The association between food addiction, body mass index, and body weight: A systematic review and meta-analysis

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Background: Aspects of obesity are associated with a wide range of health behaviours including unhealthy eating. Food addiction (FA) is an addictive behaviour, which causes responses to food rewards similar to conditions like alcohol abuse or smoking.

Objective: To determine the relationship between body mass index, body weight and FA.

Methods: A systematic review was conducted in PubMed and SCOPUS, from database onset up to May 2019, to identify observational studies investigating the relationship of body mass index and body weight with FA, as measured by the Yale Food Addiction Scale (YFAS). A random effects model was used to calculate the pooled effect size.

Result: Overall, 557 articles were screened, of which 7 full-text articles were included. The random effects meta-analysis revealed that participants with FA had higher BMI (4.6 kg/m^2, 95% CI: 2.5, 6.8; P <0.001) and higher body weight (15.2 kg, 95% CI: 6.8, 23.5; P <0.001) compared with their non-FA counterparts. According to subgroup analysis, age and sex were reported as the sources of heterogeneity. A meta-regression found a positive correlation coefficient between YFAS and BMI (r=0.305; 95%CI: 0.178, 0.432, P<0.001).

Conclusion: This study suggests that FA may be associated with increased risk of higher BMI or body weight. These findings provide a platform for the development of appropriate interventions to prevent or treat certain aspects of obesity, where targeting FA may be an important component of a behavioural weight management program.