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### Investigating Effects of Ananadmide Treatment on Zebrafish Embryonic Development

Shelby Tilton

shelby.tilton@pop.belmont.edu

Nikki Glenn

Belmont University, nicole.glenn@belmont.edu

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Shelby Tilton  
Dr. Glenn  
Presentation Introduction  
3/27/22

### **Investigating Effects of Anandamide Treatment on Zebrafish Embryonic Development**

In recent years, the use of Tetrahydrocannabinol (THC), a cannabinoid compound found in the cannabis plant, has become more significant both recreationally and medically as a way to treat pain or nausea, such as morning sickness in expectant mothers. Unfortunately, not much is known about how the use of these types of substances can affect the gestational development of the human embryo. Anandamide, a drug similar to THC with its ability to bind to the CB1 receptor in the endocannabinoid system, was used to activate the system and I then observed changes in embryonic development in zebrafish. Anandamide is a fatty acid neurotransmitter that has been known to affect many physiological processes such as the peripheral and central nervous system. Zebrafish embryos were treated with anandamide to be able to observe any changes during their embryonic development. Zebrafish were an optimal specimen to use because the receptor found in zebrafish, *Cnr1*, is similar to the CB1 receptor in the human endocannabinoid system. By conducting this study, it is possible to apply what we learn to how the use of cannabinoid compounds in pregnant females could affect the development of their fetus throughout its gestation process.

Sources:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6460372/>