



Thinking about occupational health

Toxic habits and work stress: a combination that requires intervention at work, not just in the individual

Romero-Saldaña, Manuel
Editor-in-Chief. EJOHN

For decades, we have treated smoking, alcohol consumption, and other unhealthy habits as individual decisions. In occupational health, this approach falls short. Evidence indicates that work stress—expressed in models such as demand-control or effort-reward—not only impairs mental and cardiovascular health, but it also leads to unhealthy coping behaviors and makes them difficult to quit. This editorial does not aim to exhaust the topic, but rather to propose an agenda: if we want to reduce toxic habits, we must redesign work. Handing out flyers to quit smoking is not enough (1).

What we know: work stress is associated with more smoking... and with smoking for longer.

Meta-analyses with individual data from dozens of European cohorts show that “job strain” (high demand, low control) is associated with a higher likelihood of being a current smoker and with higher smoking intensity. These are not weak correlations: sustained exposure to high job stress is associated with higher smoking rates, even after adjusting for age and sex. Furthermore, those who work longer hours are at greater risk of continuing to smoke and less likely to quit, suggesting a vicious cycle between excessive hours, fatigue, and nicotine as a pharmacological “micro-break” (1, 2).

Over the longer term, psychosocial stressors predict smoking persistence and relapse. Longitudinal studies with follow-up close to a decade indicate that daily stress—not just the “big event”—translates into consumption trajectories that are more resistant to change, a crucial factor for planning cessation interventions in the workplace (3).



Alcohol and long hours: an uncomfortable (and preventable) relationship

Alcohol deserves special mention. A systematic review and meta-analysis in the working population found that those who work more than 48 hours a week are more likely to engage in risky consumption. Another recent synthesis reinforces this signal, especially regarding irregular and night shifts, although it acknowledges heterogeneity. The practical conclusion is clear: policies regarding working hours and work-time organization are, de facto, public health interventions (4, 5).

Beyond behavior, there is a pathophysiological continuum: job strain and unhealthy lifestyles coexist and potentiate each other's impact on ischemic heart disease. In joint models, the combination of job strain and an unhealthy lifestyle multiplies the relative risk of coronary events compared to workers without strain and with healthy habits. In other words, work stress not only pushes people toward toxic habits; it also makes them more prone to cardiovascular health issues (6).

Why individual-centered approaches fail

Campaigns to quit smoking or cut down on drinking that ignore workload, limited autonomy, or the unpredictability of shifts ask workers to "be strong" without changing what drives them to consume. The psychobiology of stress—hyperarousal, fatigue, sleep disturbance—facilitates the turn to nicotine or alcohol for immediate relief. If the environment reinforces this pattern (smoking breaks, a "after-shift drink" culture, schedules that sabotage sleep), the habit becomes entrenched. It's no surprise, then, that in high-stress environments, many smokers report more cigarettes per day and fewer successful quit attempts (2).

What works: Intervening in work organization and aligning clinical supports

Priorities should be layered across three complementary levels:



1. Work design. Reducing disproportionate workloads, increasing control over how and when tasks are performed, and providing predictable shifts is not just "well-being"; it is primary prevention of toxic habits. The literature on "job strain" supports that reducing demands or increasing control mitigates both exposure to stress and associated harmful behaviors (1).

2. Time policies. Limiting systematic overtime, properly managing night shifts, and avoiding sleep-depriving shift sequences reduces the fuel for alcohol use as a sedative—a documented practice—and facilitates adherence to smoking cessation programs (e.g., attending sessions, tolerating withdrawal symptoms with adequate rest) (4, 5).

3. Evidence-based supports. In the workplace, smoking cessation programs with brief counseling, pharmacotherapy (NRT, varenicline, bupropion, cytisinicline), and stepped-up follow-up gain traction when integrated into a psychosocial plan: smoke-free breaks with alternatives, realistic rest spaces, anti-stigma campaigns, and rapid access to psychological support for stress management. Although not all studies are specific to the work environment, the signal is consistent: simultaneously addressing stress and habits improves outcomes (7).

Measuring to change: Actionable indicators

To move from rhetoric to management, I propose that companies and prevention services routinely include:

- Workplace stress indicators (demand/control, effort/reward, organizational justice) in psychosocial risk assessments.
- Behavior monitoring with confidentiality guarantees: smoking prevalence and risky alcohol consumption by area/shift.
- Process metrics: proportion of workers with access to cessation and stress management interventions; adherence to hour limits; shift predictability.
- Integrated outcomes: smoking cessation rates and alcohol reduction stratified by organizational changes, not just individual participation.

Toxic habits and work stress: a combination that requires intervention at work, not just in the individual. Romero-Saldaña M. *Eur J Occ Health Nurs*. 2025; 4(2): 3-7. DOI: 10.70324/ejohn.v4i2.83



The literature suggests that when chronic stress is ubiquitous (e.g., in nursing), unhealthy behaviors act as a "valve" and self-efficacy is eroded. Assessing and reinforcing resources—social support, autonomy, self-efficacy—is as essential as offering smoking cessation medications (8).

Equity: Risks are not shared equally

Stress and toxic habits are distributed unequally in the labor market. Long hours, rotating shifts, and low autonomy are more common in lower-paid jobs; smoking is also concentrated there. Ignoring the organizational dimension perpetuates health inequalities. Interventions that adjust workload and control—in addition to facilitating cessation—can reduce gaps (9).

An agenda for the next 3–5 years

1. Integrate objectives: Ensure that the company's "smoke-free" plans include measurable goals for reducing job strain and excessive hours.
2. Evaluable pilots: cluster trials in which shift changes and autonomy are combined with smoking cessation and alcohol screening/brief intervention, with indicators of habits, stress, and cardiovascular health.
3. Incentives and regulations: Incorporate psychosocial criteria into prevention audits and labor agreements; not as voluntary addenda, but as standards.
4. Protect sleep: Explicit rest policies (e.g., limiting quick returns between shifts) as an anti-stress and anti-alcohol strategy (5).

References

1. Heikkilä K, Nyberg ST, Fransson EI, Alfredsson L, De Bacquer D, Bjorner JB, et al. Job strain and tobacco smoking: an individual-participant data meta-analysis of 166,130 adults in 15 European studies. *PLoS One*. 2012;7(7):e35463. doi: 10.1371/journal.pone.0035463.



2. Kouvonen A, Kivimäki M, Virtanen M, Pentti J, Vahtera J. Work stress, smoking status, and smoking intensity: an observational study of 46,190 employees. *J Epidemiol Community Health*. 2005 Jan;59(1):63-9. doi: 10.1136/jech.2004.019752.
3. Slopen N, Kontos EZ, Ryff CD, Ayanian JZ, Albert MA, Williams DR. Psychosocial stress and cigarette smoking persistence, cessation, and relapse over 9-10 years: a prospective study of middle-aged adults in the United States. *Cancer Causes Control*. 2013 Oct;24(10):1849-63. doi: 10.1007/s10552-013-0262-5.
4. Virtanen M, Jokela M, Nyberg ST, Madsen IE, Lallukka T, Ahola K, et al. Long working hours and alcohol use: systematic review and meta-analysis of published studies and unpublished individual participant data. *BMJ*. 2015 Jan 13;350:g7772. doi: 10.1136/bmj.g7772.
5. Richter K, Peter L, Rodenbeck A, Weess HG, Riedel-Heller SG, Hillemacher T. Shiftwork and Alcohol Consumption: A Systematic Review of the Literature. *Eur Addict Res*. 2021;27(1):9-15. doi: 10.1159/000507573.
6. Kivimäki M, Nyberg ST, Fransson EI, Heikkilä K, Alfredsson L, Casini A, et al. Associations of job strain and lifestyle risk factors with risk of coronary artery disease: a meta-analysis of individual participant data. *CMAJ*. 2013 Jun 11;185(9):763-9. doi: 10.1503/cmaj.121735.
7. Cesena FHY. Job Stress and Cardiovascular Health: Is There a Connection? *Arq Bras Cardiol*. 2019 Mar;112(3):269-270. doi: 10.5935/abc.20190030.
8. Heuel L, Lübster S, Otto AK, Wollesen B. Chronic stress, behavioral tendencies, and determinants of health behaviors in nurses: a mixed-methods approach. *BMC Public Health*. 2022 Mar 30;22(1):624. doi: 10.1186/s12889-022-12993-5.
9. Tashiro S, Kato K, Kitazawa M, Fujihara K, Kodama S, Tashiro M, et al. Differences in occupational stress by smoking intensity and gender in a cross-sectional study of 59,355 Japanese employees using the Brief Job Stress Questionnaire (BJSQ): the Niigata Wellness Study. *BMJ Open*. 2022 Apr 8;12(4):e055577. doi: 10.1136/bmjopen-2021-055577.