

# Stressed at work and trouble sleeping? It's more serious than you think

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Work stress and impaired sleep are linked to a threefold higher risk of cardiovascular death in employees with hypertension. That's the finding of research published today in the *European Journal of Preventive Cardiology*, a journal of the European Society of Cardiology (ESC).

Study author Professor Karl-Heinz Ladwig, of the German Research Centre for Environmental Health and the Medical Faculty, Technical University of Munich, said: "Sleep should be a time for recreation, unwinding, and restoring energy levels. If you have [stress](#) at work, [sleep](#) helps you recover. Unfortunately poor sleep and job stress often go hand in hand, and when combined with hypertension the effect is even more toxic."

One-third of the working population has hypertension ([high blood pressure](#)). Previous research has shown that psychosocial factors have a stronger detrimental effect on individuals with pre-existing cardiovascular risks than on [healthy people](#). This was the first study to examine the combined effects of [work stress](#) and impaired sleep on death from cardiovascular disease in

hypertensive workers.

The study included 1,959 hypertensive workers aged 25-65, without cardiovascular disease or diabetes. Compared to those with no work stress and good sleep, people with both [risk factors](#) had a three times greater likelihood of death from cardiovascular disease. People with work stress alone had a 1.6-fold higher risk while those with only poor sleep had a 1.8-times higher risk.

During an average follow-up of nearly 18 years, the absolute risk of cardiovascular death in hypertensive staff increased in a stepwise fashion with each additional condition. Employees with both work stress and impaired sleep had an absolute risk of 7.13 per 1,000 person-years compared to 3.05 per 1,000-person years in those with no stress and healthy sleep. Absolute risks for only work stress or only poor sleep were 4.99 and 5.95 per 1,000 person-years, respectively.

In the study, work stress was defined as jobs with high demand and low control—for example when an employer wants results but denies authority to make decisions. "If you have high demands but also high control, in other words you can make decisions, this may even be positive for health," said Professor Ladwig. "But being entrapped in a pressured situation that you have no power to change is harmful."

Impaired sleep was defined as difficulties falling asleep and/or maintaining sleep. "Maintaining sleep is the most common problem in people with stressful jobs," said Professor Ladwig. "They wake up at 4 o'clock in the morning to go to the toilet and come back to bed ruminating about how to deal with work issues."

"These are insidious problems," noted Professor Ladwig. "The risk is not having one tough day and no sleep. It is suffering from a stressful job and [poor sleep](#) over many years, which fade energy

resources and may lead to an early grave."

The findings are a red flag for doctors to ask patients with high blood pressure about sleep and job strain, said Professor Ladwig. "Each condition is a risk factor on its own and there is cross-talk among them, meaning each one increases risk of the other. Physical activity, eating healthily and relaxation strategies are important, as well as blood pressure lowering medication if appropriate."

Employers should provide stress management and sleep treatment in the workplace, he added, especially for staff with chronic conditions like hypertension.

Components of group stress management sessions:

- Start with 5 to 10 minutes of relaxation.
- Education about healthy lifestyle.
- Help with [smoking cessation](#), physical exercise, weight loss.
- Techniques to cope with stress and anxiety at home and work.
- How to monitor progress with stress management.
- Improving social relationships and social support.

Sleep treatment can include:

- Stimulus control therapy: training to associate the bed/bedroom with sleep and set a consistent sleep-wake schedule.
- Relaxation training: progressive muscle relaxation, and reducing intrusive thoughts at bedtime that interfere with sleep.
- Sleep restriction therapy: curtailing the period in bed to the time spent asleep, thereby inducing mild sleep deprivation, then lengthening sleep time.
- Paradoxical intention therapy: remaining passively awake and avoiding any effort (i.e. intention) to fall asleep, thereby eliminating anxiety.

**More information:** Jian Li et al, Combined effect of work stress and impaired sleep on coronary and cardiovascular mortality in hypertensive workers:

The MONICA/KORA cohort study, *European Journal of Preventive Cardiology* (2019). DOI: [10.1177/2047487319839183](https://doi.org/10.1177/2047487319839183)

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