

ABSTRACT

Pain is a common manifestation of presence of disease or physical injury in humans. High levels of serotonin in the plasma has been associated with pain. This study aimed at determining the effect of *Withania somnifera* root extracts on serotonin levels in Suiz albino mice. *W. somnifera* root samples were collected and ground to small pieces. Ethanol, n-butanol, xylene and methanol were used to extract metabolites from the ground root materials using hot extraction technique. The mice were injected with the extracts separately and serotonin levels determined over a period of 12 h at 2 h intervals. Serotonin concentration was determined using Beer Lamberts method. Light absorbance by the extracts varied significantly ($F = 50.2011$ $P = 1.25 \times 10^{-07}$). The concentrations of serotonin from mice injected with the metabolites from the selected solvents varied significantly ($F = 23.3269$ $P = 0.0000469$). In addition, there was no significant difference in light absorbance values obtained by Panadol, methanol and ethanol extracts. ($F = 3.7178$ $P = 0.089$). Extracts from *W. somnifera* have the ability to reduce serotonin levels in plasma. Further studies on the mechanisms involved in reducing serotonin levels by *W. somnifera* in blood need to be carried out. There is need for mass production of metabolites from *W. somnifera*.