

HYDROALCOHOLIC ROOT EXTRACT OF VETIVERIA ZIZANIOIDES ATTENUATES  
INTRACEREBROVENTRICULAR STREPTOZOTOCIN INDUCED COGNITIVE IMPAIRMENT AND  
OXIDATIVE STRESS IN RATS

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Plant extracts have long been used in various ailments of human disease, including cognitive disorder. *Vetiveria zizanioides* (VZ) is traditionally being used in ayurvedic medicines, extracts and oils of VZ which are also indicated for nervous disorders in aromatherapy. In the present study we have investigated the therapeutic potential of hydroalcoholic extract of *Vetiveria zizanioides* (HEVZ) against intracerebroventricular streptozotocin (ICV STZ) induced cognitive impairment and oxidative stress in rats. Prior to in-vivo studies the HEVZ was subjected to in-vitro antioxidant and anti-cholinesterase (anti-AChE) activities. Streptozotocin was administered ICV bilaterally on alternate days in rats and then rats were treated with (HEVZ) (50, 100 and 200mg/kg PO) 1hr following 1st STZ infusion. Morris water maze and the object recognition test was used to access cognitive behaviour and terminally animals were sacrificed and the extent of oxidative stress and acetyl cholinesterase activity was determined in cortical/ hippocampal brain tissues. HEVZ was observed to have potent antioxidant and AChE inhibitory activity in-vitro. Infusion of STZ caused significant learning and memory dysfunction, cholinergic hypoactivity and oxidative stress in rats. HEVZ significantly and dose dependently attenuated STZ-induced cognitive impairment, oxidative stress and restored cholinergic activity. The observed cognitive improvement in STZ infused rats following HEVZ treatment may be due to its potent antioxidant and anti-cholinesterase activity.