European Journal of Occupational Health Nursing

EJOHN is the scientific journal of FOHNEU

Editorial

Cardiovascular risk in the Workplace

EJOHN Editorial Board

Cardiovascular diseases (CVD) are the leading cause of death worldwide. According to the World Health Organization, approximately 18 million people die annually from CVD, representing 32% of all deaths. According to the Ministry of Health's 2021 report, CVD is estimated to account for approximately 30% of all deaths in the country, with around 120,000 annual deaths attributable to these conditions.

The prevalence of cardiovascular risk factors in the work context shows a similar epidemiology to the general population. Kivimäki et al. analyzed data from more than 100,000 workers and found that 30% of them had at least one significant cardiovascular risk factor, such as hypertension, obesity, or diabetes.

Work stress is one of the most significant factors associated with an increased risk of CVD. A meta-analysis by Virtanen et al. identified that chronic stress at work is associated with a 50% increased risk of coronary heart disease. Factors such as workload, lack of control, and workplace conflict are key contributors to this stress.

Physical inactivity is another critical risk factor. A study by Ekelund et al. (2019) found that over 60% of office workers do not meet minimum physical activity recommendations, which has led to an increase in obesity and metabolic diseases. Sedentary work has been associated with a 20-30% increased risk of CVD.

Workplace diet also influences cardiovascular risk factors. Workers often have limited access to healthy food options, which can result in diets high in sugars and saturated

fats. Implementing healthy eating programs in the workplace can significantly reduce cholesterol and blood pressure levels, reducing cardiovascular risk.

Tobacco and alcohol use have a notable impact on cardiovascular health. Smoking workers have a significantly higher risk of coronary heart disease. Excessive alcohol consumption has also been linked to hypertension and arrhythmias, thereby increasing the risk of CVD.

Working conditions such as exposure to noise and chemicals can also affect cardiovascular health. Zha et al. (2022) found that workers exposed to high noise levels have a higher risk of hypertension and heart disease. In addition, night and shift work have been associated with an elevated risk of CVD, likely due to the disruption of circadian rhythms.

Therefore, workplace health programs are essential to addressing CVD. Such programs may include initiatives to promote physical activity, healthy eating, and stress management to significantly reduce cardiovascular risk factors among employees.

Periodic surveillance of workers' health through specific programs is a crucial activity to identify workers at risk and activate preventive measures that reduce the risk and prevent cardiovascular disease.

References

1. World Health Organization. Available “https://www.who.int/es/health-topics/cardiovascular-diseases#tab=tab_1” ; Consulted: 22/11/2024

2. Ministerio de Sanidad. (2021). Informe sobre la situación de las enfermedades cardiovasculares en España.

3. Kivimäki M, Steptoe A. Effects of stress on the development and progression of cardiovascular disease. Nat Rev Cardiol. 2018 Apr;15(4):215-229. doi: 10.1038/nrcardio.2017.189. Epub 2017 Dec 7.

4. Virtanen M, Jokela M, Madsen IE, Magnusson Hanson LL, Lallukka T, Nyberg ST, et al. Long working hours and depressive symptoms: systematic review and meta-analysis of published studies and unpublished individual participant data. Scand J Work Environ Health. 2018 May 1;44(3):239-250. doi: 10.5271/sjweh.3712. Epub 2018 Feb 8.

5. Jachens L, Houdmont J. Effort-Reward Imbalance and Job Strain: A Composite Indicator Approach. Int J Environ Res Public Health. 2019 Oct 29;16(21):4169. doi: 10.3390/ijerph16214169.

6. Ekelund U, Tarp J, Steene-Johannessen J, Hansen BH, Jefferis B, Fagerland MW, Whincup P, Diaz KM, Hooker SP, Chernofsky A, Larson MG, Spartano N, Vasan RS, Dohrn IM, Hagströmer M, Edwardson C, Yates T, Shiroma E, Anderssen SA, Lee IM. Dose-response associations between accelerometry measured physical activity and sedentary time and all cause mortality: systematic review and harmonised meta-analysis. BMJ. 2019 Aug 21;366:l4570. doi: 10.1136/bmj.l4570.

7. Pedro-Jiménez, D. D., & Verástegui-Escolano, C. (2020). El ejercicio recomendado por la Organización Mundial de la Salud controla el Índice de Masa Corporal en trabajadores sedentarios: Estudio transversal en una industria química española. *Revista de la Asociación Española de Especialistas en Medicina del Trabajo*, *29*(1), 14-24.

8. Zhao Y, Lu X, Wan F, Gao L, Lin N, He J, et al. Disruption of Circadian Rhythms by Shift Work Exacerbates Reperfusion Injury in Myocardial Infarction. J Am Coll Cardiol. 2022 May 31;79(21):2097-2115. doi: 10.1016/j.jacc.2022.03.370.