduce Obesity: A Qualitative Study of Low-Wage Workers in St Louis, Missouri, 2013–2014". *Prev. Chronic Dis*. Vol. 12. pp. E67.

Strzemecka, J., Bojar, I., Strzemecka, E. & Owoc, A. 2014. "Dietary habits among persons hired on shift work". *Ann. Agric. Environ. Med*. Vol. 21. pp. 128–131.

Subramaniam, K., Low, W.Y., Chinna, K., Chin, K.F. & Krishnaswamy, S. 2017. "Psychometric properties of the Malay version of the Dutch Eating Behaviour Questionnaire (DEBQ) in a sample of Malaysian adults attending a health care facility". *Malays J Med Sci*. Vol. 24. (4): pp. 64–73.

Suhaimi, A.F., Makki, S.M., Tan, K.A., Silim, U.A. & Ibrahim, N. 2022. "Translation and Validation of the Malay Version of the WHO-5 Well-Being Index: Reliability and Validity Evidence from a Sample of Type 2 Diabetes Mellitus Patients". *Int. J. Environ. Res. Public Health*. Vol. 19. pp. 4415.

Sun, M., Feng, W., Wang, F., Li, P., Li, Z., Li M., Tse, G., Vlaanderen, J., Vermeulen, R. & Tse, L.A. 2018. "Meta-analysis on shift work and risks of specific obesity types". *Obesity Reviews*. Vol. 19. (1): pp. 28-40.

- Suñer-Soler, R., Grau-Martín, A., Font-Mayolas, S., Gras, M.E., Bertran, C. & Sullman, M.J.M. 2013. "Burnout and quality of life among Spanish healthcare personnel". *Journal of psychiatric and mental health nursing*. Vol. 20. (4): pp. 305-313.
- Surani, A.A., Surani, A. & Zahid, S. 2015. "To Assess Sleep Quality among Pakistani Junior Physicians (House Officers): A Cross-sectional Study". *Ann Med Health Sci Res*. Vol. 5. pp. 329-33.
- Sweeney, E., Cui, Y., Yu, Z.M., Dummer, T.J.B., DeClercq, V., Forbes, C. & Adisesh, A. 2021. "The association between mental health and shift work: Findings from the Atlantic PATH study". *Preventive Medicine*. Vol. 150. pp. 106697.
- Sylvia, L.G., Bernstein, E.E., Hubbard, J.L., Keating, L. & Anderson, E.J. 2014. "Practical guide to measuring physical activity". *J. Acad. Nutr. Diet*. Vol. 114. (2): pp. 199-208.
- Sze, K.Y.P., Lee, E.K.P., Chan, R.H.W. & Kim, J.H. 2021. "Prevalence of negative emotional eating and its associated psychosocial factors among urban Chinese undergraduates in Hong Kong: A cross-sectional study". *BMC Public Health*. Vol. 21. pp. 583.
- Tada, Y., Kawano, Y., Maeda, I., Yoshizaki, T., Sunami, A., Yokoyama, Y., Matsumoto, H., Hida, A., Komatsu, T. & Togo, F. 2014. "Association of body mass index with lifestyle and rotating shift work in Japanese female nurses". *Obesity*. Vol. 22. pp. 2489-2493.
- Tavakoli-Fard, N., Mortazavi, S.A., Kuhpayehzadeh, J. & Nojomi, M. 2016. "Quality of life, work ability and other important indicators of women's occupational health". *Int J Occup Med Environ Health*. Vol. 29. pp. 77-84.
- Tan, M.M., Su, T.T., Ting, R.S.K., Allotey, P. & Reidpath, D. 2021. "Religion and mental health among older adults: ethnic differences in Malaysia". *Aging & mental health*. Vol. 25. (11): pp. 2116-2123.
- Tan, S.Y., Sidek, M.Y., Jalil, R.A. & Arifin, W.N. 2017. "Confirmatory Factor Analysis of the Malay Version of Utrecht Work Engagement Scale (UWES-M)". *International Journal of Public Health and Clinical Sciences*. Vol. 4. (5): pp. 2289-7577.

- Teclaw, R. & Osatuke, K. 2014. "Nurse perceptions of workplace environment: Differences across shifts". *Journal of Nursing Management*. Vol. 23. pp. 1137-1146.
- Teixeira, J.R.B., Mussi, F.C., Mota, T.N., Lua, I., Macedo, T.T.S., Souza, A.R. & de Araújo, T.M. 2020. "Psychosocial risk factors at work associated with the level of physical activity among motorcycle taxi drivers". *Arch Environ Occup Health*. Vol. 75. (5): pp. 307-316.
- Teng, N.I.M.F., Nordin, N.J., Latif, S.Z.A. 2019. "Development and validation of a questionnaire assessing the knowledge, attitudes and practices of young adults in Malaysia towards sugar sweetened beverages". *Int. J.Res. Pharm. Sci*. Vol. 10. (4): pp. 2992-2999.
- The Japan Institute for Labour Policy and Training. 2012. Tokyo: c2003-2013. Retrieved from: [http://www.jil.go.jp/kokunai/statistics/databook/2012/06/p195-202\\_t6-6.pdf](http://www.jil.go.jp/kokunai/statistics/databook/2012/06/p195-202_t6-6.pdf) (Accessed on 13 November 2020).
- Toker, S. & Biron, M. 2012. "Job burnout and depression: unraveling their temporal relationship and considering the role of physical activity". *J. Appl. Psychol*. Vol. 97. pp. 699-710.
- Torquati, L., Kolbe-Alexander, T., Pavey, T., Perrsson, C. & Leveritt, M. 2016. "Diet and physical activity behavior in nurses: A qualitative study". *Int. J. Health Promot. Educ*. Vol. 54. pp. 268-282.
- Travis, R.C., Balkwill, A., Fensom, G.K., Appleby, P.N., Reeves, G.K., Wang, X.S., Roddam, A.W., Gathani, T., Peto, R., Green, J., Key, T.J. & Beral, V. 2016. "Night Shift Work and Breast Cancer Incidence: Three Prospective Studies and Meta-analysis of Published Studies". *JNCI: Journal of the National Cancer Institute*. Vol. 108. (12).
- Tremblay, M.S., Warburton, D.E., Janssen, I., Paterson, D.H., Latimer, A.E., Rhodes, R.E. & Duggan, M. 2011. "New Canadian physical activity guidelines". *Applied physiology, nutrition, and metabolism*. Vol. 36. (1): pp. 36-46.
- Tucker, P. & Folkard, S. 2012. "Working time, health and safety: A research synthesis paper". *International Labor Organization*. Vol. 31. pp. 1-60.

Udaykumar, K.P., Ukkirapandian, K., Selvaraj, S. & Kannan, D. 2021. "Effect of alternate nostril breathing on cardiorespiratory parameters and muscle strength among rotating shift workers". *Bioinformation*. Vol. 17. (2): pp. 320-325.

US Department of Health and Human Services. 2008. Physical Activity Guidelines Advisory Committee: 2008. *Physical Activity Guidelines for Americans*. pp. 9-683.

Vallières, A., Azaiez, A., Moreau, V., LeBlanc, M. & Morin, C.M. 2014. "Insomnia in shift work". *Sleep Med*. Vol. 15. (12): pp. 1440-1448.

Van Hecke, L., Loyen, A., Verloigne, M., van der Ploeg, H. P., Lakerveld, J. & Brug, J. 2016. "Variation in population levels of physical activity in European children and adolescents according to cross-European studies: a systematic literature review within DEDIPAC". *Int. J. Behav. Nutr. Phys. Activ*. Vol. 13. pp. 70.

Vandelanotte, C., Short, C., Rockloff, M., Di Millia, L., Ronan, K. & Happell, B. 2015. "How do different occupational factors influence total, occupational, and leisure-time physical activity?" *J. Phys. Act Health*. Vol. 12. (2): pp. 200-207.

Vinstrup, J., Jakobsen, M.D., Calatayud, J., Jay, K. & Andersen, L.L. 2018. "Association of Stress and Musculoskeletal Pain With Poor Sleep: Cross-Sectional Study Among 3,600 Hospital Workers". *Frontiers in Neurology*.

Vitale, S.A., Varrone-Ganesh, J. & Vu, M. 2015. "Nurses working the night shift: Impact on home, family and social life". *Journal of Nursing Education and Practice*. Vol. 5. (10): pp. 70.

Vittengl, J.R. 2018. "Mediation of the bidirectional relations between obesity and depression among women". *Psychiatry Res*. Vol. 264. pp. 254-259.

Vogel, M., Braungardt, T., Meyer, W. & Schneider, W. 2012. "The effects of shift work on physical and mental health". *Journal of neural transmission*. Vol. 119. (10). pp. 1121-1132.

- Waage, S., Pallesen, S., Moen, B.E., Magerøy, N., Flo, E., Di Milia, L. & Bjorvatn, B. 2014. "Predictors of shift work disorder among nurses: a longitudinal study". *Sleep Med.* Vol. 15. (12): pp. 1449-1455.
- Wang, F. & Boros, S. 2021. "The effect of physical activity on sleep quality: a systematic review". *European Journal of Physiotherapy.* Vol. 23. (1): pp. 11-18.
- Wang, S., Sun, Q., Zhai, L., Bai, Y., Wei, W. & Jia, L. 2019. "The Prevalence of Depression and Anxiety Symptoms among Overweight/Obese and Non-Overweight/Non-Obese Children/Adolescents in China: A Systematic Review and Meta-Analysis". *Int. J. Environ. Res. Public Health.* Vol. 16. pp. 340.
- Wang, X., Liu, L., Zou, F., Hao, J. & Wu, H. 2017. "Associations of occupational stressors, perceived organizational support, and psychological capital with work engagement among Chinese female nurses". *BioMed research international.* pp. 1-11.
- Wardle, J., Chida, Y., Gibson, E.L., Whitaker, K.L. & Steptoe, A. 2011. "Stress and adiposity: A meta-analysis of longitudinal studies". *Obesity.* Vol. 19. (4): pp. 771-778.
- Weaver, M.D., Vetter, C., Rajaratnam, S.M., O'Brien, C.S., Qadri, S., Benca, R.M. & Barger, L.K. 2018. "Sleep disorders, depression and anxiety are associated with adverse safety outcomes in healthcare workers: A prospective cohort study". *Journal of sleep research.* Vol. 27. (6): pp. e12722.
- WHO. 2000. The Asia-Pacific Perspective. Redefining Obesity and Its Treatment. Hong Kong. World Health Organization, International Obesity Task Force, International Association for the Study of Obesity.
- Wisetborisut, A., Angkurawaranon, C., Jiraporncharoen, W., Uaphanthasath, R. & Wiwatanadate, P. 2014. "Shift work and burnout among health care workers". *Occupational Medicine.* Vol. 64. pp. 279-286.
- Wizowski, L., Harper, T. & Hutchings, T. 2014. "Writing health information for patients and families: a guide to developing educational materials that promote health literacy". *Hamilton Health Sciences.*

- Wong, H., Wong, M.C., Wong, S.Y. & Lee, A. 2010. "The association between shift duty and abnormal eating behavior among nurses working in a major hospital: a cross-sectional study". *Int J Nurs Stud.* Vol. 47. pp. 1021-1027.
- Woon, L.S.C. & Tiong, C.P. 2020. "Burnout, mental health, and quality of life among employees of a Malaysian hospital: a cross-sectional study". *Annals of work exposures and health.* Vol. 64. (9): pp. 1007-1019.
- World Health Organization Group. 2014. WHOQOL Measuring Quality of Life. World Health Organization, Geneva, Switzerland. Retrieved from: [http://www.who.int/mental\\_health/media/68.pdf](http://www.who.int/mental_health/media/68.pdf) on 18 November 2020. (Accessed on 17 January 2021).
- World Medical Association. 2001. "World Medical Association Declaration of Helsinki. Ethical principles for medical research involving human subjects". *Bulletin of the World Health Organization.* Vol. 79. (4): pp. 373.
- Wu, S.-Y., Li, H.-Y., Tian, J., Zhu, W., Li, J. & Wang, X.-R. 2011. "Health-related Quality of Life and Its Main Related Factors among Nurses in China". *Industrial Health.* Vol. 49. (2): pp. 158–165.
- Yahaya, S.N., Wahab, S.F.A., Yusoff, M.S.B., Yasin, M.A.M. & Rahman, M.A.A. 2018. "Prevalence and associated factors of stress, anxiety and depression among emergency medical officers in Malaysian hospitals". *World journal of emergency medicine.* Vol. 9. (3): pp. 178.
- Yau, A., Husain, R., Aziz, A., Johari, M.K.Z., Rahman, A.F., Elkalmi, R.M.M., Jamilu, Y. U. & Haque, M. 2015. "Psychometric properties of knowledge, attitude, and practice on pharmacogenovigilance in drug safety questionnaire in medicine and pharmacy students: based on Exploratory Factor Analysis". *Journal of Applied Pharmaceutical Science.* Vol. 5. pp. 15-22.
- Yong, M., Germann, C., Lang, S. & Oberlinner, C. 2015. "Primary selection into shift work and change of cardiovascular risk profile". *Scandinavian Journal of Work, Environment & Health.* Vol. 41. (3): pp. 259-267.
- Yoon, S.L. & Kim, J. 2013. "Job-related stress, emotional labor, and depressive symptoms among Korean nurses". *J. Nurs. Scholarsh.* Vol. 45. pp. 169-176.

- Yunus, R.M., Wazid, S.W., Hairi, N.N., Choo, W.Y., Hairi, F.M. & Sooryanarayana, R. 2017. "Association between elder abuse and poor sleep: A cross-sectional study among rural older Malaysians". *PLoS ONE*. Vol. 12. (7): pp. e0180222.
- Yusoff, M.S.B. 2019. "ABC of content validation and content validity index calculation". *Education in Medicine Journal*. Vol. 11. (2): pp. 49–54.
- Zakaria, M.I., Remeli, R., Ahmad Shahamir, M.F., Md Yusuf, M.H., Azizah Ariffin, M.A. & Noor Azhar, A.M. 2021. "Assessment of burnout among emergency medicine healthcare workers in a teaching hospital in Malaysia during COVID-19 pandemic". *Hong Kong J. Emerg. Med.* Vol. 28. pp. 254-259.
- Zamanzadeh, V., Ghahramanian, A., Rassouli, M., Abbaszadeh, A., Alavi-Majd, H. & Nikanfar, A.R. 2015. "Design and implementation content validity study: development of an instrument for measuring patient-centered communication". *Journal of caring sciences*. Vol. 4. (2): pp. 165-178.
- Zhang, L., Sun, D.M., Li, C.B. & Tao, M.F. 2016. "Influencing factors for sleep quality among shift-working nurses: A cross-sectional study in China using 3-factor Pittsburgh sleep quality index". *Asian nursing research*. Vol. 10. (4): pp. 277-282.
- Zhao, I., Bogossian, F., Song, S. & Turner, C. 2011. "The Association between Shift Work and Unhealthy Weight". *J. Occup. Environ. Med.* Vol. 53. pp. 153-158.
- Zhou, Y., Yang, Y., Shi, T., Song, Y., Zhou, Y., Zhang, Z. & Tang, Y. 2020. "Prevalence and demographic correlates of poor sleep quality among frontline health professionals in Liaoning Province, China during the COVID-19 outbreak". *Frontiers in psychiatry*. Vol. 11. pp. 520.