FUMUDOH SAMUEL

18/SCI17/006

GENERAL NUTRITION- BTG 306

**HOW IS APPETITE CONTROLLED IN HUMANS?**

Appetite is controlled by the hypothalamus located in the brain.

The following hormones play important roles in hunger and satiety.

**Ghrelin**

* + Hunger stimulant
  + Made up of 28 Amino acids predominantly found in the lining of the stomach and pancreas
  + Body’s ‘alarm clock’ for food intake
  + Increases before eating and reduces when stomach and digestive systems are filled with adequate amount of food
  + Levels increase in blood system when feeding cycles is imbalanced
  + Low levels in obese persons and high level in lean subjects

**Cholecystokinin (CCK)**

* + Hunger suppressant
  + Stimulating pancreatic secretion gall bladder contraction, intestinal motility
  + Inhibition of gastric motility
  + Synthesized in the GI tract but mainly in the duodenum & jejunum
  + Rapidly released locally and into the circulation in response to nutrients in the gut, especially fat and protein, with a gradual increase in levels over 10–30 minutes after meal initiation, remaining elevated for up to 5 hours

**Insulin**

* + Hunger suppressant
  + Insulin levels increase rapidly after a meal and vary directly with changes in adiposity

**Glucagon-like protein 1 (GLP-1)**

* + Hunger suppressant
  + Delaying gastric emptying
  + Stimulating glucose-dependent insulin secretion
  + Inhibiting glucagon secretion
  + Stimulating somatostatin secretion
  + GLP-1 administration promotes satiety and has beneficial effects on glucose homeostasis

**Leptin**

* + Hunger suppressant
  + Responsible for satiety
  + Low levels cause continuous food intake which may lead to obesity

**Neuropeptide Y (NPY)**

* + Hunger stimulant
  + a neurotransmitter
  + Comprised of 36 Amino acids that influence the brain and autonomic nervous system
  + Has several functions
  1. Increasing food intake
  2. Storage of energy as fat
  3. Reducing anxiety and stress
  4. Reducing pain perception
  5. Affects the circadian rhythm