

RICHARD TANDOH, JORDAN SMITH, & JAMES WALTERS Dept. of Applied Science, Bluefield State College, Bluefield, WV, 24701. Comparing the BMI of Zebrafish fed on a normal diet versus a high fat diet.

Dyslipidemias, such as obesity, are a challenge facing people worldwide and dyslipidemia associated diseases are influenced by both genetic and environment factors. Animal models of obesity are essential to help us understand the signaling pathways underlying dyslipidemias. Zebrafish have many structures and functional similarities with humans and have been used by many labs to investigate various human diseases, including obesity. The purpose of this research is to use zebrafish adults in a model of diet-induced obesity to determine body mass index changes in response to a high-fat dietary challenge. Our hypothesis is that zebrafish fed on normal diet will have less visceral and subcutaneous adipocyte tissues when compared to zebrafish fed on a high fat diet. To simulate a normal diet, male and female adult fish will be fed 5 mg of artemia per fish each day where as high-fat diet fish will be fed 5 mg of artemia plus 30 mg of egg yolk powder instead. The body weight and body mass index of both male and female zebrafish will be measured at the end of 8 weeks and compared. We expect to observe that female zebrafish show an increase in body weight and BMI as compared to their male counterparts. Viewing the visceral and subcutaneous tissues of the zebrafish will be determined by computer tomography after zebrafish are fasted and sacrificed. *This work was supported by NIH Grant P20GM103434 to the West Virginia IDeA Network for Biomedical Research Excellence and NIH Grant P20GM10343.*