

RESOURCE UTILIZATION AND DIRECT COSTS OF DIABETES IN RELATION TO HEART FAILURE STATUS IN PRIVATE PAYER PERSPECTIVE IN BRAZIL

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WHAT

Retrospective non-interventional study from administrative database

WHO

Patients aged 18–100 years with DM (ICD10:E10-E11) from 2019 to 2023 and stratified according to history or not of HF (ICD10:I50)

WHERE

Health payer perspective in Brazil

WHEN

From January 2019 to December 2023

WHY

To estimate the prevalence of this comorbidities and to examine the health resource utilization and costs in a healthcare plan

HOW

Demographic, diagnostic, resource utilization, and cost were obtained from the claims. Direct costs, including hospitalizations and outpatient care adjusted to the 2023 values, were compared across the groups and with the general population without DM+HF

BACKGROUND

Both type 1 and type 2 Diabetes Mellitus are heterogenous diseases in which clinical presentation and disease progression may vary considerably. Type 2 diabetes accounts for 90-95% of all diabetes cases. Type 2 Diabetes Mellitus (T2DM) is a global epidemic and is expected to affect over 592 million people worldwide by 2035, a dramatic increase from 382 million people with diabetes in 2013, a prevalence that is likely underestimated. Patients with diabetes have over twice the risk of developing heart failure (HF) than patients without diabetes.

OBJECTIVES

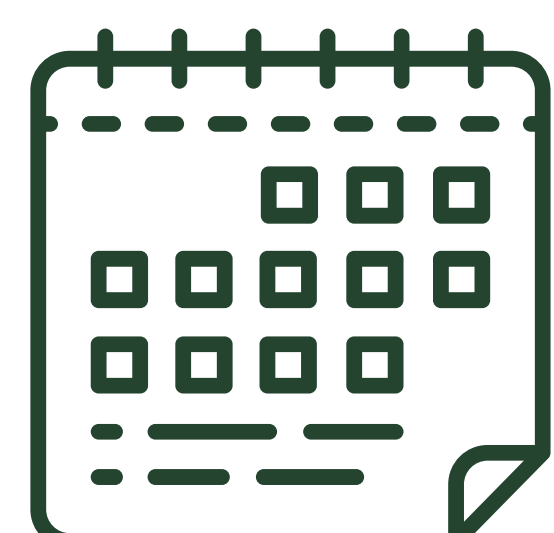
The increased incidence of heart failure in diabetic patients persists even after adjusting for other risk factors such as age, hypertension, hypercholesterolemia, and coronary artery disease (CAD). Cardiovascular outcomes, hospitalization and prognosis are worse for patients with diabetes relative to those without. The aim of the study is to estimate the prevalence of this comorbidities and to examine the health resource utilization and costs in a healthcare plan.

METHODS

Retrospective non-interventional study from administrative database to identify patients aged 18–100 years with DM (ICD10:E10-E11) from 2019 to 2023 and stratified according to history or not of HF (ICD10:I50) (Figure 1). Another analysis compared this association with the general population without DM. Demographic, diagnostic, resource utilization, and cost were obtained from the claims. Direct costs, including hospitalizations and outpatient care adjusted to the 2023 values, were compared across the groups and with the general population without DM+HF. The non-parametric Mann-Whitney test was used to compare the medians of the costs and Chi-square tests for significance when $p < 0.05$.



18 - 100 years



From 2019 to 2023

(Figure 1)

RESULTS

A total of 2,317 DM patients were included. HF was prevalent in 12.8% of diabetic and 2.4% of non-diabetics ($p < 0.001$) (Figure 2). Patients with concomitant DM and HF were older (median age 77 vs. 72) (Figure 3), most were female (55.9%) and had more comorbidities as compared to patients with DM but without HF. (Figure 4)



Heart Failure in

12.8% of diabetic



2.4% of non-diabetics

(Figure 2)

Median age

77 years old with DM+HF



72 years old with DM

(Figure 3)



44.1%



55.9%

(Figure 4)

(Table 1)

Resource utilization	DM with HF	DM without HF	%
Hospitalization rate	0.57	0.44	30.4%
Emergency room visits	1.21	1.04	16.0%
Physical therapy	12.19	9.57	27.4%
Tests	52.39	48.68	7.6%

DM+HF were associated with a greater number of hospitalizations, emergency room visits, physical therapy, and tests (30.4%, 16.0%, 27.4%, 7.6%, respectively) (Table 1), resulting in an economic burden 41.0% higher when compared to DM alone ($p < 0.001$).



When we compare the costs of patients with DM+HF and individuals without this condition, the cost is 2.4 times higher ($p < 0.001$). (Figure 5)

U\$ 7,127 with DM+HF



U\$ 3,012 without this condition

(Figure 5)

CONCLUSIONS

Patients with concomitant DM and HF had a significantly higher economic burden. The presence of DM has a substantial influence on the costs for managing patients with HF. We hope that our data increase the attention health care payers and contribute to a reevaluation of strategies for preventing and treating heart failure and cardiovascular disease in diabetes, with the consequent optimization on the use of economic resources.

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