

# Chapter 18

## Diabetes Mellitus and Aging

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### ABSTRACT

*Aging mirrors all the changes that occur over the period of life. It comes with various changes both positive and negative. Among all medical illnesses, Diabetes Mellitus is one of the most common and serious medical condition that has affected not only the aging population but also the young children and adults as well. Diabetes and its complications can contribute to aging process in a number of ways and the complications can speed up the aging process as well. For people with type 2 diabetes managing their emotional health can be as important as keeping their blood sugar under control. Patients with diabetes mellitus need psychological support throughout their life span from the time of diagnosis. However, provision of psychosocial support is generally inadequate due to its challenging nature of needs and demands on the healthcare systems. The present chapter will cover different aspects of diabetes mellitus and its impact on human life and also how with healthy coping mechanism one can prevent the distressing effect of diabetes on aging and vice versa.*

### INTRODUCTION

*Health is a crown that the healthy wears, but only the sick can see it (Imam Shafiee)*

Diabetes is a major health concern in both developing and developed countries. A person with diabetes under goes significant emotional and psychological turmoil like distress, anxiety and depression. This illness which is chronic in nature requires a constant effort for healthy life management. Among all medical illnesses, Diabetes Mellitus is one of the most common and serious medical condition that has affected not only the aging population but also the young children and adults as well. For people with diabetes managing their emotional health can be as important as keeping their blood sugar under control. Patients with diabetes mellitus need psychological support throughout their life span beginning from the time of diagnosis. The psychological make-up of the patients with diabetes mellitus plays a

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central role in self-management behaviors. Without patient's adherence to the effective therapies, there would be persistent sub-optimal control of the disease, increased diabetes-related complications, causing deterioration in quality of life, resulting in increased healthcare utilization and burden on healthcare systems. So, preventing the disastrous effect of diabetes especially in elderly becomes important as they are more prone to various bio-psychosocial changes and its consequences.

India had more than 91.6 million elderly in 2010 with an annual addition of 2.5 million elderly between 2005 and 2010. The number of elderly in India is projected to reach 158.7 million in 2025 (United Nations Department of Economic and Social Affairs, 2008), and is expected, by 2050, to surpass the population of children below 14 years (Raju, 2006). Genetic loading, unhealthy life styles and obesity remain significant contributors towards developing diabetes. The disease burden is huge as exemplified by the World Health Organization report of 2016 which states that diabetes caused 1.5 million deaths in 1 year. Higher-than-optimal blood glucose caused an additional 2.2 million deaths, by increasing the risks of cardiovascular and other diseases. Forty-three percent of these 3.7 million deaths occur before the age of 70 years. The percentage of deaths attributable to high blood glucose or diabetes that occurs prior to age 70 is higher in low- and middle-income countries than in high-income countries (WHO, 2016). The global prevalence of type 2 diabetes mellitus is rapidly growing as a consequence of life-style changes, urbanization and population aging (Chen et al., 2011). The American Diabetes Association (ADA, 2014) has classified diabetes into four categories: Type 1 diabetes mellitus, caused by autoimmune destruction of the pancreatic beta cells; type 2 diabetes mellitus, itself a highly diverse group of disorders involving insulin resistance combined with relative insulin deficiency; gestational diabetes mellitus; and other specific types, another heterogeneous group which includes, among others, forms of diabetes resulting from the inheritance of a mutation in a single gene (monogenic diabetes). The majority of people with diabetes are affected by type 2 diabetes. It is a chronic illness that occurs either when the pancreas does not produce enough insulin or when the body cannot efficiently use the insulin it produces. Children normally suffer from type 1 diabetes whereas adult and elderly often suffers from type 2 diabetes. The ground of type 1 diabetes is unknown and is currently not preventable. The symptomatology of type 1 DM includes excessive urination, thirst, constant hunger, weight loss, fatigability and vision changes. The sign and symptoms of type 2 diabetes may be similar to those of type 1 diabetes, but are often less manifested or even absent. Therefore, the disease may go undiagnosed for several years, until complications have already takes place.

Diabetes mellitus is among those hazardous factors that affects the aging person. Since aging itself brings various physical and psychological changes in the person, diabetes mellitus becomes an additional factor to their overall physical and psychological changes. Aging as a whole causes changes throughout the entire body; basal metabolic rate, the amount of energy required declines with age. As they age and more the time passes, their body slowly becomes less adaptive at using glucose from the bloodstream, their visual acuity declines and so as the hearing ability. Other cognitive abilities and higher executive functioning, such as spatial ability, complex problem solving, and working memory, reasoning, planning all tend to decline to some extent with age.

Diabetes and aging are often associated with various psychological and emotional states. This is a condition where people know that there is no looking- back followed by various emotional symptoms like;

- Difficulty in accepting the diagnosis
- Don't want to discuss
- Decrease self-care

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