Addictive Behaviour of Dietary Intake Among Young Adults in Kuwait

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The concept of food addiction has been much debated and its significance and application remains under scrutiny. In populations with elevated prevalence of obesity and other diet-related non-communicable diseases food addiction may be applicable in targeting these conditions. The Yale Food Addiction scale, currently the most accepted validated tool for the measurement of food addiction, was applied to a convenient sample (n = 37) of male and female university students in Kuwait. To our knowledge this is the first time food addiction is explored in Kuwait. This study is an initial step into the investigation of food addiction among a sample of the Kuwait population. If identified, food addiction may be an emerging modifiable risk factor in public health interventions to reduce the high prevalence of obesity.

The current model of food addiction is based on similarities between certain aspects of overeating and the criteria for substance addiction of the Diagnostic and Statistical Manual of Mental Disorders [1]. Research has suggested that hyperpalatable foods may be capable of triggering an addictive process [2]. Food addiction is similar to substance addiction in that there is a neurochemical effect in the brain [3].

The Yale Food Addiction Scale (YFAS) is a tool that has been developed to identify those people most likely to exhibit indicators of substance dependence with the consumption of high fat/high sugar foods. The questions in the YFAS fall under specific criteria that resemble the symptoms for substance dependence as stated in the Diagnostic and Statistical Manual of Mental Disorders IV-R and operationalized in the Structured Clinical Interview for DSM Disorders [4].

The YFAS was applied to a sample population of university students in Kuwait. Convenience sampling method was followed for recruitment via word of mouth with the following inclusion criteria: 1) age >18 years, 2) currently living in Kuwait, 3) without known metabolic, cardiovascular or endocrine diseases, 4) not pregnant or lactating at the time of the study 5) ability to read and write in English. The study was conducted under the ethical principles of the Declaration of Helsinki.

The diagnosis of food addiction was based on the YFAS. Responses were coded and scored according to the corresponding instruction sheet [5]. Briefly, cut-offs are used for the continuous questions and assigned either a 0, indicating a question is not significantly met, or 1, question criteria is met. After computing the cut-offs the questions under each substance dependence criterion are summed up. The criteria for food addiction are met when three or more symptoms are present and clinically significant impairment is present [1].

A total of 45 participants (28 female, 17 male) were recruited from a local University in Kuwait. Of these, results from 8 female respondents were dropped due to missing data. The prevalence distribution of symptoms of [food] substance dependence is presented on Figure 1. Three indicators of food addiction were evaluated: tolerance, knowledge of adverse consequences and withdrawal symptoms. 30% of the study population met the diagnosis criteria for diagnosis of food dependence with no significant difference between genders (females 30%, males 29.4%). The majority of the participants (95%) presented a persistent desire or repeated unsuccessful attempt to quit [food] substance abuse. Females were least likely to present characteristic [food] withdrawal symptoms (30%). The foods most commonly identified as problematic include fries, pasta and chips.

The prevalence of food addiction in a Canadian population was reported at 5.4% for the general population (6.7% in females, 3.0% in males) [6], much lower than the rates found in this study. Using the YFAS, 11.4% of predominantly normal-weight young adults were diagnosed as being food addicted [1]. A similar prevalence, 8.8%, was confirmed in a comparable sample in Germany [7]. Prevalence of food addiction has been more widely study in overweight and obese populations with correlations found with both conditions. Whether this correlation is casual or causal remains to be determined.
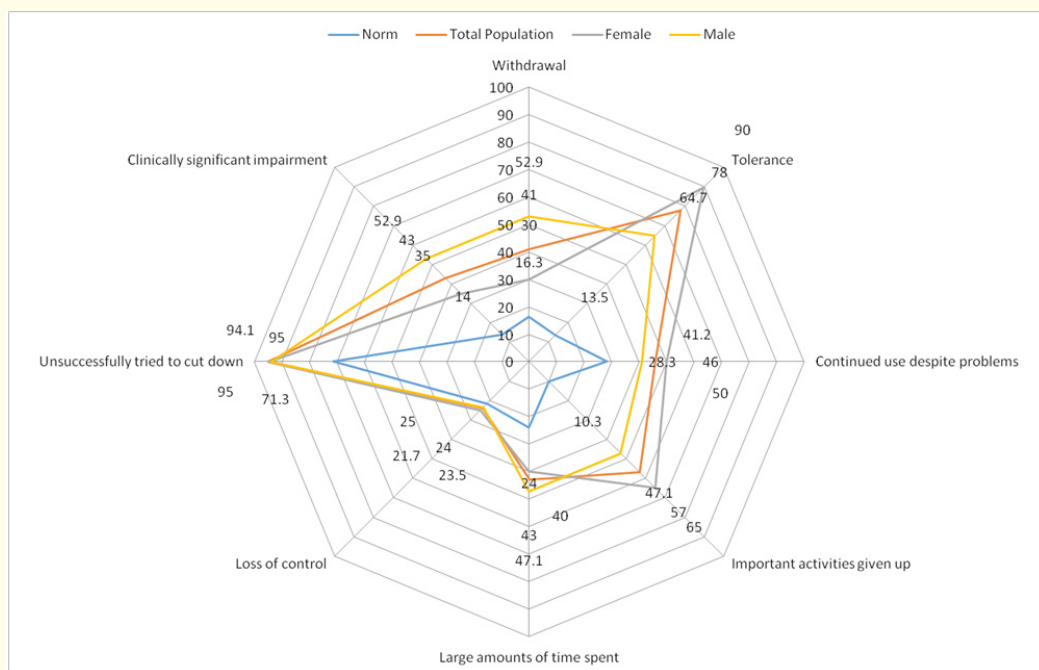

Figure 1: Prevalence distribution of symptoms for substance dependence.

To our knowledge this is the first time a food addiction scale has been applied in Kuwait. While the concept of food addiction is a popular one and may influence the over consumption of high-fat/high-sugar foods, it is unlikely to be part of the causal pathway in most people with obesity. At a population level, one of the main drivers of the raise in prevalence of obesity seems to be increased availability of food, with a consequential imbalance between energy intake and expenditure. This is where food addiction would interfere.

This study is an initial step into the investigation of food addiction among a sample of the Kuwaiti population. While food addiction may be a causal factor in obesity, it is likely to be so only in certain individuals and a model for the establishment of food addiction as a valid condition is lacking. Alternative approaches to exploring the brain's contributions to obesity warrant study. If established, food addiction may be an emerging modifiable risk factor in public health interventions to reduce the high prevalence of obesity.
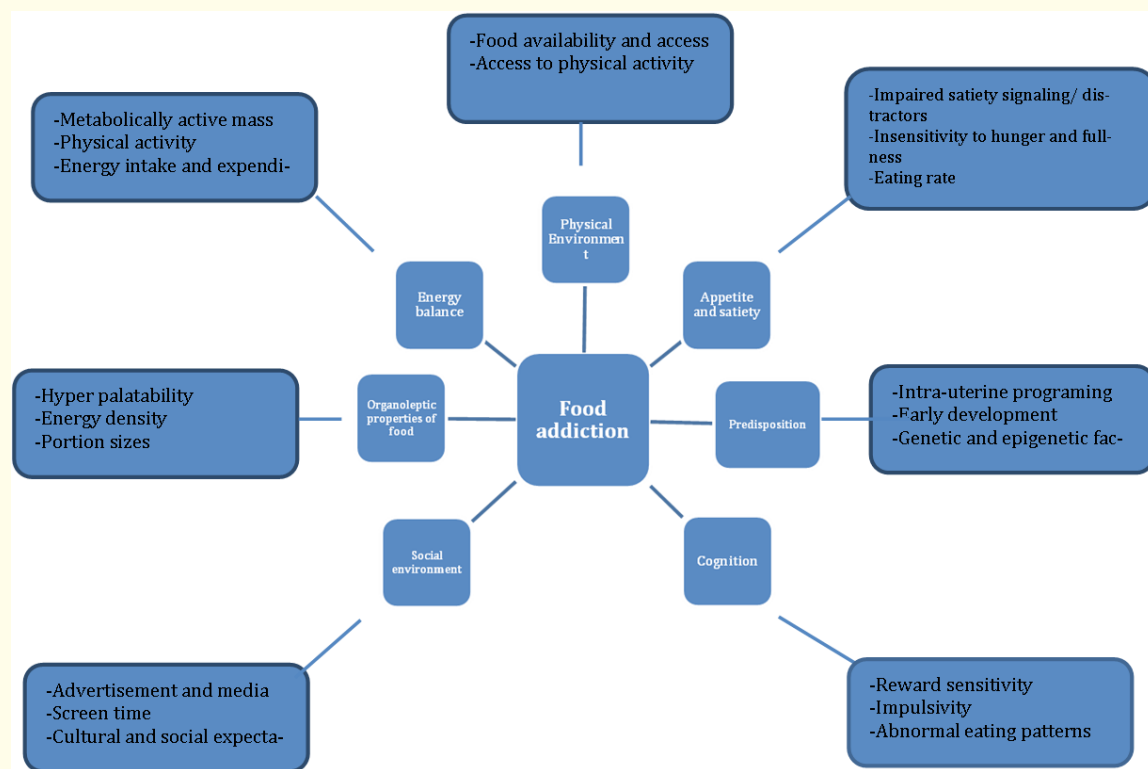
Figure 2: *Mediators of food addiction.*

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