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One Fish, Two Fish, Normal Fish?

The purpose of this project was to demonstrate the effects of ethyl alcohol and taurine, individually and together, on embryological development. The first hypothesis stated that if the embryos are treated with ethyl alcohol, then the brain and heart will not develop properly. It was also hypothesized that embryo's treated with taurine will show increased brain and heart development. The final hypothesis was that embryo's treated with both ethyl alcohol and taurine would show increase development over those treated with ethyl alcohol only. Groups of 15 Wild type Zebra fish embryos were sorted into 24 petri dishes. Experimental groups were the control (distilled water), 2.5% by volume of ethyl alcohol, a .422mg/ml taurine solution (1/10X dosage), a 4.22 mg/ml taurine solution (1X dosage), a 42.2 mg/ml taurine solution (10X dosage). Three additional experimental groups included each concentration of taurine with the 2.5% of ethyl alcohol. The growth of each embryo was recorded by imaging the development through a microscope. Experimentation lasted 6 days. The data showed that embryos treated with ethyl alcohol entered into a stage called cyclopia due to decreased brain development; heart development was not apparent. The groups treated with taurine had elevated heart rates and the group treated with taurine and alcohol showed heart development. The hypotheses was accepted because the embryos entered into the process of cyclopia due to the ethanol; the brain and heart development was exceeded during hours 24-48 for the highest concentration taurine group, but failed to develop properly during the hours of 72-144.