

REVIEW

Diabetes Care in the Philippines



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Abstract

BACKGROUND Diabetes is increasing at an alarming rate in Asian countries including the Philippines. Both the prevalence and incidence of type 2 diabetes (T2D) continue to increase with a commensurate upward trend in the prevalence of prediabetes.

OBJECTIVES The aim of this study was to review the prevalence of diabetes in the Philippines and to describe extensively the characteristics of diabetes care in the Philippines from availability of diagnostics tests to the procurement of medications.

METHODS A literature search was performed using the search words *diabetes care* and *Philippines*. Articles that were retrieved were reviewed for relevance and then synthesized to highlight key features.

FINDINGS The prevalence of diabetes in the Philippines is increasing. Rapid urbanization with increasing dependence on electronic gadgets and sedentary lifestyle contribute significantly to this epidemic. Diabetes care in the Philippines is disadvantaged and challenged with respect to resources, government support, and economics. The national insurance system does not cover comprehensive diabetes care in a preventive model and private insurance companies only offer limited diabetes coverage. Thus, most patients rely on “out-of-pocket” expenses, namely, laboratory procedures and daily medications. Consequently, poor pharmacotherapy adherence impairs prevention of complications. Moreover, behavioral modifications are difficult due to cultural preferences for a traditional diet of refined sugar, including white rice and bread.

CONCLUSIONS Translating clinical data into practice in the Philippines will require fundamental and transformative changes that increase diabetes awareness, emphasize lifestyle change while respecting cultural preferences, and promote public policy especially regarding the health insurance system to improve overall diabetes care and outcomes.

KEY WORDS diabetes, diabetes care, Philippines, Southeast Asia, type 2 diabetes

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INTRODUCTION

Diabetes is a chronic disease and is increasing in both prevalence and incidence worldwide. Diabetes exerts a major impact in third-world countries, particularly in the Philippines. It is said that Asia will see the greatest increase in the number of people

with diabetes by 2025.¹ This increase in the burden of chronic diseases in Asia will significantly affect nations' respective health care systems, both acutely and chronically.²

The Philippines is located in Southeast Asia situated in the Western Pacific Ocean. It is made up of 7101 islands and has approximately 115,831

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square miles of total land area, and with a coastline of 22,549 miles, it is considered the fifth longest coastline in the world.³ Three prominent bodies of water surround the archipelago namely, the Pacific Ocean on the east, the South China Sea on the west and north, and the Celebes Sea on the south. The topography of the larger islands is characterized by rolling hills and high mountains, whereas the smaller islands are mountainous in the interior, surrounded by flat low lands, which constitute the coastal rims.³ Each island is accessed via sea transportation using larger vessels or smaller boats, the latter referred to by the natives as *bancas*. There are about 14 regions, 73 provinces, and 60 cities across the archipelago.³ Therefore, individuals from smaller cities must traverse by land and sea to receive medical care in tertiary hospitals located in major cities.

The Philippines is unique in that Filipinos in different regions of the country speak different dialects but all Filipinos can speak one national language called *Tagalog*. The Philippines has an estimated population of approximately 101 million as of 2015 and is categorized by the World Bank as a lower-to middle-income country and by the United Nations as a country with a developing economy.⁴

The gross domestic product of the Philippines real growth rate averaged 7.3% in a report in 2007, the highest in 31 years.⁵ In 2014, the economy of the Philippines grew from 6.1% in 2014 to 6.5 % in 2015 fueled by sustained increases in private consumption, higher fixed investment, and recovery in exports.⁴ The challenge for the government is how to make these economic gains felt among the poorer sectors of society. The recent 2014 poverty incidence stands around 25.8%.⁴ This latest figure is lower than the 2006 recorded official poverty statistic of 26.9%.⁵ Thus, with economic growth and decreasing poverty, the Philippine government is realigning the national budget to improve social services. More specifically, this will allow an effective population management program focusing on education and health care.

Noncommunicable diseases (NCD; noninfectious or nontransmissible diseases)—including diabetes—in the Philippines account for 6 of the top 10 causes of mortality and are considered a major public health concern.⁵ Diseases of the heart and vascular system continue to be the leading causes of death, comprising 31% of all deaths. Other NCDs include malignant neoplasms, chronic obstructive pulmonary disease, and chronic kidney disease.⁵ What is alarming is that as deaths due to

preventable diseases have been on a decline, lifestyle-related diseases due to “Westernization” of the culture have begun to dominate as the leading causes of death, particularly due to cardiovascular diseases, malignant neoplasms, diabetes, and chronic lower respiratory diseases.⁵

At present, there are no published nationwide prevalence or incidence studies on type 1 diabetes (T1D). However, 1 survey was done in a municipality of Bulacan in Central Luzon Region that showed a very low prevalence of T1D with only 7 cases diagnosed among children aged 0 to 14 years during a 10-year period from 1989 to 1998.⁶ A recent survey on pediatric type 2 diabetes (T2D) in the Philippines also found a low prevalence at 0.91%.⁷ As a result of the low prevalence of T1D, continuous glucose monitoring (CGM) devices and continuous subcutaneous insulin infusion (insulin pumps) are not widely used. Standard home glucose monitoring devices are readily available and affordable as well as various insulin preparations that are generic and biosimilar via subcutaneous injections. There is little research on stem cell therapy or islet cell transplantation for T1D in the Philippines.

Gestational diabetes (GDM) is prevalent in the Philippines. Published data from the Asian Federation of Endocrine Societies Study Group on Diabetes in Pregnancy (ASGODIP) showed that the Philippines has a GDM prevalence of 14% in 1203 pregnancies surveyed.⁸ Because of this high prevalence rate, the United for Diabetes Clinical Practice Guideline (CPG) recommends universal GDM screening for the Filipino population.⁶ The ASGODIP data found that about 40.4% of high-risk women were positive for GDM when screening was performed beyond the 26th week of pregnancy.⁹ In a cohort of Filipino women with GDM delivering babies with macrosomia in the Cardinal Santos Medical Center, >75% were diagnosed between gestational weeks 26 and 38.¹⁰ In another cohort population from the Veterans Memorial Medical Center, 50% of GDM cases were diagnosed between gestational weeks 31 and 40.¹¹ The Filipino CPG recommends adopting the criteria by the International Association of Diabetes & Pregnancy Study Groups for interpretation of the 75-g oral glucose tolerance test as GDM screening.⁶

T2D is the most common type of diabetes in the Philippines. In 2009, a cohort study derived from the a larger population-based investigation in 1998 was revisited and demonstrated a 9-year incidence rate of T2D in the Philippines to be around

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