Sleep Disturbance and Suicide Risk in the Elderly

Tracy L Skaer, Azuka Nwude and Anne-Louise Male-Ervik

Department of Pharmacotherapy, Washington State University College of Pharmacy USA

*Corresponding author: Tracy L Skaer, Washington State University College of Pharmacy PO Box 1495 Spokane, WA, USA 99210, Tel: 509-358-7724; E-mail: tskaer@wsu.edu

Received date: Nov 10, 2014, Accepted date: Nov 25, 2014, Published date: Dec 2, 2014

Copyright: © 2014 Skaer TL, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Letter to the Editor

The elderly, especially those with debilitating illness, have become a significantly vulnerable population for suicide. A recent study has identified elderly sleep disturbance as a significant risk factor to suicide. Understanding the connection between sleep and suicide is an emerging field of study and thereby becomes an important topic of discussion.

Every 40 seconds someone in the world dies by suicide. Nearly 1 million lives are lost annually, making suicide, a leading cause of death world-wide [1]. Data from the United States (US) Centers for Disease Control and Prevention (CDC) lists suicide as the 10th leading cause of death [2]. More than 39,000 Americans commit suicide and another 487,000 people are seen in emergency departments for self-inflicted wounds annually [2]. Suicide is preventable. Unfortunately, awareness and prevention programs across the globe have not been helpful in reducing suicide rates over the past several decades. Rates have actually increased in US middle-aged adults.

Family history of suicide, stressful life events or loss, ease of access to lethal methods, and exposure to the suicidal behaviors of others are considered risk factors [2]. Groups that have been identified by the US Surgeon General and the National Action Alliance for Suicide Prevention to have a higher risk for suicidal behaviors compared to the general public include [3]:

- American Indians/Alaska Natives
- Bereaved by suicide
- Justice system and child welfare settings
- Engaged in non-suicidal self-injury
- Previous suicide attempt
- Chronic medical conditions
- Mental and/or substance use disorders
- Lesbian, gay, bisexual, and transgender populations
- Members of the Armed Forces and veterans
- Men in midlife
- Older men

Sleep difficulties have been identified as a risk factor for suicide. Sleep disturbances are quite common in today’s society and often coincide with several psychiatric and medical conditions that are strongly associated with suicide [4-6]. Insomnia is commonly a precursor or risk factor to depressive symptoms signifying its role in the development of depression and suicide ideation [7-9]. Insomnia symptoms (e.g. difficulty falling asleep, maintain sleep, early morning awakening and poor sleep quality), as well as the frequency and duration of nightmares have been significantly linked to suicide risk even after controlling for comorbid depression, anxiety disorders, and PTSD [10-19].

Fifty-seven percent of older adults experiencing clinical significant changes in sleep architecture including decreased ability to maintain sleep, increased fragmentation, and reduced time in deep restorative sleep [20,21]. Moreover, the elderly experience disproportionately elevated rates of sleep disturbances and death by suicide. It has been found that 45% of elderly patients visit their health care provider within the final weeks and 73% within a month prior to committing suicide. Finally, increased suicide rates in late life result from increased frailty and the use of high lethality methods, primarily firearms and hanging, compared to other age groups [22-24].

Research investigating sleep quality and suicide in the elderly is emerging. A recently published and novel study by Bernert and colleagues examined, how sleep disruptions were independent risk factors for elderly suicide [15]. This population-based epidemiologic study was conducted at several sites throughout the US and followed 14,456 community elders ages 66 to 90 over a period of 10 years. There were 20 deaths by suicide matched with 400 controls. Measurements utilized in this study included the Center for Epidemiological Studies – Depression Scale (CES-D), Sleep Quality Index (SQI), Short Portable Mental Status Questionnaire, Katz Activities for Daily Living Scale, and vital statistics interview. Nearly all (95%) of suicide completers were male with firearms was the most common (65%) lethal method used. Higher total SQI scores, representing poor sleep quality, significantly (p<0.05) predicted risk to commit suicide as did non-restorative sleep even after controlling for comorbid depression. Those with poorer sleep quality were 1.4 times more likely to commit suicide overall and 1.2 times more likely after controlling for depression. Greater amounts of sleep disturbances in concert with depressive mood predicted the largest risk of death by suicide. Within this study, deaths by suicide arose after about 2 years suggesting that disturbed sleep may increase risk within a short time frame.

Enhanced suicide risk detection may best be achieved through targeting sleep disturbance as an important early warning sign. Improvements in sleep quality have been shown to significantly reduce anxiety, depression, and suicidal ideation [25-28]. In 2013, the US Veterans Affairs Department of Defense included sleep disturbances in their practice guidelines for those at risk of suicide [29]. More research is needed using objective sleep-EEG variables to identify possible biomarkers that are associated with suicide risk in the elderly population.

Based on the emerging evidence, if society is to make any progress in reducing the incidence of suicide, especially in the elderly population, the presence and type of sleep disturbance should play a significant role in all evidenced-based suicide prevention strategies. Expanded communication to policy makers and public education are
necessary to promote a better understanding of the potential impact of sleep disorders on mental health, as well as early detection of suicide risk. More research targeting high risk populations such as the elderly is needed to identify new and effective policies and programs to help reduce the number of suicides and suicidal behavior.

References

1. World Health Organization (WHO). Suicide data.
2. Centers for Disease Control and Prevention (CDC). Preventing suicide.
3. (2012) US Department of Health and Human Services Surgeons General Report. National strategy for suicide prevention: Goals and objectives for action.
4. Skaer TL (2012), Chapter 6: Treatment of Insomnia with Comorbid Mental Illness. In: Can’t Sleep? Issues of Being an Insomniac.
5. Pigeon WR (2010) Insomnia as a risk factor for disease. In: Insomnia: Diagnosis and Treatment. Buysse DJ, Sateia MJ eds. Informa Healthcare. New York, NY.
6. Taylor DJ, Mallory LJ, Lichstein KL, Durrence HH, Riedel BW, et al. (2012) Chapter 6: Treatment of Insomnia with Comorbid Mental Illness. In: Can’t Sleep? Issues of Being an Insomniac.
7. Sjöström N, Waern M, Hetta J (2007) Nightmares and sleep disturbances in relation to suicidality in college students. Sleep 30: 213-218.
8. Perlis ML, Smith LJ, Lyness JM, Matteson SR, Pigeon WR, et al. (2006) Insomnia as a risk factor for onset of depression in the elderly. Behav Sleep Med 4: 104-113.
9. Baglioni C, Battagliese G, Feige B, Spiegelhalder K, Nissen C, et al. (2011) Insomnia as a predictor of depression: a meta-analytic evaluation of longitudinal epidemiological studies. J Affect Disord 135: 10-19.
10. Nadorff MR, Nazem S, Fiske A (2013) Insomnia symptoms, nightmares, and suicide risk: duration of sleep disturbance matters. Suicide Life Threat Behav 43: 139-149.
11. Nadorff MR, Nazem S, Fiske A (2011) Insomnia symptoms, nightmares, and suicidal ideation in a college student sample. Sleep 34: 93-98.
12. Sjöström N, Hetta J, Waern M (2009) Persistent nightmares are associated with repeat suicide attempts: a prospective study. Psychiatry Res 170: 208-211.
13. Sjöström N, Waern M, Hetta J (2007) Nightmares and sleep disturbances in relation to suicidality in suicide attempters. Sleep 30: 91-95.
14. Kodaka M, Matsumoto T, Katsumata Y, Akazawa M, Tachimori H, et al. (2014) Suicide risk among individuals with sleep disturbances in Japan: a case-control psychological autopsy study. Sleep Med 15: 430-435.
15. Bernert RA, Turvey CL, Conwell Y, Joiner TE Jr (2014) Association of poor subjective sleep quality with risk for death by suicide during a 10-year period: a longitudinal, population-based study of late life. JAMA Psychiatry 71: 1129-1137.
16. Pompili M, Insomnarioti M, Forte A, Longo L, Mazzetta C, et al. (2013) Insomnia as a predictor of high-lethality suicide attempts. Int J Clin Pract 67: 1311-1316.
17. Wojnar M Ilgen MA, Wojnar J, McCammon RJ, Valenstein M, et al. (2009) Sleep problems and suicidality in the National Comorbidity Survey Replication. J Psychiatr Res 43: 526-531.
18. Pigeon WR, Pinquart M, Conner K (2012) Meta-analysis of sleep disturbance and suicidal thoughts and behaviors. J Clin Psychiatry 73: e1160-1167.
19. Tanskanen A, Tuomilehto J, Viinamäki H, Vartiainen E, Lehtonen J, et al. (2001) Nightmares as predictors of suicide. Sleep 24: 844-847.
20. Foley DJ, Monjan AA, Brown SL, Simonsick EM, Wallace RB, et al. (1995) Sleep complaints among elderly persons: an epidemiologic study of three communities. Sleep 18: 425-432.
21. Roepke SK, Ancoli-Israel S (2010) Sleep disorders in the elderly. Indian J Med Res 131: 302-310.
22. (2012) Centers for Disease Control and Prevention (CDC). Suicide: facts at a glance.
23. Conwell Y, Brent D (1995) Suicide and aging. I: Patterns of psychiatric diagnosis. Int Psychogeriatr 7: 149-164.
24. Juurlink DN, Herrmann N, Szalai JP, Kopp A, Redelmeier DA (2004) Medical illness and the risk of suicide in the elderly. Arch Intern Med 164: 1179-1184.
25. Manber R, Edinger JD, Gress JL, San Pedro-Salcedo MG, Kuo TF, et al. (2008) Cognitive behavioral therapy for insomnia enhances depression outcome in patients with comorbid major depressive disorder and insomnia. Sleep 31: 489-495.
26. Buysse DJ, Germain A, Moul DE, Franzen PL, Brar LK, et al. (2011) Efficacy of brief behavioral treatment for chronic insomnia in older adults. Arch Intern Med 171: 887-895.
27. Krakow B, Hollifield M, Johnston L, Koss M, Schrader R, et al. (2001) Imagery rehearsal therapy for chronic nightmares in sexual assault survivors with posttraumatic stress disorder: a randomized controlled trial. JAMA 286: 537-545.
28. Manber R, Bernert RA, Suh S, Nowakowski S, Siebern AT, et al. (2011) CBT for insomnia in patients with high and low depressive symptom severity: adherence and clinical outcomes. J Clin Sleep Med 7: 645-652.
29. (2013) US Department of Veterans Affairs. VA/DOD clinical practice guidelines: assessment and management of patients at risk for suicide.