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Health and Treatment of Diabetes Mellitus

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Editorial

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Abstract

Some reflections will be presented on diabetes mellitus, which is a very common chronic disease in daily life due to different causes where diet and sedentary lifestyle directly influence. Considering these analyzes, the proposal of this work is to ensure that readers are able to know, interpret, disseminate and in many cases recommend preventive measures that help improve the physical and mental health of readers, and citizens, with this it would be achieved the best quality of life in society. The disease flourishes when the pancreas does not secrete enough insulin or when the body does not use the insulin it produces effectively. The effect of uncontrolled diabetes is hyperglycemia or high blood glucose). Over time, this disease seriously damages many organs of the human body, mainly the nervous system and blood vessels. They achieve a healthy body and mind at the present time that humanity is engaged in eradicating the viruses that have affected the world population, which would provide a healthy development for humanity.

Introduction

Diabetes mellitus is a disease that has no borders, it manifests itself when the body does not control the amount of glucose (a type of sugar) in the blood and the kidneys make a large amount urine, occurs when the body does not produce enough insulin or does not consume it the way it should (Cockram, 2000). The World Health Organization (WHO) states that the number of people with diabetes increased from 108 million in 1980 to 422 million in 2014. The prevalence of this disease continues to increase rapidly in low- and middle-income countries, not behaving in the same way in high-income countries (Cigarroa et al., 1989; Bansal, 2020). It was estimated that in 2019 that the disease was the direct cause of 1.5 million deaths and that, in 2012, 2.2 million people died because of hyperglycemia (WHO, 2021).

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From what has been analyzed, the disease is responsible for other catastrophic diseases such as blindness, kidney failure, myocardial infarction, stroke and amputation of the lower limbs, as you can read, people who acquire the disease face other diseases that by If alone they are very serious, to prevent diabetes from winning the battle of a stable quality of life, different elements must be clear that would help to stay healthy (Wilson, 1990; McDonough & Shaw, 2012; Lune, 2004). Diabetes mellitus groups together a group of metabolic diseases of diverse etiology characterized mainly by the presence of chronic hyperglycemia. Type 2 diabetes accounts for more than 90% of all cases, and genetic and environmental factors participate in its etiopathogenesis. Type 1 diabetes represents 5 to 10%, being the autoimmune destruction of pancreatic beta cells the fundamental cause (Czichos & Saito, 2006).

There are three main types of diabetes: type 1 diabetes, type 2 diabetes, and gestational diabetes (diabetes during pregnancy). Type 1 diabetes can be characterized by destruction of the pancreatic islets of beta cells and total insulinopenia, according to Ozdemir et al. (2003), is one of the most frequent chronic diseases of childhood, the incidence of which is increasing, especially in children under 5 years of age; It significantly affects the health of the population, especially through its chronic or long-term complications, which cause frequent morbidity and significantly reduce life expectancy (Fischli et al., 1998). Type 2 diabetes is a chronic, degenerative, and incurable but controllable disease, it is considered one of the chronic diseases with the greatest impact on the quality of life of the world population and constitutes a real health problem; belongs to the group of diseases that cause physical disability due to its various multi-organ difficulties, with an undoubted increase in morbidity and mortality in recent years (De Luis et al., 1998).

Gestational diabetes mellitus has been defined by Ozdemir et al. (2003), as any carbohydrate intolerance diagnosed during pregnancy. The prevalence of this disease is approximately 2 to 5% of normal pregnancies and depends on the prevalence of type 2 diabetes mellitus in the population, they state that the prevalence of this disease at a global level varies from 1 to 14%, According to the population analyzed, they consider that in Mexico, it complicates 8 to 12% of pregnancies, a figure continues to increase and this problem is associated with adverse maternal and neonatal outcomes; they are also at risk for type 2 diabetes in the years following their pregnancy, and their children are at higher risk for obesity and diabetes.

In recent years, a gradual increase in the prevalence and incidence of both types of diabetes has been observed. It is important to carry out an early diagnosis of the disease to avoid metabolic and cardiovascular complications in the short and long term. The symptoms that guide the development of hyperglycemia are the presence of polyuria, polydipsia, polyphagia, asthenia and weight loss. Early intervention with hygienic-dietary and even pharmacological measures in patients with “prediabetes” manages to reduce the incidence of type 2 diabetes and cardiovascular complications (Jacob et al., 2020; D’Alfonso, 2020).

Behavior of diabetes in different regions

The world report on diabetes published by WHO states that in many regions the lack of effective policies for the creation of environments conducive to healthy lifestyles and the lack of access to good health care they translate into a lack of attention to the prevention and treatment of the disease, especially in the case of people with limited resources (WHO, 2016). The World Atlas of Diabetes makes several statements that are worth reflecting on, where it is stated that around 463 million adults between 20 and 79 years old have diabetes. This represents 9.3% of the world population in this age group. The total amount is projected to increase to 578 million (10.2%) by 2030 and 700 million (10.9%) by 2045 (IDF, 2019).

The situation of the different regions assessed by (IDF, 2019)

The European Region of the IDF has the highest number of children and adolescents (0-19 years) with type 1 diabetes: 296,500 in total. The IDF Middle East and North Africa Region has the highest age-adjusted prevalence of diabetes of all the IDF Regions (nearly 12%). 43% of all diabetes-related healthcare expenditures occur in the North American and Caribbean Region. 44% of diabetes-related deaths in the IDF South and Central America Region affect people under 60 years of age. 57% of adults aged 20-79 with diabetes in the IDF Southeast Asia Region are undiagnosed. The highest number of diabetes-related deaths in 2019 occurred in the IDF Western Pacific Region (well over one million).

Diabetes and cardiovascular diseases Cardiovascular

disease represents the main cause of mortality according to a health specialist in Uruguay (Cosson et al., 2006), they state that in recent years there have been advances in therapeutics that have been shown to reduce major cardiovascular events, considering the interaction between diabetes, cardiovascular diseases and their treatment. Their recent studies showed that the new drugs are one more tool, which, oriented to the pathophysiology of the disease, achieve not only a decrease in blood glucose values, but also a decrease in major cardiovascular events (Westgren & Levi, 1998; Galer et al., 2000).

Diabetes mellitus and foot injuries

The disease is associated to a multiplicity of conditions such as environmental or age, this was analyzed by (Zozulinska & Wierusz-Wysocka, 2006), according to them the prevalence of this disease increases particularly in social groups that have rapidly changed from the traditional to the modern lifestyle; On the other hand, type 1 diabetes mellitus (DM) is prevalent among children on the planet

Population Genetics Population

genetics was valued by the researchers Rojas et al. (2010), where it was considered that the distribution of genes in the population and the factors that maintain or change the frequency of genes and genotypes from generation to generation, being a fundamental pillar in the study of human evolution and genetic mapping, evaluations that influence the development of the diabetes. Ethnicity has also been an important risk factor, it is recognized by the WHO that the highest rates of type 2 diabetes have occurred in people of Asian and African origin, as well as in indigenous peoples of the Americas and Australian-Asians (Government of Mexico, 2018).

Food and lifestyle changes

Many scientists attend of the subject have dealt the contribution offered to the reduction of disease dietary changes and lifestyle, most agree that these two factors help reduce the factors that influence the onset of the disease (Rajput et al., 2012). Spanish researchers have suggested that the high caloric intake of the current diet and sedentary lifestyle are the main causes of the notable increase in obesity in society (Hernández et al., 2013), they argue that the studies carried out have shown that personalized nutrition and exercise are effective in significantly preventing or delaying disease; they also consider that moderate physical activity practiced on a regular basis is essential in prevention and treatment seems the most effective.

Four key messages about diabetes

In the report presented by two specialists, the first from the WHO and the second from the International Diabetes Federation (Laraeni et al., 2021), state which are the 10 countries with the highest incidence of people with the disease, among these are India, China, the United States, Indonesia, Japan, Pakistan, Russia, Brazil, Italy, and Bangladesh, this disease has become a global problem that continues to grow. It is estimated by these authors that a total of 366 million people by 2030 will have the disease, most of this increase will be due to an increase of 150% in developing countries. Four messages are presented that will help reduce the probability of acquiring diabetes: You should increase physical activity, have a healthy and balanced diet, achieve the right weight for your size, and reduce negative health habits such as not smoking. The Pan American health organization has the objective for 2025, to stop the increase in diabetes and obesity (PAHO, 2021), to achieve this proposal, the population must become aware and improve the quality of life by complying with the four previous messages.

Recommendation

The editorial team advises readers to maintain a healthy diet, perform physical exercises and reduce habits that are inappropriate for creating a healthy environment and a better quality of life.

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References

Bansal, M. (2020). Cardiovascular disease and COVID-19. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, *14*(3), 247-250. https://doi.org/10.1016/j.dsx.2020.03.013

Cigarroa, R. G., Lange, R. A., Williams, R. H., & Hillis, D. (1989). Dosing of contrast material to prevent contrast nephropathy in patients with renal disease. *The American journal of medicine*, *86*(6), 649-652. https://doi.org/10.1016/0002-9343(89)90437-3

Cockram, C. S. (2000). Diabetes mellitus: perspective from the Asia–Pacific region. *Diabetes research and clinical practice*, *50*, S3-S7. https://doi.org/10.1016/S0168-8227(00)00202-3

Cosson, E., Benchimol, M., Carbillon, L., Pharisien, I., Pariès, J., Valensi, P., ... & Attali, J. R. (2006). Universal rather than selective screening for gestational diabetes mellitus may improve fetal outcomes. *Diabetes & metabolism*, *32*(2), 140-146. https://doi.org/10.1016/S1262-3636(07)70260-4

Czichos, H., & Saito, T. (2006). *Springer handbook of materials measurement methods* (Vol. 978, pp. 399-429). L. Smith (Ed.). Berlin: Springer.

D'Alfonso, S. (2020). AI in mental health. *Current Opinion in Psychology*, *36*, 112-117. https://doi.org/10.1016/j.copsyc.2020.04.005

De Luis, D. A., De La Calle, H., Roy, G., De Argila, C. M., Valdezate, S., Canton, R., & Boixeda, D. (1998). Helicobacter pylori infection and insulin-dependent diabetes mellitus. *Diabetes research and clinical practice*, *39*(2), 143-146. https://doi.org/10.1016/S0168-8227(97)00127-7

Fischli, A. E., Godfraind, T., & Purchase, I. F. H. (1998). Natural and anthropogenic environmental oestrogens: the scientific basis for risk assessment. *Pure Appl. Chem*, *70*(9), 1863-1865.

Galer, B. S., Gianas, A., & Jensen, M. P. (2000). Painful diabetic polyneuropathy: epidemiology, pain description, and quality of life. *Diabetes research and clinical practice*, *47*(2), 123-128. https://doi.org/10.1016/S0168-8227(99)00112-6

Hernández-Ávila, M., Gutiérrez, J. P., & Reynoso-Noverón, N. (2013). Diabetes mellitus en México: El estado de la epidemia. *Salud publica de Mexico*, *55*, s129-s136.

Jacob, L., Tully, M. A., Barnett, Y., Lopez-Sanchez, G. F., Butler, L., Schuch, F., ... & Smith, L. (2020). The relationship between physical activity and mental health in a sample of the UK public: A cross-sectional study during the implementation of COVID-19 social distancing measures. *Mental health and physical activity*, *19*, 100345. https://doi.org/10.1016/j.mhpa.2020.100345

Laraeni, Y., Danuyanti, I. G. A. N., Resnhaleksmana, E., Pauzi, I., Mataram, I. K. A., & Agustini, N. P. (2021). High antioxidant level in cajanus sajan reduces blood glucose level and improves blood lipid profile of rats as diabetes mellitus models. *International Journal of Health Sciences*, *5*(1), 29-37. https://doi.org/10.29332/ijhs.v5n1.725

Lune, B. B. H. (2004). Qualitative research methods for the social sciences Vol. 5.

McDonough, J., & Shaw, C. (2012). *Materials and Methods in ELT*. John Wiley & Sons.

Ozdemir, M., Buyukbese, M. A., Cetinkaya, A., & Ozdemir, G. (2003). Risk factors for ocular surface disorders in patients with diabetes mellitus. *Diabetes research and clinical practice*, *59*(3), 195-199. https://doi.org/10.1016/S0168-8227(02)00244-9

Rajput, R., Rajput, M., & Nanda, S. (2012). Utility of HbA1c for diagnosis of gestational diabetes mellitus. *Diabetes research and clinical practice*, *98*(1), 104-107. https://doi.org/10.1016/j.diabres.2012.02.018

Rojas, W., Parra, M. V., Campo, O., Caro, M. A., Lopera, J. G., Arias, W., ... & Bedoya, G. (2010). Genetic make up and structure of Colombian populations by means of uniparental and biparental DNA markers. *American Journal of Physical Anthropology*, *143*(1), 13-20.

Westgren, N., & Levi, R. (1998). Quality of life and traumatic spinal cord injury. *Archives of physical medicine and rehabilitation*, *79*(11), 1433-1439. https://doi.org/10.1016/S0003-9993(98)90240-4

Wilson, E. B. (1990). *An introduction to scientific research*. Courier Corporation.

Zozulinska, D., & Wierusz-Wysocka, B. (2006). Type 2 diabetes mellitus as inflammatory disease. *Diabetes Research and Clinical Practice*, *74*(2), S12-S16. https://doi.org/10.1016/j.diabres.2006.06.007

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