

Regular Physical Activity and Exercise in Prevention and Management of Diabetes Mellitus

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Dear Editor,

Diabetes Mellitus (DM) is a group of metabolic diseases characterized by chronic hyperglycemia resulting from defects in insulin secretion, insulin action, or both.^[1] The national Diabetes Data Group (2000) indicated that DM consists of three different types, which include: Type 1, Type 2 and gestational diabetes.^[2]

Type I DM also used to be referred to as juvenile diabetes or insulin-dependent diabetes and it is due to the destruction of β cells of the pancreas.^[3] Also, Type 2 DM was previously referred to as “adult-onset diabetes”. It is used to be called non-insulin dependent diabetes or adult-onset diabetes.^[4] Here, the pancreas usually produces some insulin, but the insulin might not be enough or the body cells get resistant to it. As such, the body cannot utilize the insulin that is released.^[5] However, the third type of diabetes mellitus is the gestational diabetes, and it occurs when pregnant women without a previous history of diabetes develop high blood sugar levels.^[6]

According to International Diabetes Federation (IDF), 382 million (or 8.3% of adult world population) people worldwide have diabetes mellitus as at 2013. The prevalence of diabetes in Nigeria ranges from low level of 0.8% among adults in rural highland dwellers to over 7% in urban areas like Lagos with an average of 2.2% nationally.^[7] However, in another study by Owoaje *et al.* The prevalence of diabetes in a community sample of 247 men and women in Ibadan, following a simple random sampling technique was 2.8%.^[8]

Physical activity includes all movement that increases energy use, whereas exercise is planned, structured physical activity. Exercise improves blood glucose control in type 2 diabetes, reduces cardiovascular risk factors, contributes to weight loss, and improves well-being.^[9] Different exercise programed has significant effect on health. For instance, flexibility exercises improve range of motion around joints.^[10] Also, balance exercises help with proper gait and prevent falls^[11] and can also reduce falls risk by improving balance and gait, even when peripheral neuropathy is present.^[11] Moreso, stretching increases range of motion around joints and flexibility^[10] but does not affect glycemc control.

Regular exercise may prevent or delay type 2 diabetes development.^[12] It also has considerable health benefits for people with type 1 diabetes (e.g., improved cardiovascular fitness, muscle strength and insulin sensitivity.^[13] Regular Physical activity is beneficial and does not lead to any adverse effects to individuals including pregnant women^[14] and patients with asthma.^[15] Physical activity and exercise recommendations therefore, should be tailored to meet the specific needs of each individual.

In conclusion, Physical activity and exercise programme have shown to be of significant importance in prevention and management of diabetes mellitus. Exercise programme for patient with diabetes must be well structured,

carefully prescribed, gradually progressed and closely monitored which is only possible with exercise experts.

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