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*Is Homeopathy More Than a Placebo? Assessing Homeopathic Principles Using a Male Fruit Fly Model*

Homeopathy is an alternative medicine practice based on the Law of Similars (natural substances that cause illness can cure the same illness they cause) and the Law of Minimum Dosage (more dilute remedies are more potent).

Purpose: To assess these principles by feeding male *Drosophila Melanogaster* (fruit flies) homeopathic Arnica Montana and then exposing them to undiluted Arnica Montana (presumably lethal); evaluating its effect on mortality and assessing if this effect varies with the strength of dilution.

Procedure: 320 male fruit flies were divided into four groups (80 fruit flies each), and further divided into 8 sets of ten fruit flies (preventing overcrowding). Each group of 80 fruit flies was fed medium prepared with one of four conditions: homeopathic Arnica Montana dilutions 6c, 30c, 200c, and distilled water control. After four days, 40 fruit flies (4 sets of ten) from each group were transferred to cultures containing undiluted Arnica Montana and 40 fruit flies (four sets of ten) from each group were transferred to control cultures containing distilled water. Mortality was observed daily for seven days.

Results: Groups pretreated with homeopathic Arnica Montana and then exposed to undiluted Arnica Montana had higher mortality than untreated controls transferred to identical conditions. Largest difference in mortality was between the 200c (most dilute remedy) and water control, followed by 30c and 6c.

Conclusions: Trends suggest homeopathic Arnica Montana had an effect in increasing *Drosophila* mortality, particularly in higher dilutions. Results suggest consistency with the homeopathic Law of Similars and Law of Minimum Dosage.