

WHAT IS SLEEP DEPRIVATION?

Sleep deprivation can either refer to total sleep deprivation understood as the elimination of sleep for a full day or longer, or partial sleep deprivation describing the reduction of sleep on a regular basis. Other terms for sleep deprivation include sleep regulation, sleep restriction, sleep adjustment or sleep manipulation (1).

There exist no international standards regarding the minimum number of hours of sleep required for detainees nor a universally agreed-upon legal definition of sleep deprivation and when it amounts to torture or ill-treatment (2). The European Court of Human Rights has considered preventing detainees from obtaining less than 6 hours of sleep as a form of torture or inhuman or degrading treatment (3). The United Nations Committee Against Torture and Special Rapporteur on Torture recognize sleep deprivation as a method of torture (see 4–7).

increased blood pressure and increased inflammatory markers (21–23). This is consistent with epidemiological studies observing an association between chronic sleep restriction and obesity, insulin resistance and cardiovascular morbidity (24,25).

Total sleep deprivation over several days may lead to symptoms mirroring acute psychosis (temporary loss of contact with reality) and delirium (confused mental state) (11). The lasting psychological effects of sleep deprivation are difficult to assess due to common clustering with other torture techniques, which has been argued to exacerbate long-term psychological effects (26). In one study, detainees who experienced sleep deprivation together with other torture methods reported a significantly higher prevalence of acute and chronic psychological suffering than those who had not (10).

IN PRACTICE

Sleep deprivation is a widespread torture method (8). Sleep deprivation has been documented in the US and Israel and likely occurs in more countries (8–10). It is routinely used together with other torture methods (8).

Means of achieving sleep deprivation include disturbing elements (e.g. noise), detention conditions (e.g. light) and acts intentionally aimed at disrupting sleep (e.g. stress positions or frequent cell raids) (1).

CONCLUSION

Conclusions on the health consequences of sleep deprivation are based on experimental and observational studies that did not take place under torture. Therefore, there is a need to investigate the specific short and long-term health effects of the use of sleep deprivation as a torture method.

Sleep deprivation can constitute torture and is likely to potentiate the effects of other torture methods by making individuals more anxious or sensitive to pain. Physiological consequences of total sleep deprivation do not persist after restorative sleep, whereas long-term partial sleep deprivation might increase the risk of developing obesity, diabetes and cardiovascular disease.

HEALTH CONSEQUENCES

In most cases, effects of acute sleep deprivation are reversible following restorative sleep (11–13). Individuals who experience total or partial sleep deprivation demonstrate impaired neurocognitive and motor functioning (14). Effects differ across cognitive domains with attention and vigilance tasks being more affected than complex tasks such as reasoning (15,16). It also leads to a significant increase in anxiety levels (17), negatively affects mood (14), modestly decreases emotional arousal to negative and positive stimuli (18) and leads to hyperalgesia (increased sensitivity and response to pain) (19).

Where detention conditions do not allow for adequate sleep, detainees may experience chronic sleep deprivation (1,20). Consequences include neurobehavioral deficits similar to the ones described above as well as physiological changes, e.g. reduced glucose tolerance,

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