



## Obesity-Causes, Treatment and *in vitro* Antiobesity Studies - A Review

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**Abstract :** Obesity is a present global issue due to drastic changes in life style, food habits, intake of too many drugs and stressful or sedentary life. Obesity is associated with substantial increases in morbidity, premature mortality. Although several antiobesity drugs are introduced into the market, many of them have been withdrawn due to fatal side effects. Exploration of new and effective antiobesity drugs with less or negligible side effects is highly essential especially patients with morbid obesity. The present paper summerizes the causes, various treatments and in vitro evaluation techniques for new antiobesity drugs.

Obesity has increased at an alarming rate and has become a worldwide health problem. It is gradually being regarded as a specific, distinct medical problem rather than just a consequence of overeating. Obesity is associated with many chronic diseases including type 2 diabetes mellitus, cardiovascular disease (stroke, hypertension and dyslipidemia), certain types of cancer (endometrial, breast, colon), depression, sleep disorders, musculoskeletal disorders<sup>1</sup> and formation of gallstones.

Obesity, most often defined as a body mass index (BMI) of  $\geq 30$  kg/m<sup>2</sup> and morbid obesity is defined as BMI of  $\geq 40$  kg/m<sup>2</sup>. Prevalence of the disorder in adults has more than tripled in the past decade globally. Obesity in children and adolescents is of particular concern. The current prevalence of 7–10% in these populations is predicted to at least double by 2025<sup>2</sup> and there is strong evidence of persistence into adulthood<sup>3,4</sup>.

Obesity is associated with substantial increases in morbidity, premature mortality and impaired quality of life<sup>5,6,7</sup>. Although prevention and changes to the obesogenic environment are long-term goals, treatment is required obese. However, however, treatment options remain quite limited. Lifestyle changes in the form of dieting and/or exercise do not generally produce marked and sustainable weight loss<sup>8,9</sup>, whereas effective psychological therapies, such as cognitive behavioural therapy, cannot easily be delivered on a mass scale<sup>10</sup> and long-term results are disappointing. Bariatric surgery, such as Roux-en-Y bypass or gastric banding, is much more effective in terms of weight loss, co-morbidity reduction and enhanced survival<sup>11,12</sup>. However, owing to concerns about mortality, surgical complications and the frequent need for reoperation, these procedures tend to be reserved for the morbidly obese<sup>13,14</sup>.

**Keywords:** Antiobesity Studies.