Original Research Article

A study on the prevalence, demography and phenomenology of night eating syndrome in patients attending a tertiary general hospital psychiatric clinic

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ABSTRACT

Background: Night Eating syndrome (NES) is characterised by morning aphagia, evening hyperphagia and sleep disturbances for a period of at least three months. The exact pathophysiology of NES remains elusive in spite of behavioural and neuroendocrine studies pointing to a combination of a sleep disorder, eating disorder and/or disorder of circadian rhythm. The disorder is associated with stress, abstinence from substance or smoking and many other psychiatric manifestations, apart from significant weight gain and associated metabolic problems. The current research aimed to study the prevalence, phenomenology and demographic profile of NES in patients attending tertiary general hospital psychiatry clinic in medical college attached general hospital.

Methods: 459 serial patients aged 18-59 visiting the outpatient department were screened using a standardised questionnaire for NES. A complete demographic profile of patients was recorded and a record of their height, weight, diagnosis and medication history was made. Patients diagnosed with NES were further interviewed in regards to complete phenomenology of the disease, for example duration of symptoms, number of awakenings etc. in them. The prevalence of NES in the sample was calculated and phenomenology was described.

Results: In our study, prevalence of NES among patients attending psychiatric OPD was found to be 5.66% (26 patients in sample of 459). Majority of the patients were middle aged between 35-50 years of age. Majority were females. 14 out of the 26 patients were either obese (BMI>30), or overweight (BMI 25-30) and even those with normal weight had BMI in upper ranges of normal (23-25). No positive family history was noted. Complete morning anorexia was noted by all cases. Evening dysphoria, craving for snacks following dinner was found in all cases. Average number of awakenings per night was 2-3 associated with food consumption to get back to sleep. This occurred three-four times a week. Average duration of symptoms was for 1.5-2 years, ranging from 10 months to 10 years.

Conclusions: The study assessed NES among a particularly vulnerable group of psychiatric patients and showed prevalence of 5.66%. It is important that we routinely enquire about NES to view of significant prevalence and apparent predisposition to weight gain in psychiatric patients. Larger studies in this direction are warranted.

Key words: Night eating syndrome, psychiatric outpatients, sleep disorder, eating disorder.

(Received – 20th January 2016, Peer Review done – 28th March 2016, Accepted – 12th April 2016)

INTRODUCTION

Night eating syndrome (NES) is relatively lesser known eating disorder and has been introduced in DSM-5 for the first time [1]. NES is characterised by a lack of appetite in the morning, overeating at night with agitation (> 50 % of daily calorie intake after evening meal mostly in form of sugary or starchy foods), sleep disturbances (waking up at least once every night to consume high carbohydrate diet) lasting for at least for a period of 3 months [2]. The pathophysiology and neurobiology of the disorder has not yet been completely elucidated though number of studies have been carried out in this regard [3]. It is viewed as a as sleep disorder, eating disorder or disorder of circadian rhythm with the strongest evidence supporting the latter coming from neuroendocrine studies showing decreased levels of melatonin (sleep inducing hormone) [4], decreased level of leptins (satiety inducing hormone) in evening times [5] associated with concomitant rise in cortisol (stress related hormone) [6] which is out if phase to natural circadian rhythm [7]. The disorder can start at any time in life [8]. A psychological and emotional component may be important in precipitation but is not well understood [9]. Some of the factors commonly associated with onset of NES are acute stress reactions, abstinence from alcohol or opiates/cocaine abuse and cessation of cigarette smoking [10].

Studies have reported a prevalence to be 0.5-2.5% in general population [11] and 6-10% in patients attending an obesity clinic [12]. The prevalence further goes up to 18-28% in patients who are > 100 pounds overweight [13]. Studies in psychiatric patients have reported a prevalence of 10-14% making it more prevalent than anorexia nervosa [14]. There are no treatment guidelines laid out for the management and a combination of medication [15] and psychotherapy in the form of cognitive behaviour therapy [16] has been the best combination. SSRIs have been used in NES with a fair amount of success [17-18]. To the best of our knowledge there is no data regarding this clinical condition in terms of phenomenology, prevalence, or demographic profile in Indian populations. Hence the present research aimed at to study the prevalence, phenomenology and demographic profile of NES in patients attending a tertiary general hospital psychiatric outpatient department in a medical college attached hospital in Mumbai.

METHODOLOGY

459 serial patients attending the psychiatric outpatient clinic, aged between 18-59 years were screened for NES after an informed consent about the aims and objectives of the study. All patients were administered the Night eating Syndrome Questionnaire as devised by the Centre for Weight and Eating Disorder, Department of psychiatry, University of Pennsylvania, School of Medicine [19] used for screening of this disorder. Demographic profile of all the patients including age, gender, religion, education, occupation (with details of shift duties), marital status, type of food consumed, socio-economic status was noted. A note of the current psychiatric diagnosis with relevant details, and medications received by the patients were made. The patients height, weight, body frame (small, med., large), whether overweight and maximum weight gained by the patient and age at when weight first became problem also noted. Body Mass Index (BMI) was calculated for all subjects [20]. Guidelines as per clinical practice were used in the assessment of overweight and obesity [21].

A note of whether patients partially exhibit any symptoms suggestive of NES was also made and for all those patients who fulfilled criterion of NES, presently or in the past for at least 3 months at a stretch; further detailed history regarding their dietary habits, kind of food they ate or preferred to consume during their night eating, whether associated with any other medical illness and number of night awakenings/week and per night was noted. The prevalence of NES was calculated and a comparison was made between demographic profiles of patients with NES and without NES.

STATISTICAL ANALYSIS

Descriptive statistics and percentages were used where appropriate as it was an epidemiological study.

RESULTS

General Demography

A total of 459 subjects were interviewed and their socio-demographic data were recorded. Most subjects were in the age range 18-45 years. Majority belonged to the middle or lower socio-economic strata in keeping with the class of patients that visit the hospital involved in the study. Majority were married. It was interesting to note that schizophrenia (231 out of 459, 50.33%) and depression (152 out of 459, 33.12%) were the major psychiatric diagnosis. It was noteworthy that 189 patients (41.18%) reported partial symptoms of NES though they did not meet criteria for NES.

Prevalence of NES

26 patients out of 459 (5.66%) fulfilled the criteria of NES and hence our study reported a prevalence of 5.66%. Out of the 26 subjects that had NES, all were in the age range 35-55 years, all were right handed and majority (18 out of 26, 69.24%) were females. All subjects had completed secondary education. An equal number belonged to lower and middle socio-economic class. 24 out of 26 (92.3%) were married. 14 out of 26 (53.85%) were either obese or overweight. The psychiatric diagnosis in these subjects were schizophrenia (10 out of 26, 38.46%), depression (8 out 26, 30.77%), anxiety disorders (4 out of 26, 15.38%) and one each had alcohol dependence, borderline personality disorder, bipolar disorder and opioid dependence respectively. None of the cases diagnosed had a family history suggestive of NES in their relatives.

Phenomenology of NES

Table 1 summarises the phenomenology of the disorder in the 26 cases described.

It is important to note that lack of hunger in the morning, first food consumption of the day between 12noon and 3pm, night craving of food, eating large amounts of food at night and lower mood in the evenings and night were reported by all subjects. Awareness of midnight snacking was reported by all subjects and all has some sleep problem or another. Majority of subjects (22 out of 26, 84.62%) had been having symptoms for 1-2 years. The average time night eating happened in most subjects was 2-5 times a week. However none of the subjects when questioned had ever felt that it was a psychiatric disorder that needed treatment and never ever reported it to their family doctor or psychiatrist either.

All patients diagnosed with schizophrenia were on atypical antipsychotics (Risperidone, Olanzapine, Clozapine, Amisulrpide an Aripiprazole). All the patients diagnosed with depression were on SSRIs (Escitalopram, Paroxetine, Fluoxetine). It was however difficult to ascertain whether the features of NES ensued after the start of the medication.

DISCUSSION

This is to the best of our knowledge the first study on the prevalence of NES in psychiatric patients in Maharashtra state. NES is a relatively unknown syndrome and hence not many patients who suffer from it seek medical help and intervention [22]. It is vital that patients visiting psychiatric clinics be routinely screened for NES as the prevalence of NES in this population is higher than that of the general population. A number of confounding factors like neuroendocrine changes in response to an existing psychiatric disorder, changes in neurobiology, effects of psychotropic drugs on metabolism and body weight and cognitive factors may contribute to the syndrome [23]. Patients with psychiatric conditions are often predisposed to medical conditions and NES may further worsen chronic medical disorders like acidity and diabetes [24]. It is still worthwhile mentioning that the etiology of NES is elusive. Various theories have been posited but none that can confirm the biological basis of the disorder. Further long term studies in various populations are needed to help clinicians have a better understanding of this disorder. Awareness of the disorder in the general population too needs to be created in order for patients to come forward and mention the symptoms of NES. The study was limited in its sample size and no control group was used in the comparison to psychiatric patients.

Table 1 – Characteristics of patients with NES in the study

Criteria and Phenomenology of NES		(N=26)
Hunger in the morning	Not at all	25
	Little	1
	Somewhat	0
	Moderately	0
	Very much so	0
Time of first food consumption of the day	Before 9am	0
	9am – 12noon	0
	12noon – 3pm	25
	After 3pm	1
Craving for food at night	Very much	24
	Moderate	2
	Little	0
Night time snacking after supper	Yes	23
	Sometimes	3
	No	0
Proportion of daily food intake after supper	1-25%	0
	25-50%	1
	50-70%	24
	> 70%	1
Lower mood in the evening	Yes	23
	Sometimes	3
	No	0
Sleep problems	Yes	22
	No	4
Getting up in the middle of the night	Yes	24
	No	0
	Sometimes	2
Awareness of midnight snack consumption	Yes	26
	No	0
	Don't know	0
Duration of symptoms	< 1 year	4
	1-2 years	22
	> 2 years	0

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Acknowledgements – Department of Psychiatry, University of Pennsylvania, School of Medicine for permission to use the night eating syndrome questionnaire and scale while it was available only for onlin survey use at the time of doing this study

Source of Funding – Nil
Conflict of Interest – Nil