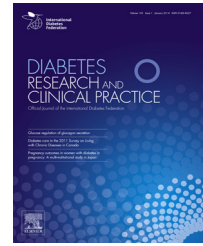


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IDF Diabetes Atlas

Diabetes in South and Central America: An update



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ABSTRACT

The estimated population of the South and Central America (SACA) Region is 467.6 million and 64% is in the age range of 20–79 years but the population pyramid and age distribution are changing. The average prevalence of diabetes in the Region is 8.0% and is expected to reach 9.8% by the year 2035. Prevalence is much lower in rural settings than in urban and the differences attributed to lifestyle changes may be a target for intervention. The indigenous population is a particularly vulnerable group needing special attention. On average, 24% of the adult cases with diabetes are undiagnosed but in some countries this is still as high as 50%. Health expenditure due to diabetes in the Region is around 9% of the global total. Inadequate glycemic control, defined as HbA1c >7%, is a strong predictor of chronic complications which increase resource use in the Region and less than half of the patients enrolled in diabetes care programmes are at target. Fifty percent or more of the adult population is overweight/obese and around one third of the adult population has metabolic syndrome using regional cutoffs for waist circumference. The number of people with IGT is almost equal to those with diabetes presenting an additional challenge for prevention. Children with type 1 diabetes represent only 0.2% of the total population with diabetes but the incidence may be increasing. In many places they have limited access to insulin, and even when available, it is not used appropriately. The available epidemiological data provide the background to act in developing national diabetes programmes which integrate diabetes care with cardiovascular prevention and promote diabetes prevention as well.

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1. Introduction

Diabetes is now a global epidemic which represents a considerable health and socioeconomic burden. To understand its regional impact it is necessary to know the characteristics of the population that may explain the differences in diabetes epidemiology and care within the region and between regions. The IDF South and Central America Region (SACA) represents a diverse population of ethnicities and countries in various stages of development. Changes in those countries over the next generation will lead to increases in diabetes prevalence and present a burden for health systems.

2. Demographic profile

The SACA Region is comprised of 20 countries (11 in South America, 6 in Central America and 3 in the Caribbean islands). All of them, except French Guiana, belong to what is recognized as Latin America which also includes Mexico (not part of SACA). Ethnicity in the region is an admixture of Europids (mainly Iberian), Amerindians and Sub-Saharan Africans. Mestizo (admixture of white and Amerindian) is the predominant ethnic group in most of the region (it has been compared to the Hispanic group in the US) but there is a wide variation in the ethnic composition: in some Countries such as Argentina and Uruguay more than two thirds of the population is considered Europid, and in others such as Bolivia and Guatemala there is a high proportion of Amerindians (almost 50% in the latter). There is also a considerable proportion of black population in Brazil, Dominican Republic and Panama (>10%). The estimated population in 2013 was 467.58 million and 64% lies in the age range of 20–79 years. The age distribution is shifting towards an older average age across the Region but not at the same rate in all the countries [1]. The proportion of older people (≥ 65 years) is more than 10% in Argentina, Chile, Cuba, Puerto Rico and Uruguay, but less than 5% in Bolivia, French Guiana, Guatemala, Honduras, Nicaragua and Paraguay. In these latter countries, one-third or more of the population is under 15 years of age.

There are big disparities in the standard of living between and within countries in the SACA Region; people living in the south cone (Argentina, Chile) have the highest GDP per capita (almost 20,000 USD) compared to less affluent countries such as Bolivia, Honduras and Nicaragua whose GDP is less than one fourth of that [2]. The same can be said of health expenditure: in 2011 the health expenditure per capita was more than USD 1000 in Brazil, Chile and Uruguay but less than USD 200 in Bolivia, Honduras and Nicaragua. The mean life expectancy at birth in the SACA Region is 72 (range 65–77) years for men and 78 (range 69–81) years for women. The life expectancies at age 60 are 20 (range 17–23) years and 23 (range 19–25) years respectively [3,4].

3. Prevalence of diabetes

The prevalence of diabetes reported in the new edition of the IDF Diabetes Atlas for the adult population (20–79 years)

in the SACA region is 8.0% which translates into over 24 million people with diabetes (Table 1) [5]. It is expected to reach 9.8% by the year 2035 which means that the number of people will increase by 60% (Table 1). The prevalence shows a four-fold variation between countries in the Region. Puerto Rico has the highest prevalence (15.4%), and Peru has the lowest value (4.3%). Interestingly, the top five Countries with the highest prevalence are in Central America (Nicaragua, Guatemala, El Salvador) and in the Caribbean Islands (Puerto Rico, Dominican Republic) (Table 2). When the total population is considered, the top five countries with the highest number of adults with diabetes are Brazil, Colombia, Chile, Argentina and Venezuela which correspond to the most populous countries; only Peru is not in the top countries for diabetes despite having a large population (Table 3).

Although the data sources were carefully selected and scored based on representation, study design, sample size, study age, diagnostic criteria and publication type and adjusted to variables such as age and urbanization [6], some of the differences seen with data currently used in some countries may be attributed to methodology and there are still countries where reliable data is missing. For example, estimates for Cuba, El Salvador, French Guiana, Panama, Paraguay and Uruguay were based on extrapolation from countries matched for geography, ethnicity, and income group because they lacked sufficient data sources.

In fact, a recently conducted study applying the same methodology to measure diabetes prevalence in seven major cities in South America found no statistical difference in the prevalence between Barquisimeto (Venezuela), Bogotá (Colombia), Quito (Ecuador), Buenos Aires (Argentina) and Santiago (Chile) and only in Lima (Peru) there was a statistically lower prevalence [7]. This study contributed to the estimates for those countries in this edition of the IDF Diabetes Atlas, however, the prevalences reported represent only large urban cities and thus extrapolating to the varied rural populations in those countries contributes to variation and uncertainty in those estimates.

4. Urban and rural variation

On the other hand, big differences have been found within countries when comparing urban and rural settings. A recent prevalence study in Peru showed a more than two-fold difference between the prevalence of diabetes in the coastal urban population (8.2%) and the people living in suburban areas in the mountains and in the jungle (4.5% and 3.5% respectively) (Seclén S, Rosas M, Arias A, Huayta E. Prevalence of type 2 diabetes in Peru: first wave prevalence report from PERUDIab, a population-based three-wave longitudinal study. *Pers Commun.*; 2013). An even higher difference (five-fold) was found between an urban and a rural population in Colombia (7.8% and 1.4% respectively) [8]. These differences may be attributed to lifestyle changes occurring with urbanization, such as a more sedentary life with loss of physical fitness and dietary modifications towards more elaborated products with higher sugar content (particularly sweet beverages) and less fibre, as

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