

## Review Article

## Less Known Eating Disorders

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**Abstract**

The prevalence of eating disorders is becoming an increasing problem in recent years. Eating disorders, located in avoidable disorders, have fatal complications and need to be well recognised by health professionals. Studies also indicate increasing rate of less-known eating disorders as well as commonly known types. Signs and symptoms, risk factors and treatment of eating disorders show a wide variation. Studies that will be conducted on the subject will; facilitate planning and determining the quality of health services. Especially health care workers with their work; will contribute to early diagnosis and treatment. In this review the epidemiology, aetiology, symptoms and risk groups of less -known eating disorders are evaluated.

**Key Words:** Eating Disorders; Night eating syndrome; Orthorexia nervosa; Pica; Female athlete triad; Diabulimia

***Night eating syndrome***

Night eating syndrome (NES) was first described in 1995 by Stunkard et al. in a study conducted in 25 treatment-resistant obese patients (Stunkard et al., 1995). It is an eating disorder characterized by anorexia occurring in the morning, evening wakes up with overeating (hyperphagia) and insomnia with awakenings and food intake afterwards (O'Reardon et al., 2005). One of the main clinical features of NES is deterioration of the timing of food intake by taking of at least 25% of daily calories after dinner (O'Reardon et al., 2005). Birkevedt (1999) has developed uncertain diagnostic criteria for the NES which included anorexia in the morning, evening hyperphagia, awakenings at onset of sleep and nocturnal eating. These minimal criteria are used not only for the NES, but for determining disorders of eating, mood and sleep (Birketvedt et al., 1999). During the First International Night Eating Symposium (April 26, 2008, Minneapolis,

MN) expert investigators in the area announced their consensus on the provisional diagnostic criteria for NES (Table 1) (Allison et al., 2010).

Considering that it leads to obesity clinicians' focus is on the NES (Stunkard et al., 1995, 2005). O'Reardon et al.; in their study, reported that there might be an association between the development of obesity and NES (Rand et al., 1997). Several studies reported that NES patients initially were of normal weight, but showed a detectable increase in weight with the development of this syndrome (Colles et al., 2007; Geliebter, 2001; O'Reardon et al., 2004; Stunkard et al., 1995). In general, NES is observed in 10% of obese people (Gluck et al., 2001). In one study; NES prevalence in obese people who applied to loose weight ranged from 6% to 14%. The same studies indicate that these eating disorders are also encountered in non-obese individuals (Birketvedt et al., 1999; Gluck et al., 2001; Root et al., 2010; Stunkard et al.,

1955). In studies conducted various countries, there was no association of NES with neither sex nor age, but eating disorder was associated with BMI, anxiety and depression (De Zwaan et al., 2006; de Zwaan et al., 2014; Fischer et al., 2012; Gallant et al., 2012; Orhan et al., 2011). Clinical sample data and some epidemiological studies, although show no difference according to gender; these results are still controversial (Saraçlı et al., 2014; Striegel-Moore et al., 2006). The prevalence in the general adult population of this disease which is frequently seen in women is reported to be approximately 1.3% to 5.7% (Colles et al., 2007; Fischer et al., 2012; Stunkard et al., 2005).

### **Orthorexia nervosa**

Orthorexia nervosa (ON); is an eating disorder characterized by the obsessive passion and behavior for healthy eating, and is included in the classification of eating disorders among DSM-V (Orhan, 2013; Vandereycken, 2011). ON; consists of words meaning; true, "orthose" and the sense of hunger, "orexis" in Greek. First Steven Bratman (1997); to diversify Anorexia Nervosa (AN) described it as a pathological fixation to consume healthy food (Bratman S, 1997; Janas-Kozik et al., 2012). Pathological obsession of orthorexia nervosa patients lead to healthy eating obsession with involuntary weight loss (Arusoğlu et al., 2008; Bratman S, 1997). Having no negative perceptions about their weight and thinking that they could eat and drink everything considered healthy these people, have a serious obsession about the food they consume, whether it contains aspects of herbicides, pesticides or artificial ingredients or are pure biological material (Bratman S, 1997; Bryant-Waugh, 2013). This obsessive behavior is related to the content rather than to the quantity of food consumed. Concerned about the methods and materials used in the preparation of food, they may refuse to eat, or diet with only raw vegetables, or preference of foods of certain colors can be seen. However, such behaviour is not related to a mental disorder (Carrie Granbois, 2011; Gezer and Kabaran, 2013). As in patients with obsessive-compulsive disorder, orthorexia nervosa patients also; as a result of spending the majority of time in deal with strict rules, social functions can be damaged over time (Arusoğlu et

al., 2008; Carrie Granbois, 2011). The unusual level of concern for health; leads to malnutrition and weight loss as in anorexia nervosa (Carrie Granbois, 2011). Unlike AN and bulimia nervosa (BN) patients with ON are in extreme deal about eating healthy and pure foods. Although weight loss is similar to the AN patients, food choices of ON patients are based not on the calories but on eating healthy food or not. According to the results of research carried out in a limited number; in the near future, we will more frequently encounter with people with orthorexic trends (Arusoğlu et al., 2008). Bratman stated that, ON prevalence data is lacking in many countries and in Italy, but in the US the situation possesses an alarming state (Bratman and Knight, 2001). Some researchers argue that exactly the opposite is true (Arusoğlu et al., 2008; Donini et al., 2004). Donini et al. (2004) in his study; reported the ratio of having ON as 6.9% and stated that the situation was not as serious as Bratman stated (Donini et al., 2004).

ON frequency is expected to be very common in women who care about their physical appearance and eating habits, but studies have found higher levels of ON prevalence in men with low levels of education (Donini et al., 2004). Several studies conducted by medical students, physicians, dietitians, also in individuals with anxiety, obsessive-compulsive behaviors and people who have an excessive emphasis on body image; reported more frequent ON symptoms (Aksoydan and Camci, 2009; Bağcı Bosi et al., 2007; Fidan et al., 2010; Gezer and Kabaran, 2013; Janas-Kozik et al., 2012).

### **Pica**

Pica, is an eating disorder that was documented for the first time in the fourth century BC by Hippocrates. As it can cause a disease; may occur as a result of any disease (Byard, 2014). Pica syndrome or disease is defined as; the persistent ingestion of non-nutritious substances for at least 1 month; without disgust (Ertekin et al., 2012). The most common materials consumed are ice, sand, clay, soil, plastic, cloth, chalk, paper, hair, the match ends. To be more in childhood; seen in all societies and in all age groups (Advani et al., 2014; Byard, 2014; Mishori and McHale, 2014). Particularly has a higher rate among children younger than 6 years

of age, low socioeconomic groups and children with mental retardation (Koçak, 2000; Yum et al., 2009). Although aetiology of pica is unknown; it is particularly seen in childhood and pregnancy and certain conditions are blamed like anaemia, mineral deficiencies, and psychiatric disorders, receiving haemodialysis, behavioural disorders, such as anorexia nervosa, family stress, obsessive-compulsive disorder and socio-cultural factors (Rose et al., 2000; Ünalın et al., 2007). The most widely accepted explanation for pica;

arguing that it occurs due to lack of iron and minerals such as zinc; is nutritional theory. However; also psychological problems, are thought to be a factor (Advani et al., 2014; Ertekin et al., 2012). Potential complications of pica involve; heavy metal toxicity, gastrointestinal obstruction, parasitic infections and dental disorders such as tooth decay, erosion, and tooth fractures (Advani et al., 2014; Toker et al., 2009).

**Table 1. Classification of combined oral contraceptives according to the type of progestogen.**

<p><b>A. Core criterion:</b> Daily pattern of eating demonstrates a significantly increased intake in the evening and/or night time, as manifested by one or both of the following:</p>
<p>1. At least 25% of food intake is consumed after the evening meal.</p>
<p>2. At least two episodes of nocturnal eating per week.</p>
<p><b>B. Core criterion:</b> Awareness and recall of the evening and nocturnal episodes are present</p>
<p>1. Lack of desire to eat in the morning and/or breakfast is omitted on four or more mornings per week.</p>
<p>2. The presence of a strong urge to eat between dinner and sleep onset and/or during the night.</p>
<p>3. The presence of a belief that one must eat to initiate or return to sleep.</p>
<p>4. Sleep onset and/or sleep maintenance insomnia is present four or more nights per week.</p>
<p>5. The mood is frequently depressed and/or mood worsens in the evening.</p>
<p><b>C. Core criterion:</b> The disorder associated with significant distress and/or impairment in functioning</p>
<p><b>D. Core criterion:</b> The disordered pattern of eating has been maintained for at least 3 months</p>
<p><b>E. Core criterion:</b> The disorder is not secondary to substance abuse or dependence, medical disorder, medication or another psychiatric disorder.</p>

### **Diabulimia**

Diabulimia; is a potentially life-threatening eating disorder, described recently among patients with type 1 diabetes (Davidson, 2014). It is a dangerous method, applied particularly by young women with type 1 diabetes; in the form of skipping or reducing the dose of insulin without the advice of a doctor, to lose weight or to reach a normal weight (Darbar and Mokha, 2008; Larrañaga et al., 2011). These methods are well known among type 1 diabetics, as popular, but deadly applications to lose weight (Yan, 2007). These have resulted in diabetic ketoacidosis, delayed growth, decrease in metabolic control and early emergence of diabetes-related complications (e.g., renal failure, retinopathy, cardiovascular disease and death) (Hasken et al., 2010). Women with diabetes have applications of insulin therapy outside the medical claims to achieve weight control (Bryden et al., 1999). Therefore, training and follow-up of individuals with diabetes is an extremely important issue (Bryden et al., 1999, 2003; Dalzell, 2011; Hasken et al., 2010).

### **Athlete triad**

(Özdemir Şahin, 2013). Exercise addiction; is a condition that people suffer physically and spiritually a result of excessive exercises. Knowledge on the aetiology, epidemiology, mechanisms and treatment of exercise addiction is still inadequate (Vardar, 2012). Athlete triad syndrome; which is, being reported more commonly in female athletes in recent years, is a health problem due to lack of energy availability, menstrual irregularities, and bone mineral density reduction (Vardar, 2013). Women's sport and physical activity participation rate are increasing day by day. With this increase, an increase in sport-induced health problems and changes has also begun to emerge. Weight reduction pressures, overtraining, injuries and concerns in failing; may cause deterioration of eating behaviour in female athletes (Olden, 2001). Usually the desire to lose weight at the beginning leads to eating disorders such as AN and BN when necessary measures are not taken (Özdemir Şahin, 2013). The female athlete triad is a syndrome that links energy availability with reproductive function and bone health in women that exercise. Although not known exactly; female

athletes' triad prevalence rate is estimated to be between 15-60% (Özdemir Şahin, 2013; Vardar, 2012, 2013). Athletes often deny eating disorders. The menstrual irregularities and amenorrhea are perceived as an advantage for the performance.

### **Rumination Disorder**

Rumination Disorder is the recurrent, effortless regurgitation of food, which is subsequently re-chewed, re-swallowed, or spit out. Diagnostic and Statistical Manual of Mental Disorders (DSM-5) recently combined the topic with AN, BN, and binge eating disorder as the unitary category of Feeding and Eating Disorders.

Rumination disorder is seen in three different groups:

1. Infants
2. The individuals with developmental disabilities having psychiatric and neurological disorders
3. Adults without obvious psychiatric or neurological disorders.

Patients with this disorder have complaints similar to that of gastrointestinal disorders. However; the most distinctive feature is the ruminating behaviour. Stomach contents appear in the oropharynx without nausea and vomiting in patients with rumination (Olden, 2001). In individuals with such eating disorders, both digested and partially digested food regurgitate into the mouth with a quick light burping. After Regurgitation, the contents chewed intentionally and then swallowed or expelled from the mouth (Bratman and Knight, 2001; Bryant-Waugh, 2013).

Rumination seen in infancy, is generally considered as an indication of a problem in the bonding between the mother and the baby (Bryant-Waugh, 2013). Approach to ruminating adults with disabilities or neurological disorders must focus on the management of adverse conditions and unforeseen events. In adults without disability or neurological disorders, rumination; can be seen like a habit. Rumination in healthy individuals is triggered due to the adjuvant therapy or the emotional state (Bryant-Waugh, 2013; Bryant-Waugh et al., 2010).

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