



AMERICAN ASSOCIATION OF SUICIDOLOGY

NOCTURNAL SLEEP DISTURBANCES:
RISK FACTORS FOR SUICIDE

What is insomnia?

Insomnia is defined as a difficulty in falling asleep and/or staying asleep resulting in poor-quality sleep or few hours of sleep (Medline Plus). Insomnia has repercussions in the daytime, such as sleepiness and fatigue and, if chronic, can foster dysfunctional thoughts (“Will I ever sleep again?”) and consequent feelings of hopelessness and helplessness (Ribeiro et al., 2012). Insomnia is associated with depression, anxiety, and other psychiatric disorders.

What are nightmares?

Nightmares are dreams that are associated with fear and anxiety. They are very common prior to age 13, but for some people they can be a lifelong occurrence. Nightmares may become problematic if they occur frequently (referred to as “recurrent nightmares”), as the sufferer may fear going to sleep or may find it difficult to have a good night’s sleep (Mayo Clinic). Hence, recurrent nightmares are associated with insomnia.

Sleep Problems as a Risk Factor for Suicide

As noted above, sleep problems are associated with both depressive and anxiety disorders, both of which are risk factors for suicide (Wong & Brower, 2012).

Overarousal, marked by agitation and sleep disturbances (mainly insomnia and nightmares) is often experienced by suicide victims immediately prior to death (Ribeiro et al., 2012; Rebeiro et al., 2013).

A review found 25 studies linking insomnia and sleep difficulties to an increase in suicidal ideation, suicidal behavior, and death by suicide (McCall, 2011).

Fawcett and colleagues (1990) first recognized insomnia as an acute risk factor for suicide, i.e. associated with suicide in the next 12 months.

Insomnia is predictive of suicidal thoughts and behaviors, even when depression, drug-use, alcohol-related problems, PTSD, and hopelessness have been controlled (Ribeiro et al., 2012; Wong & Brower, 2012). Bjørngaard et al. (2011), in a 20 year follow-up of a large sample of residents in a county in Norway, found frequent sleep problems to be associated with death by suicide, even after adjusting for depression and symptoms of anxiety. Further, they showed a dose-response relationship, with almost a 5-fold increase in risk for suicide when sleep problems occurred “almost every night.”

In a study of military veterans who died by suicide, those with reported sleep disturbances died more proximately to their last visit to Veteran Health Services than those without insomnia (Pigeon et al., 2012).

Thirteen percent of a sleep clinic's patients report suicidal ideation. These patients with suicide ideation were found to have more severe or more frequent patterns of sleep disturbances, mainly insomnia and nightmares (Krakow et al., 2011).

The association between sleep problems and death by suicide has been found to be stronger among younger versus older people (Bjørngaard et al., 2011); but sleep disturbances, independent of depression, still have been found to increase risk of suicide among the elderly (Bernert, 2007) and, mediated by depression, are associated with suicide ideation among the elderly (Nadorff et al., 2013).

Frequent nightmares are associated with a nearly four-fold increase in risk of suicide attempts among men and a nearly doubling of risk among women. A similar gender difference, but slightly smaller level of increased risk, was found for suicidal ideation (Susánszky et al., 2011)

Mechanisms of Effect

The mechanisms that underlie the relationship between sleep problems and suicidal behavior are unclear and under-researched (Ribeiro et al., 2012). Problems with sleep may affect mood, inhibitory processes, impulse control, and decision making, which in turn may increase the likelihood of suicidal behavior (Ribeiro et al., 2012; Wong & Brower, 2012). In a small sample study, McCall and colleagues (2013) found that as nightmares and dysfunctional beliefs about sleep become more severe, so does suicidal ideation.

Treatment Implications

Insomnia is a potentially modifiable risk factor for suicide, as treating the sleep disturbance may decrease the risk of suicide ideation (Krakow et al., 2011). For example, Bjørngaard and colleagues (2011) found that the risk of death by suicide was mitigated by the use of sleep medications; this result, however, is contrary to previous studies that suggest that the use of sleep medication increases the risk of suicide ideation (McCall, 2011). Other, non-pharmacological treatment interventions need to be tested to explore desired effects, namely reduced suicide risk.

The Future

Future research should look into the mechanisms underlying the relationship between sleep problems and suicide behavior, including both neurochemical and physiological factors, and address the question of whether treating insomnia has a positive effect on suicide behavior and ideation (McCall, 2011).

References:

- Bernert, R. T., Tarvey, C., Conwell, Y. & Joiner, T. (2007, June). Sleep disturbances as a unique risk factor for completed suicide. 21st Annual Meeting of the Associated Professional Sleep Societies, L.L.C., Minneapolis.
- Bjørngaard, J. H., Bjerkeset, O., Romundstad, P., & Gunnell, D. (2011). Sleep problems and suicide in 75,000 norwegian adults: a 20 year follow-up of the HUNT I Study. *Sleep*, 34, 1155-1159. doi:10.5665/SLEEP.1228
- Fawcett, J., Scheftner, W. A., Fogg, L., Clark, D. C., Young, M. A., Hedeker, D., & Gibbons, R. (1990). Time-related predictors of suicide in major affective disorder. *American Journal of Psychiatry*, 147, 1189-1194.
- Krakow, B., Ribeiro, J.D., Ulibarri, V. A., Krakow, J., & Joiner, T.E. (2011). Sleep disturbances and suicidal ideation in sleep medical center patients. *Journal of Affective Disorders*, 131, 422-427. doi:10.1016/j.jad.2010.12.001
- Mayo Clinic (n.d.). Nightmares. Retrieved from:
<http://www.mayoclinic.com/health/nightmares/DS01010>
- McCall, W. V. (2011). Insomnia is a risk factor for suicide – what are the next steps? *Sleep*, 34, 1149-1150. doi: 10.5665/SLEEP.1222
- McCall, W. V., Webster, M., Case, L. D., Joshi, I., Derreberry, T., McDonough, A., & Farris, S.R. (2013). Nightmares and dysfunctional beliefs about sleep mediate the effect of insomnia symptoms of suicidal ideation. *Journal of Clinical Sleep Medicine*, 9, 135-140. doi:10.5664/jcsm.2408
- MedlinePlus (n.d.). *Insomnia*. Retrieved from:
<http://www.nlm.nih.gov/medlineplus/insomnia.html>
- Nadorf, M. R., Fiske, A., Sperry, J. A., Petts, R., & Gregg, J. J. (2013). Insomnia symptoms, nightmares, and suicide ideation in older adults. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 68(2), 145-152.
- Pigeon, W., Britton, P., Ilgen, M., Chapman, B., & Conner, K., (2012). Sleep disturbances preceding suicide among veterans. *American Journal of Public Health*, 102, S93-S97. doi:10.2105/AJPH.2011.300470
- Ribeiro, J. D., Pease, J. L., Gutierrez, P. M., Silva, C., Bernert, R. A., Rudd, M. D., & Joiner, T. E. (2012). Sleep problems outperform depression and hopelessness as cross-sectional

- and longitudinal predictors of suicidal ideation and behavior in young adults in the military. *Journal of Affective Disorders*, 136, 743-750. doi:10.1016/j.jad.2011.09.049
- Ribeiro, J. D., Bodell, L. P., Hames, J. L., Hagan, C. R., & Joiner, T. E. (2013). An empirically based approach to the assessment and management of suicidal behaviour. *Journal of Psychotherapy Integration*. Advanced online publication. doi:10.1037/a0031416
- Susánszky, E., Hajnal, A. & Kopp, M. (2011). Sleep disturbances and nightmares as risk factors for suicidal behavior among men and women. *Psychiatria Hungarica*, 26(4), 250-257.
- Wong, M. M. & Brower, K. J. (2012). The prospective relationship between sleep problems and suicidal behavior in the National Longitudinal Study of Adolescent Health.

American Association of Suicidology

AAS is a membership organization for all those involved in suicide prevention and intervention, or touched by suicide. AAS is a leader in the advancement of scientific and programmatic efforts in suicide prevention through research, education and training, the development of standards and resources, and survivor support services. For membership information, please contact:

American Association of Suicidology

5221 Wisconsin Ave., N.W.
Second Floor
Washington, DC 20015
tel. (202) 237-2280
fax (202) 237-2282
www.suicidology.org
info@suicidology.org

If you or someone you know is suicidal, please contact a mental health professional or call 1-800-273-TALK (8255).

Journal of Psychiatric Research, 46, 953-959. doi:10.1016/j.jpsychires.2012.04.008