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Food addiction in Latin America

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Abstract

Food addiction is a disorder characterized by an uncontrollable desire to eat foods high in fats and sugars. These foods activate the brain reward system in a similar way to drugs generating the release of neurotransmitters such as dopamine and oxytocin which trigger a need to repeat the behavior. In developed countries in Europe, Asia, and North America, there are reports of food addiction in children, adolescents, university students, sexual minorities, women and the adult population that suffer from obesity or overweight. In Latin America, studies conducted in Chile report that 10% of university students suffer food addiction, while in Brazil 4% of adults have the same disorder. There are few studies on the prevalence of food addiction. Likewise, validations of diagnostic instruments and studies on the effectiveness of psychotherapy are required to modify behaviors in this disorder.

Introduction

In 2016, 39% (N = 1900 million) of the adult world population over 18 years of age was overweight, while 13% (N = 650 million) were obese. In the last 41 years the prevalence of this problem has grown from 4% in the years 1975 to more than 18% in 2016 [1]. In Latin America, 58% of the population is overweight, while 23% suffer from obesity, affecting more women and children [2].

Worldwide, 2.8 million of deaths per year, are attributed to overweight and obesity, as these are known risk factors for noncommunicable diseases such as cardiovascular diseases, diabetes and some types of cancer [1],[3]. The increase in obesity and overweight in recent years seems to be due to eating patterns changes, with preference for foods high in fat and sugar, as well as the decrease in physical activity, sedentary lifestyle, globalization, migration (rural to urban), among other factors [2].

Recent studies propose that food addiction is the main cause of obesity and overweight [4]. Then, food addiction according to previous studies, occur due to a persistent behavior or unsuccessful efforts to reduce or control the intake of food, especially those that are high in fat and sugar. There are also symptoms and criteria such as tolerance and abstinence due to the substance-related and addictive disorder [5],[6],[7].

These foods generate an addictive character in the person who ingests them, because they activate the brain reward system in a similar way to drugs, generating the release of neurotransmitters such as dopamine, and activating mesolimbic regions such as the orbital frontal cortex, anterior cingulate cortex and the amygdala, generating a sensation of pleasure and well-being, that reinforces the consumption behavior, and promotes its repetition [8].

Diagnostic criteria

Although populations vulnerable to food addiction have already been identified, at now on, there are no established diagnostic criteria for food addiction in the Diagnostic and Statistical Manual of Mental Disorders (DSM-V); but several instruments have been constructed based on the characteristics of food addiction and the criteria for Disorders due to the consumption of other substances (or unknown substances) proposed in the DSM-V [9],[10],[11].

One of these instruments is the Addiction-Like Behavior Scale validated recently in the United Kingdom [12]. Another tool called Yale Food Addiction Scale Version 2.0 published in 2016, is a self-report scale of 31 items, which classifies the disorder as mild, moderate and severe. This instrument is the most used and validated in different countries, since it was created with the purpose to provide a validated measure on addictive dietary behavior based on the diagnostic criteria DSM-V of dependence on substances [13].

In Latin America, a Spanish translated instrument to assess food addiction or desire to eat, was validated in Mexico; it evaluates the habits and attitudes associated with obesity and overweight [14]. There are also other instruments to evaluate a similar problem to food addiction [15]. However, better translations and validations of instruments are necessary (Table 1).

Instrument (Country)	Population
Validation of Yale Food Addiction Scale. (México) [16].	People 14 to 37 years old with a normal, overweight and obese body mass index.
Validation of the Yale Food Addiction Scale instrument to measure food addiction (Chile) [10].	Adults with a body mass index classified as obese.
Validation of Yale Food Addiction Scale (Brazil) [11].	Adults

Table 1. Instruments to measure food addiction with validation in Latin American countries.

Populations affected by food addiction in the world
A study reported that 38% adolescents from Germany (N = 51) with obesity and overweight, qualified with a diagnosis of food addiction [5]. Another study conducted in university students from the Netherlands (N = 1495) showed at least one symptom of food addiction and 12% met the diagnostic criteria [17].

On the other hand, a study conducted in the United States with 356 participants from sexual minorities (gay, lesbian and bisexual) showed that these people have twice the prevalence of food addiction in comparison to heterosexuals, and are to be considered as a population at risk for food addiction [18].

A systematic review study on the prevalence of food addiction in adults and children, evaluated a total of 25 studies with 196,211 predominantly female participants, overweight / obese (60%). The meta-analysis found that 19.9% had food addiction, with a higher score in adults over 35, women, and overweight / obese participants [19].

The consequences of suffering food addiction, as cited in a study conducted in more than 200 Israeli children, showed that food addiction was significantly associated with a high prevalence of obesity [20]. This year in the United States, a study conducted on 150 children, reported that food addiction was associated with obesity and dietary practices that include restriction or pressure to eat [21].

First prevalence reports in Latin America
In Mexico in 2016, a study with (N = 160) adults to validate Yale's food addiction scale, reported a Cronbach's alpha = 0.7963, although it does not describe the prevalence of food addiction [16].

In Brazil in 2017, a study with (N = 7,639) adults reported that food addiction occurred in 4% of that population, with women being a vulnerable group. The presence of a major depressive episode, bipolar disorder and skin disorder were associated with this issue [11].

In Chile, a cross-sectional study conducted in 2015 with (N = 292) university students showed that 10% of the participants met the diagnostic criteria for food addiction, with obese women having a higher prevalence, however there is still limited information and lack of knowledge on the subject [22].

Treatment

By not having a characterization for its specific diagnosis, obviously this disorder also lacks specific treatment.

However, one of the treatments for food addiction is motivational psychotherapy, which focuses on providing clinical improvement in those factors that could cause vulnerability in the patient, treating impulsivity and emotional regulation [6].

The acceptance and commitment therapy (ACT) has been used in obese adults with high levels of food addiction, though more studies are required to guarantee its effectiveness because it must include the management of tolerance to psychological distress, control of emotions, and control of thoughts that lead to continue eating, to achieve self-control in feeding [23].

Cognitive behavioral therapy (CBT) techniques have shown satisfactory results in short term, reducing symptoms of food addiction [24]. A study conducted with patients with binge-eating and obesity behaviors, reflects that exposure to a virtual reality used as an alternative in vivo exposure, reduces the craving for high-calorie foods [25].

A systematic review on the transcranial direct current stimulation to treat behavioral addictions, shows that there are seven studies that report that this method reduces the

craving for food [26]. In the same way, physical exercise such as walking, running, and other sport activities represent a valuable way to deal with food addiction [27]. However, at present there is no authorized pharmacological treatment to treat food addiction [6].

Although is true that these therapies have provided favorable results in the clinical improvement of food addiction, to date we have not found clinical trials or systematic reviews conducted in Latin America to support the effectiveness and clinical significance of these therapies in the treatment of food addiction.

Conclusions

We can conclude that in Latin America there are few studies that evaluate the prevalence and therapies for food addiction and obesity. This situation is worrisome, because there is not enough scientific information to back it up. According to studies that previously show it, factors such as sedentary lifestyle, globalization, migration and other factors, we believe influence food addiction. However, this factor has not yet been explored, in Latin American countries [8].

It is clear that, food addiction is present in children, adolescents, young people, population of sexual minorities, women and adults in general whose main characteristic is suffering from obesity or overweight.

Cognitive behavioral therapy has shown to provide immediate improvement since it modifies the thoughts and feelings originated in patients with food addiction [24]. However, to date we have not found any randomized and controlled clinical trial conducted in Latin America evidencing studies on the effectiveness of some psychotherapy for food addiction, so there is still no guaranteed clinical or therapeutic treatment.

Then, Latin American professionals dedicated to mental health have a leading role in the disorder of food addiction, since they must develop specific diagnostic criteria for the disease, which will allow them to identify this disorder more efficiently. Furthermore, they must design new treatments based on self-management training and management of emotions involved in food addiction [13] that may achieve favorable results for public health in Latin America and the world. Likewise, they should explore the effectiveness of therapies to provide a humane care aimed at clinical improvement.

Researchers and universities should promote food addiction as a line of research in order to identify the prevalence in the Latin American population. All this in favor of improving public health policies.

Notes

From the editor

The authors originally submitted this article in Spanish and subsequently translated it into English. The Journal has not copyedited this version.

Declaration of conflicts of interest

The authors have completed the ICMJE Conflict of Interest declaration form, and declare that they have not received funding for the report; have no financial relationships with organizations that might have an interest in the published article in the last three years; and have no other relationships or activities that could influence the published article. Forms can be requested by contacting the author responsible or the editorial management of the Journal.

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