Investigating the Effects of Papaver somniferum Seeds and Curcuma longa on Wound Healing Using Drosophila melanogaster as a Model Organism

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Turmeric (Curcuma longa) and poppy seeds (Papaver somniferum) are two substances that are widely used in the cuisines of many South Asian and Middle Eastern countries. These compounds have also been recently studied in medical contexts, for their nutritional, antioxidant, and anti-diabetic properties. However, turmeric and especially poppy seeds have seldom been tested as wound healing agents. In underdeveloped countries such as Uzbekistan, Turkmenistan, and India, these commonly found compounds could be used in inexpensive oral and topical wound healing agents, having huge implications on wound treatments and overall health. Using Drosophila melanogaster as a model organism, this study analyzes the effects of long-term C. longa and P. somniferum diets on decreases in wound size. D. melanogaster flies were cultured for two weeks. Four treatment mediums were prepared: one control, one containing C. longa, one containing P. somniferum, and one containing Aloe vera as a positive control, as studies have shown that A. vera works as a wound healing agent when taken orally or used topically. 15 flies from the culture were then placed in each of the four treatment groups, and after two weeks, 20 larvae were removed from each group and wounded. The larvae were monitored over the course of 8 hours, and percent changes in wound size were recorded and analyzed.

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