



A Natural Plant-Based Diet and Anti-Gravity Exercise: An Effective Way of Controlling Type II Diabetes Mellitus

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Introduction

Non-Communicable Diseases (NCDs) have emerged as a major public health challenge globally. People over the age of 30 years are most at risk of both acute and chronic medical disorders like cancers, cardiovascular diseases, chronic kidney and obstructive pulmonary diseases, diabetes, hypertension, stroke, and a range of other diseases. With a sharp increase in the burden of chronic lifestyle linked NCDs, India is also undergoing rapid demographic and epidemiological changes. The prevention and control measures for NCDs must be implemented to avoid India becoming a nation harboring the highest proportion of NCD patients. Diabetes is a chronic condition characterized by hyperglycemia resulting from flaws in insulin secretion, insulin action, or both. As per International Diabetes Federation (IDF), approximately 537 million people suffer from diabetes, and majority living in Low-and Middle-Income Countries (LMICs) such as India [1]. It is projected that by 2025 the number of cases with diabetes in India would be 69.9 million with a vast majority still undiagnosed. The incurable lifestyle-related Type-2 Diabetes (T2D) has been of great global concern for a long time now. The prevalence of diabetes and impaired glucose tolerance has been estimated to be 9.3% and 24.5%, respectively based on the nationally representative sample of adults aged 18 to 69-years in the National NCD Monitoring Survey [2].

The current lifestyle places us at a high risk of developing diabetes mellitus, but the likelihood of metabolic diseases can be decreased by eating the right foods that are high in fiber, protein, and antioxidants. In turn, this might serve as a barrier of defense against conditions like diabetes, obesity, and a host of other illnesses. The government of India is fully conscious of the magnitude, risks, and challenges posed by diabetes and taking all the necessary measures to address it [3]. India's national health policy envisages attaining the highest possible level of health and well-being for all through a preventive and promotive health care orientation in all developmental policies with universal access to good quality health care services. Healthy eating is promoted by various means including through the Food Safety and Standards Authority of India (FSSAI), which launched Eat Right India initiative. The focus of Eat Right India initiative is to promote healthy diet diversity and balanced diets, eliminate toxic industrial trans fats from food, reduce consumption of salt, sugar, and saturated fats and promote large-scale fortification of staples to address micronutrient deficiencies. Another initiative 'The Fit India movement' launched in August 2019, undertaken by the Ministry of Youth Affairs and Sports aims to make fitness an integral part of the daily life of every Indian citizen. To make a behavioral change for the adoption of an active lifestyle, the Ministry of Youth Affairs and Sports has also launched the Age-Appropriate Fitness Protocols and Guidelines. This has been designed in a way that enables citizens to test themselves on various parameters that define fitness. The purpose is to enable the population aged 5 to 18, 18 to 65, and >65 years to demonstrate individually and with others, the physical skills, practices, and values to enjoy a lifetime of active healthy living.

Several studies suggest that type II diabetes mellitus can be controlled and managed through education, lifestyle intervention, self-management, and monitoring by the patient under a physician's care; however, its effectiveness has not been measured until recently as to how far

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the control has been achieved. Plant-based diet i.e., eating patterns that emphasize legumes, whole grains, vegetables, fruits, nuts, and seeds are especially potent in preventing type 2 diabetes and have been associated with much lower rates of obesity, hypertension, hyperlipidemia, cardiovascular mortality, and cancer [4]. Numerous observational and epidemiological research (both cohort and randomized controlled trials) have gathered information that strongly supports the function of plant-based diets and their constituent parts in lowering the risk of T2D. A recent meta-analysis suggested the association of beneficiary effects of plant-based diets especially rich plant-based foods for the primary prevention of T2D [4]. Likewise, a study from China demonstrated the association of a plant-based diet with reduced risk of T2D in rural adults, while another study collated and provided evidence on the improvement in blood glucose levels, plasma lipid concentrations, body weight, and blood pressure in individuals with T2D who consumed whole grains, legumes, fruits, and vegetables in conjunction with the elimination of animal products [5,6].

A recent study by Tripathi et al. [7], from India demonstrated that in patients with T2D, a natural plant-based diet followed by a strict anti-gravity exercise regime showed excellent glycemic control with titrated medication dosage and, in some patients, without the need for diabetic treatment. The dietary intervention that was a natural plant-based diet included a green smoothie made by blending the following ingredients with water to make up the required quantity: One cup of locally available fresh green leafy vegetable (spinach, kale, lettuce, or green sorrel), one fruit (apple, guava, banana, pear, or papaya), two herbs (mint, curry leaves, Tulsi/Basil, betel leaf), black pepper powder, turmeric, cinnamon powder, rock salt, and lemon juice. All these ingredients were blended in a glass of water for three minutes without stirring, which was recommended on an empty stomach. The patients were put on a diet with approximately 55% to 60% carbohydrates, 15% to 20% protein, and 20% to 25% fat. The patients strictly avoided milk and milk products and non-vegetarian foods and were also advised to limit their intake of alcohol and smoking. This natural, plant-based diet was complimented by anti-gravity exercise that included climbing stairs for 1 h and 45 min post lunch and dinner. In addition to the anti-gravity exercise, patients also did lymphatic and cardio-vascular strength exercises. A total of 259 patients benefitted in this study by following this regime. The easily available ingredients of this diet are highly beneficial with even a possibility of being diabetes free in the long run [7].

Over 13,000 patients with T2D have completely stopped their diabetic medication and another 15,000 reduced their medications by

the use of this natural, plant-based diet and by performing anti-gravity exercise daily [8]. This has revolutionized the outlook of diabetes mellitus control in India and this regimen if followed meticulously, would achieve a diabetes-free world.

Keywords: Non-communicable diseases; Diabetes; Hypertension, Stroke; Hyperlipidemia; Cardiovascular mortality

Conclusion

Diabetes imposes an increasing economic burden on national health care systems. Diet and targeted exercises are two of the most important modifiable factors in the prevention or remission of T2D. Further, public health strategies and policy level decisions involving stakeholders with diet and lifestyle modification, as focal points are absolute priorities to prevent and manage the burden of obesity and T2D in India. The diet recommended by Tripathi et al. [7], is such an initiative to attain a diabetes-free world utilizing the most easily available healthy foods and exercise with remarkable prognostic results.

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