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# Question 1

Type 2 diabetes mellitus primarily occurs due to genetics and lifestyle factors. The factors are a sedentary lifestyle, inactivity, generous alcohol consumption, and cigarette smoking. Obesity is considered to be contributing to approximately 55 percent of type 2 DM cases. The increased childhood obesity rate between the 1960s and 2000s has led to the rise in type 2 DM in adolescents and children. There is a strong genetic inheritable connection because a relative having type 2 DM can increase the risk of developing the diseases in others(Olokoba, Obateru & Olokoba, 2012). A weak correlation can be found between the concentrations in the constituent of plastics, incidences of type 2DM and urine of bisphenol A. The risk among monozygotic twins is around 100% and people having a family history of the history are at the risk of around 25%. It has been found that genes are associated significantly with the development of type 2 DM and obesity is inherited strongly. Monogenic forms such as Maturity-onset diabetes of young constitutes five percent of cases. It is being determined that there are many medical circumstances which give rise to type 2 DM. It consists of hypertension, obesity, elevated cholesterol and conditions terms as metabolic syndrome. Other causes consisted of acromegaly, chronic pancreatitis, pheochromocytoma, thyrotoxicosis, drugs, cancer and Cushing's syndrome. Additional factors that led to an increasing in the risk of disease are aging, less active lifestyle and high-fat diets.

Insulin insensitivity can characterize Type 2 DM as a result of decreasing insulin production, eventual failure of pancreatic beta cell and insulin resistance. It leads to a decrease in the transport of glucose into muscle cells, fat cells, and liver. It is being determined that the breakdown of fat increases with hyperglycemia. Dysfunction, hepatic and glucagon levels increasing during fasting leads to inadequate insulin levels and resistance (Mushcab, 2016). The incretins are considered to be significant gut mediators for the release of insulin. DPP-IV inhibitors and GLP-1 analogous prevents the breakdown of GIP and GLP-1. The mitochondrial dysfunction plays a significant role in the etiology of type 2 diabetes mellitus and development of the insulin resistance. Visceral adiposity can be found in the people suffering from the disease. In the pathogenesis of the disease, adipose plays a significant role. The predominant theory is being used for explaining the link is that the visceral/portal hypothesis plays a role in the non-esterified elevated fatty acid concentrations.

The article has depicted that there was a significant decrease in the incidence of type 2 diabetes mellitus with the combination of eating unsaturated fat and high fiber, maintenance of 25kg/m2 body mass index, a diet low in trans and saturated fats, no smoking, moderate alcohol consumption, and regular exercise. Lifestyle modification can assist to prevent type 2 diabetes mellitus. Medical nutrition consumptions should be directed to the patients suffering from the disease. Apart from this, lifestyle recommendations can also be provided to the patients as per their functional and physical ability (Bordan & Yashkov, 2017). The pharmacological agents are also being explained in the article in an appropriate manner. Type 2 diabetes mellitus is considered to be the metabolic disease which can be prevented through obesity, controlling overweight, diet control and lifestyle medication. People should be educated and create awareness among them about the disease in order to control it. Novel drugs have been developed but there is no cure that can be provided to the people suffering from the disease. However, it has been found that the quality of life needs to be improved in order to prevent the development of such kind of diseases.

# Question 2

The article has clearly depicted that Type 2 diabetes mellitus is the chronic metabolic which is rapidly increasing due to the changes in the lifestyle of the people in the world. Diagnosis and screening are still based on the American Diabetes Association and World Health Organization criteria which consists of both laboratory and clinical parameters. The article has depicted both the qualitative and quantitative information in order to provide a clear picture of the current trends associated with Type 2 diabetes mellitus. It is estimated that around 366 million people in 2011 had diabetes mellitus and it is expected that it will increase to 522 million by 2030. People suffering from type 2 diabetes mellitus are seen to be increasing in every nation. 80% of people living in middle and low-income nations are suffering from the disease. In 2011, diabetes mellitus caused 4.6 million deaths. By 2030, it is expected that it will increase to 439 million people. In Africa, the disease has increased dramatically in both urban and rural areas. According to the report of the Centre for Disease Control and Prevention 25.8 million people in the United States in 2010 were being affected. The prevalence of type 2 diabetes mellitus will increase in adults in the next two decades. It is being depicted that the tests for diagnosis and screening of diabetes mellitus are readily available. The recommended test for screening is depicted to be the same for carrying out the diagnosis process. It is determined that 25 percent of patients have microvascular complications at the diagnosis time stating that the disease was for more than five years (Raccah, 2017). The evidence was based on the World Health Organization National diabetic group of 2006 and the American Diabetic Association guidelines of 1997. The recommendations of ADA 1997 for diagnosis of diabetes mellitus focused on FPG and WHO recommendations for diagnosis of the disease focused on OGTT.

# Question 3

The article has provided information on the type 2 diabetes mellitus. The author would have collected more data in order to show the impact of type 2 diabetes mellitus on people. The article should have directed people what steps they should follow in order to prevent the occurrence of the disease. It is being depicted that in the future there will be an increase in the people suffering from type 2 diabetes mellitus (Jordan, 2017). However, the article depicted there is no cure available but medical conditions should also be explained in order to understand the topic in an appropriate manner.

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