



CORRIGENDUM

Relationships between dietary macronutrients and adult neurogenesis in the regulation of energy metabolism – CORRIGENDUM

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The purpose of this corrigendum is to clarify the nature of the PUFA that are discussed in this article⁽¹⁾. The revised abstract is published below.

Abstract

Of the environmental factors which have an impact on body weight, nutrients are most influential. Within normal limits, hypothalamic and related neuronal populations correct perturbations in energy metabolism, to return the body to its nutritional set-point, either through direct response to nutrients or indirectly *via* peripheral appetite signals. Excessive intake of certain macronutrients, such as simple carbohydrates and SFA, can lead to obesity and attendant metabolic dysfunction, also reflected in alterations in structural plasticity, and, intriguingly, neurogenesis, in some of these brain regions. Neurogenesis, previously thought to occur only in the embryo, is now known to take place in the adult brain, dependent on numerous stimulating and inhibiting factors, including dietary components. Because of classic associations between neurogenesis and the hippocampus, in learning and cognition, this brain region has also been the focus of attention in the study of links between diet and neurogenesis. Recently, however, a more complete picture of this relationship has been building: not only has the hypothalamus been shown to satisfy the criteria for a neurogenic niche, but appetite-related mediators, including circulating hormones, such as leptin and ghrelin, pro-inflammatory cytokines and the endocannabinoid intracellular messengers, are also being examined for their potential role in mediating neurogenic responses to macronutrients. The present review draws together these observations and investigates whether *n*-3 PUFA may exert their attenuating effects on body weight through the stimulation of adult neurogenesis. Exploration of the effects of nutraceuticals on neurogenic brain regions may encourage the development of new rational therapies in the fight against obesity.

Reference

1. Yon MA, Mauger SL & Pickavance LC (2013) Relationships between dietary macronutrients and adult neurogenesis in the regulation of energy metabolism. *Br J Nutr* **109**, 1573–1589. Published by Cambridge University Press, 25 February 2013, doi:10.1017/S000711451200579X.