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Sleep Disturbance in Bereavement

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Bereavement is a ubiquitous part of the human condition. Almost no person makes it through his or her life without having to cope with the loss of a loved one several different times. The loss of a parent, child, or grandparent can be very distressing. For many, the most devastating loss is that of their spouse or partner, which usually occurs during later life. More than 800,000 older Americans are widowed every year. Apart from the severe emotional strain of the loss of a loved one, there are profound changes in lifestyle and status, often accompanied by reductions in financial security, perceived personal safety, and freedom of action. Thus, late-life spousal bereavement (LLSB) comprises one of the major impacts of bereavement on society.

Losses of family members or close friends can also be very traumatic, depending upon the nature of the death and/or the vulnerability of the individual. Most people experiencing grief from bereavement find that there is a lessening of the intensity of the grief as time progresses. For a majority, five emotional and cognitive stages of grief arise, peak, and dissipate within 6 months.[1] However, those who continue to show elevated cognitive and affective symptoms 6 months postloss at are at higher risks for poor health outcomes, and require further intervention. For instance, complicated grief (CG), also referred to as prolonged grief disorder or traumatic grief, has recently gained acceptance in individuals for whom the usual time-limited course of emotional recovery from the loss event does not occur, and the associated emotional distress and functional impairments persist. Six-month postloss, a score of > 25 on the Inventory of Complicated Grief (ICG)[2] is used to indicate CG.

The literature on sleep and bereavement is limited. This review focuses on two areas for which there are some findings to report, namely LLSB and CG. For LLSB, we will include the loss of a life partner of the same generation, whether or not the two people were formally married. One can regard LLSB and CG as bereavement situations for which sleep disruptions are likely to be maximal.

LATE-LIFE SPOUSAL BEREAVEMENT(LLSB)

As noted above, in addition to the severe emotional strain of the loss of a loved one, in LLSB there are profound changes in lifestyle and status, often accompanied by reductions in financial

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security, perceived personal safety, and freedom of action. All of these facets of the situation are likely to lead to sleep disruption. It is therefore not surprising that LLSB has been shown to be associated with significant sleep impairment. As shown in a series of studies by Reynolds and colleagues, although sleep disturbance is particularly prevalent in the depressed bereaved, even bereaved persons who fail to meet a formal diagnosis of depression have measurable sleep impairment.3 When a group of spousally bereaved seniors with subsyndromal symptoms of depression were compared with an age- and gender-matched control group, all of the bereaved subjects endorsed poor sleep quality as indicated by a score of > 5 on the Pittsburgh Sleep Quality Index (PSQI),4 compared with only four of the 14 control subjects.5 Moreover, the level of sleep disruption (as measured by the PSQI) appeared to increase with grief severity. 6 A recent Japanese epidemiological study using the PSQI with a sample of 2,800 adults7 has indicated that being widowed (female) increased the probability of reporting difficulty in maintaining sleep (DMS) with an odds ratio of 1.65 and of hypnotic use with an odds ratio of 2.12. A Swedish study8 using a different instrument and a sample of 509 widows whose husbands had died from cancer 3 years prior (as compared with women whose husbands were still alive), indicated a Relative Risk of 1.95 with regard to sleep disturbances (CI = 1.5–3.4).

Thus, there is fairly strong evidence that being widowed leads to impairments in sleep. In addition to its effects on sleep, LLSB is a risk factor for increased mental and physical morbidity, including increased medication use and nursing home placement, as well as increased mortality; and thus constitutes a major public health issue. In a similar vein, other studies[2] have shown that when spousal bereavement leads to CG it can be associated with various negative health outcomes, including cancer, heart trouble, high blood pressure, and changes in eating habits at 13- or 25-months post loss.

With regard to the justification for the treatment of LLSB-related sleep disorders, it is becoming generally clear that improvements in sleep may also be associated with improvements in health and functioning, especially in the senior years.9 In a longitudinal follow-up study of 185 healthy older adults, Dew, Reynolds, and colleagues[10] have shown that after controlling for age, gender, and baseline medical burden, individuals with sleep latencies (time taken to initially fall asleep) greater than 30 minutes (as measured by objective, polysomnographic measures) were at a 2.14 times greater risk of death ($P < .005$, 95% CI= 1.25–3.66).

Those with sleep efficiency less than 80% (ie, spending less than 80% of their “night” actually asleep) were at a 1.93 times greater risk of death ($P = .014$, Cl = 1.14–3.25). On the other side of the coin, there is evidence that maintenance of good sleep quality accompanies “successful” bereavement,[11] ie, bereavement not accompanied by psychiatric difficulties or functional impairments. Thus, improvements in widow(er)s’ sleep may lead to gains in other domains. Therefore, it behooves clinicians to take sleep disruptions related to LLSB seriously and to provide appropriate treatment wherever possible.

In a recent experiment,12 we studied the sleep and circadian rhythms of 28 spousally bereaved seniors (older than 60 years) at least 4 months after the loss event. Measures taken included two nights of polysomnography (second night being used for analysis), 36 hours of continuous core body temperature monitoring, and four assessments of mood and alertness throughout a day. Preceding the laboratory study, 2-week diaries were completed, allowing the assessment of lifestyle regularity using the 17-item Social Rhythm Metric (SRM) and the timing of sleep using the Pittsburgh Sleep Diary (PghSD). Also completed were questionnaires assessing level of grief (using the Texas Revised Inventory of Grief (TRIG)13 and the Inventory of Complicated Grief (ICG),2 subjective sleep quality (using PSQI), morningness-eveningness (using the Composite Scale of Morningness, or CSM), and a clinical interview yielding a Hamilton Depression Rating Scale (HDRS) score. Grief was still present as indicated by an average TRIG score of about 60. On average, the bereaved seniors habitually slept between

about 23:00 and about 06:40, and achieved about 6 hours of sleep with a sleep efficiency of about 80%. They took about 30 minutes to fall sleep and had their first REM episode after 75 minutes. About 20% of their sleep was in stage REM, and about 3% in stages 3 or 4 (Slow-wave sleep). Their mean PSQI score was 6.4, indicative of mild sleep disruption.

Their circadian temperature rhythms showed the usual classic shape with a trough at about 01:00, a fairly steep rise through the morning hours, and a more gradual rise to mid evening, with an amplitude of about 0.8° C. In terms of lifestyle regularity, the mean regularity (SRM) score was 3.65 (slightly lower than that usually seen in seniors). Mood and alertness showed a time of day variation with peak alertness in the late morning and peak mood in the afternoon. Correlations between outcome sleep/circadian variables and level of grief (TRIG score) indicated that there was a slight trend for higher grief to be associated with less time spent asleep ($P = 0.07$), and with reduced alertness at 20:00 ($P = 0.05$). Depression score was not correlated with TRIG score ($P > 0.20$), further supporting the notion that grief symptoms and depressive symptoms may be distinct constructs. Although these findings indicated that spousally bereaved seniors did show some signs of sleep disruption, this disruption did not appear to be due to bereavement-related disruptions in the circadian system.

Sleep and insomnia are generally considered to be increasing societal problems resulting in substantial distress.[14] Current formal diagnoses of insomnia now rely more upon perceptions of sleep quality, duration, and daytime functioning rather than upon strictly objective physiological (EEG) measures.[15] It is also becoming increasingly accepted that insomnia should be recognized as a disorder in its own right, which may be comorbid with other psychiatric and/or medical conditions, but which is much more than just a secondary symptom of those conditions.

The National Institutes of Health (NIH) State-of-the-Science Conference Statement of the Manifestations and Management of Chronic Insomnia in Adults16 recommended the use of the term “comorbid insomnia” (rather than “secondary” insomnia) to more accurately reflect “the limited understanding of mechanistic pathways in chronic insomnia [which] precludes drawing firm conclusions about the nature of these associations or the direction of causality” between insomnia and concurrent medical or psychiatric conditions. In fact, treatments of insomnia are often associated with significant improvements in other distress symptoms including depression.l7 In this article, we define spousal bereavement insomnia (SBI) in seniors as a variant of comorbid insomnia specific to LLSB.

There are, of course, many different possible etiologies to SBI, and two major pathways can be identified. First is simply the loss of a loved one who may have been the subject’s bed partner for many decades, and whose absence at night can intensify the sense of loss and significantly affect bedtime routines and sense of safety, thereby altering sleep patterns and sleep quality. Second, there is the major depression that afflicts about 28% of the spousally bereaved.18 This risk of depression appears to peak during the first 6 months of bereavement,19 although depressive symptoms can be present for up to 2 years.20 In their study, Reynolds et al[3] showed that depressed-bereaved subjects were almost identical to non-bereaved, depressed, unipolar depressed patients of matched age and gender both in PSQI scores (bereaved: 12.3, non-bereaved: 12.9), and in polysomnographic (PSG) measures of sleep continuity, rapid-eye movement (REM) sleep measures and non-REM (NREM) sleep architecture. In analyzing the possible cognitive mechanism for this sleep disruption in the spousally bereaved elderly, Hall et al[21] showed that levels of intrusive thoughts and avoidance behaviors reported by depressed-bereaved subjects were in the range of values typically observed reported among individuals with posttraumatic stress symptoms. CG was not assessed in this study and may have accounted for these findings. Although more work is required to fully elucidate the multiple potential

mechanisms that contribute to SBI, targeted treatment of their sleep disturbances may be an important step to facilitate recovery and improve general health and functioning outcomes.

SLEEP IN COMPLICATED GRIEF

CG (also referred to as prolonged grief disorder or traumatic grief) is characterized by recurrent intrusive pangs of emotion, persistent yearning and longing for the deceased, preoccupation with thoughts of the deceased, intrusive thoughts of death, and avoidance of reminders of the lost individual.22–24 A recent functional brain imaging study found activation of pleasure centers (in particular the nucleus accumbens) in women with CG, as well as pain centers activated in bereaved individuals with and without CG when material concerning the deceased is presented.25 This suggests a mechanism (over-rehearsal of positive memories of the deceased) by which CG might be sustained. CG is a clinical construct distinct from those of depression and anxiety, but CG is often comorbid with depression,26 or posttraumatic stress disorder (PTSD).27 Sleep disturbance is not a diagnostic feature of CG. Nevertheless, a growing body of literature suggest that poor sleep quality accompanies CG and may complicate clinical outcomes. Because sleep is a modifiable behavior, the study of sleep in individuals with CG may yield important refinements and lead to more effective prevention and treatment strategies for CG itself.

In a prior study, we have shown that a majority of adults seeking treatment for CG report clinically meaningful sleep disruption and overall poor sleep quality and that the presence of comorbid depression or PTSD in adults with CG only modestly worsens sleep quality.[28] Rather, both depression severity and severity of grief symptoms were significant predictors of poor sleep quality. Another study found insomnia is more severe in college students who endorse CG symptoms compared with non-bereaved students with insomnia. Thus, the relationship between insomnia and grief may well be bidirectional. In patients with bipolar disorder,[29] CG symptoms appear to further worsen sleep quality, and sleep may play a critical role in the relationship between grief symptoms and bipolar disorder.

Although sleep quality was modestly improved following a targeted treatment of CG,[30] clinically meaningful levels of sleep disturbance remained posttreatment, even in responders.[31] The latter suggests that treatments that specifically target sleep disturbances may be necessary to address the full spectrum of symptoms that characterize CG.

SLEEP-FOCUSED TREATMENT OPTIONS

For many bereaved persons, the usual treatment for SBI or CG-related sleep disturbances is a course of hypnotics prescribed by their general practitioner, often on a chronic, rather than acute, basis. Although some now dispute the conventional wisdom that chronic use of hypnotics is strongly contraindicated for seniors,[32,33] few clinicians would dispute that a behavioral treatment for the insomnia would be preferable, if it were feasible. Most gerontologists would agree that nighttime falls are a concern in the elderly, and that such falls are more likely if the patient is taking hypnotic medication. Additionally, recent research has suggested that insomnia per se may be a risk factor for nighttime falls.[34] There is also the issue of financial cost associated with the purchase of hypnotics for the treatment of insomnia. As noted above, being widowed increases hypnotic use with an odds ratio of 2.12.

Psychological interventions offer safer and potentially more cost-efficient and durable non-pharmacological alternatives to hypnotic treatments for insomnia. Specifically, cognitive-behavioral interventions for insomnia (CBT-I) have been shown to be efficacious in reducing insomnia. CBT-I is a multimodal treatment that combined sleep restriction, stimulus control, sleep hygiene, and cognitive restructuring of erroneous beliefs and unrealistic expectations about sleep. Individual components of CBT-I that have been shown to be particularly effective

include stimulus control and sleep restriction.35,36 Meta-analyses of clinical trials using the CBT-I typically delivered throughout an 8-week period, in six to eight 60-minute weekly intervention sessions, conducted by clinical psychologists who are specially trained in sleep medicine behavioral treatments, have consistently reported effect sizes ranging from .59 to 1.05 for time to fall asleep (sleep latency), and from .82 to 1.03 for unwanted time awake after sleep onset.

These meta-analyses have demonstrated the efficacy and durability of these behavioral interventions for primary insomnia and comorbid insomnia, as well as insomnia occurring concurrently with another medical or psychiatric condition.37,38 However, such time and personnel resources are often not readily available in settings without a tertiary medical center. To address these concerns, briefer protocols for the treatment of primary insomnia have been developed and appear to be feasible, effective, safe, and associated with clinically significant improvements in sleep and daytime symptoms. Our group and others have shown that shorter behavioral interventions (with between 1 and 4 sessions) are associated with clinically meaningful improvements in sleep, and can be conducted and delivered by nurses and trained master's level interventionists.[39] These shorter behavioral treatments of insomnia, therefore, have the advantage of being easily transportable into settings where bereaved individuals typically seek care and support.

Most of the effective behavioral brief treatments have used sleep hygiene, combined with two behavioral techniques: stimulus control and sleep restriction. Stimulus control aims at limiting the use of the sleep environment (bed, bedroom) to sleep (and sexual activity). Sleep restriction involves the implementation of a regular sleep-wake schedule, which limits the time spent in bed while awake and favors sleep consolidation. Of note, sleep hygiene comprises only a subset of CBT-I. Sleep hygiene refers to recommendations aimed at increasing the frequency of sleep-promoting habits (eg, early light exposure) and at decreasing the frequency of habits and factors that may interfere with sleep quality (eg, caffeine use, uncomfortable sleep environment). Several studies have shown that sleep hygiene alone is significantly less effective for alleviating insomnia than CBT-I, or stimulus control and sleep restriction.[40]

Shorter behavioral treatments of insomnia have been shown to be effective with individuals who present with insomnia occurring alone (termed primary insomnia), as well as with insomnia comorbid with another medical or psychiatric condition. Thus, they appear promising as a possible treatment modality for bereavement-related sleep disorders.

CONCLUSION

Sleep disturbance is common in bereaved individuals and may lead to poor physical and mental health outcomes. Many facets of the bereavement situation contribute to sleep disturbance. Given the large body of literature of the adverse effects of sleep disruption on health, functional status, and mood, it is possible that by treating sleep disturbances in bereaved adults, therapists may additionally contribute to the patient's recovery in several different domains. Hypnotics are the most widely used sleep-focused treatments. Although many have been show to be efficacious in older adults, concerns about falls, side effects, and associated cognitive impairments in older adults often limit targeted sleep interventions. Cognitive-behavioral treatments of insomnia have been shown to be effective in improving both sleep symptoms and daytime impairments associated with primary and comorbid insomnia. In particular, brief versions of this therapy may be promising as a treatment modality. As sleep disturbance is a modifiable risk factor for poor health outcomes, further research is necessary to evaluate the benefits of adjunctive sleep interventions for spousal bereavement and CG.

EDUCATIONAL OBJECTIVES

1. Recognize the importance of sleep disruption in bereavement.
2. Explain the possible role of insomnia treatment for bereaved individuals.
3. Discuss the etiology of sleep disorders in bereavement.

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