

Diabetes in Latin America: Prevalence, Complications, and Socio-Economic Impact - L Sinisterra-Loaiza - Universidade de Santiago de Compostela, Lugo, Spain

L Sinisterra-Loaiza

Abstract

Objective

To review and update epidemiological data on type 2 diabetes (T2D) in Spain and four Latin American countries: Colombia, Mexico, Chile, and Argentina.

Methods

Literature was reviewed by a search of PubMed, publications of the Ministry of Health, World Health Organization, International Diabetes Federation, and other public health agencies of each respective country.

Results

Of the five countries above, Mexico (13.6%) had the highest prevalence of diabetes, followed by Spain (10.4%). Within these countries, significant differences between urban and rural areas were observed (7.8% and 1.4%, respectively). Diabetes consumes between 7% and 15% of the total expenditure of these countries' national health budgets. Mortality due to this disease has been reduced in different countries, demonstrating the success of measures taken to control this situation.

Conclusion

The literature shows that despite different eating

habits and environments, Spain and these Latin American countries share a comparable magnitude of the T2D problem. Therefore, it might be worthwhile to implement similar effective educational programmes to solve it.

Diabetes Mellitus (DM), one of the largest epidemics of the 21st century [1,2], is a chronic condition due to lack or insufficient production of insulin to cope with increased demand from peripheral tissues with a resulting constant increase in blood glucose [3]. It imposes a heavy burden on both the person suffering the disease as well as the public health system.

Type 2 diabetes (T2D), is the most frequent clinical form of this disease (about 90% of all cases) [4] that frequently appears in older adults but is currently increasing its development at younger ages -even children and adolescents- associated with a higher incidence of obesity, sedentary lifestyle, and unhealthy diets [5].

T2D usually develops asymptotically, making early diagnosis difficult to establish, and frequently taking a decade or more to reach one [6]. It is characterized by a decrease of tissue sensitivity to insulin (insulin resistance), together with decreased mass and function of pancreatic β -cells [7]. This defect leads to impaired glucose metabolism in liver, muscle, and fat cells [8].

The development of T2D is preceded by a stage of

L Sinisterra-Loaiza

Universidade de Santiago de Compostela, Lugo, Spain, E-mail: lsinisterra@auth.gr

prediabetes characterized by blood glucose concentrations above normal (> 100 mg/dL) but below the cut off for diabetes diagnosis (\geq 126 mg/dL), which implies a higher risk of developing T2D in the future [9]. The prediabetes stage includes impaired fasting glucose (IFG), impaired glucose tolerance (IGT), and a combination of these two alterations [10]. These different stages present a different chronological degree of annual progression to T2D [6]. However, this progression is possible to prevent, and normal glucose metabolism may even be restored by the adoption of healthy life styles [11]. However, since prediabetes is frequently associated with increased risk of developing cardiovascular disease and mortality [12] as well as cancer [13], it must be considered a disease rather than a 'predisease' stage. Consequently, its early diagnosis and appropriate treatment are correspondingly important. In 2010 the first national study of diabetes in Spain started, aimed at providing exhaustive knowledge of T2D epidemiology (Di@betes.es); its results would be available in 2018. Preliminary data presented recently at the "Spanish Society of Obesity" Congress showed that of 2,048 patients evaluated, 85% (1,751 cases) presented an IGT, 78% (1597 persons) had their HbA1c levels measured, and 61% (1,251) had undergone an oral glucose tolerance test (OGTT). Since 2010, 386,003 new cases of T2D have been diagnosed in Spain, approximately 44 cases per hour. This study also reflects the prevalence of diagnosed (7.8%) and previously undiagnosed (6%) cases of this disease [18,19].

The prevalence of T2D in Spain in 2011 was known to be between 4.8% and 18.7% (8.1%, according to the Ministry of Health and Consumer Affairs [20]), with an annual incidence of between 8.2 and 10.8 cases per 1,000 inhabitants [21].

During the period: 2010 to 2017, there was an increase of 644.9 thousand adults with some type of diabetes.

Since the number of adults with this disease in 2017 was around 3.6 million, the ongoing growth of the incidence of this disease is evident [4,22].

The survey performed in the last 12 months by the National Statistics Institute on chronic or long-lasting problems or illnesses in the adult population showed that the Canary Islands had the highest percentages (10.54% and 11.66% for women and men, respectively), whereas the lowest percentages were among women in the Basque Country (4.39%) and men in the Balears Islands (5.20%). In Galicia the percentages for the two sexes varied little: 8.89% and 9.49% in women and men, respectively.

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L Sinisterra-Loaiza
Universidade de Santiago de Compostela, Lugo, Spain, E-mail: lsinisterra@auth.gr