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Diabetes mellitus type 1; is it a global challenge

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Core tip

Type 1 diabetes, a serious and life-threatening disease with many complications, is one of the most common (autoimmune) endocrine and metabolic conditions in childhood, with life-saving treatment and lifelong, but painful and time-consuming in daily life, requiring self-action and a balanced diet, equally distributed among boys and girls.

Diabetes mellitus is increasing worldwide in all countries, all ages and both genders". This is a common sentence we have heard recent years which it could encourage people to read and search about the disease. It should be noted that most of the time, it may consider type 2 diabetes, however, is taht mean that type 1 diabetes is not important? Absolutely not. In fact, type 1 diabetes, a serious and life-threatening disease with many complications, is one of the most common (autoimmune) endocrine and metabolic conditions in childhood, with life-saving treatment and lifelong, but painful and time-consuming in daily life, requiring self-action and a balanced diet, equally distributed among boys and girls (1). It is only 10%-15% of all types of diabetes (2). Two international collaborative programs; i.e., the Diabetes Mondiale study (DiaMond) and the Europe and Diabetes study (EURODIAB) have been begun in the 1980s to monitor the trends of incidence of disease (1).

While some studies reported the decline in the mortality and morbidity from type 1 diabetes mellitus in Europe (3) and the United States (4) in the past 30 years, some other studies reported worldwide increasing (5), with later onset of disease in Africa compared to western Europe (6-8), as well as Kuwait (9), Sudan (10), Egypt (11). Although, most of type 1 patients would be diagnosed in the first two decades of life, there is some evidences that an increasing number of patients would be recognized in older ages (12,13), but not in Switzerland (14) with increase in under 5 year children incidence rates.

Furthermore, there is a large variability of disease distribution around the world. Finland with about 40/100 000 per year has the largest incidence rates of disease in the world compared to China with lowest incidence rate of 0.1/100 000 per year (15). In the Middle East region, the incidence rate varies from 1/100 000 to 8/100 000 per year in Pakistan and Egypt, respectively (16). Even within a country, there is variability across country (17) as well as urban-rural difference (18).

Nowadays, with increasing type 2 diabetes importance worldwide, due to unhealthy life style (as the main cause of disease) as well as the possibility of prevention or making a delay in onset and its complications, in addition to focus on finding a potential main preventive method to protect against type 2 diabetes, one important question will be raised: "What is the future situation of type 1 diabetes mellitus worldwide?"

In one hand, with development of new methods and increased awareness of populations, type 1 diabetes will be diagnosed faster and maybe new treatments can cure it more effective than now; one the other hand, in children under 5 years old and older ages, it is going to show increase in incidence. What would be the difference between developed and developing countries? What will be the direct (treatment and medication) and indirect (social, productivity, stress on family members, and so on) costs of this disease compared to type 2 diabetes? How would be the future health policies for coping with this disease?

Author's contribution

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Conflicts of interest

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