

ORIGINAL ARTICLE

NIGHT EATING SYNDROME IN YOUNG ADOLESCENTS: FREQUENCY AND SIGNIFICANCE

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Abstract

Objective: Night Eating Syndrome (NES) was first described in 1955 and recently categorized in DSM-V. The prevalence is 1.5-5.7% in general population and reaches up to 5.7% in young adolescents. The aim of this study is to determine the prevalence of NES in university students and the related factors with NES.

Methods: 179 university students (17 male, 162 female) were enrolled to this cross-sectional study. Data were obtained by a questionnaire applied to participants face to face. Questionnaires include socio-demographic features, medical history and anthropometric parameters of the participants. To evaluate NES, Turkish version of the Night Eating Questionnaire (NEQ) was used. Statistical analysis was performed by using SPSS 17.0. All descriptive statistics were reported as mean±SD. p values < 0.05 were considered as statistically significant.

Results: Nineteen participants (10.6%) met the criteria of NES. There were no significant differences between NES and non-NES groups with respect to gender, age or Body Mass Index (BMI). Also, there was no correlation between BMI and NEQ points of participants (r=0.03; p=0.690).

Conclusion: In conclusion, this study impacts that NES was high among university students in Turkey. Additionally, assessing the presence of NES in young adults and adolescents may help to find out other psychiatric and eating disorders.

Key Words: Eating disorder, Night eating syndrome, Adolescents, Students.

Introduction

Night Eating Syndrome (NES) is an interesting eating disorder in which the circadian timing of food intake disturbs. NES is characterized by morning anorexia, evening hyperphagia and nocturnal food ingestion (1). Although it was first described in 1955, diagnostic criteria have recently been categorized in DSM-V (2). The prevalence of NES in population has been estimated between 1.5-5.7%. However, its prevalence is given rise to elevate by obesity and mental disorders, especially in young adolescents. The estimated prevalence of NES in young adolescents was 5.7% (3,4). Emotional eating has been correlated with some disorders like overeating, binge eating, bulimia nervosa and obesity (5). University students are under the risk of NES due to their high stress, alteration of sleeping patterns and disordered eating habits (6). Not only the risk of NES, but also NES severity increases in university students (7). The aim of this study is to determine the prevalence of NES among university students and the related factors with NES.

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Methods

Study Population

The data were obtained by an observational study. Study participants (18-24 years) were students in a different department of the Istanbul Bilim University. After verbal consent, data were obtained by a questionnaire applied to the participants face to face. All of the questionnaires were completed, and then evaluated by preliminary. Afterwards, questionnaires with missing data were excluded. A total of 179 students were participated in the study. 17 of them were male (9.49%), and the rest were female (n=162).

Measurements in the Study

Some measurements including their socio-demographic features, medical history and anthropometric parameters as "Body Mass Index" (BMI) were done. BMI was calculated as the weight (kg) divided by the height (m) squared. The participants had light clothings on without shoes during the height and weight measurements. To evaluate of NES, the Night Eating Questionnaire (NEQ) was used (7). NEQ is mainly used for discriminating individuals suffering from NES to healthy ones (8). This questionnaire measures the symptoms of NES with 14 items. All of the items have 5 point-forced-choice scale (ranges 0-4). With these 14 items, four factors of NES were requested:

nocturnal eating, evening hyperphagia, morning anorexia and sleep disturbance. The clinical cut-off score used for the questionnaire was 30 and above for increased specificity. The reliability and validity of Turkish version of NEQ were done by Atasoy et al (9).

Statistical Analysis

Statistical analysis was performed by using SPSS 17.0. All descriptive statistics were reported as mean \pm SD. Independent t-test was used to compare two independent groups. Pearson's χ^2 test was applied to analyze categorical data. p values $<$ 0.05 were considered as a statistically significant.

Results

A total of 179 university students were included in the study. The mean age was 20.00 ± 2.25 years. The majority of gender was female (n=162; 90.5%). Mean BMI was 20.9 ± 3.14 kg/m². According to BMI classification, 4 participants (2.2%) were obese, 4 participants (2.2%) were overweight, most of the patients were normal (n=137, 76.5%) and only 19 (10.6%) were thin. Most of the students were living with their family or relatives (n=114; 64.0%), and forty-one of them (31.0%) have generally preferred to eat home-made food. General features of the participants were summarized on Table 1. Of the total of 179 university students included in the study, 19 (10.6%) participants met the criteria of NES. The mean of NEQ points was 18.25 ± 7.19

Table 1. General features of participants with or without night eating syndrome

	NES (n=19)	Non-NES (n=160)	p value
Sex			
Female	18 (94.74)	144 (90.00)	0.506
Male	1 (5.26)	16 (10.00)	
Age	20.21 \pm 1.43	20.51 \pm 2.33	0.582
Living with/at			
Family	11 (57.89)	103 (64.38)	0.491
Friends	3 (15.79)	32 (20.00)	
Dormitory	5 (26.32)	25 (15.62)	
Self Cooking	4 (21.05)	27 (16.88)	0.649
BMI			
<18 kg/m ²	4 (21.05)	15 (9.37)	0.297
18-25 kg/m ²	12 (63.16)	125 (78.13)	
25-30 kg/m ²	3 (15.79)	16 (10.00)	
>30 kg/m ²	0 (0.00)	4 (2.50)	

BMI, Body Mass Index; NES, Night Eating Syndrome
 Pearson's χ^2 test
 Data are presented as n (%) and mean \pm SD.

in the whole study group, and was 16.52 ± 5.89 in males and 18.43 ± 7.33 in females ($p=0.229$). Only one (5.5%) participant with NES was male, and the remaining participants with NES were female. There were no significant differences between NES and non-NES groups with respect to gender, age or BMI. Additionally, there was no correlation between BMI and NEQ points of participants ($r=0.034$; $p=0.690$).

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Discussion

The prevalence of NES ranges between 1.5-4.3% in the general population (10-12). However, NES frequency is more prevalent in young adolescents with obesity or diabetes, and patients with various psychiatric disorders (3,6,13,14). The prevalence of NES among university students in our study was 10.6%. This prevalence was higher than other studies in the literature (3,4,6). The university students mainly report high stress, sleep disturbance, and disordered eating which all can play a role for the development of NES. Combination of these factors with poor physical activity and psychosocial functioning, also maladaptive coping strategies with stress, make them more sensitive to develop NES. Although there is lack of statistical significance, the prevalence of NES was higher in female compared with men and this was debating in the literature. Rand & Kuldau found out similar prevalence in both sexes, like Striegel-Moore et al (15,16). But some studies suggest that female and some others suggest that male have more frequent NES (17-19). We did not find any relation between NES and BMI in our study, which is consistent with some studies held in young adolescents (3,4,6). But some other studies with only adult participants show a relation between BMI and NES (11,12). Because weight gain occurs with persistence of NES, it is possible to not see the relation between BMI and NES (20). Due to this relation, NES patients with younger age usually do not have high BMIs.

The main limitation of this study was the small number of participants in the study group. The other related eating disorders were not evaluated and this was the second limitation of our study. As a result, this study impacts that NES was high among university students in Turkey. Since some studies in the literature show the relation of mental disorders like depression and anxiety disorder with NES; assessing the presence of NES in young adolescents may also help to find out other psychiatric disorders. Additional research efforts can be elucidate the related factors of NES.

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