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Therapeutic potentials of plant extracts

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The use of plants is as old as mankind. Nature is a great chemist. Today there are at least 120 distinct chemical substances derived from plants that are considered as important drugs currently in use in the world. These plant derived chemical substances are effective in various conditions like cardiovascular, kidney disorders, infections, metabolic disorders and cancers. One of the major metabolic disorders is obesity. Obesity is regarded as a disorder of lipid metabolism and the enzymes involved in this process could be selectively targeted to develop anti-obesity drugs. *Ziziphus mauritiana* (ZM) is a shrub belonging to family Rhamnaceae distributed in warm temperate zone from Western Africa to India. Phytochemical analysis of ZM Bark Powder (ZMBP) aqueous extract showed presence of tannins, saponins and flavonoids. The ZMBP aqueous extract (ZMBPq) showed 100% lipase inhibitory activity at 400 µg/ml *in vitro*. Adipogenesis is related to obesity. In our studies ZMBPq showed inhibition of adipocyte differentiation. Anti-obesity activity of ZMBPq was also confirmed in High Fat Diet (HFD) induced B6D2F1 obese mice. Thirty days administration of ZMBPq (100 mg/kg) and Orlistat (7.8 mg/kg) showed a statistically significant 18.4% and 25.28% reduction in weight gain respectively, when compared with the obese control group. These results suggest anti-obesity potential in *Z. mauritiana* bark aqueous extract.

Biography

Mandavi Deshpande-Garge has submitted her PhD thesis to University of Pune, Maharashtra, India. She has done her Master's in Microbiology also from University of Pune. She has gained her research experience in different sectors like food, microbiology and toxicology. She is now Research Associate at APT Research Foundation, Pune, Maharashtra, India.

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