Sex-specific Effects of Late Adolescent Morphine Exposure on Adult Thermal Nociception

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The effects of Opioids can be very addictive, which has led to Opioids being an ongoing issue in the United States. Fifty thousand people died from opioid overdoses in 2019. Opioids are prescribed for pain relief and are highly addictive which causes them to be regularly misused by patients. An opioid's purpose is to block pain signals. It does this by attaching to pain receptors in the nervous system. This research will establish if opioid usage during late adolescence affects microglia-dependent signaling and functions, leading to disrupted pain-relieving processing in adulthood females, but not males. To come to these results, both male and female rats were given either morphine or saline injections during their late adolescent period. To focus on the perception of cold, the two-temperature tests were conducted. The finding of this research shows that when a rat was not injected with opioids, the female rats were less affected by the two extreme temperatures. The results show that the female rats spent less time in the 10-degree Celsius zone and a longer amount of time in the 47-degree Celsius zone after the morphine exposure in the adolescent period. The male rats showed less of an effect when exposed to morphine. Perception and pain preference is an important thing to see the effects as it will affect your daily life.

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