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Title:

Ajwa dates alleviate LPS-induced sickness behaviour in rats by attenuating proinflammatory cytokines and oxidative stress in the brain

Ethnopharmacological relevance:

Traditional medicine claims that various components of the *Phoenix dactylifera* (date plant) can be used to treat memory loss, fever, inflammation, loss of consciousness, and nerve disorders.

Aim of the study:

To evaluate the effectiveness of *Phoenix dactylifera* fruit extracts (PDF) against rat sickness behaviour caused by lipopolysaccharide (LPS). by assessing behavioural and biochemical parameters.

Materials and Methods:

PDF was prepared by extracting dry fruits of P. dactylifera with a methanol: water (4:1, v/v) mixture. The prepared extract was evaluated for phenolic and flavonoid content and HPLC analysis of quercetin estimation. Adult Wistar rats were treated with LPS, PDF + LPS, and dexamethasone + LPS. Water and food intake, behavioural tests such as locomotor activity, tail suspension, and forced swim tests were conducted. Furthermore, ALT and AST were estimated in plasma, and LPO, GSH, nitrite, TNF-α, and IL-6, were estimated in the brain.

Results:

PDF ameliorated LPS-induced sickness behaviour by reducing MDA, nitrite, IL-6, and TNF-α levels and improving GSH, behavioural alteration, water, and food intake in the treated rats. In the plasma of the treated rats, PDF also decreased the levels of ALT and AST.

Conclusions: The outcomes demonstrated the efficacy of PDF in reducing the sickness behaviour caused by LPS in rats. The authors believe that this study will provide the groundwork for future research to better understand the underlying mechanisms of action and therapeutic efficacy.

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