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## OBESITY: WHAT'S OLD, WHAT'S NEW AND HOW WE MANAGE IT: AN INTEGRATED APPROACH IN PHARMACY PRACTICE

*Obesidad: lo viejo, lo nuevo y cómo lo gestionamos: un enfoque integrado en la práctica farmacéutica*

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The World Health Organization (WHO) has declared obesity as the largest global chronic health problem in adults which is increasingly turning into a more serious problem than malnutrition. In 2014, more than 1.9 billion adults (18 years and older) were overweight. Of these over 600 million were obese (1). The cause of obesity is complex and multifactorial. At the simplest level, excess body fat results from an imbalance of energy intake and energy expenditure. Complex interactions between biological (including genetic and epigenetic), behavioral, social and environmental factors (including chronic stress) are involved in regulation of energy balance and fat stores (2,3). The rapid increase in the prevalence of obesity over the past 30 years is mainly a result of cultural and environmental influences. The complex physiology of obese individuals does not fit a single model; in fact, due to the extent of health complications, obesity represents a special population with a need for individually based therapeutic Drug Monitoring. Therapeutic drug ranges are determined through clinical trials, as are dosing regimens; however,

obese patients are rarely incorporated in clinical studies, resulting in very limited understanding of the drug PK in this special population. Choosing the optimal body mass parameter for dosing also depends on the drug's molecular weight, lipid solubility, and protein binding, among other properties (4). Same applies to patients who have performed bariatric surgery (5). The treatment of obesity should primarily focus on appropriate dietary regimen (decreased nutrient intake to create a negative energy balance) and a physical exercise programme (increasing the metabolic rate to create a negative energy balance). Current guidelines indicate that pharmacological treatment should be reserved for patients with BMI over 30 kg/m<sup>2</sup> or BMI bigger than 27 kg/m<sup>2</sup> and cardiovascular risk factors. Every pharmacological treatment for obesity should always be accompanied by lifestyle changes as well. Several treatments have been discontinued due to severe side effects including sibutramine, rimonabant and lorcaserin. Orlistat is one of the oldest approved treatments still in the market. Recent drugs have been approved, namely the Naltrexone/Bupropion and Phertermine/Topiramate combinations (6). Although these combinations are not approved worldwide. New evidence seems to support the role of glucagon-like peptides 1 (GLP-1) like liraglutide and semaglutide (6,7). Pharmacists and other health professionals must continue to monitor the evolution in the treatment and health education of obese patients.

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