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Evaluating patients with diabetes in a diabetes-specific emergency department short-stay unit

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BACKGROUND. The COVID-19 pandemic led to poor continuity of care at the primary care level, a situation that increased the number of patients with diabetes attended in hospital emergency departments. Our department created a diabetes-specific short-stay unit for managing recently diagnosed disease in patients who did not require hospitalization.

OBJECTIVE. To evaluate the results of opening the short-stay unit, including whether the course of disease improved.

MATERIALS AND METHODS. Single-center, retrospective, observational analysis. We included all patients over the age of 18 years treated in the diabetese short-stay unit between October 1, 2021, and June 30, 2022. Demographic and metabolic data were extracted from records, as were patient revisits and hemoglobin A1c (HbA1c) levels after treatment.

RESULTS. Sixty patients were included; 58.18% were men, and the median age was 59 years. Cardiovascular disease was common and diabetes was poorly controlled. After the short-stay unit was opened, the 30-day revisiting rate for diabetic complications was minimal, at 1.82%, whereas the all-cause revisiting rate was 10.91%. HbA1c levels decreased over a 6-month period.

CONCLUSIONS. Diabetes control improved after implementation of the short-stay unit. Such short stay units could be cost-efficient.

Keywords: Diabetes. Emergency department. Diabetic patient.

CUCE-Diabetes. Revisión del paciente diabético en urgencias

FUNDAMENTO. La pandemia COVID-19 produjo una peor continuidad asistencial por Atención Primaria, conllevando un aumento de las consultas en urgencias. Desde urgencias se creó una consulta específica con el objetivo de revisar a los pacientes recién diagnosticados, con complicaciones o mal control de su diabetes, y sin tener una indicación de ingreso (Consulta de Unidad de Corta Estancia: CUCE-Diabetes).

OBJETIVO. Conocer los resultados de la implantación de la CUCE-Diabetes , y si dicha intervención mejoró el curso de la enfermedad.

MATERIAL Y MÉTODOS. Estudio unicéntrico, analítico y observacional de carácter restrospectivo, que incluyó a los pacientes mayores de 18 años citados en consulta durante el periodo de tiempo de 1 de octubre de 2021 a 30 de junio de 2022. Se determinaron datos demográficos, metabólicos, la reconsulta en urgencias y la disminución de hemoglobina glicada.

RESULTADOS. Se incluyeron 60 pacientes. El 58,18% fueron hombres, con una mediana de edad de 59 años con gran carga de patología cardiovascular y mal control de su diabetes. Tras la actuación en consulta la reconsulta por cualquier causa a 30 días fue del 10,91%. Se objetivó descenso en la hemoglobina glicada a los 6 meses. La reconsulta en urgencias por complicaciones diabéticas tras intervención fue mínima (1,82%).

CONCLUSIÓN. El control de la diabetes mejora tras la implantación de la CUCE-Diabetes. Esta actividad podría ser costo-eficiente.

Palabras clave: Diabetes. Urgencias. Paciente diabético.

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Introduction

Diabetes mellitus is a chronic disease with a high prevalence in the Spanish population, reaching 14% according to recent studies.[1] The percentage of diabetic patients treated in an emergency department (ED) ranges between 30–40%,[2] as they frequently present with a complication related to their disease.

The COVID-19 pandemic, which began in 2020, caused—through various mechanisms—a reduction in the continuity of care for patients with chronic diseases,[3] resulting in disease progression and an increased number of emergency visits.

In response to this situation, the ED initiated the creation of a specific follow-up schedule, named the Short-Stay Unit Consultation (SSUC), with the objective of scheduling follow-up visits for patients who were newly diagnosed, presented complications, or had poor diabetes control. These were patients who, while not meeting admission criteria, required early reevaluation according to clinical judgment, as a preliminary step before referral to Endocrinology or Primary Care (PC). We considered it relevant to analyze the interventions performed in these patients and determine whether this approach led to improvements in disease management.

Material and methods

We conducted a single-center, analytical, observational, and retrospective study, including all diabetic patients older than 18 years who were scheduled for consultation between October 1st, 2021, and June 30th, 2022. The consultation team consisted of one nurse and three physicians. Demographic, clinical, and analytical variables were collected, along with mortality and reconsultation data. The activities performed during the consultation were divided into 2 phases: emergency nursing evaluation, which included patient education on healthy lifestyle habits (dietary control and physical exercise) and instruction or review of techniques (drug administration and self-monitoring of blood glucose). Secondly, medical intervention, consisting of optimization of pharmacological treatment according to the consensus document on the management of diabetic patients at discharge from the emergency department.[4]

Results

A total of 60 patients were scheduled [32 men (58.18%)], although 5 did not attend the consultation. The median age was 59 years (IQR, 48–77). Personal medical history and pre-/post-consultation treatment data are shown in Tables 1 and 2, respectively. The most frequent reasons for referral or consultation in the emergency department were simple hyperglycemia (52.73%) and new-onset diabetes (34.55%), followed by less frequent entities such as hypoglycemia, diabetic ketoacidosis, or prediabetes. The mean number of visits per patient was 1.67 (SD, 0.75). The 30-day reconsultation rate for any cause was 10.91%, while reconsultations due to acute diabetic complications accounted for 1.82% of the total. No patient reported hypoglycemia after treatment optimization, and none required hospital admission. Glycated hemoglobin (HbA1c) was measured within 6 months after the consultation in 33 patients, with a mean of 7.39% (SD, 2.7).

61.82% of patients were subsequently followed up in PC and 40% in Endocrinology, with the first post-discharge visit occurring at 4 days (IQR 0–9) for PC and 74 days (IQR, 38–102.5) for Endocrinology.

Table 1. Medical history

		N (%)
Hypertension		23 (41.82)
Dyslipidemia		20 (36.36)
Ischemic heart disease		0 (0)
Heart failure		3 (5.45)
Vascular disease		2 (3.64)
Dementia		2 (3.64)
COPD		2 (3.64)
Chronic kidney disease		5 (9.04)
Diabetes mellitus	Total	35 (63.63)
	Type I	3 (8.57)
	Type II	32 (91.43)
HbA1C	Total N = 45	Previous DM = 28
	11.13% SD (2.73)	10.65% SD (2.54)

HbA1c: glycated hemoglobin; COPD: chronic obstructive pulmonary disease; DM: diabetes mellitus; SD: standard deviation.

Discussion

The patients included in this study presented low comorbidity vs other series of diabetic patients treated in EDs[5], although they exhibited additional cardiovascular risk factors that could contribute to the development of cardiovascular complications. It is also noteworthy that, in gener-

Table 2. Antidiabetic treatment before and at discharge from the short-stay unit

Treatment	Prior treatment N (%)	Discharge treatment N (%)
Non-insulin hypoglycemic agents	18 (51.43)	5 (9.09)
Drugs		
Metformin	18 (75)	43 (95.56)
Sulfonylurea	3 (12.5)	0 (0)
Thiazolidinedione	1 (4.16)	0 (0)
Meglitinide	1 (4.16)	0 (0)
DPP-4 inhibitor	12 (50)	10 (22.22)
GLP-1 analogue	1 (4.16)	8 (17.78)
SGLT2 inhibitor	1 (4.16)	6 (13.33)
Combination therapy	9 (37.5)	21 (46.66)
Insulin	6 (17.46)	9 (16.36)
Drugs		
Long-acting insulin	7 (58.75)	22 (44.90)
Ultra-long-acting insulin	5 (41.66)	27 (55.10)
Rapid-acting insulin	4 (33.33)	10. (20.41)
Ultra-rapid-acting insulin	4 (33.33)	5 (10.20)
NPH insulin	0 (0)	0 (0)
Premixed insulins	0 (0)	0 (0)
Non-insulin hypoglycemic agent + insulin	6 (17.46)	40 (72.73)
Diet only	2 (5.71)	0 (0)
None	3 (8.57)	1 (1.82)

SGLT2: sodium–glucose cotransporter 2 inhibitor; DPP-4: dipeptidyl peptidase 4; GLP-1: glucagon-like peptide 1; NPH: neutral protamine Hagedorn.

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al, patients had poor diabetes control (excluding new-onset cases). Most patients were started on or had their insulin therapy optimized, which highlights the essential role of nursing collaboration in providing effective diabetes education—an element already demonstrated to have a positive impact on disease outcomes.[6] In addition to insulin, treatment with non-insulin hypoglycemic agents (such as SGLT2 inhibitors or GLP-1 analogues) was optimized in 56.36% of patients. Despite their proven efficacy, additional cardiovascular benefits, and strong recommendations in current clinical guidelines, these agents remain underprescribed in the diabetic population. The rate of ED reconsultation following the SSUC intervention was limited—and minimal when considering only metabolic-related revisits. Likewise, the reduction in HbA1c observed six months after the intervention was substantial, reflecting the benefit of early follow-up after an acute complication, even though this parameter was requested by attending physicians in only about 60% of patients seen for these causes.

Regarding follow-up, our sample revealed suboptimal outpatient management. First, 4 out of 10 patients were not followed up in PC, and 6 out of 10 did not attend an Endocrinology appointment after discharge from the ED. Second, the delay in outpatient follow-up was ≥ 9 days in one-quarter of patients seen in PC, and > 100 days for a similar proportion of those referred to Endocrinology. This delay, combined with insufficient outpatient follow-up, may represent a decisive factor in both glycemic controland the likelihood of reconsultation to the ED, particularly in patients who require close monitoring due to their clinical profile. Despite the limitations of our study—most notably the small sample size—initiatives such as the one proposed here could prove cost-effective for the healthcare system by improving glycemic control and reducing ED reconsultations.

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