



## ROLE OF COMPLEMENTARY AND ALTERNATIVE MEDICINE IN THE MANAGEMENT OF TYPE 2 DIABETES MELLITUS

<sup>1</sup>Ahmad Najmi And <sup>2</sup>Umme Aiman

<sup>1</sup>(MBBS, MD Pharmacology), Associate Professor,  
Dept. of Pharmacology, RD Gardi Medical College, Ujjain  
<sup>2</sup>(MBBS, MD Pharmacology), Senior resident,  
Dept. of Pharmacology, JN Medical College, AMU, Aligarh

### Abstract:

*Complementary and alternative medicine is defined as the practices, approaches, knowledge and beliefs that incorporate plant, animal and mineral-based medicines, spiritual therapies, manual techniques and exercise. Research and use of CAM therapy in DM is on the increase worldwide. Commonly used CAM products include Charantica momordica (Karela), Nigella sativa (Black cumin or kalongi), Aradichta indica, Syzygium cumini (Black berry, Jamun, Jambul), Ginseng species & Allium sativum (Garlic), Aloe vera & Trigonella foenum graecum (Fenugreek), minerals & vitamins supplements like vanadium, chromium, zinc, niacin, vitamin B12, vitamin C, vitamin D, vitamin E, manganese, CQ 10, fish oil supplements (omega 3), cinnamon etc. Of these, medicinal herbs have demonstrated better efficacy. However diet and exercise are the key component of diabetes management in addition to conventional therapy. There is general trend of increasing use of herbal drugs either alone or in combination with allopathic medicines. There are also some misconception regarding herbal drugs, like herbal drugs have no adverse effects & they may cure the disease. There is a need to create awareness among healthcare professionals and patients regarding the dangers of combined use of allopathic medicines and herbal remedies. Strict regulatory policies and guidelines of CAM use are required.*

### Key words:

Complementary And Alternative Medicine, Diabetes Mellitus

### Introduction :

Diabetes mellitus is a metabolic disorder characterized by common phenotype of hyperglycemia. Diet, exercise & drugs are the keystones in the management of diabetes. If any one of these component is missing, then it is difficult to maintain euglycemia. Chronic hyperglycemia can lead to various macrovascular & microvascular complication like stroke, ischemic heart disease, retinopathy, nephropathy & neuropathy. The conventional treatment of diabetes is usually lifelong. So now a days many patients are attracted towards complementary and alternative medicine (CAM). Complementary and alternative medicine is defined as the practices, approaches, knowledge and beliefs that incorporate plant, animal and mineral-based medicines, spiritual therapies, manual techniques and exercise. The commonly used therapies among diabetic patients are herbal medicines, nutritional supplements, diet modifications, spiritual healing and relaxation techniques. The factors influencing CAM use include age, duration of diabetes, degree of complications and self-monitoring of blood glucose.

### Materials And Methods

A retrospective study was planned with the objective of study the consumption of herbal drugs in type 2 diabetes mellitus patients in tertiary care teaching hospital of central India. One hundred patients were interviewed using a questionnaire and detailed medication history was noted.

### Observation & Results

Out of these 100 patients, 95 were on drugs, while 5 patients were not taking any drugs (blood sugar controlled by diet and exercise). OHA were prescribed in 70 out of 95 patients (72.52%) patients, either alone 36 (52.6%), or in combination 24 (33.3%) or with insulin 10 (18.12%). Glimepiride was the most commonly prescribed monotherapy followed by gliclazide. Metformin was most common add on drug in combination 52 (70.12%), followed by voglibose 30 (22.55%). Metformin was most commonly combined with insulin 7 (70%) followed by pioglitazone 3(30%). 50% patients were taking herbal remedies along with prescribed drugs. Among them majority were taking on their own or after advice from family or friends without consulting a unani or ayurvedic practitioner. Only 5 % patients consulted an ayurvedic or unani physician before taking these drugs. In 90% of cases physician were unaware of this fact. Only 20 % of patients were asked especially about herbal remedy consumption. Overall 60 % patients reported about hypoglycemic symptoms which include headache, dizziness, hunger pangs, sweating, visual disturbance and tremors. No case of hypoglycemic coma was reported. The incidence of hypoglycemia was more in those patients who are taking combination of OHA along with herbal drugs (61%) as compared to those patients who are taking only OHA (30%). 52 % patients consumed juice of *Charantica momordica* (Karela). 30 % patients consumed *Nigella sativa* (Kalongi), either in the form of oily extract or whole seeds. *Aradichta indica* leaves were consumed by 6% of patients who consumed herbal remedies. 12% patients consumed miscellaneous herbal drugs which include *Syzygium cumini* (Black berry, Jamun, Jambul), Ginseng species & *Allium sativum* (Garlic), *Aloe vera* & *Trigonella foenum graecum* (Fenugreek).

### Discussion

Thousands of plants are attributed with glucose-lowering effects. These herbs are used singly or in combination, to address various underlying factors contributing to hyperglycemia (Sikha et al., 2012). Though conventional practitioners pose great concern about CAM use, its use is widely gaining popularity (Yehet al., 2003; Chang et al., 2007). The use of CAM is grounded on culture, knowledge, beliefs, experience and the advice of family and friends (Coulter and Willis,2004). The people most likely to use CAM therapies thus include: people in poor health with chronic diseases, people committed to the environment, well-educated women (67%) interested in self-care, some cultural groups, those whose philosophies and values are congruent with CAM, those who think CAM is culturally relevant, on advice of family and friends, or after a traumatic event (International Diabetes Federation,2011b). The World Health Organization (WHO) encourages member states to integrate traditional and CAM therapy into national health care systems and ensure their rational use (WHO Traditional Medicine Strategy, 2002). China is one of the countries with a truly integrated system (International Diabetes Federation, 2011b). This integration entails collaboration between conventional and CAM practitioners through sharing of information and negotiating careful plans with achievable goals. Empowering CAM practitioners through appropriate education and skills is thus crucial (WHO Traditional Medicine Strategy, 2002). Having more than one active ingredient, CAM is attributed with a range of actions (International Diabetes Federation, 2011b). Some concerns regarding CAM use are justified; hence, legislation to govern CAM use is inevitable. Only CAM therapies with established empirical evidence should be used. Regulatory systems should ensure product quality, as well as report any herb/herb or herb/drug interactions. CAM products with no empirical evidence or with serious adverse effects should not be used.

### Conclusion

Research and use of CAM therapy in DM is on the increase worldwide. Commonly used CAM products include *Charantica momordica* (Karela), *Nigella sativa* (Black cumin or kalongi), *Aradichta indica*, *Syzygium cumini* (Black berry, Jamun, Jambul), Ginseng species & *Allium sativum* (Garlic), *Aloe vera* & *Trigonella foenum graecum* (Fenugreek), minerals & vitamins supplements like vanadium, chromium, zinc, niacin, vitamin B12, vitamin C, vitamin D, vitamin E, manganese, CQ 10, fish oil supplements (omega 3), cinnamon etc. Of these, medicinal herbs have demonstrated better efficacy. However diet and exercise are the key component of diabetes management in addition to conventional therapy. There is general trend of increasing use of herbal drugs either alone or in combination with allopathic medicines. There are also some misconception regarding herbal drugs, like herbal drugs have no adverse effects & they may cure the disease. There is a need to create awareness among healthcare

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