An antioxidant activity of extracts (Acetone, hydroalcoholic (50% MeOH) and aqueous extract) of *M. pruriens* and *H. perforatum* was studied, where...
hydroalcoholic extract possesses maximum activity in DPPH inhibition and superoxide scavenging assay. In addition to the potential antioxidant activity, the increased macrophage count was also observed in stressed animals treated with hydroalcoholic extract of *M. pruriens* and *H. perforatum*. The activity may be due to enhanced phagocytosis after the treatment which was the basis to use in the treatment of stress induced ulceration, depression and sexual deficiency.

Apart from the antioxidant activity, the toxicity of hydroalcoholic extract of *M. pruriens* and *H. perforatum* was assessed *in-vitro* and the dose was designed at 50µg/ml *in-vitro* and 50mg/kg *in-vivo*. The DNA damage caused by stress was recovered after the treatment of 50µg/ml of *M. pruriens* and *H. perforatum* by preventing the cell cycle arrest and apoptosis in cultured mammalian cells. (176) In this study, we predicted that the mechanism of DNA damage disorders and the repair depends on the carcinogenic properties of environmental toxins as well as the therapeutic potential of drugs.

The treatment of hydroalcoholic extract of *M. pruriens* and *H. perforatum* on stress induced ulceration, depression and sexual deficiency shows significantly positive results in animals. The copulatory behavior of stressed animals was assessed where MF, IF, EF, ML, IL, EL and PEI was significantly improved after the treatment similar to standard. The level of gastrin, somaostatin and histamine was also found reduced after the treatment.

Level of neurotransmitters in brain was up regulated after the treatment which significantly reduced due to stress. The treatment of hydroalcoholic extract of *M. pruriens* and *H. perforatum* enhances the release of neurotransmitters in brain and regulate the biochemical reactions. Apart from this, the fluctuations in blood parameters of stressed animals was maintained in a physiological range after the treatment of Mucuna and Hypericum extract.

The functioning of cells is regulated by number of factors functioning at the molecular level, the presence of free radicals and xenobiotics tends to disrupt the molecular machinery, affects normal functioning and cause cell death. This movement of free radicals is prevented by the efflux mechanism of cells regulated by efflux transport Pgp localized at luminal surface of testicular and human brain endothelial cells. The treatment of hydroalcoholic extract of *M. pruriens* and *H. perforatum* upregulates the expression of Pgp by 8.02 fold and 1.51 fold respectively. In addition, it has been studied first time in
hCMEC/D3 cells and observed that the treatment up regulating the expression of Pgp via activating Wnt/β-catenin signaling. The overall results of the study indicates the therapeutic potential of *M. pruriens* and *H. perforatum* in the treatment of stress induced disorders. More specifically, the results reveal the basic mechanism function behind the regulation of stress induced ulceration, depression and sexual deficiency.

Apart from the involvement of Wnt/β-catenin pathway in management of stress induced disorders, a further investigation of other factors and pathways involved in regulation of Pgp is required to generate an efficient treatment of stress.