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Control of type 2 diabetes mellitus among general practitioners in private practice in nine countries of Latin America

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ABSTRACT

Objectives.   *To better understand how diabetes care and control are being administered by general practitioners/nonspecialists in private practice in nine countries of Latin America, and to identify the most significant patient- and physician-related barriers to care.*

Methods.   *A multicenter, cross-sectional, epidemiological survey was conducted in nine countries in Latin America: Argentina, Brazil, Chile, Costa Rica, Ecuador, Guatemala, Mexico, Peru, and Venezuela. General practitioners in private practice were asked to provide care and control data for patients 18 to 75 years of age with type 2 diabetes mellitus (T2DM), including demographics, medical and medication history, laboratory exams, and information on the challenges of patient management.*

Results.   *Of the 3 592 patient questionnaires returned by 377 physicians, 60% of the patients had a family history of diabetes, 58% followed a poor diet, 71% were sedentary, and 79% were obese or overweight. Poor glycemic control (fasting blood glucose ≥ 110 mg/dL) was observed in 78% of patients. The number of patients with HbA1c < 7.0% was 43.2%. Glycemic control decreased significantly with increased duration of T2DM. Comorbid conditions associated with T2DM were observed in 86% of patients; insulin use and comorbid conditions, especially those associated with microvascular complications, increased significantly disease duration. Ensuring compliance with recommended diet and exercise plans was the most-cited patient management challenge.*

Conclusions.   *Blood glucose levels are undercontrolled in T2DM patients in the private health care system in Latin America, particularly among those who have had the disease the longest (>15 years). Considering the differences between private and public health care in Latin America, especially regarding the quality of care and access to medication, further studies are called for in the public setting. Overall, a more efficient and intensive program of T2DM control is required, including effective patient education programs, adjusted to the realities of Latin America.*

Key words   Diabetes mellitus, type 2; diabetes complications; health services accessibility; patient compliance; Latin America.

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Type 2 diabetes mellitus (T2DM) is a leading cause of death and disability in both developed and developing countries. A study conducted in 2000 projects that the worldwide T2DM estimated prevalence of 2.8% will rise to 4.4% by 2030 (1). Diabetes is more common in certain ethnic groups, namely Blacks (2) and Hispanics (3); therefore, many countries in Latin America show a high or rising prevalence of T2DM (4, 5). Despite evidence-based clinical recommendations and guidelines for the Region of the Americas on diabetes care, significant delivery barriers have been identified by studies in Brazil (6), Chile (7), Jamaica (8), and Mexico (9). The gap between health spending and the cost of diabetes care in the Region was noted by Barceló et al. (10), who suggests that poor disease control has led to a high frequency of complications, disabilities, and premature mortality. Gagliardino et al. (11), in studying the impact of educational programs on the quality of diabetes care in Latin America, observed that systematic checking of metabolic control was inadequate in up to 72% of cases.

Diabetes treatment and management strategies are constantly evolving, but in Latin America there is a lack of well-controlled epidemiologic information on diabetes to evaluate the impact of improvements on disease management. This study, "Diabetes En America Latina" (DEAL), was designed to evaluate the quality of T2DM care provided by general practitioners in private practice in Latin America. It also aims to ascertain how successful the prescribed treatments are in controlling the disease and what the obstacles to care might be.

METHODS

The DEAL study was a multicenter, cross-sectional, epidemiological, questionnaire-based study carried out over the course of a year beginning in October 2004 and taking place in nine Latin American countries: Argentina, Brazil, Chile, Costa Rica, Ecuador, Guatemala, Mexico, Peru, and Venezuela. These countries were selected for their population size, as well as the availability of some level of structured information on the health care system and T2DM prevalence or incidence. The target sample size for the study was 560 general practitioners (GPs) in private practice, each contributing 10 patient questionnaires. GPs invited to participate were required to meet the following three criteria: (1) a minimum of two years experience, beyond residency; (2) a full-time, active clinical practice, defined as three or more days per week and treating at least 100 patients per week; and (3) at least five T2DM patients per month. Of those invited, 32.7% either did not meet the criteria, were unreachable, declined to participate, dropped out of the study, or failed to return study material.

Patients eligible for the study were males and females between 18 and 75 years of age who been diagnosed with T2DM as defined by the American Diabetes Association (12) (also accepted in Latin America); were receiving an oral hypoglycemic agent (OHA) or insulin; and had given written, informed consent, where required.

Following receipt of the study questionnaires, GPs were allowed two weeks to review patient charts and complete questionnaires for the first 8–12 consecutive T2DM patients to visit the clinic. Questionnaire responses were handwritten, and collected information on general health, including weight and height; demographic data (age and gender, age at the diagnosis, mean duration of the disease, type of drug insurance coverage); lifestyle; test results; medication history; hospitalizations; comorbidities; follow-up compliance; and consultations with specialists.

Glycosylated hemoglobin (HbA1c) levels at the time of diagnosis and during the three months preceding the study were evaluated. If the HbA1c readings were not available for this time period and the testing was deemed necessary by the evaluating GP, the sponsor covered the cost of testing when the patient's health insurance (either public or private) would not.

Note that currently, HbA1c determination is the preferred, or "gold standard," for evaluating T2DM control. Fasting plasma glucose (FPG) is highly variable, does not represent a good measure of control over time, and is best used when an "instant picture" of the last few hours of control is needed. The HbA1c control criteria are aligned with the current guidelines for T2DM care in Latin America (Latin America Consensus on Diabetes Mellitus and Hypertension, 2004) (13). Moreover, some countries, such as Brazil, define the minimum requirements for control, treatment, and therapeutic algorithms, according to HbA1c and plasma glucose levels.

The questionnaire also collected information regarding the patient's most recent fasting blood-glucose (FBG), lipid levels, blood pressure, and any diabetes-related complications, such as dyslipidemia, hypertension, macrovascular diseases, eye disorders, kidney disorders, erectile dysfunction, and/or diabetic neuropathy. Diabetes medications, insulin, and macrovascular medications were also recorded. Information was collected on any specialists the patient had consulted, any challenges related to T2DM management, and plans for future T2DM management. In addition, the demographic questions included information regarding the patient's lifestyle. To maximize validity, instructions on how to complete the questionnaire were provided.

Descriptive statistical analyses were performed on all variables. Multivariate logistic regression analyses were performed to test the possibility of association between the outcome measures and duration of the disease. The independent variables were age, gender, body mass index (BMI), current prescription(s), prescription medication insurance coverage, glycemic management, lifestyle, number of comorbidities, and compliance with recommendations/therapy. All statistical analyses were conducted using SAS software (SAS software version 6.12, SAS Institute Inc., Cary, NC, USA). A P value of < 0.05 was considered statistically significant.

RESULTS

A total of 3 592 completed questionnaires were returned by 377 GPs within the timeframe allotted by the study. On average, each GP contributed 9.5 questionnaires. Of those, 3 451 questionnaires (96%) were eligible for statistical analysis, as follows: Argentina, 728; Brazil, 885; Chile, 486; Mexico, 716; and a group of Caribbean/ Central America/Andean countries (Costa Rica, Ecuador, Guatemala, Peru, and Venezuela), 636. Figures for the later group of countries are also shown separately, but have been totaled together for data analysis purposes, due to the relatively small individual size of each sample.

Independent variables

Females comprised 53.6% of the patients. The mean age at diagnosis was 52.4 years, with a standard deviation (SD) of 10.9 years. In just over half (52.4%), disease duration was stated as < 5 years. A family history of T2DM was reported in 60.3% of the patients. The vast majority (79.4%) were overweight, with almost half (38.3%) of the patients classified as obese. This was not surprising, as 57.6% were described as following a poor diet, and 71.5% as living a sedentary lifestyle. Smoking was relatively uncommon, with only 12.9% reporting to be smokers. About half of the patients (51.1%) did not have drug insurance coverage (Table 1).

Comorbid conditions

Comorbid conditions associated with T2DM were very common in the study population (86.2%); only 13.8% of patients did not have a comorbid condition. The incidence of comorbid conditions increased significantly as disease duration increased. Three or more conditions were reported to be present in 58.8% of patients with T2DM duration ≥ 15 years, with hypertension and dyslipidemia being the most common. While the prevalence of dyslipidemia was not affected by the duration of T2DM, hypertension increased with disease duration. Other reported comorbidities also frequently increased with T2DM duration. The incidence of microvascular-related diseases, such as diabetic retinopathy, nephropathy, and neuropathy, showed a significant increase with duration of T2DM (Table 2) as well.

Diabetes control

The mean FBG +/− SD at initial T2DM diagnosis was 214 +/− 92 mg/dL. At the time of the survey, it was lower: 149.6 +/− 57.7 mg/dL. The most recent FBG levels were ≥ 110 mg/dL in 78% of patients, indicating an inadequate level of glycemic control (Table 3). Most GPs (70.5%) verified their patients' glycemic control using an HbA1c test. The number of patients for whom the most recent HbA1c test result was < 7.0% was 43.2%, while a result of < 6.5% was seen in 30.0%. For 1 271 patients, it was possible to compare the HbA1c at the time of diagnosis with that of the survey time. Of these patients, 50.5% showed a reduction of ≥ 0.7% in HbA1c (Table 3). Glycemic control decreased significantly with increased T2DM duration (HbA1c: $P < 0.001$ and FBG: $P < 0.001$) (Figure 1). The mean HbA1c level for each participating country is presented in Figure 2.

Diabetes treatment

The most frequently used oral hypoglycemics were biguanides (51%) and sulphonylureas (36%). These were combined with other therapies in many cases: sulphonylurea with biguanide in 19%; and either sulphonylurea or biguanide with a glitazone in 14%,

TABLE 1. Diabetes patient demographics in nine countries of Latin America, 2005

Demographic	Responses
Gender (n = 3 441) male/female	46.4%/53.6%
Current age (years) (n = 3 451) mean ± SD[a]	59.7 ±10.5
Age at diagnosis (years) (n = 3 394) mean ± SD	52.4 ±10.9
Duration of T2DM[b] (years) (n = 3 394)	
Mean ± SD	7.3 ±7.1
≤ 2	28.9%
3–5 years	23.5%
6–9 years	18.2%
10–14 years	15.7%
≥ 15 years	13.7%
Current BMI[c] (kg/m²) (n = 3 380)	
Mean ± SD	29.3 ±5.3
< 18.5	0.4%
18.5–24.9	20.2%
25.0–29.9	41.1%
≥ 30	38.3%
Lifestyle factors (n = 3 451)	
Smoking	12.9%
Follows a poor diet	57.6%
Lives a sedentary life/does little exercise	71.5%
Family history of T2DM	60.3%
Current prescription drug insurance coverage (n = 3 216)	
Third party payer only	23.8%
Public payer only	24.1%
Both	1.0%
None	51.1%

[a] SD = standard deviation.
[b] T2DM = type 2 diabetes mellitus.
[c] BMI = body mass index.

TABLE 2. Comorbidities by duration of type 2 diabetes mellitus (T2DM) in nine countries of Latin America, 2005

Comorbidity	Duration of T2DM (years)					
	≤ 2 n = 980	3–5 n = 798	6–9 n = 619	10–14 n = 533	≥ 15 n = 464	Total n = 3 451
Comorbidity						
None	21.6%	14.7%	12.0%	7.1%	6.0%	13.8%
1 condition	28.8%	25.2%	18.6%	18.6%	17.9%	22.9%
2 conditions	26.5%	27.2%	24.2%	23.8%	17.2%	24.5%
3 or more conditions	23.1%	33.0%	45.2%	50.5%	58.8%	38.8%
Prior amputation	0.0%	0.5%	0.6%	1.9%	2.4%	0.9%
Congestive heart failure	1.8%	4.0%	3.7%	5.3%	6.0%	3.9%
Dyslipidemia	52.2%	57.6%	58.3%	60.4%	55.6%	56.5%
Hypertension	51.9%	61.4%	64.1%	68.3%	68.5%	61.4%
Left ventricle hypertrophy	8.1%	12.2%	12.3%	17.1%	18.3%	12.7%
Prior myocardial infarction	2.8%	4.6%	7.1%	7.5%	8.8%	5.7%
Stable angina	3.1%	4.1%	5.3%	5.6%	6.9%	4.7%
Prior stroke	1.7%	1.9%	1.6%	3.2%	5.4%	2.5%
Symptomatic PVD[a]	5.5%	4.9%	6.8%	9.2%	13.4%	7.4%
Cataracts	3.4%	3.5%	7.1%	9.8%	15.5%	6.8%
Diabetic retinopathy	2.9%	6.3%	10.0%	17.8%	25.9%	10.4%
Glaucoma	1.5%	1.9%	2.4%	2.4%	4.5%	2.3%
Microalbuminuria	4.4%	8.0%	12.4%	16.3%	22.6%	11.1%
Nephropathy	2.4%	4.5%	8.4%	9.6%	14.2%	6.8%
Diabetic foot disease	0.7%	1.1%	2.6%	3.9%	6.5%	2.4%
Depression	13.1%	17.8%	19.7%	18.9%	19.2%	17.3%
Erectile dysfunction	5.1%	7.3%	15.0%	14.8%	15.7%	10.4%
Neuropathy	7.7%	11.5%	17.9%	22.5%	29.1%	15.5%
Macrovascular disease[a]	17.8%	21.8%	27.0%	33.2%	37.3%	25.8%
Microvascular disease[b]	15.9%	23.9%	37.6%	46.9%	55.4%	31.9%

[a] Macrovascular disease = presence of at least one of the following conditions: congestive heart failure, left ventricle hypertrophy, prior myocardial infarction, stable angina, prior stroke or symptomatic peripheral vascular disease (PVD).
[b] Microvascular disease = presence of at least one of the following conditions: prior amputation, cataracts, diabetic retinopathy, microalbuminuria, nephropathy, diabetic foot disease or neuropathy.

TABLE 3. Glycemic control in nine countries of Latin America, 2005

|	At diagnosis	Most recent test
Fasting blood glucose (mg/dL), n	2 683	3 391
Mean ± SD[a]	214.3 ± 92.0	149.6 ± 57.7
< 110 mg/dL	2.9%	22.0
≥ 110 mg/dL	97.1%	78.0
HbA1c[b] (%), n	1 293	3 229
Mean ± SD	8.6 ± 2.3	7.6 ± 1.9
< 7.0	22.4%	43.2%
7.0–8.4	31.1%	29.7%
> 8.4	46.6%	27.0%
Change of HbA1c from diagnosis (%) (n = 1 271)		
Mean ± SD	1.2 ± 2.1	
Reduction ≥ 0.7%	50.5%	
Reduction 0.1–0.6	12.2%	
No reduction 0%	22.4%	
Increase	14.9%	

[a] SD = standard deviation.
[b] HbA1c = glycosylated hemoglobin.

with an alfa-glucosidase inhibitor in 2%, or with "other" oral, diabetes medications (repaglinide and/or nateglinide) in 3%.

Insulin was used exclusively, or in combination with an oral agent, by 14.5% of patients. Glycemic management strategies changed significantly with increased duration of T2DM. In those who reported duration of ≤ 2 years, only 4% reported insulin use with or without an oral diabetes med-

FIGURE 1. Most recent HbA1cᵃ level category by duration of type 2 diabetes mellitus (T2DM) in nine countries of Latin America
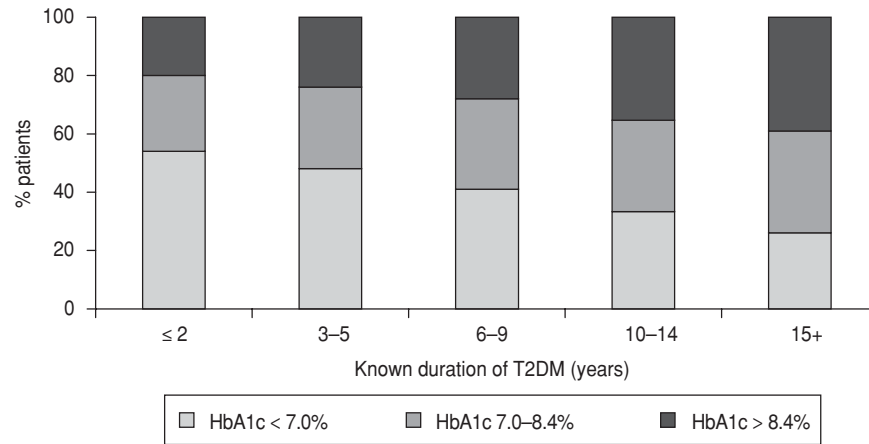
ᵃ HbA1c = glycosylated hemoglobin. HbA1c level increased significantly with the duration of T2DM ($P < 0.001$). Covariates included: age, body mass index category, drug insurance coverage, glycemic management, lifestyle, and global compliance with recommendations/therapy.

FIGURE 2. HbA1cᵃ control in nine countries of Latin America, 2005
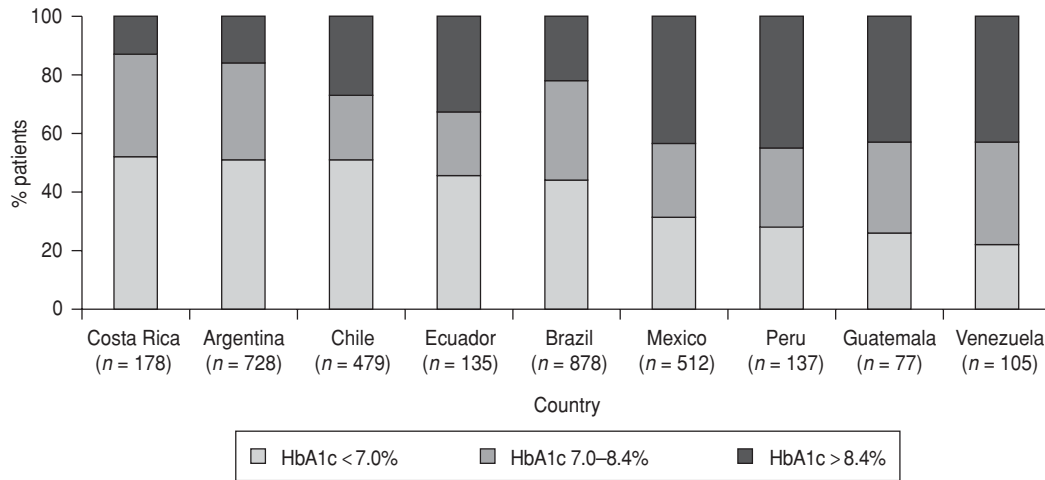
ᵃ HbA1c = glycosylated hemoglobin.

ication; however, in those reporting duration ≥ 15 years, 37% were using insulin (Figure 3).

Specialist visits

Most patients (75.7%) had visited one or more specialists, at some point, since their T2DM diagnosis; 65.5% had visited one or more specialists during the preceding year (Table 4). Cardiologists and ophthalmologists were the most frequently consulted specialists, followed by internists and endocrinologists. Most patients (80.6%) had never had a consultation with a diabetes educator.

Control strategies/challenges

When GPs were asked to identify the challenges of treating patients with HbA1c ≥ 7%, ensuring compliance with diet and exercise were the most frequently reported problems (Table 5). When asked about improving the patients' glycemic control, compliance

FIGURE 3. Drug usage over time in nine countries of Latin America, 2005
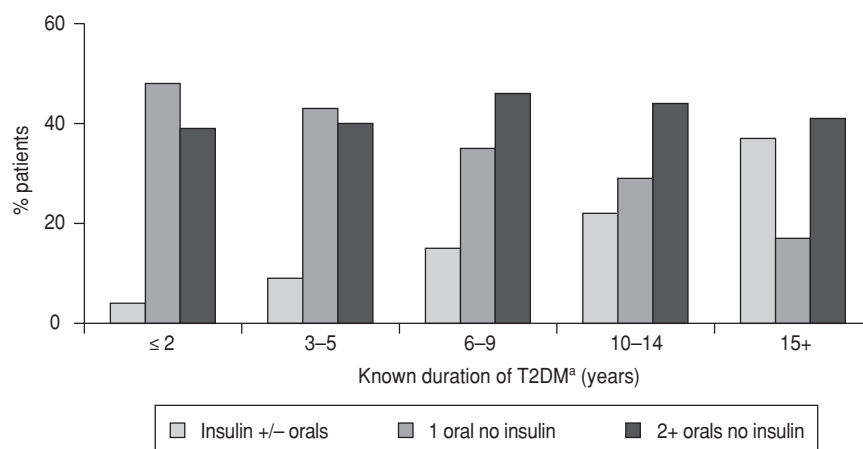
a T2DM = type 2 diabetes mellitus.

TABLE 4. Patient contact with specialist in nine countries of Latin America, 2005

Specialist	Ever visited (n = 3 451)	Visited in past year (n = 3 451)
Patient contact with specialist		
None	24.3%	34.5%
1 specialist	21.6%	23.6%
2 specialists	21.5%	18.8%
3 or more specialists	32.6%	23.1%
Endocrinologist	30.1%	18.4%
Internal medicine specialist	38.1%	29.1%
Cardiologist	40.8%	34.1%
Nephrologist	7.2%	5.2%
Ophthalmologist	44.9%	38.1%
Optometrist	4.7%	4.1%
Chiropodist/Podiatrist	3.5%	3.3%
Diabetes educator	19.4%	12.9%

with medication and with glucose self-monitoring were cited as challenges by around 30% of GPs. Drug coverage (either by the public health care system or private insurance) and polypharmacy were considered challenges by a minority of GPs.

When asked how they planned to help their patients achieve better glycemic control, 80.7% of GPs indicated that they would reinforce the importance of a healthy lifestyle, and 59.5% cited aggressive medical management in patients with HbA1c ≥ 7%. Prescribing insulin, increasing the dose of insulin, and referral to a specialist were less frequently cited

among planned activities for improved glycemic control (Table 6).

DISCUSSION

T2DM is a major health problem in Latin America (14) and is edging its way toward becoming a major epidemic with high costs that will tax health care systems (both at private, as well as public levels), some of which already run at a deficit. The prevalence of diabetes in Latin America is forecast to double over the next two decades, resulting in a major economic burden (4). While the disease's primary treatment

represents a considerable cost, it is the long-term conditions and complications resulting from poor management that will be the bulk of the economic burden (4). Moreover, the direct costs of treating complications will be compounded by the indirect costs—loss of productivity, absenteeism, and disability.

The DEAL study was designed to understand T2DM patient management in Latin America and measure how successful treatment and control, as prescribed by GPs in private practice, are in preventing associated complications. When designing the DEAL study, the team sought a population of patients similar to that of other sur-

TABLE 5. Challenges to improve HbA1c[a] for patients with HbA1c ≥ 7% in nine countries of Latin America, 2005

Challenges	Patients with HbA1c ≥ 7% (n = 1 833)
No challenges	7.3%
Drug coverage	12.5%
Lack of interest/concern	31.0%
Comorbid conditions	19.5%
Cultural	26.8%
Knowledge	18.2%
Compliance with diet	78.3%
Compliance with exercise	75.6%
Compliance with medication	30.9%
Compliance with self-glucose monitoring	30.8%
Polypharmacy/multiple medications	12.1%
Other	3.3%

[a] HbA1c = glycosylated hemoglobin.

TABLE 6. Plans to achieve HbA1c[a] target for patients with HbA1c ≥ 7% in nine countries of Latin America, 2005

Plans	Patients with HbA1c ≥ 7% (n = 1 833)
No action	2.9%
Reinforce lifestyle	80.7%
Increase dose OHA[b]	30.3%
Add OHA	20.5%
Add insulin	9.4%
Increase dose insulin	11.3%
Refer to specialist	9.6%
Aggressive medication management[c]	59.5%

[a] HbA1c = glycosylated hemoglobin.
[b] OHA = oral hypoglycemic agent.
[c] Increase OHA dose and/or add OHA and/or add insulin and/or increase insulin dose.

veys of diabetic patients, both in Latin America (9) and in other areas of the world (15, 16), with a population that would represent the diabetic population of Latin America as a whole. However, since public physicians were not included—both for logistical reasons and because of difficulties regarding patient follow-up—a potential bias may exist. DEAL may have selected higher-income, better-educated patients who have access to higher standards of care and to better medications. Accordingly, the study's results, although significant and representative, are not expected to be applied across the board in Latin America.

The DEAL results showed that in Latin America, T2DM control in the private sector is poor; therefore, it can be expected to be worse in the public health sector, where, in general, there are fewer care and medication options. Also noteworthy is that in Latin America, most private health insurance plans cover medical assistance, medical procedures, and hospitalization, but do not cover prescription medications; as a result, at least 50% of patients, in general, do not have drug insurance/reimbursement, regardless of the disease.

Based on measurements of FBG and HbA1c levels, the results of the survey suggest that patients' blood glucose is not well controlled, and that, as disease duration increases, control diminishes further. It was not surprising then, that given the results on glycemic control, more than 50% of patients with disease duration ≥ 6 years had three or more comorbid conditions. As other studies have shown, microvascular diseases increased with disease duration (17–19). For example, the presence of diabetic retinopathy for the group, as a whole, was 10.4%, but increased progressively from 2.9%, where disease duration was ≤ 2 years, to 25.9% where it was ≥ 15 years.

Interestingly, the same was not observed in macrovascular disease prevalence. This finding can be explained by the fact that macrovascular disease pathogenesis in T2DM starts before the appearance of hyperglycemia (20–22). As expected, most patients were classified as either overweight or obese, and the vast majority had a family history of the disease, as well as a poor diet and a sedentary lifestyle.

Most patients were reported to have consulted specialists. The specialists consulted were mainly those treating the primary disease (endocrinologists and internists) or comorbid conditions (cardiologists and ophthalmologists).

Patient education appeared to be largely ignored, with fewer than 20%

of the patients ever having been seen by a diabetes educator. A similar lack of disease management education has been observed in other studies in Latin American countries (6).

The glycemic control strategy most widely cited by the GPs was a "healthy lifestyle," despite the challenge that these same GPs said they face when seeking to alter a patient's perception of their need for a healthy diet and exercise. Not only are a healthy diet and physical activity pivotal to diabetes care, they can help prevent diabetes and other chronic conditions, such as hypertension and hyperlipidemia. While the benefits of healthy eating and exercise have long been recognized, their absence from the average lifestyle in developed countries is a major problem. Lifestyle changes are cheaper, less invasive ways to prevent and treat diabetes. GPs, government health care systems, and private health care systems would all benefit from working together in a healthy lifestyles campaign.

Nevertheless, the importance of early, aggressive intervention with medication that addresses the dual pathophysiology of T2DM (i.e., insulin resistance and/or insulin deficiency), should be reiterated, and this option pursued immediately if lifestyle intervention is failing. In addition, the role that undertreatment plays in developing countries—due to either medical noncompliance with current guidelines or patient noncompliance to prescribed medication—should not be underestimated.

Accordingly, the second most-widely cited strategy for improving glucose control was aggressive medication management, specifically, the following four options: (1) increasing the dose of the currently prescribed oral hypoglycemic agent, (2) supplementing treatment with an additional oral hypoglycemic, (3) introducing insulin therapy, and/or (4) increasing the current insulin dose. Combination therapy has been shown to improve glucose control where monotherapy has proved inadequate (23).

In general, the GPs' responses show appropriate knowledge of diabetes care and control options—most impor-

tantly, lifestyle changes and aggressive medication therapy—but difficulties when applying this knowledge. Patient noncompliance could be due to the lack of a proper diabetes education program, a shortcoming that may be more prevalent in private practice. Noncompliance may also be due to economic and/or cultural factors.

Overall, the DEAL study has shown that (1) T2DM treatment has several similarities across countries and practitioners in Latin America, (2) diabetes control is poor, particularly in some specific countries, (3) among the study population, blood glucose control deteriorates with increased disease duration, and (4) deteriorating T2DM control gives way to a concomitant rise in comorbidities.

According to the GPs surveyed, the current management approaches appear to be insufficient in altering the course of the disease. There is ample evidence that good medical management, particularly tight glucose control, is associated with fewer long-term complications (23). Accurate and continuous glucose control has been particularly associated with the development of fewer microvascular complications (17). There is also evidence to suggest that glucose control is associated with the development of fewer macrovascular complications (18), although good blood pressure and lipid management are also essential to reducing the incidence of these events (19).

Studies have indicated that in patients with T2DM, the increased treatment costs associated with intensive, blood-glucose control are more than compensated by the increased time free of complications and the reduced cost of complications (24). The results of the DEAL study, coupled with these others, suggest that a more efficient diabetes control program for patients in Latin America is not only justified, but imperative.

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RESUMEN

Control de la diabetes mellitus tipo 2 por médicos generales del sector privado en nueve países de América Latina

Objetivos. Comprender mejor cómo los médicos generales/no especialistas del sector privado atienden y controlan la diabetes en nueve países de América Latina e identificar los principales problemas relacionados con el paciente y el médico, que obstaculizan la atención.

Métodos. Se realizó un estudio epidemiológico, multicéntrico, transversal, en nueve países de América Latina: Argentina, Brasil, Chile, Costa Rica, Ecuador, Guatemala, México, Perú y Venezuela. Se pidió a los médicos generales del sector privado la información sobre la atención y el control de sus pacientes de 18 a 75 años de edad con diabetes mellitus tipo 2 (DMT2), así como los datos demográficos, la historia clínica y de medicación, las pruebas de laboratorio e información sobre los retos relacionados con la atención del paciente.
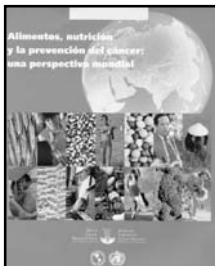
Resultados. De los 3 592 cuestionarios de pacientes entregados por 377 médicos, 60% de los pacientes tenían antecedentes familiares de diabetes, 58% seguían una dieta inadecuada, 71% eran sedentarios y 79% presentaban obesidad o sobrepeso. Se observó un inadecuado control glucémico (glucemia en ayunas ≥ 110 mg/dL) en 78% de los pacientes. La proporción de pacientes con HbA1c < 7,0% fue de 43,2%. El control glucémico se redujo significativamente al aumentar la duración de la DMT2. En 86% de los pacientes se encontraron enfermedades concurrentes asociadas con la DMT2; el uso de insulina y las enfermedades concurrentes —especialmente las asociadas con complicaciones microvasculares— incrementaron significativamente la duración de la diabetes. En cuanto al tratamiento de los pacientes, el reto más frecuentemente citado fue garantizar la adhesión a la dieta y al plan de ejercicios recomendados.

Conclusiones. Los niveles de glucemia no están suficientemente controlados en los pacientes con DMT2 que se atienden en el sistema privado de salud de América Latina, particularmente en los pacientes que han tenido la enfermedad por más tiempo (> 15 años). Tomado en cuenta las diferencias entre la atención sanitaria privada y la pública en América Latina, especialmente en lo concerniente a la calidad de la atención y el acceso a los medicamentos, se requieren estudios adicionales en el sector público. En general, se necesita un programa más eficiente e intensivo de control de la DMT2 y programas eficaces de educación de los pacientes, ajustados a las realidades de América Latina.

Palabras clave Diabetes mellitus tipo 2, complicaciones de la diabetes, accesibilidad a los servicios de salud, cooperación del paciente, América Latina.