



## International Journal of Preclinical & Pharmaceutical Research

Journal homepage: [www.preclinicaljournal.com](http://www.preclinicaljournal.com)

### **ULTRATHIN PLUS CAPSULES<sup>TM</sup>; A REALISTIC WAY TO WIN THE WAR AGAINST OBESITY NATURALLY**

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#### **ABSTRACT**

Obesity is a leading preventable cause of death worldwide, with increasing prevalence in adults and children, and it is one of the most serious public health problems of the 21st century. Obesity increases the likelihood of various diseases, particularly heart disease, type 2 diabetes, obstructive sleep apnea, certain types of cancer, and osteoarthritis. Obesity is most commonly caused by a combination of excessive food energy intake, lack of physical activity, and genetic susceptibility. Dieting and physical exercise are the mainstays of treatment for obesity. Diet quality can be improved by reducing the consumption of energy-dense foods such as those high in fat and sugars, and by increasing the intake of dietary fiber. An anti-obesity drug helps to reduce appetite or inhibit fat absorption together with a suitable diet. Based on these facts an Antiobesity Drug Ultrathin plus capsule has been developed by R&D cell , with Ultrathin Plus capsules A realistic way to Win the war against obesity naturally Present paper reviews the role of ultrathin plus in prevention & control of obesity & obesity related Disorders.

**Key Words:** Obesity, Diseases associated with obesity, ULTRATHIN PLUS capsules.

#### **INTRODUCTION**

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have an adverse effect on health, leading to reduced life expectancy and/or increased health problems. People are considered obese when their body mass index (BMI), a measurement obtained by dividing a person's weight in kilograms by the square of the person's height in metres, exceeds 30 kg/m<sup>2</sup>[1,3].

Obesity increases the likelihood of various diseases, particularly heart disease, type2 diabetes, obstructive sleep apnea, certain types of cancer, and osteoarthritis [2]. Obesity is most commonly caused by a combination of excessive food energy intake, lack of physical activity, and genetic susceptibility, although a few cases are caused primarily by genes, endocrine disorders, medications or psychiatric illness. Evidence to support the view that some obese people eat little yet gain

weight due to a slow metabolism is limited; on average obese people have a greater energy expenditure than their thin counterparts due to the energy required to maintain an increased body mass [4,5].

Dieting and physical exercise are the mainstays of treatment for obesity. Diet quality can be improved by reducing the consumption of energy-dense foods such as those high in fat and sugars, and by increasing the intake of dietary fiber. Anti-obesity drugs may be taken to reduce appetite or inhibit fat absorption together with a suitable diet. If diet, exercise and medication are not effective, a gastric balloon may assist with weight loss, or surgery may be performed to reduce stomach volume and/or bowel length, leading to earlier satiation and reduced ability to absorb nutrients from food [6,7].

Obesity is a leading preventable cause of death worldwide, with increasing prevalence in adults and children, and authorities view it as one of the most serious public health problems of the 21st century [8]. Obesity is stigmatized in much of the modern world (particularly in the Western world), though it was widely perceived as a symbol of wealth and fertility at other times in history, and still is in some parts of the world [2,9]. In

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2013, the American Medical Association classified obesity as a disease [10,11].

### Classification

BMI	Classification
< 18.5	underweight
18.5-24.9	normal weight
25.0-29.9	overweight
30.0-34.9	class I obesity
35.0-39.9	class II obesity
> 40.0	class III obesity

BMI is defined as the subject's mass divided by the square of their height, expressed kilograms per square meter and calculated as:

BMI	$= \frac{\text{mass(kg)}}{(\text{height(m)})^2}$
	$= \frac{\text{mass(lb)}}{(\text{height(in)})^2} \times 703$

The most commonly used definitions, established by the (WHO) in 1997 and published in 2000, provide the values listed in the table at right. Some modifications to the WHO definitions have been made by particular bodies. The surgical literature breaks down "class III" obesity into further categories whose exact values are still disputed [12].

- Any BMI 35 or 40 is *severe obesity*
- A BMI of 35 and experiencing obesity-related health conditions or 44.9 is *morbid obesity*
- A BMI of 45 or 50 is *super obesity*

As Asian populations develop negative health consequences at a lower BMI than Caucasians, some nations have redefined obesity; the Japanese have defined obesity as any BMI greater than 25[18] while China uses a BMI of greater than 28 [19].

### Effects on health

Excessive body weight is associated with various diseases, particularly cardiovascular diseases, diabetes mellitus type 2, obstructive sleep apnea, certain types of cancer, osteoarthritis [2] and asthma [2,20]. As a result, obesity has been found to reduce life expectancy [2].

### Mortality

Obesity is one of the leading preventable causes of death worldwide [8,22,23]. Large-scale American and European studies have found that mortality risk is lowest at a BMI of 25 kg/m<sup>2</sup>[21,24] in non-smokers and at 27 kg/m<sup>2</sup> in current smokers, with risk increasing along with changes in either direction [25,26]. A BMI above

32 kg/m<sup>2</sup> has been associated with a doubled mortality rate among women over a 16-year period.[27] In the United States obesity is estimated to cause 111,909 to 365,000 deaths per year,[2,23] while 1 million (7.7%) of deaths in Europe are attributed to excess weight [28,29]. On average, obesity reduces life expectancy by six to seven years,[2,30] a BMI of 35 kg/m<sup>2</sup> reduces life expectancy by two to four years,[24] while severe obesity (BMI > 40 kg/m<sup>2</sup>) reduces life expectancy by ten years [24].

### Morbidity

Obesity increases the risk of many physical and mental conditions. These comorbidities are most commonly shown in metabolic syndrome,[2] a combination of medical disorders which includes: diabetes mellitus type 2, high blood pressure, high blood cholesterol, and high triglyceride levels [31].

Complications are either directly caused by obesity or indirectly related through mechanisms sharing a common cause such as a poor diet or a sedentary lifestyle. The strength of the link between obesity and specific conditions varies. One of the strongest is the link with type 2 diabetes. Excess body fat underlies 64% of cases of diabetes in men and 77% of cases in women [32].

Health consequences fall into two broad categories: those attributable to the effects of increased fat mass (such as osteoarthritis, obstructive sleep apnea, social stigmatization) and those due to the increased number of fat cells (diabetes, cancer, cardiovascular disease, non-alcoholic fatty liver disease) [2,33]. Increases in body fat alter the body's response to insulin, potentially leading to insulin resistance. Increased fat also creates a proinflammatory state, [34,35] and a prothrombotic state [33,36].

Medical field	Condition
Cardiology	ischemic heart disease:[37] angina and myocardial infarction congestive heart failure[2] high blood pressure[2] abnormal cholesterol levels[2] deep vein thrombosis and pulmonary embolism[38]
Endocrinology and Reproductive medicine	diabetes mellitus[2] polycystic ovarian syndrome[2] menstrual disorders[2] infertility[2,41] complications during pregnancy[2,41] birth defects[2] intrauterine fetal death[41]
Neurology	stroke[2]

	<p>meralgia paresthetica[43] migraines[44] carpal tunnel syndrome[45] dementia[46] idiopathic intracranial hypertension[47]multiple sclerosis[48]</p>
Psychiatry	<p>depression in women[2] social stigmatization[2]</p>
Rheumatology and Orthopedics	<p>gout[50] poor mobility[51] osteoarthritis[2] low back pain[52]</p>
Dermatology	<p>stretch marks[39] acanthosis nigricans [39] lymphedema[39] cellulitis[39] hirsutism[39] intertrigo[40]</p>
Gastrointestinal	<p>gastroesophageal reflux disease[2,42] fatty liver disease[2] cholelithiasis (gallstones)[2]</p>
Oncology[49]	<p>breast, ovarian esophageal, colorectal liver, pancreatic gallbladder, stomach endometrial, cervical prostate, kidney non-Hodgkin's lymphoma, multiple myeloma</p>
Respirology	<p>obstructive sleep apnea[2,20] obesity hypoventilation syndrome[2,20] asthma[2,20] increased complications during general anaesthesia[2,5]</p>
Urology and Nephrology	<p>erectile dysfunction[53] urinary incontinence[54] chronic renal failure[55] hypogonadism[55] buried penis[55]</p>

### Other illnesses

Certain physical and mental illnesses and the pharmaceutical substances used to treat them can increase risk of obesity. Medical illnesses that increase obesity risk include several rare genetic syndromes (listed above) as well as some congenital or acquired conditions: hypothyroidism, Cushing's syndrome, growth hormone deficiency, and the eating disorders: binge eating disorder and night eating syndrome [2]. However, obesity is not regarded as a psychiatric disorder, and therefore is

### Safety

not listed in the DSM-IVR as a psychiatric illness. The risk of overweight and obesity is higher in patients with psychiatric disorders than in persons without psychiatric disorders.

Certain medications may cause weight gain or changes in body composition; these include insulin, sulfonylureas, thiazolidinediones, atypical antipsychotics, antidepressants, steroid, certain anticonvulsants (phenytoin and valproate), pizotifen, and some forms of hormonal contraception [2].

Based on these facts Antiobesity Drug Ultrathin plus capsule has been developed by R&D cell, with Ultrathin plus capsules, a realistic way to win the war against obesity naturally with Ultrathin Plus capsules. Ultrathin plus contains Lactosorb complex\* a totally unique patent pending controlled release granules of –

### COMPOSITION

Chitosan	260 mg
FOS	200 mg
Active Carbon	25 mg
Vitamin C	20 mg
EGCG (from Green tea extract)	50 mg
White kidney bean extract (Highly concentrated)	50 mg

### Mechanism of Action

When the capsule is swallowed, its coating dissolves and the micro granules of Ultrathin Plus are dispersed in the gastric lumen immediately, the micro granules remain bioavailable in the stomach and the small intestine for 10 hrs. Ultrathin Plus can only be eliminated by natural transit after binding and reaction with fats. This property is due to the particular nature of the link & Vitamin C's gelling properties. Thus, a large part of fats & carbohydrates from food are no longer absorbed but are eliminated through natural transit. The blocked lipids (visible and hidden fats) are eliminated by natural intestinal transit & increased thermogenesis (shown in Figure 1).

### Pharmacology

- **Active carbon (25mg)**- Acts as catalyst to efficiently bind fats.
- **Chitosan (260mg)**- Positively charged fiber attracts negatively charged fatty acids.
- **FOS (200mg)**– restructure and balance the intestinal flora..
- **Vitamin C (20mg)**- Reduces the viscosity of chitosan improving the ability to mix with the fat.
- **White kidney bean extract (50mg)** -Highly concentrated white kidney bean extract (Phaseolus vulgaris extract) Inhibits alpha amylase enzyme.
- **Green tea extract (50mg)** – Epigallocatechin gallate from green tea extract., safely increasing thermogenesis (fat burning).

- Ultrathin plus is completely safe as it contains all natural ingredients
- people who have allergies to shellfish should avoid this product.
- Not advised in pregnancy & lactation.

#### Dosage & Administration

- 2 capsules 30 minutes before a meal

#### Drug Interaction

- Vitamins A, D, E and K and all fat soluble vitamins & minerals and any medications to ensure that the availability is not inhibited.

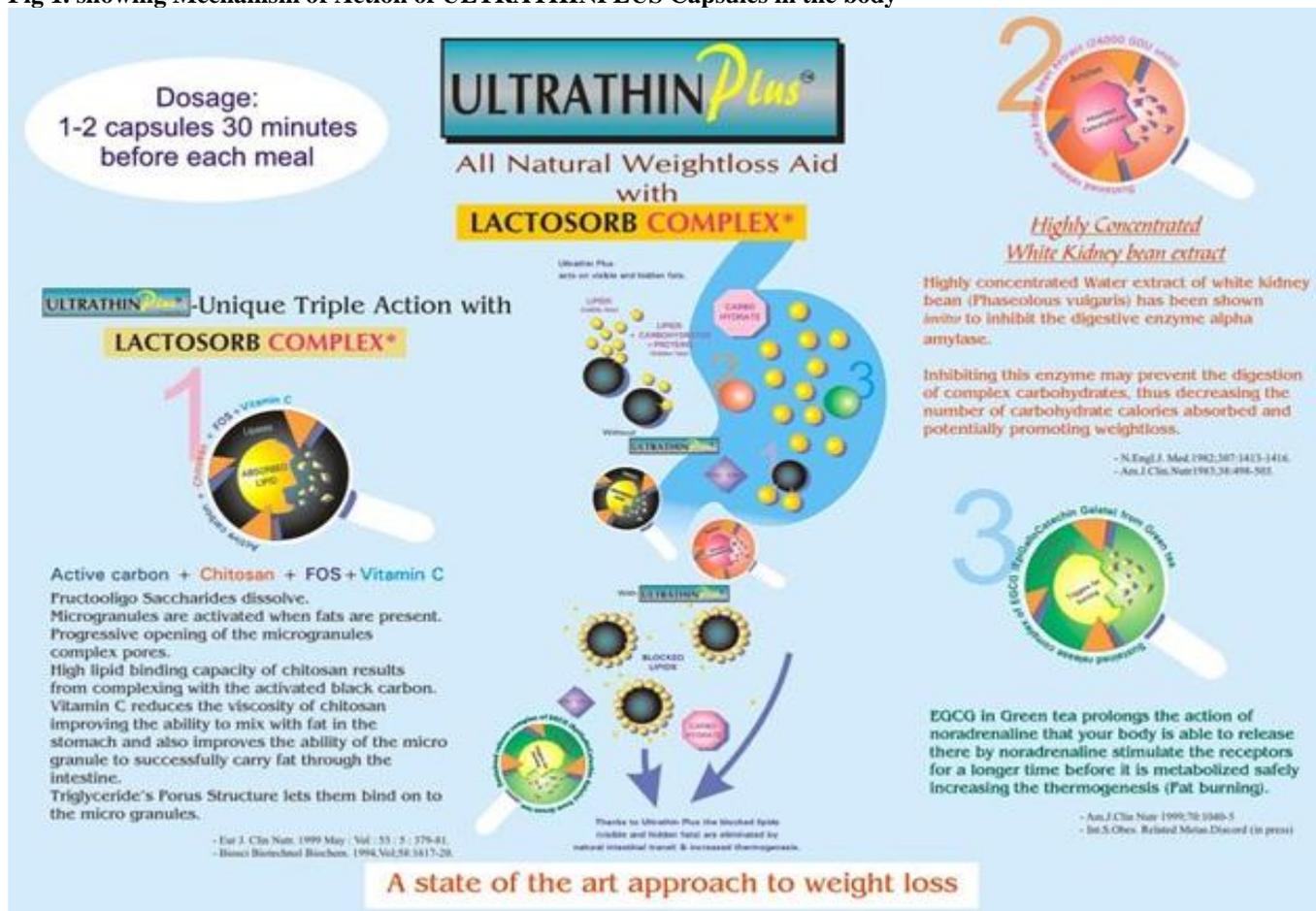
#### Indications

- Indicated in promoting weight loss.

#### Pack

- 60 capsules packed in food grade plastic containers
- Pack of 3x 10 caps.

Fig 1. showing Mechanism of Action of ULTRATHINPLUS Capsules in the body



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