Journal of Emerging Investigators
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Monday, August 20, 2018

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Ridgeland high school student publishes article on diabetes research in scientific journal

Arko Dhar, a student at St. Andrew's Episcopal School in Ridgeland, Mississippi, recently published a scientific manuscript titled, **"Development of Diet-Induced Insulin Resistance in *Drosophila melanogaster* and Characterization of Anti-Diabetic Effects of Resveratrol and Pterostilbene"** in the *Journal of Emerging Investigators.*

Dhar's article, published on July 2, 2018, explores the use of the common fruit fly (Drosophila melanogaster) as a method to develop treatment for type 2 diabetes. This form of the disease causes cells to have a decreased sensitivity to the hormone insulin, which leads to elevated blood glucose and can cause further systemic issues. Today, it is estimated that over 30 million people in the United States alone suffer from type 2 diabetes. In his article, Dhar notes that fruit flies have been used to study type 2 diabetes in the past due to the fact that they have organs and processes that resemble that of mammals. However, Dhar also states that fruit flies have not been used to study treatment of the disease in the past.

In his research, Dhar provided fruit flies with a high-sugar diet to induce insulin resistance that mimics type 2 diabetes. Then, Dhar studied the use of two polyphenols (Resveratrol and Pterostilbene), which are nutrients usually derived from plants that are commonly used as antioxidants in many health supplements. Dhar found that these compounds notably overturned the weight gain and glucose levels associated with insulin resistance, but additionally, the results of the study indicate that fruit flies may be a useful organism in the study of type two diabetes moving forward.

The *Journal of Emerging Investigators (JEI)* is a non-profit scientific journal operated by graduate students at Harvard University. JEI is dedicated to mentoring young scientists in middle and high school and publishing their research through the online journal. Articles submitted to JEI pass through a rigorous editorial and scientific review process by several PhD-level scientists before they are accepted and published.

Link to Dhar's article: https://emerginginvestigators.org/articles/development-of-diet-induced-insulin-resistance-in-drosophila-melanogaster-and-characterization-of-the-anti-diabetic-effects-of-resveratrol-and-pterostilbene

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