Response: Hypothalamus and Body Temperature

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Hypothalamic Regulation of Hormone Secretion

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The hypothalamus, like the rest of the segments of the brain, comprises of interrelating neurons that are maintained by a high supply of blood. To comprehend the details of hypothalamic functions, it is vital to describe and identify numerous procedures of neurosecretion. One of which is the process of interactions between different nerve cells via synapses, which is termed as neurotransmission (Meister, 2007). Synapses in the small gap in the middle of two neurons. That is why these nerve terminals are termed as presynaptic and postsynaptic concerning the direction followed by the impulse while traveling within the system. These transmissions of electrical impulses in the hypothalamus require the discharge of a chemical substance that facilitates the conduction process, which is called a neurotransmitter. The process in which the neurotransmitters are synthesized and secreted is very alike to that of protein hormone synthesis. There is an exemption to these kinds of neurotransmitters that they are contained within the neurosecretory granules that are produced in the cell body and they travel through the axon to the nerve terminal, from which they are released in the synaptic space.

There are four kinds of neurotransmitters, which are called serotonin, epinephrine, acetylcholine, and norepinephrine. In addition to that, there are more kinds of neurotransmitters discovered, some of which are neuropeptides. These kinds of neurotransmitters also function as neuromodulators, as they more or less regulate the actions of other neurotransmitters. Some of the noteworthy neuropeptides are opioids that are named so as they are also produced in the human body which a strong likeliness to bind themselves with substances such as heroin and morphine.

# References

Meister, B. (2007, September). Neurotransmitters in key neurons of the hypothalamus that regulate feeding behavior and body weight. *Physiology & Behavior, 92*(1-2), 263-271. DOI:10.1016/j.physbeh.2007.05.021