

Reference document
Night work



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Introduction

Nowadays, night work has become essential to the productivity and performance of many organizations. In fact, more than a quarter of Canadian workers are faced with this reality, including evening, night and rotating shifts. Moreover, 40% of these workers are reportedly affected by sleep disorders and will see their life expectancy decreased by 5% compared to day workers. These working conditions can cause a number of problems and inconveniences for workers, for whom a healthy lifestyle and effective sleep management are essential.

Definition

Sleep is influenced by the circadian rhythm, which is characterized by various bodily reactions that vary according to the time of day or night. This daily cycle of approximately 24 hours helps control the structure of sleep. Several physiological functions are under its influence, such as body temperature, the secretion of certain hormones, heart rate and digestion. Disturbance of this cycle therefore impacts most bodily functions.

Night work causes a form of continual jet lag, thus disturbing workers' circadian rhythms. As human beings are programmed to be active during the day, their biological clock will constantly be trying to return to its natural state. This desynchronization between the biological rhythm and the rhythm of the external environment prevents sleep from being as deep and restful as night's sleep.

Young people and "night owl" types have an easier time adapting to night work and feel less of its negative impacts. Men also adapt to it easier than women. However, it has been demonstrated that the longer the night work goes on, the more the negative effects are felt. There is therefore no way to get used to it, contrary to popular belief.

Main impacts

As the body's organs are programmed to be fully functional during the day, calling on them overnight causes various disturbances.

Digestive system

The digestive system is one of the systems that reacts most strongly to the imbalance caused by night work. Night workers have to feed their bodies at times when their organs are generally at rest. Many of them may therefore suffer from gastrointestinal and digestive problems, such as constipation, diarrhea, loss of appetite, heartburn and gastric ulcers.

Studies show that night workers also tend to favour sugary snacks, caffeinated drinks and fast food. Given that organs do not allow for efficient metabolism during the night, these bad habits influence the development of gastrointestinal and digestive problems. They also increase the risk of hypercholesterolemia and cardiovascular disease.

Safety at work

Safety is a very important issue of night work. Night workers are 7 times more prone to road or work accidents than day workers. The main factors in play are fatigue, a lower level of support from coworkers and weakened concentration and vigilance due to insufficient or poor-quality sleep. It is strongly recommended that night workers use public transportation, taxis or carpooling.

The production of certain hormones is also influenced by the circadian rhythm. Research shows that night workers have higher-than-average daytime levels of the stress hormone cortisol. Among other things, this causes a state of hypervigilance, which makes it difficult to fall asleep quickly during the day.

Carcinogens

The World Health Organization has classified night work as a probable carcinogen. Melatonin, the main sleep hormone, is reportedly produced in smaller quantities by night workers. Considering melatonin's protective function against cancer, decreased production of it would explain the increased risk of developing cancer. Furthermore, this melatonin deficiency causes increased production of estrogens in women working nights or shift work. They are therefore also reportedly at greater risk of developing breast cancer. Disturbance of the biological clock could also cause irregular menses and increase the risk of miscarriage or premature birth.

Lifestyle

Night workers experience constant conflict between their lifestyle and the day habits of most of the population. Many night workers complain of a lack of quality time with their loved ones. Indeed, humans have a vital need to create emotional bonds that act on mental, emotional and physical health.

Sleep problems can negatively affect mood, which often translates into strong irritability and harms social relationships. This situation can lead to feelings of loneliness and isolation, causing decreased interest and motivation, and possibly, if this continues over time, a depressive state.

Strategies for workers

To mitigate the negative effects of night work, it is essential that workers adopt a healthy lifestyle.

Favour a regular sleep and wake cycle

In order to increase vigilance and reduce drowsiness at work, a regular sleep and wake cycle, as well as a daily bedtime ritual, is recommended. Good lighting upon waking is ideal to facilitate the body's adaptation. A short nap before heading to work can also be helpful.

Create a favourable environment for falling asleep in the daytime

Various methods can be used to simplify falling asleep in the daytime. Blackout curtains, a sleep mask, ear plugs or a fan are good tools for reducing outside light and noise. Electronic devices should be stored away from the bed, and family members should respect

certain house rules to facilitate the worker's sleep. Ideally, their room will be located far away from daytime activity. The worker should not hesitate to change rooms as needed.

Adopt healthy eating habits

To encourage digestion, it is recommended to drink lots of water, opt for home-cooked meals, favour pre-prepared foods that are low in salt, sugar and fat, and limit consumption of sugary foods as much as possible. Regular meal times also support digestion. A light meal before bed is recommended to avoid going to sleep with an empty stomach.

It is strongly recommended to avoid any caffeine and nicotine within six hours of bedtime. Although alcohol is a popular and effective sleep-inducing drink, it is actually harmful to sleep. It reduces sleep quality, making it lighter and less restorative. In addition, alcohol causes dehydration and attacks the intestinal walls, which can aggravate gastrointestinal or digestive problems (more common in night workers). It is recommended to consult a nutrition professional for more personalized advice.

Perform regular physical activity

Physical activity is an important ally in mitigating the negative effects of night work. Exercise provides multiple health benefits, boosts energy, promotes better vigilance and improves sleep quality. In addition to being essential for a healthy life, physical activity influences one's ability to handle stress. Since night work impacts cortisol production during the day, it is essential that actions be taken to reduce stress.

Despite the challenge that this can pose under the circumstances, it remains possible to organize one's schedule around practising a given sport. Choosing to walk to destinations and during breaks or incorporating short stretching exercises are examples of easy things to practise and incorporate into any schedule. Meditation, relaxation and wellness activities can also help mitigate cortisol production and make it easier to fall asleep.

In addition to these strategies, one mustn't hesitate to plan social and family activities. It is also highly recommended to clearly communicate one's availability and awake times to loved ones to encourage contact.

If one needs to take prescription medication, it is important to speak to the doctor or pharmacist about the night work schedule. Disturbance of the circadian rhythm can interfere with the treatment of certain diseases.

Studies also show that behavioural intervention can make these strategies even more effective. In this way, professionals can help workers fall asleep more easily and improve their sleep quality.

Strategies for employers

It is essential that any company with a night shift be well informed of the risks to its employees' health and safety. It is recommended that the company inform workers of all the risks and provide information about the strategies and tools that could help their adaptation. The quality of communication with night workers is crucial, given the increased risks of psychosocial difficulties. It is also important that proper safety measures be established, in terms of the quality of facilities, the ergonomics of workstations and the monitoring of the premises. Furthermore, the quality of lighting and ventilation can support adaptation, as can access to a meal area that encourages proper nutrition.

Conclusion

Owing to the health risks inherent in night work, night workers must invest in improving their lifestyles to maintain overall health. These good habits support higher energy levels, rewarding and significant relationships with loved ones and work appreciation. Engagement on the part of the employer also helps maintain this work appreciation. It is therefore essential that both parties are aware of the risks arising from this atypical schedule and take responsibility for preventing its negative impacts.

Resources

The following resources can also be used:

- Canadian Centre for Occupational Health and Safety
- Canadian Sleep Society
- Fondation Sommeil
- MORIN, Charles. *Vaincre les ennemis du sommeil*, Les Éditions de l'Homme.
- Ordre des psychologues du Québec
- *Psychologie Québec*
- Sleep clinic (Biron – Sleep care)