

Research advances in Sudanese traditional medicine: Opportunities, constrains and challenges

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The former Sudan is the largest country in Africa and the tenth in the World with an area of approximately 2.5 million square kilometers. Due to the referendum for southern Sudanese peoples in 2011, one third of area is separated and becomes a new country named "Republic of South Sudan" whereas the remaining area has the old name "Republic of the Sudan".

A large sector of the Sudanese population use traditional medicine to meet their primary health care needs. In addition to being accessible and affordable, it is part of their belief systems. Often, traditional medicine provides the only available health care service to the population in many parts of the country especially in the rural communities. This paper is concerned about the challenges, constrains and opportunities of the research in medicinal and aromatic herbs in Republic of the Sudan.

Opportunities are great for collaborative efforts at national, regional and international levels for exploration and establishment of herbaria at national and state levels.

Regarding the research on medicinal plants, there are a number of on-going research programs conducted by the Medicinal and Aromatic Plants Research Institute (MAPRI) and limited research groups in the institutions. However, these efforts are hampered by many constrains such as lack of funds, inadequate personnel and inadequate resource materials.

The funds come from the Ministry of Science and Technology to MAPRI is not enough but nothing come from Ministry of Higher Education to the universities for purpose of research. Funds from donors and international institutions have been ceased since 1989 as political ramifications. Collaborative research work through networks is hampered by lack of funds, weak correspondence and some political ramifications beyond the capacity of the scientific communities. Moreover, research institutes are inadequately equipped (laboratory facilities) to monitor and protect the resource base.

This report outlines the basic information about the status of indigenous medicinal and aromatic plants in the Sudan. It also highlights the diversity, socio-economic importance, status of research, threats and constraints to their development, management and utilization, research gaps and priority research areas.

Biography

Abdelhafeez M. A. Mohammed has awarded Ph.D. from University of KwaZulu-Natal, South Africa. Now, he is an assistant Professor at Department of Chemistry, Alzaiem Alazhari University, Sudan. He has published five papers in reputed journals and serving as an editorial board member of two periodicals: Journal of Applied and Industrial Sciences and International Journal of Advance Industrial Engineering.

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Probiotics and obesity: Non-traditional factors and traditional biotherapy

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In Indian culture, traditional fermented food products like dahi, lassi, vada, dosa etc have been very commonly consumed in our daily life. Many of these fermented food products carry live micro-organisms that develop the flavor and taste through fermentation of food ingredients. This taste and flavor becomes the identity of products. But in other aspects, when these live bacteria delivered into the consumer's intestine, they play an important role to modulate the existing gut flora. Such live bacteria also known as probiotics, and have been known for various health beneficial effects. Modulation of gut flora has also been known for playing an important role in various human diseases i.e. obesity and diabetes. Gut flora has been considered a non-traditional factor to develop obesity and diabetes. But the role of probiotics in obesity and diabetes has been questionable. Here we tried to establish the role of probiotics in obesity and diabetes pathology, as well as uncover a molecular mechanism of action of probiotics to ameliorate obesity and diabetes. Our results prominently show that one of the selected probiotics (VSL#3) can decrease obesity and diabetes in various mice models. In addition, probiotics modulated gut flora composition that resulted to changes in the metabolite production i.e. short fatty acids (SCFA) into the gut of mice. Increased SCFA i.e. butyrate lead to increase the glucagon-like protein -1 (GLP-1) secretion that results to decrease obesity and diabetes. We conclude that probiotic (VSL3) can be used as an alternative medicine to manage obesity and diabetes.

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