How Does the Exposure of Prednisolone and Methylprednisolone Affect the Daphnia's Heart Rate?

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The purpose of this experiment will expose the importance of why adults should be educated on medicine prescribed to them. Due to the similarity between methylprednisolone and prednisolone, many adults who are taking either of these medicines believe that the efficiency and side effects of the two do not make a difference, but in reality they are very different. Through this project, the stated hypothesis is, if prednisolone and methylprednisolone are exposed to the daphnia's environment, at varying concentrations, as the synthetic corticosteroid concentration increase, then the daphnia's heart rate will increase but with a high rate of increase in methylprednisolone, making prednisolone less inhibitory than methylprednisolone. In the process, first the seven containers were set up, label from A-G, varying in amount of each, fill with 2oz. of water and 2 daphnia each. The prednisolone and methylprednisolone was then place into the water, with each container having an amount of 0-10-7 M of prednisolone or methylprednisolone. Afterwards, the daphnia's heart rate was measure based on beat per minute for a total of two days. Base on the data, the daphnia's heart rate increased as the amount of prednisolone and methylprednisolone increase along with it, but higher percent change was seen in the data for methylprednisolone compare to the prednisolone data. Our hypothesis, that methylprednisolone shows a high inhibitory factor than prednisolone was supported.

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