Nocturnal Eating Syndrome and its consequences

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***Abstract*— The night eating syndrome (NES) is a medical condition that includes both eating and sleeping problems. It is a relative condition involving morning anorexia, evening hyperphagia and/ornocturnal ingestions, and insomnia, is garnering more recognition for its involvement in the development and maintenance of obesity. An electronic search was implemented in PUBMED, GOOGLE SCHOLAR, RESEARCHGATE, SCIENCEDIRECT database. Search terms included: 'night eating syndrome', 'night eating disorders', 'sleep quality', 'binge eating'. The findings of these studies show that night eating syndrome impacts the sleep quality and causes other morbidity. Overall, the Night Eating Syndrome had considerably lower sleep quality and sleep efficiency. The recognition and effective treatment of NES may be an increasingly important way to treat a subset of the obese population.**

Index Terms: **Night Eating Syndrome, Night Eating Disorder, Sleep Quality, Bulimia Nervosa.**

INTRODUCTION

Human behavior is influenced by eating and sleeping habits. Distress and bad physical and psychological effects result from dysregulation of these activities. In light of this, eating and sleep are two desired parts of lifestyle; also, there is a link between health and lifestyle. As a result, paying attention to sleep and eating patterns is appropriate.[1] There have been links discovered between NES, eating disorder (ED) behaviors and attitudes, poor physical and psychosocial functioning, and maladaptive coping.[2]Although most reports are not based on population-based prevalence statistics, NES prevalence is similar for men and women, and it is more common in people with sleeplessness, obesity, and other psychiatric problems.[3] The fundamental NES requirements include eating at least 25% of one's daily calories after dinner (evening hyperphagia) and/or waking up in the middle of the night to eat (nocturnal eating). NES is defined by a delayed meal intake pattern in which the patient consumes at least 25% of his or her daily calories after supper and/or during nocturnal awakenings. NES is expected to affect 1.1 percent to 1.5 percent of the general population and 6 percent to 16 percent of obese people. NES has also been linked to a variety of psychological diseases and sleep issues. [6]Medical practitioners are still unfamiliar with NES. Other mental diseases, particularly eating disorders and sleep disorders including sleep associated eating disorders, have some characteristics with NES (SRED). There are, however, some key distinctions between NES and these conditions. As a result, while detecting NES and providing appropriate care for patients with NES, proper diagnosis of NES was highlighted as the most critical issue. [7] Because NES symptoms overlap with those of Sleep-Related Eating Disorder, ED classification is debatable (SRED). Both NES and SRED patients have nighttime overeating, weight gain, and sleep disruption. Both are quite common in women and are frequently associated with depression.[4]Chronic disorders such as hypertension, dyslipidemia, stroke, and myocardial infarction may be increased by NEHs, lowering health-related quality of life (HRQoL). Females have worse HRQoL than males, according to prior studies, and probable reasons include socioeconomic and physiological inequalities.[5]

SYMPTOMS OF NIGHT EATING SYNDROME

- Evening Hyperphagia: It is the consumption of ≥ 25% of daily calories intake after the evening meal.
- ≥ 2 nocturnal ingestions: rising up in the middle of the night to eat
- morning anorexia: lack of appetite in the morning
- a strong need to eat between dinner and bedtime, as well as during nocturnal awakenings

- at least four to five nights of sleeplessness each week; assumption that eating is required to commence or resume sleep
- a gloomy mood that intensifies in the evening

Because of the wide range of symptoms linked with NES, it's best to think of it as a combination of eating, sleeping, mood, and stress disorder symptoms.[7]

CONSEQUENCES OF NIGHT EATING SYNDROME

Binge eating syndrome:
In patients with BN, the prevalence of NES was estimated to be 9 percent–47 percent. The high comorbidity rates and varying degrees of symptom overlap between NES and other EDs have sparked a dispute about how NES should be defined.

Sleep apnea:
Sleep problems may be caused by and/or triggered by NES. Insomnia and sleep disorders may also occur before NES. Patients with NES have difficulty initiating and maintaining sleep, according to existing research. Low sleep efficiency has also been linked to NES.

Sleep related eating syndrome:
This is mostly to differentiate NES from the rarer sleep-related eating disorder (SRED) (formerly NSRED). SRED is classified as a parasomnia, and it is frequently accompanied by sleep walking and restless leg syndrome. Sedative hypnotics can cause SRED. It is characterized by strange eating choices and a strong desire to eat before sleeping.

Depression:
NES appears to be common in those who are mentally unwell. The prevalence of NES in outpatient psychiatric populations in the United States ranges from 12.3% to 25%, and some data suggests that antipsychotic medication may aggravate the symptoms. Depression in NES has an unusual pattern with particular circadian characteristics. In contrast to depression, which is worse in the morning and improves throughout the day, mood is usually better in the morning and worsens in the evening and night.

Anxiety:
Night anxiety appears to be more common in adults with NES than in adults with BED, and morbidly obese nocturnal snackers have similar heightened levels of psychological stress and melancholy.[8]

TREATMENT

Cognitive behavioral therapy:
Research on effective treatments specific to NES has been minimal, with just one randomized, controlled trial published to date. Case reports and open-label trials have suggested benefit from a variety of strategies including pharmacological treatment, cognitive behavior therapy (CBT) and several other treatment alternatives such as progressive muscle relaxation, phototherapy, and behavior therapy.It presented the information currently available, with the recommendation that further research be conducted within each of the treatment modalities to build upon the nascent literature base of effective treatments for NES. The first study to investigate cognitive behavioral therapy (CBT) for NES was conducted by Allison and colleagues8 in response to the observed cognitive component of night eating behavior. The primary goal of CBT for NES is to correct the delay in circadian eating rhythms by shifting food intake to earlier in the day, while simultaneously interrupting the overlearned relationship between night time eating, faulty cognitions, and sleep onset.

Behavior therapies:
Therapies traditionally used for the treatment of mood and anxiety disorders, such as behavior therapy, may also be adapted to successfully treat NES. To date, two case study reports have examined the effectiveness of behavioral therapy for NES. This behavioral plan remained effective in controlling the client's night eating symptoms at an 18-month follow up, but his symptoms reportedly returned if his plan was not in place.

Progressive muscle relaxation:
Progressive muscle relaxation (PMR) is a therapeutic technique designed to achieve muscular relaxation through the tension and release of various muscle groups. A major limitation of this trial was its

brevity. Future studies should follow adherence and outcome over a longer period of time.

Phototherapy:
Phototherapy uses melatonin as its role in the onset of seasonal depression, and that adjusting the levels of melatonin in the body would lead to symptom improvement. Because NES has been conceptualized as a disorder of circadian rhythm, and because melatonin is involved in the regulation of circadian rhythms, phototherapy has been proposed as a logical treatment choice for NES.[9]

METHODOLOGY

An electronic search was conducted on PubMed, Elsevier, ScienceDirect, Academia with a search word of night eating syndrome, night eating disorder, Sleep-Related Eating Disorder, eating disorder. The paper was considered which included night eating syndrome or its diagnostics or consequences associated with it. The paper which did not concluded any information about night eating syndrome were excluded.
Results, included original research and other reviews, were assessed at title, abstract, or by reading the full papers. Studies included when they met a) the definition of night eating syndrome studies b) papers addressed any aspect of night eating syndrome and its consequences associated with night eating syndrome.

DISCUSSION & CONCLUSION

We discovered that the prevalence of night eating syndrome is higher among teenagers (more women than men). People's health is being affected as a result of the consequences. Anxiety, sadness, binge eating disorders, sleep eating disorders, and sleep apnea were among the effects, which increased the risk of morbidity in those affected. Because there is currently little knowledge of the illness assessment and diagnosis is also very less practiced. Treatment options are confined to therapy and lifestyle modifications. For diagnostic and assessment purposes, one has to take Night Eating Diagnostic Questionnaire. Increased prevalence of night eating syndrome is associated with increase in OTT platforms availability, the pessimistic behavior of people towards bad eating habits is on surge.
The need to change the lifestyle and dietary patterns is very crucial for treatment of this disorder.
Due to stagnant lifestyle and tensed work environment, mental health issues are raising among which night eating syndrome cases might be also be increasing.

REFERENCE

[1] Golmohammadi M, Samieefar N, YariBoroujeni R, Rezazadeh A. Association between the behavior of eating disordered and sleep disturbance in Shahid Beheshti University of Medical Students. SDH. 2019;5(1):27-35. DOI: https://doi.org/10.22037/sdh.v5i1.25929

[2] Cristin D. Runfola, PhD1, Kelly C. Allison, PhD2, Kristina K. Hardy, PhD3, James Lock, MD, PhD4, and Rebecka Peebles, MD5. Prevalence and Clinical Significance of Night Eating Syndrome in University Students. J Adolesc Health. 2014 July ; 55(1): 41–48. doi:10.1016/j.jadohealth.2013.11.012.

[3] Nolan and Geliebter Journal of Eating Disorders (2019) 7:39 https://doi.org/10.1186/s40337-019-0268-9

[4] Kaur J, Dang AB, Gan J, An Z and Krug I (2022) Night Eating Syndrome in Patients With Obesity and Binge Eating Disorder: A Systematic Review. Front. Psychol. 12:766827. doi: 10.3389/fpsyg.2021.766827

[5] Kim, Y.; Kwak, J.H.; Paik, J.K. Association of Night Eating Habits with Health-Related Quality of Life (HRQoL) in University Students. Healthcare 2022, 10, 640. https://doi.org/10.3390/ healthcare10040640

[6] Allison KC, Tarves EP. Treatment of night eating syndrome. Psychiatr Clin North Am. 2011;34(4):785–796

[7] Allison, K. C., &Tarves, E. P. (2011). Treatment of night eating syndrome. The Psychiatric clinics of North America, 34(4), 785–796. https://doi.org/10.1016/j.psc.2011.08.002

[8] Cleator, J., Abbott, J., Judd, P., Sutton, C., & Wilding, J. P. (2012). Night eating syndrome: implications for severe obesity. Nutrition & diabetes, 2(9), e44. https://doi.org/10.1038 /nutd.2012.16

[9] Allison, K. C., &Tarves, E. P. (2011). Treatment of night eating syndrome. The Psychiatric clinics

of North America, 34(4), 785–796. https://doi.org/10.1016/j.psc.2011.08.002