

Natural herbs: A potential treatment option for diabetes and associated neuropsychological deficits

Saara Ahmad, Asra Khan, Arfa Azhar

Madam, diabetes is an endocrine disorder that leads to derangement of oxidative profile, levels of blood glucose, cholesterol and brain neurotransmitters. A chronic fluctuation in the levels of brain neurotransmitters may lead to neuropsychological disorders in which depression is the most common disorder.¹ There are several FDA approved anti-depressants and anxiolytics available for these disorders but they pose severe side effects. It is believed that natural foods like medicinal herbs saffron, chamomile and galega officinalis are mostly safe with treatment superiorities. These herbs are generally expensive therefore cannot be embarked due to monetary allowance. However, because of their safety of use, the World Health Organization (WHO) has also recommended ethno-botanical research to identify antidiabetic herbs and their use in the treatment of diabetes and its associated neuropsychological complications.²

Previous studies have shown beneficial effects of herbs saffron, chamomile in diabetes. Saffron as whole or its constituent's crocin and safranal, when administered alone improved cognition through mitigation of diabetes related oxidative stress in brain hippocampus. Safranal provides neuroprotection through elevation of total sulfhydryl contents, antioxidant capacity, and by decreasing MDA content in brain.³

Like Saffron extract, Chamomile extract is also known to lower blood glucose levels, not by increasing insulin levels but through augmentation of peripheral glucose uptake, inhibition of hepatic glucose synthesis, escalation of hepatic glycogen storage, and promotion of strong antioxidant activities along with activation of liver peroxisome proliferator-activated receptors and enzymatic activities of aldose reductase and sorbitol

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Department of Biological and Biomedical Sciences, Aga Khan University, Karachi, Pakistan.

Correspondence: Saara Ahmad. Email: saara.muddasir@aku.edu

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dehydrogenase.⁴

Saffron is an expensive herb and its treatment alone becomes very costly barring it from the use in the patients. Therefore, combination of two of the herbs saffron for treatment of diabetes and associated neuropsychological disorders and chamomile for diabetes management when given at half of the recommended dosage controls diabetes and its associated neuropsychological disorders significantly without any side effects when given individually. This is been tested by our research group on diabetic depressed animal model. Thus managing diabetes and its complications through synergism of the two costly natural herbs in the reduced dosage allow the reduction in treatment cost with no adverse effects. Living in the south Asia where people have strong belief in the role of natural products in treating ailments, such synergism of different natural products be determined to improve the treatment of diabetes and other ailments with no side effects.

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