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Preface

In spite of the increased attention devoted to the literature and by health ministries, overweight and obesity prevalence continues to increase worldwide [1]. A systematic analysis performed in 2013 referred to the global burden of these conditions, and showed that more than 50% of the world's 671 million obese people live in 10 countries: the United States, China, India, Russia, Brazil, Mexico, Egypt, Germany, Pakistan, and Indonesia [2]. Additionally, overweight/obesity has unhealthy outcomes such as diabetes, hypertension, and cancer [3].

Lower levels of income and education favor the development of obesity in countries such as the United States [4] and South America [5]. Inequality of access to healthy foods is one mechanism that can influence food choice behavior, overall diet quality, and consequently body weight. Affordability of healthy foods may have a significant impact on food patterns: grains, added sugars, and fats are inexpensive, tasty, and convenient. Conversely, recommended healthier diets cost more and are consumed by more affluent groups. Body weight gain may be best predicted not by any one nutrient, food, or beverage, but by low-cost diet.

Clinicians also observe that patients face several barriers to weight loss, and factors include poverty, social, and cultural norms, lack of educational awareness of obesity as a problem, beliefs regarding hereditary or generational body types, and limited motivation to lose weight [6]. Bilger et al. [7], reported similar conclusions in their recent revision of the literature concerning inequality and poverty. The authors concluded that it is necessary to implement policies that jointly consider obesity and income to support those who suffer from the double burden of poverty and obesity-related health conditions.

Although the worldwide obesity epidemic is, in the main, attributed to lifestyle changes, its determination in an obesity-prone environment is mainly due to genetic factors. Heritability, monogenic, and polygenic obesity studies have provided consistent evidence that obesity-predisposing genes interact with a variety of environmental, lifestyle, and treatment exposures [8].

Overweight/obesity represents a substantial burden for those affected by unhealthy conditions. In fact, obese pregnant women are more likely to have an early pregnancy loss, an increased risk of congenital fetal malformations, and large-for-gestational-age neonates, as well as gestational diabetes and preeclampsia. All of these problems may be avoided through the prevention of obesity among women of reproductive age and should be viewed as a global public health priority. A strong association between chronic pain and obesity/morbid obesity that interferes with daily activities in adults is also highlighted in the South Australian population [9].

On account of the increasing evidence of the high impact that overweight/obesity has on society and the lack of a consistent and efficient treatment of the problem, this special issue of reviews attempts to provide an alternative pathogenic and therapeutic approach. Such an approach evaluates the hypothalamic role of appetite circadian control and its cross-talk with adipose tissue, whose dysfunction closes the vicious circle that leads to the overweight/

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obesity condition. This approach is considered extensively in each article of this issue.

As an overview, this special issue deals with a number of basic and clinical aspects of obesity, including the innate disease and hypothalamic genes controlling energy expenditure, inflammaging, the role of the melanocortin system in metabolic disease, hypothalamic lipids as key regulators of whole-body energy balance, hypothalamic insulin resistance, white adipose tissue and circadian rhythm dysfunction, and the high cardiometabolic risk associated with phenotypes of polycystic ovary syndrome. Our hope is that the reviews in this special issue of *Neuroendocrinology* will open new and promising avenues for disease prevention and appropriate control and treatment of the overweight/obese population.

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