

Lifestyle modification helps health care system in diabetes management

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Abstract

Chronic diseases including diabetes mellitus, cardiovascular disease, hypertension, dyslipidemia and metabolic syndrome are known as health related conditions which may affect individual's quality of life and put costs on health care system. Diabetes is a condition with glucose metabolism impairment and can be mostly categorized into three different types as following: 1) diabetes mellitus type 1, 2) diabetes mellitus type 2 and 3) gestational diabetes. However, it is suggested that in some conditions, glucose homeostasis impairment results from some other health related problems or some medications. Among these different types of diabetes, diabetes type 2 seems to be more related to lifestyle. Patients with diabetes may face difficulties in their daily life as some unpleasant side effects may occur in case of mismanagement. Diet and physical exercise, are two key components of a healthy lifestyle. It is recommended to have at least 150 minutes of moderate intensity or aerobic physical activity per week or 75 minutes of vigorous activity or combination of moderate and vigorous physical activity in order to maintain optimum health, improve metabolic condition, improve glucose homeostasis and insulin sensitivity. It is also recommended to replace all sedentary behaviors with other activities in order to enhance physical activity level in our daily life. Many studies have focused on the effect of various kinds of physical activity on chronic diseases, metabolism and general body health. It has been indicated that increase in physical activity level and doing exercise at least 3-5 days per week, may lead to better metabolic condition and help patients to manage their metabolic condition such as diabetes. Physical activity may have beneficial effect on body composition including body weight, body mass index (BMI), fat percent and muscle mass. It is recommended to include different types of physical activity in exercise program science body composition improvement, decrease in fat mass and increase in muscle mass are our important goals while prescribing exercise protocol, so increasing muscular strength is another important factor which should be seriously considered while adjusting exercise program. Patients with diabetes should consider to do exercise programs under specialist supervision. Here, the role of health care professionals is so important. Health care professionals will assess patient's medical condition, medication protocols, dietary pattern, family history for medical complications and exercise history and help to adjust an effective exercise program according to mentioned parameters. Moreover, patients with diabetes who want to attend an exercise program, whether recruiting online and home-based programs or participating in other kinds of physical

activity such as group sports, should inform their trainer about their medical condition and medications in order to prevent any unpleasant outcomes.

Beside physical activity, health dietary pattern and having a well-balanced diet seems not only provides essential nutrient for effective body function, biochemical and physiological pathways but also improves metabolism. It seems that dietary pattern and eating behavior are important and effective factors which may affect health. It has been suggested that most patients with diabetes especially diabetes type 2, have low quality diet. Dietary pattern improvements may occur if patients pay attention to their meals and snacks quality, focusing on colorful and nutrient dense food groups, having smart snacking and time table according to their medication. It is suggested to consume all of the food groups in a daily eating program, focusing on whole grains, fresh fruits and vegetables, beans, lentil, lean proteins, eggs, poultry, fish, healthy fats from nuts, seeds, vegetable oils and olive and limit processed foods, trans fats, refined carbohydrates. This dietary behavior will provide all the required nutrients, increase immune defense, improve metabolic pathways, decrease inflammation and help to improve individual's general health status. Moreover, Food immunity, food safety and health cooking behavior, should be considered for a healthy dietary pattern. Food choices are major and leading cause of metabolism related disorders, because bad food choices which usually come with unhealthy, processed and packaged foods selection will decrease nutrient density, increase calorie intake and may lead to obesity, inflammation and metabolic disturbance such as diabetes. In this way, food labeling has come to help individuals not only with mentioning the amount of nutrients contained in a product, but even with colors which indicate how healthy a food product is, for example using "green" for good food products which seems to be low in salt and fats especially saturated and trans fats, "yellow or orange" for foods that should be consumed in moderate amounts And "red" for unhealthy food products which is better to be limited in daily diet is a fast way for consumer to choose the best product.

In conclusion, lifestyle indicators, emphasizing on physical activity and healthy diet should be considered as major influencing factors in diabetes incidence and its managements. A better lifestyle may have beneficial effects on medical condition and even may decrease dependency to medication. Insulin resistance is one of the major concerns in patients with diabetes type 2 which can be modified by a healthy lifestyle, as a result of insulin sensitivity improvement; the need for mega-dosage of medication may decrease, because insulin works better. It is suggested that health care system pay attention to these issues and plan for effective strategies to improve community quality of life which may cause better lifestyle, prevent from chronic diseases including diabetes and improve individuals health status. As a result of lifestyle improvement, chronic conditions may be prevented or managed better so the costs for health care system may decrease significantly. As nowadays we are facing COVID-19 pandemic

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which affect quality of life in many populations, recruiting effective strategies, for example using social media to transform effective recommendation about healthy lifestyle, how to increase physical activity level during lockdown and quarantine, ways to prepare healthy and nutritious meals at home and recommendations to improve family dietary habits and behaviors, seem to be effective. Further studies are needed in order to identify the best strategy for lifestyle improvement according to each community specific situation.

Keywords: Lifestyle; Nutrition; Physical activity; Health; Diabetes; Dietary habit

Biography

Kimia Moiniafshari was graduated in nutrition field from Shahid Beheshti University of Medical Science and has accepted and published papers in international nutrition conferences in autism and sport nutrition area. She has translated books "Eating for Autism", "turn fat into muscle", "No body's perfect" and "nutrition for cancer" into Persian. Her thesis during BSc course was about nutritional strategies for autism prevention and related symptoms managements. During her MSc course, she focused on the effect of vitamin D, omega-3 fatty acids and aerobic exercise effect on metabolic syndrome factors in obese women. She is now PhD candidate of exercise physiology and has focused on effect of nutrition and exercise on neuroscience.