Editorial

Nutritional Dietes, Contemporary Researches on Diabetes

Abstract

Diabetes is a major public health problem and is emerging as a pandemic. The fundamental cause of obesity and overweight is an energy imbalance between calories consumed and calories burned up. Physical activity is one of the mainstay clinical interventions for preventing metabolic diseases, and dietary habits are the primary factor for the rapidly rising incidence of DM. Reducing weight and maintaining a healthy weight, reducing energy intake, and food intake high in vegetables, fruit, whole grains, legumes, nuts, and dairy products are core parts of management. We performed a narrative literature review, manual-search of reference lists of included articles, and relevant reviews. The definition of what constitutes a healthy diet is continually shifting to reflect the evolving understanding of the roles that different foods, essential nutrients, and other food components play in health and disease. A large and growing body of evidence supports that intake of certain types of nutrients, specific food groups, or overarching dietary patterns positively influences health and promotes the prevention of common non-communicable diseases (NCDs). Greater consumption of health-promoting foods and limited intake of unhealthier options are intrinsic to the eating habits of certain regional diets such as the Mediterranean diet or have been constructed as part of dietary patterns designed to reduce disease risk, such as the Dietary Approaches to Stop Hypertension (DASH) or Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) diets. The main purpose of this review was to discuss the role of psychosocial factors and diet in the control of type II Diabetes. Diabetes is the leading cause of kidney failure and new cases of blindness among adults in the US. It is also associated with increased risks of cardiovascular disease, non-alcoholic fatty liver disease, and non-alcoholic steatohepatitis and was estimated to be the seventh leading cause of death in the US in 2017. Screening asymptomatic adults for prediabetes and type 2 diabetes may allow earlier detection, diagnosis, and treatment, with the ultimate goal of improving health outcomes.

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Introduction

Diabetes, also known as diabetes mellitus, is a group of metabolic disorders characterized by a high blood sugar level (hyperglycaemia) over a prolonged period of time. Symptoms often include frequent urination, increased thirst and increased appetite. If left untreated, diabetes can cause many health complications. Acute complications can include diabetic ketoacidosis, hyperosmolar hyperglycaemic state, or death. Serious long-term complications include cardiovascular disease, stroke, chronic kidney disease, foot ulcers, damage to the nerves, damage to the eyes, and cognitive impairment [1]. Diet is important in older age, but nutritional content may be lacking as a result of biological and social changes that accompany age. However, much existing research has assessed diet and nutrition in younger populations and focused on limited explanations for dietary differences, such as low socio-economic status and social resources, limiting our understanding of the particular circumstances relating to dietary intake among older Americans. Therefore, the objectives of this study are to assess dietary intake of core food groups and nutrients and identify risk and protective factors influencing diet quality in a nationally representative sample of older Americans [2]. Findings of this study will deepen our understanding of the diets of older Americans and determining factors associated with diet will inform the development of public health and nutrition policies and interventions that can promote healthy eating.

There are several ways to approach meal planning for diabetics. The American Diabetes Association promotes the Create Your Plate method and offers a tool on its website to help patients use it. To use this method, practice filling half of your plate with non-starchy vegetables [3]. Fill one-quarter of the plate with a protein and the remaining quarter of

the plate with a carbohydrate. Complete the meal with a serving of dairy or fruit and an unsweetened drink, Treatment of patients with type 2 diabetes mellitus includes education, evaluation for micro- and macro vascular complications, attempts to achieve near normoglycemia, minimization of cardiovascular and other long-term risk factors, and avoidance of drugs that can exacerbate abnormalities of insulin or lipid metabolism. All of these treatments and goals need to be tempered based on individual factors, such as age, life expectancy, and comorbidities [4]. Although studies of bariatric surgery, aggressive insulin therapy, and behavioural interventions to achieve weight loss have noted remissions of type 2 diabetes mellitus that may last several years, the majority of patients with type 2 diabetes require continuous treatment in order to maintain target glycaemia. Treatments to improve glycaemic management work by increasing insulin availability (either through direct insulin administration or through agents that promote insulin secretion), improving sensitivity to insulin, delaying the delivery and absorption of carbohydrate from the gastrointestinal tract, increasing urinary glucose excretion, or a combination of these approaches. For patients with overweight, obesity, or a metabolically adverse pattern of adipose tissue distribution, body weight management should be considered as a therapeutic target in addition to glycaemia [4].

Signs and Symptoms

Diabetes symptoms include:

1. Excessive thirst
2. Frequent urination
3. Extreme hunger
4. Fatigue
5. Unexplained weight loss
6. Slow-healing sores
7. Irritability
8. Frequent infections
9. Blurred vision

The classic symptoms of untreated diabetes are unintended weight loss, polyuria (increased urination), polydipsia and polyphagia. Symptoms may develop rapidly (weeks or months) in type 1 diabetes, while they usually develop much more slowly and may be subtle or absent in type 2 diabetes. Several other signs and symptoms can mark the onset of diabetes although they are not specific to the disease [5]. In addition to the known symptoms listed above, they include blurred vision, headache, fatigue, slow healing of cuts, and itchy skin. Prolonged high blood glucose can cause glucose absorption in the lens of the eye, which leads to changes in its shape, resulting in vision changes. Long-term vision loss can also be caused by diabetic retinopathy. A number of skin rashes that can occur in diabetes are collectively known as diabetic dermatomes [6].

Method

This was a qualitative descriptive study conducted in three Seguro Popular primary care clinics in two counties in Mexico City using convenience sampling. Qualitative description is a 'method of naturalistic inquiry that uses low inference interpretation to present results in everyday language.' It allows for exploration of health problems of vulnerable populations who have complex cultural and clinical factors influencing health outcomes and their interaction with the health care system. Understanding these factors from the perspective of persons living with a specific condition can improve intervention development and clinical care [7].

Individuals who obtain health care at these clinics are covered by public health insurance. This public insurance offers universal access to health services that include: medical visits, laboratory testing, free medicines and referrals to highly specialized health centers if it is needed. In 2016, approximately 50% of the population who reported affiliation to a health care system were covered by Seguro Popular [8]. By 2018, Seguro Popular provided health care to over 53 million people nationwide. Adults enrolled in the Seguro Popular system have a mean age of 40.6 years, with 64% male, 12% reporting a diagnosis of T2D, and the majority with low income (97%). In the total adult population in Mexico City, individuals have a mean age of 43.6 years, 53% male, 13% reporting a diagnosis of T2D, and 55% with low income. Seventy-nine percent of adults enrolled in Seguro Popular have at least a sixth-grade education level .Thus; adults in Seguro Popular are socio-economically vulnerable [9, 10].

Conclusion

Healthful eating is essential for the prevention of chronic diseases and promotion of health. This study highlights the need for improving diet among older Americans. The majority of older adults did not meet dietary recommendations for core food groups and nutrients. Especially, respondents with lower socio-economic status, fewer psychosocial resources and limited access to grocery markets and stores had less healthful dietary patterns and poor quality diet. Dietary policies and interventions that focus on promoting food and nutrition literacy through education and marketing increase access to healthy food (e.g. financial assistance, healthy food outlets, transportation options and delivered meals), while those discouraging healthful eating (e.g. food regulations and taxes) may improve older adults' diet quality. In addition, more opportunities to increase social relationships and networks may provide social, emotional and instrumental supports for healthy eating.

Evidence-based diabetes self-management programs need to become more accessible, taking into consideration the social determinants of health and building upon current initiatives to improve early diagnosis and treatment of T2D. Cultural beliefs, personal control, and low health literacy influence diabetes self-management in adults with T2D with limited resources. Mental health and financial challenges of adults with T2D will require multidisciplinary team-based care. Future research on best practices to implement and scale-up evidence-based patient-centred T2D prevention and DSME programs for the poor and underserved is warranted in Mexico and world-wide.

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