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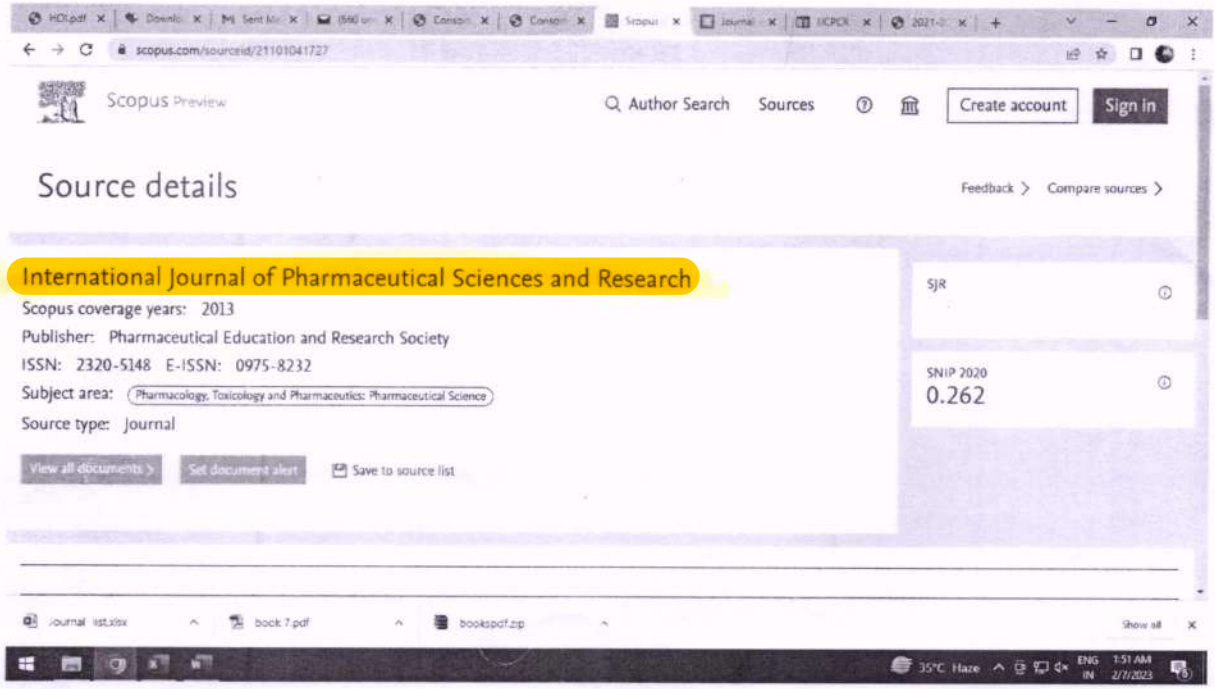

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COMPARATIVE STUDY OF ANTI-ANXIETY AND ANTI-DEPRESSANT POTENTIALS OF LEAVES AND ROOT OF METHANOLIC EXTRACT FROM *ACHYRANTHES BIDENTATA* BLUME ON MICE

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ABSTRACT: Anxiety and Depression is the most prominent and crippled Neuropsychiatric Disease. World Health Organization (WHO) reported is the most burdensome disease of society. We therefore aimed at evaluating the Anti-Anxiety and Anti-depressant potential using *Achyranthes bidentata* Blume (Chinese name Huainiuxi). This study compared Leaves and Root part of Achyranthes bidentata methanolic extract (ABME) on standardized mouse models of Anxiety and depression. The dried Leaves and Root was macerated with methanol separately and administrated and discern the dose of 100 mgk g^{-1} p.o. and 200 $mgkg^{-1}$ p.o. of *Achyranthes bidentata* methanolic extract of Leaves (ABMEL) and the dose of 100 $mgkg^{-1}$ p.o and 200 $mgkg^{-1}$ p.o. of *Achyranthes bidentata* methanolic extract of Root (ABMER) were employed in Elevated Plus Maze test (EPM) and Open field test (OFT) with 1 $mgkg^{-1}$ i.p of Diazepam as a standard drug to assess the anxiolytic activity and Modified Forced Swim test (MFST) and Tail suspension test (TST) with 15 $mgkg^{-1}$ i.p. of Imipramine as a standard drug to assess the anti-depressant activity in Swiss albino mice. Substantial changes in all tested activities EPM, OFT in anxiety model and MFST, TST in depression model were observed for 28 days. The results revealed that ABMER (200 $mgkg^{-1}$p.o.) was more impetus due to the high amount of flavonoid content possess anti-anxiety and anti-depressant potential compared to ABMEL (200 $mgkg^{-1}$ p.o.) as well as ABMER (*$p<0.05$) produce significant effect compared to the standard group.

INTRODUCTION: Medicinal plants are luminous to the world and act as a mainspring to drug discovery. The Chinese traditional medicine *Achyranthes bidentata* Blume (Amaranthaceae) commonly known as ox knee, sennayuruvi, Root Apamarga [1].

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It is a Straggling perennial herb up to 1 m tall, tingled purple, appressed pubescent or nearly glabrous branches opposite, annual herb distributed hilly region India and China. It is enhancing neural plasticity and increase hippocampal neurogenesis and prevent stress-induced hippocampal neuron atrophy.

It promotes Peripheral nerve regeneration in rodents [2, 3]. It alleviates asthma, skin rashes, diarrhoea, renal dropsy, scrofula and impotence [4]. Medicinally *Achyranthes bidentata* is used as anti-aging, anti-tumor, anti-pyretic, anti-inflammatory, immunomodulatory and diuretic activity, anti-