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