

Neurotrophins and childhood obesity

Abstract

Obesity in children is a global health problem and has been a rising trend in recent decades. Identify factors that contribute to childhood obesity, including neurotrophin that studied in recent years would be appropriate to intervene in order to prevent and control obesity. Brain-derived neurotrophic factor (BDNF) is the most important neurotrophin in obesity and is decreased in obese children than in healthy children.

Keywords: obesity, children, neurotrophin

Volume 4 Issue 4 - 2016

Parinaz Kalejahi

Department of Nutrition, Tabriz University of Medical Sciences, Iran

Correspondence: Parinaz kalejahi, Department of Nutrition, Faculty of Nutrition, Tabriz University of Medical Sciences, Attar Nishabouri St, Tabriz, I. R. Iran, Postal code: 5166614711, POBOX: 14711, Fax +984133340634, Tel +989143040656, Email parinaz.kalejahi@gmail.com

Received: October 20, 2015 | **Published:** April 19, 2016

Introduction

Obesity in children is a global health problem and has been a rising trend in recent decades. Multiple complications of obesity can be constant threat to the individual and society. Identify factors that contribute to childhood obesity, including neurotrophin that studied in recent years would be appropriate to intervene in order to prevent and control obesity. Nineteen related articles using keywords obesity, children, neurotrophin were selected. Brain-derived neurotrophic factor (BDNF) is the most important neurotrophin raised in obesity. BDNF can regulate food intake, energy homeostasis and affect weight control. The inverse relationship between plasma levels of BDNF and obesity in children was seen in most studies, and on the other hand the genotypes of the Val66Met polymorphism of the BDNF gene was associated with obesity and hyperphagia and also impaired of BDNF receptor (TrkB) in children was related with severe obesity.¹⁻³

Conclusion

There was a significant decreased in plasma BDNF levels in obese children than in healthy children, and may be drugs acting on enhancement of BDNF activity will help in Prevention of Obesity.

Acknowledgements

None.

Conflict of interest

The author declares no conflict of interest.

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