Management of diabetes mellitus in three settings in Jamaica

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ABSTRACT

Objectives.   *To evaluate the quality of diabetic care in three clinics (one of them private and the other two public) in Jamaica, which is a middle-income country with a high prevalence (13%) of diabetes.*

Methods.   *During a six-week census in 1995 at the three clinics we collected data retrospectively on a total of 437 diabetic patients. One of the clinics was a specialist public-hospital clinic ("SPMC"), one was a private group general practice ("PRMC"), and one was a public polyclinic ("PUBMC"). The patients' median age ranged from 56 years at SPMC and PRMC to 63 years at PUBMC. Median follow-up had been 6.0 years at SPMC, 9.2 years at PRMC, and 6.3 years at PUBMC.*

Results.   *Fewer than 10% of the patients were controlled with diet alone. Insulin was the most commonly prescribed agent at SPMC (46%), compared to 7% each at the two other clinics. Sulfonylurea drugs alone or in combination with metformin were the most common agents at PUBMC and PRMC. Overall, 40% of the patients had satisfactory blood glucose control (< 8 mmol/L fasting or < 10 mmol/L postprandial). There was no significant difference among the clinics in the proportion of patients with satisfactory blood glucose control (P = 0.26). A blood glucose measurement had been recorded in the preceding year in 84% of the patients at SPMC, 79% at PRMC, and 67% at PUBMC. Glycosylated hemoglobin was infrequently measured: 16% at SPMC, 10% at PRMC, and 0% at PUBMC. Overall, 96% of patients had had surveillance for hypertension, and 81% had had surveillance for proteinuria. Surveillance for foot and retinal complications was generally infrequent and had been noted in patients' clinic records most commonly at SPMC (14% for foot complications, and 13% for retinal complications). The staff at the three clinics seldom advised the diabetic patients on diet, exercise, and other nonpharmacological measures, according to the clinics' records.*

Conclusions.   *The management of diabetes in Jamaica fell short of international guidelines. Our results also indicate the need to better sensitize health care professionals to these standards in order to reduce the burden of diabetes.*

Key words   Diabetes mellitus, Jamaica, delivery of health care.

As middle-income countries of the Caribbean undergo epidemiologic transition, such chronic diseases as diabetes mellitus have become major public health concerns. While the World Health Organization projects that the burden of diabetes will increase in developing countries over the next two decades (1), there is good evidence that the complications of diabetes can be reduced with control of hyperglycemia (2, 3) and with treatment of associated cardiovascular disease risk factors (4, 5).

In Jamaica the prevalence of diabetes among persons 25–74 years old is estimated to be 12% to 16% (6–8), but of which a third is unrecognized (7, 8). There is also evidence that the

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diabetes prevalence has increased (6, 8, 9). Diabetes accounts for about 10% of mortality in Jamaica (10), but the impact of diabetes on mortality is underreported since the disease may contribute to mortality from such other conditions as cerebrovascular accidents and myocardial infarctions (11). Of immediate concern for diabetic patients are prevention, early detection, and treatment of complications.

Good practice guidelines are essential to reducing complications from diabetes. While diabetes control guidelines have been published for the Caribbean (12), there is still a paucity of data on the quality of diabetes care in the area. The Commonwealth Caribbean Medical Research Council (CCMRC) implemented a study in 1992 to evaluate the quality of care delivered to diabetic patients in the private and public sector in several Caribbean countries. The objective of the CCMRC study was to investigate the clinical management of diabetic patients, with respect to control of blood glucose and of blood pressure in the subgroup with hypertension, in both private and public sector settings. The CCMRC study also aimed to ascertain the level of surveillance for complications and of the provision of advice on the nonpharmacological approaches to management. Data from this project have already been reported for Barbados, the British Virgin Islands (Tortola), and Trinidad and Tobago (Trinidad) (13). In this report we present data for diabetic patients in three clinics in Jamaica.

RESEARCH DESIGN AND METHODS

Jamaica is a middle-income developing country that has a population of 2.5 million, half of whom live in urban areas (10, 14). Both the public and private sectors provide health services in Jamaica. Approximately 62% of ambulatory care is provided by the private sector (14). The public sector health care system is decentralized into four regions and provides both in-patient and ambulatory care. Specialist hospi-

tals provide 38.2% of total beds for in-patient services (14). Use of health care facilities is higher in urban areas than in rural areas. Of those seeking health care, 57% go to private sector doctors, 38% use public sector facilities, and 5% use both (15).

In order to compare the quality of diabetes care between private and public sector clinics and also between dedicated diabetic and general medical clinics in Jamaica, we selected three clinics to study. One was a specialist public-hospital diabetic clinic (here called "SPMC"), the second was a private group general practice ("PRMC"), and the third was a public polyclinic ("PUBMC"). SPMC is a tertiary referral clinic dedicated to the treatment of diabetes mellitus and is staffed by specialist hospital doctors. PRMC is a private general medical practice that is staffed by practitioners who see a wide variety of clinical conditions. Most of the PRMC patients attend by self-referral or by arrangements that their employers have made contractually with the practice. PUBMC is a government-run polyclinic providing primary health care to the surrounding community, using nonspecialist medical officers and nurse practitioners.

Selection of cases

Case definition of diabetes mellitus was based on a doctor's diagnosis and was confirmed if patients were being treated with insulin or oral hypoglycemic agents. For diet-treated patients the diagnosis was confirmed by the evidence of hyperglycemia (defined as random blood glucose in excess of 11.1 mmol/L) or of glycosuria in the past associated with symptoms. We excluded any patient with an uncertain diagnosis. We carried out a survey of cases at each clinic over a period of 6 weeks during 1995. During the survey period we identified eligible patients on the day of their scheduled visit (the "index visit"). To be included patients also had to have attended the clinic for at least 1 year prior to the index visit. We performed the surveys

over a similar period for all three clinics, with a target sample size of 200 consecutive subjects at each clinic.

Data collection and analysis

We collected data retrospectively from the clinic records using a standard data collection instrument. We did not use data from the index visit, so as to avoid any effect that the study might have had on the doctors' practice. We recorded details of the patients' medical history and their most recent records of weight, height, blood pressure, urinalysis for glucose and protein, blood glucose, glycosylated hemoglobin, blood urea, and serum creatinine concentrations. We also recorded the drugs used to control diabetes and hypertension, as well as advice on diet and exercise and surveillance for foot and retinal complications. Finally, we also noted the reports of such lifestyle factors as smoking and alcohol consumption.

Blood pressure, blood glucose, and age at index visit were similar for the two sexes, and we presented the mean values for both sexes together. In our presentation we separated the values for weight for the sexes. We defined poor glucose control as a fasting glucose ≥ 8 mmol/L or random or postprandial glucose ≥ 10 mmol/L (16). We considered a blood pressure of $\geq 160/95$ mmHg as hypertensive, and acceptable blood pressure was defined as < 140/90 mmHg. We considered patients who were being prescribed antihypertensive agents as being treated for hypertension.

We performed statistical analyses using Stata 5.0 software (StataCorp, College Station, Texas, United States of America). We performed significance testing of differences in proportions using the chi-square test, and differences in means using one-way analysis of variance. We performed univariate and multivariate logistic regression analyses, using poor glucose control as the dependent variable. The independent variables were clinic type, sex, age, duration of follow-up, and use of insulin. We entered age and

TABLE 1. Baseline characteristics of diabetic study population, by clinic type, Jamaica, 1995

Characteristic	PUBMC [a] (n = 185)	PRMC (n = 62)	SPMC (n = 190)	χ^2 (df = 2)[b]	P value
Sex distribution				84.6	< 0.001
Male	25	44	40		
Female	160	18	150		
Age (years)					
Median	63	56	56		
Interquartile range	54–70	50–67	41–67		
Duration of follow-up (years)					
Median	6.3	9.2	6.0		
Interquartile range	3.5–9.0	7.5–15.8	2.6–10		

[a] PUBMC is a government polyclinic, PRMC is a group private general practice, and SPMC is a specialist public-hospital diabetic clinic.
[b] For all chi-square (χ^2) calculations, degrees of freedom (df) = 2.

duration of follow-up into the models as continuous variables. For the patients treated for hypertension we analyzed factors affecting blood pressure control. In this model, blood pressure control (< 140/90 mmHg) was the dependent variable, and clinic type, sex, age, and duration of follow-up were the independent variables.

RESULTS

We analyzed data for 437 diabetic patients: 185 from PUBMC, 62 from PRMC, and 190 from SPMC. Of the targeted 200 patients, retrieval rates of clinic records were 93% and 95% at PUBMC and SPMC, respectively. Rates were not estimated at PRMC, where the doctors were asked to provide eligible subjects without reference to the total number of clinic records. Females predominated among the patients, except at PRMC (Table 1). The median age at the index visit was older at PUBMC, 63 years, compared to 56 years at the other two clinics. Duration of follow-up had been longest at PRMC.

Few patients were managed on diet only (Table 2). The most common oral agents were sulfonylureas, either alone or in combination with metformin. Of the sulfonylureas, chlorpropamide was the most commonly used (82% overall). Tolbutamide was not used in any clinic. Three second-generation sulfonylureas—glibenclamide, glicazide, and glipizide—were prescribed in significantly greater proportions at PRMC than at the other two clinics (56% at PRMC, 23% at SPMC, and 4% at PUBMC, χ^2 = 67.1, degrees of freedom (df) = 2, P < 0.001). When prescribed, insulin was used alone. About

7% of patients at PUBMC and at PRMC were treated with insulin. This percentage at PUBMC and PRMC was significantly less than the 46% at SPMC (χ^2 = 92.1, df = 1, P < 0.001).

The median and modal number of clinic visits in the preceding 12 mo had been four at PUBMC and SPMC. At PRMC the median had been five, and the mode had been four. The clinics' records indicated that 44% of patients at SPMC and 4% at PUBMC had missed visits, but there were no data on missed visits written in the records at PRMC. Visits to other clinics during the period of review were noted in the clinic records of 30% of patients at SPMC, 11% at PRMC, and 3% at PUBMC. The majority of these visits were to hospital clinics. Clinic staff had recorded hospital admissions in the year prior to the index visit for fewer than 2% of patients.

TABLE 2. Main treatments used with diabetic patients, by clinic type, Jamaica, 1995

Main treatment	PUBMC [a] (n = 185) No.	%	PRMC (n = 62) No.	%	SPMC (n = 190) No.	%	χ^2 (df = 2)[b]	P value
Diet only	9	5	6	10	5	3	5.4	0.07
Insulin	12	7	4	7	87	46	92.1	< 0.001
Sulfonylurea alone	87	47	24	39	34	18	36.9	< 0.001
Metformin alone	1	1	4	7	8	4	7.4	0.03
Sulfonylurea and metformin	76	41	24	39	56	29	5.8	0.06

[a] PUBMC is a government polyclinic, PRMC is a group private general practice, and SPMC is a specialist public-hospital diabetic clinic.
[b] For all chi-square (χ^2) calculations, degrees of freedom (df) = 2.

TABLE 3. Monitoring and control of blood glucose, by clinic type, Jamaica, 1995

	PUBMC [a]			PRMC			SPMC			χ^2 (df = 2)[b]	P value
	n	No.	%	n	No.	%	n	No.	%		
Urine glucose recorded at least once in preceding 12 mo	185	150	82	62	55	89	190	158	83	1.9	0.38
Negative urine glucose on last recorded urinalysis	177	107	60	61	29	48	178	79	44	9.7	0.01
Blood glucose recorded at least once in preceding 12 mo	185	123	66	62	49	79	190	159	84	15.5	< 0.001
Poor glucose control	180	110	61	61	31	51	186	116	62	2.7	0.26
Glycosylated hemoglobin ever recorded	185	0	0	62	6	10	190	30	16	31.1	< 0.001

[a] PUBMC is a government polyclinic, PRMC is a group private general practice, and SPMC is a specialist public-hospital diabetic clinic.
[b] For all chi-square (χ^2) calculations, degrees of freedom (df) = 2.

Glucose monitoring and control

Table 3 shows the level of glucose monitoring by the clinical staff at the three clinics. Urine glucose tests had been performed at least once during the preceding 12 mo in a similar proportion of patients in all the clinics; the proportion overall was 83%. The most recent test had been performed about 6 mo before the index visits in all the clinics. The median number of urine glucose tests in the previous 12 mo had been two in all clinics, and the mode had also been two, except at SPMC, where it had been three.

Blood glucose had been measured at least once in the preceding 12 mo in at least two-thirds of the patients at each of the clinics (Table 3). The most recent blood glucose had been obtained an average of 6 mo before the index visit at SPMC, and an average of 10 mo before at the other clinics. Glycosylated hemoglobin was seldom measured. About 80% of glucose estimations were done on postprandial blood samples. The majority of patients in the three clinics had unacceptable glucose control, as defined by fasting glucose ≥ 8 mmol/L or random or postprandial glucose ≥ 10 mmol/L. The proportions of patients with poor glucose control were not significantly different among the clinics (χ^2 = 2.7, df = 2, P = 0.26). The risk of having poorly controlled blood glucose was not affected by clinic type, sex, age, duration of follow-up, or use of insulin.

Blood pressure

In all three clinics at least 90% of patients had had a blood pressure measurement at least once in the preceding 12 mo (Table 4). The most recent blood pressure readings had been recorded a mean of 6 mo before the index visit at the PRMC and SPMC, compared to just under 4 mo at PUBMC. The median and modal number of blood pressure readings in the preceding 12 mo at PUBMC was four, compared with three at PRMC and two at SPMC.

Patients were considered to have hypertension if their blood pressure readings were ≥ 160/95 mmHg, or if they were being treated for hypertension. There was no significant difference among the clinics in the proportion of treated patients who had unsatisfactory blood pressure readings ≥ 140/90 (χ^2 = 1.0, df = 2, P = 0.61) (Table 4). Clinic type, age, duration of follow-up, and sex did not affect the likelihood of unsatisfactory blood pressure control in treated patients, according to the univariate and multivariate logistic regression analyses that we conducted. Methyldopa was the most commonly prescribed antihypertensive drug at PUBMC (46%) and SPMC (49%), and ACE inhibitors were the ones most commonly prescribed at PRMC (37%).

Complications

A small minority of patients had undergone surveillance for foot and retinal complications, according to the patients' records at all three clinics (Table 5). Testing for urinary protein was noted in the clinic records of 81% of patients, with the most recent test being done a mean of 8 mo before the index visit. Reports of performance of blood urea, serum creatinine, chest X ray, and electrocardiograms (ECGs) were less frequently found in the records at PUBMC than at the other two clinics. In the three clinics taken together the most recent ECG and chest X ray had been obtained a mean of 3 years and 4 years, respectively, before the index visit.

Diet, lifestyle, and treatment education

Clinic staff had written down details of smoking and alcohol habit in over half of patients at SPMC but infrequently at PRMC and PUBMC (Table 5). Height had hardly ever been recorded at PUBMC, but weight had been recorded in just under half of the PUBMC patients within the preceding

TABLE 4. Monitoring and control of hypertension, by clinic type, Jamaica, 1995

	PUBMC [a]			PRMC			SPMC			χ^2 (df = 2)[b]	P value
	n	No.	%	n	No.	%	n	No.	%		
Blood pressure monitoring											
Blood pressure recorded at least once in preceding 12 mo	185	182	98	62	56	90	190	181	95	8.0	0.02
BP ≥ 160/95 mmHg or drug treatment for hypertension	185	143	77	62	40	65	190	73	39	59.4	< 0.001
Drug treatment for hypertension	185	132	71	62	38	61	190	47	25	85.4	< 0.001
Treated hypertension but BP ≥ 140/90 mmHg	132	107	81	38	28	74	47	37	79	1.0	0.61
Blood pressure medications											
Thiazide diuretics	132	9	7	38	9	24	47	18	38	26.5	< 0.001
β-blockers	132	5	4	38	7	18	47	4	9	9.4	0.01
Calcium channel blockers	132	1	1	38	4	11	47	1	2	10.6	0.01
ACE inhibitors	132	0	0	38	14	37	47	2	4	59.5	< 0.001
Methyldopa	132	60	45	38	3	8	47	23	49	19.6	< 0.001
Reserpine group	132	40	30	38	0	0	47	2	4	26.1	< 0.001
Brinerdin	132	30	23	38	9	24	47	4	9	4.8	0.09
Vasodilators	132	15	11	38	3	8	47	2	4	2.2	0.34

[a] PUBMC is a government polyclinic, PRMC is a group private general practice, and SPMC is a specialist public-hospital diabetic clinic.
[b] For all chi-square (χ^2) calculations, degrees of freedom (df) = 2.

12 mo. This contrasted with SPMC and the PRMC, where over a quarter of patients had had their height recorded at some point, and all patients had had a weight recorded within the preceding year. The mean duration since the last weight recording was significantly shorter at SPMC, 4 mo, versus over 2 years at the other clinics. Out of the 109 men in the study, 90 of them (82.6%) had a weight written down in their clinic records, and out of the 328 women, 241 (73.5%) had this information in their records. Mean weight was 75.9 kg (standard deviation (SD), 11.0 kg) in men and 80.1 kg (SD, 15.9 kg) in women. Of the men in the study, 25 of them (22.9%) had available data to calculate body mass index (BMI), and in these men the mean was 24.6 kg/m^2 (SD, 3.4). Of the women, 75 of them (21.4%) had available data for calculation of BMI. Mean BMI among these women was 27.7 kg/m^2 (SD, 7.4).

The records showed that the clinic staff at PRMC had given their patients dietary advice more often than the staff had at the other two clinics (Table 5). Although this advising was significantly more common than at the other two clinics, only a quarter of the PRMC patients had received such advice in the preceding 12 mo, according to the clinic's records. Advice on exercise and other nonpharmacological methods of glucose control was uniformly uncommon at all three clinics.

DISCUSSION

Good quality care for diabetes aims primarily at controlling blood glucose, as well as detecting and treating hypertension and other comorbid conditions that may worsen complications of the disease (4). These objectives are important when organizing health care services, and the success in achieving them should be periodically evaluated. This study suggests that the overall objectives of good quality diabetes care have yet to be achieved in Jamaica.

The proportion of patients considered to have satisfactory blood glucose control was less than half in all three clinics, and with no significant differences among the clinics in this respect. There was still no difference among the clinics in that proportion after controlling for age, sex, duration of follow-up (a marker for duration of disease), and use of insulin (a possible marker for disease progression in type 2 diabetes). This result, with the performance of the specialist SPMC hospital clinic being statistically no better than that of the two general clinics in our study, contrasts with findings of other studies, which have found better control in dedicated hospital diabetic clinics (17, 18).

The relatively poor patient glucose control at SPMC may be due to a difference in patient mix. Being a referral center, it is likely to have more difficult cases than the two general clinics. This may be reflected in the relatively more frequent use of insulin at SPMC to control diabetes.

The infrequent use of glycosylated hemoglobin testing is probably related to price and lack of availability in the public sector. All patients would typically pay directly for this test, and access would be limited, particularly for patients seen in the public sector.

Blood pressure had been recorded in nearly all of the patients. The percentage of diabetic patients who could be considered hypertensive was unusually high at PUBMC (77%) and at PRMC (65%), vs. 39% at SPMC. The

TABLE 5. Surveillance of complications of diabetes and management of lifestyle factors, by clinic type, Jamaica, 1995

Main treatment	PUBMC [a] (n = 185)		PRMC (n = 62)		SPMC (n = 190)		χ^2 (df = 2)[b]	P value
	No.	%	No.	%	No.	%		
Foot examination recorded in preceding 12 mo[c]	18	10	5	8	27	14	2.7	0.26
Ophthalmoscopy recorded in preceding 12 mo	0	0	2	3	25	13	29.1	< 0.001
Urine protein test recorded at least once in preceding 12 mo	145	78	55	89	152	80	3.2	0.20
Proteinuria present at most recent test[d]	59	34	28	46	34	19	18.2	< 0.001
Blood urea ever recorded	80	43	46	74	163	86	77.9	< 0.001
Smoking habit recorded	10	5	7	11	108	57	132.0	< 0.001
Alcohol habit recorded	10	5	8	13	104	55	121.4	< 0.001
Height ever recorded	4	2	17	27	75	39	77.4	< 0.001
Weight recorded in the preceding 12 mo	79	43	62	100	190	100	190.6	< 0.001
Advice on diet recorded in preceding 12 mo	11	6	15	24	21	11	16.1	< 0.001
Advice on exercise recorded in preceding 12 mo	1	1	1	2	1	1	0.9	0.64
Advice on other nondrug management recorded in preceding 12 mo	4	2	0	0	3	2	1.4	0.50

[a] PUBMC is a government polyclinic, PRMC is a group private general practice, and SPMC is a specialist public-hospital diabetic clinic.
[b] For all chi-square (χ^2) calculations, degrees of freedom (df) = 2.
[c] For the different surveillance variables, "recorded" indicates that clinic staff members wrote down in the patient records details on whether these measures were performed, habits elicited, or advice given.
[d] The n values for the proteinuria data are: PUBMC, 175; PRMC, 61; and SPMC, 176.

prevalence of hypertension in diabetic patients is typically about 40%, but there is evidence of much higher prevalence in patients with proteinuria (8, 19, 20). The unusually high prevalence of hypertension at PUBMC and PRMC relative to SPMC is difficult to explain. Perhaps some diabetic patients with hypertension at SPMC were being seen in the hypertension or general medical clinic at that hospital.

Surveillance for foot and eye complications was uncommon, at all three clinics. Even at SPMC, which is a tertiary referral center, this surveillance was done with fewer than a sixth of the patients. However, urinalysis for protein was a common practice at the three clinics.

Blood tests, chest X rays, and ECGs were least likely to be obtained at PUBMC, and this may be a function of cost. Though available in both the public and private sectors, these tests involve direct costs to the patients.

Attention to diet and lifestyle factors in the control of diabetes was generally poor at all three clinics. This has important consequences for the development of complications. Smoking, for example, is implicated in both microvascular and macrovascular complications of diabetes, and advice on quitting smoking should be given where necessary (21). Patient education can enhance diabetic control and thus should play a major role in management (22). Similar low levels of surveillance for complications were also found in Barbados, the British Virgin Islands (Tortola), and Trinidad and Tobago (Trinidad) (13).

There were several limitations to our study. The clinics were not randomly selected and do not serve specific geographical areas. It is not possible to tell to what extent the experience in these clinics represents the usual practice of diabetes management in Jamaica as a whole. Furthermore, the

three clinics in our study were located in urban areas, so these data may not be generalizable to rural clinics. We did not have data on the total clinic population at PRMC and therefore selection bias could play a role in the results we obtained from that clinic. If such a bias existed, then it is reasonable to assume that clinic records representing best practice at that clinic would be selected. The quality of care at that clinic might therefore be worse than we report here.

There was evidence of missed appointments in the past year in almost half of the patients at SPMC. It is likely that similar if not higher rates of missed clinic appointments may exist in the other clinics. These missed visits may not have been noted in the records. Our data were derived from clinic records, which are often not complete. It is likely that data on other aspects of patient care were similarly incomplete. These discrepancies indi-

cate the need for improved performance of patient care activities, as well as better record-keeping.

The nature of these clinics suggests that their patient populations would differ from each other, but it is not easy to test for this using the available data. However, the predominance of males at PRMC may reflect the workforce of the organizations for which the center provides health care. It is possible that many of the differences we observed among the clinics could be explained by differences in case mix. Although we adjusted for some confounding factors, it is possible that there was additional, residual confounding.

Improving the quality of diabetes care is a challenge facing the health care system in Jamaica. Our data suggest that patients were seen on average four times a year and that most measures of glucose and blood pressure control had been obtained within months of the index visit. These results indicate that there is a functional mechanism to facilitate satisfactory delivery of care to diabetic patients. The main areas of failure were related to the surveillance for complications and to educating patients about their lifestyle risk factors. Improving care in these areas would be unlikely to incur additional cost. Health care providers need to be sensitized to the importance of these health care activities, which complement the prescribing of drugs for diabetes control.

Our data for Jamaica identify deficiencies in diabetes management that are similar to those reported in other middle-income countries. Given the high prevalence of diabetes in these countries and the projected increase in prevalence, good quality of diabetes care should be an essential goal of health care delivery systems. Both individual health care providers and clinics need to regularly reevaluate their standards and practices in order to reduce the burden of diabetes in middle-income countries.

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RESUMEN

Conducta clínica ante la diabetes sacarina en tres consultorios de Jamaica

Objetivos.   Evaluar la calidad de la atención a los pacientes diabéticos en tres consultorios (uno privado y dos públicos) de Jamaica, un país con ingresos medios y una alta prevalencia de diabetes (13%).

Métodos.   Durante un censo de 6 semanas realizado en 1995 se recogieron retrospectivamente datos sobre 437 pacientes diabéticos en estos tres consultorios: un ambulatorio de especialidades de un hospital público (AEP), una clínica privada (CP) y una policlínica pública (PP).

Resultados.   La mediana de edad de los pacientes osciló entre 56 años en el AEP y la CP y 63 años en la PP. La duración mediana del período de observación fue de 6,0 años en el AEP, 9,2 en la CP y 6,3 en la PP. Menos de 10% de los pacientes fueron controlados únicamente con dieta. El tratamiento prescrito con más frecuencia en el AEP fue la insulina (46%, frente a 7% en cada uno de los otros dos consultorios). Las sulfonilureas, solas o combinadas con metformina, fueron los agentes más utilizados en la CP y la PP. En total, 40% de los pacientes tuvieron un control satisfactorio de la glucemia (< 8 mmol/L en ayunas o < 10 mmol/L tras las comidas) y no hubo diferencias significativas entre los consultorios con respecto al porcentaje de pacientes con control satisfactorio de la glucemia (*P* = 0,26). La glucemia había sido registrada en el año anterior en 84% de los pacientes del AEP, 79% de la CP y 67% de la PP. Las determinaciones de la hemoglobina glucosilada fueron raras: 16% en el AEP, 10% en la CP y 0% en la PP. En total, en 96% de los pacientes se había vigilado la hipertensión y en 81% la proteinuria. La vigilancia de las complicaciones retinianas y podiátricas fue generalmente infrecuente y había sido registrada en las historias clínicas principalmente en los pacientes atendidos en el AEP (14% para las complicaciones podiátricas y 13% para las retinianas). Según las historias clínicas, el personal de los tres consultorios raramente aconsejó a los pacientes sobre la dieta, el ejercicio y otras medidas no farmacológicas.

Conclusiones.   La conducta clínica ante la diabetes en Jamaica no cumple las directrices internacionales y es necesario sensibilizar mejor a los profesionales sanitarios acerca de estas normas con el fin de reducir las consecuencias de la enfermedad.

**Caribbean Health Research Council
46th Annual Scientific Meeting**

Dates: 26–28 April 2001
Location: Hilton Hotel
              Kingston, Jamaica

This meeting will serve as a forum at which dozens of Caribbean researchers will present their findings. The event will include both oral and poster presentations as well as a mini-symposium on action on AIDS in the Caribbean. There will be three feature lectures on Caribbean health concerns, with distinguished speakers talking on general health trends, cancer, and mental health.

There will be more than 70 oral presentations, covering such topics as HIV/AIDS and sexually transmitted infections, health sector reform, health services research, women's health, children's health, and chronic noncommunicable diseases.

The meeting is intended for researchers, health planners, physicians, and other health personnel. The official language of the event is English. The registration fee is US$ 150 if paid by March 24 and US$ 175 after that date.

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