Hoggarth, P., (2009). Night eating syndrome: Description, comorbidity, and treatment.
Journal of the New Zealand College of Clinical Psychologists, 19(1), 19-21.

Night eating syndrome: Description, comorbidity and treatment

Petra Hoggarth

Night eating syndrome (NES) has been described as a combined eating, sleep and mood disorder. NES can produce significant suffering in those affected, and a pattern of night eating should be addressed in treatment. Issues of diagnosis, comorbidity and treatment are discussed with recommendations for useful treatment resources.

Night eating syndrome (NES) was first described by Stunkard, Grace, and Wolff (1955) as a triad of symptoms comprising evening hyperphagia, insomnia, and morning anorexia. More recently, Stunkard (2002) has described NES as a combination of eating, sleep, and mood disorder symptoms. People with NES characteristically feel little hunger in the morning through midday period, with a return of appetite in the late afternoon. Eating begins in earnest around the evening meal and often continues into late evening. People with NES often have difficulty falling asleep and may wake several times a night and eat before returning to sleep.

There is no universally accepted diagnostic criteria set for NES, although researchers commonly use some combination of morning anorexia, night eating, sleep disturbance, and mood disturbance. Striegel-Moore et al. (2006) allowed for only one criterion to be met for diagnosis and found a prevalence rate of 25% in a community sample. Using a similar approach Lundgren et al. (2006) found a prevalence rate of 15.6% in a psychiatric sample. Perhaps the most stringent criteria were used by Rand, Macgregor, and Stunkard (1997), who required the presence of morning anorexia, delay of eating after awakening for several hours, excessive evening eating, evening tension and/or feeling upset, and insomnia, over the course of at least two months. They found a prevalence rate of 1.5% in a general population sample, 27% in post-bariatric surgery patients, and an additional 30.6% of patients who would have met criteria prior to surgery. Difficulties in reconciling such disparate prevalence rates highlight the caution necessary in interpreting the results of NES studies.

People with NES have high rates of comorbidity. These include depression (Allison, Grilo, Masheb, & Stunkard, 2005; Allison et al., 2006; Lundgren, Allison, O'Reardon, & Stunkard, 2008; Striegel-Moore et al., 2008), substance use disorders (Lundgren et al., 2006; Lundgren et al., 2008), and anxiety disorders (Lundgren et al., 2008). People with NES also tend to have higher body mass indices than controls (Lundgren et al., 2006; Striegel-Moore et al., 2008). Birketvedt et al. (1999) performed a neuroendocrinological study of night eaters compared to controls. Over the course of 24 hours the NES group had significantly lower melatonin levels between 10pm and 6am compared to controls, higher leptin during the day with an attenuated increase of leptin in the evening, and higher levels of cortisol between 8 a.m. and 2 a.m. These findings suggest that people with NES may have lower hunger during the day due to higher leptin levels, may be more likely to wake during the night because of lowered melatonin levels, and may be more likely

Petra is currently completing her PhD and clinical training at the University of Canterbury. Petra's email is pah74@student.canterbury.ac.nz

to eat at these times due to lower leptin levels. Higher cortisol could be related to increased rates of mood disorder.

Given a recent surge of interest in NES, Striegel-Moore et al. (2006) investigated whether NES would meet Blashfield, Sprock, and Fuller's (1990) inclusion criteria for an entry into the DSM. The inclusion criteria include the requirement for a substantial number of recently published research findings; the existence of a standard set of diagnostic criteria with accompanying structured interviews and self-reported instruments; evidence of differentiation from other clinical syndromes; and evidence of diagnostic reliability and validity. The authors failed NES on every inclusion criteria and indicated that substantially more empirical investigation of NES is required before it could be considered a disorder in its own right.

Despite the ambiguity of NES as a diagnostic category, it is clear that people affected by night eating can suffer substantially, and hence it is worthy of treatment attention. A clinician is likely to have contact with a client with NES in the context of an eating disorder or depressive disorder. Subsequent to their endocrinological study, Birkevedt et al. (1999) suggested that administration of exogenous melatonin and leptin may reduce night waking and eating, while SSRI medication could alleviate low mood symptoms. There have been no controlled trials on any pharmaceutical or psychological treatment for NES. It is likely, however, that NES can be treated within a cognitive-behavioural framework. Allison, Stunkard, and Their (2004) wrote a self-help book for people with NES: *Overcoming Night Eating Syndrome: A step-by-step guide to breaking the cycle*. The book provides information regarding common sleep, eating, and mood patterns in people with NES, the influence of genetics and hormones on NES, and interventions focused on thoughts, relaxation, and behavioural changes. The book includes the 14-item Night Eating Questionnaire, which was developed by the authors to assist in the clinical diagnosis of NES. The questionnaire provides information regarding feelings of hunger, cravings, control of eating, food intake patterns, mood, and sleep problems. A 10-session cognitive-behavioural treatment was developed subsequent to publication of the self-help book (Allison & Stunkard, 2007). Sessions 1-4 introduce a food diary and regular eating regime, recording of automatic thoughts, constructing a behavioural chain of night eating episodes, stimulus control, such as putting food in rooms that the person will not access at night, and urge surfing. Sessions 5-8 introduce relaxation and coping skills for anxiety regarding eating, and sleep hygiene practices. Sessions 9-10 focus on relapse prevention and skill consolidation. The authors reported the results of a pilot study of 16 people with NES who received the 10-session treatment. Seven of the sample dropped out of treatment. However, intent-to-treat analysis showed significant reductions in the percentage of caloric ingestion after dinner (33.7% to 18.7%), number of awakenings per week (11.7 to 8.3), and number of nocturnal ingestions per week (8.6 to 3.9). The group that completed treatment showed even larger benefits. It appears that focusing on aspects of night eating in treatment can lead to symptom reduction, and it is likely a focus on night eating could be incorporated into existing cognitive behavioural treatment for bulimia nervosa and binge-eating disorder. Allison et al.'s (2004) book bears more than a passing resemblance to Fairburn's *Overcoming Binge Eating* (1995), and may prove to be as beneficial for those affected by a pattern of night eating as

Fairburn's book has been for those with a pattern of binge-eating.

References (recommended treatment resources are marked)

Allison, K. C., Grilo, C. M., Masheb, R. M., & Stunkard, A. J. (2005). Binge eating disorder and night eating syndrome: **A** comparative study of disordered eating. *Journal of Consulting and Clinical Psychology, 73*, 1107-1115.

***Allison, K. C., & Stunkard, A. J. (2007). Self-help for night eating syndrome. In J. D. Latner & G. T. Wilson (Eds.), *Self-help approaches for obesity and eating disorders: Research and practice* (pp. 310-324). New York: The Guilford Press.

***Allison, K. C., Stunkard, A. J., & Thier, S. L. (2004). *Overcoming night eating syndrome: **A** step-by-step guide to breaking the cycle.* Oakland, CA: New Harbinger Publications.

Allison, K. C., Wadden, T. A., Sarwer, D. B., Fabricatore, A. N., Crerand, C. E., Gibbons, L. M., et al. (2006). Night eating syndrome and binge eating disorder among persons seeking bariatric surgery: **P**revalence and related features. *Obesity, 14*, 77s-82s.

Birkevedt, G. S., Florholmen, J., Sundsfjord, J., Østerud, B., Dinges, D., Bilker, W., et al. (1999). Behavioral and neuroendocrine characteristics of the night-eating syndrome. *Journal of the American Medical Association, 282*, 657-663.

Blashfield, R. K., Sprock, J., & Fuller, A. K. (1990). Suggested guidelines for including or excluding categories in the DSM-IV. *Comprehensive Psychiatry, 31*, 15-19.

Fairburn, C. (1995). *Overcoming Binge Eating.* New York: The Guilford Press.

Lundgren, J. D., Allison, K. C., Crow, S., O'Reardon, J. P., Berg, K. C., Galbraith, J., et al.. (2006). Prevalence of the night eating syndrome in a psychiatric population. *The American Journal of Psychiatry, 163*, 156-158.

Lundgren, J. D., Allison, K. C., O'Reardon, J. P., & Stunkard, A. J. (2008). A descriptive study of non-obese persons with night eating syndrome and a weight-matched comparison group. *Eating Behaviours, 9*, 343-351.

Rand, C. S. W., Macgregor, A. M. C., & Stunkard, A. J. (1997). The night eating syndrome in the general population and among postoperative obesity surgery patients. *International Journal of Eating Disorders, 22*, 65-69.

Striegel-Moore, R. H., Franko, D. L., May, A., Ach, E., Thompson, D., & Hook, J. M. (2006). Should night eating syndrome be included in the DSM? *International Journal of Eating Disorders, 39*, 544-549.

Striegel-Moore, R. H., Franko, D. L., Thompson, D., Affenito, S., May, A., & Kraemer, H. C. (2008). Exploring the typology of night eating syndrome. *International Journal of Eating Disorders, 41*, 411-418.

Stunkard, A. J. (2002). Binge-eating disorder and the night-eating syndrome. In T. A. Wadden & A. J. Stunkard (Eds.), *Handbook of obesity treatment* (pp. 107-121). New York: The Guilford Press.

Stunkard, A. J., Grace, W. J., & Wolff, H. G. (1955). The night-eating syndrome - a pattern of food intake among certain obese patients. *American Journal of Medicine, 19*, 78-86.