COST OF TYPE 2 DIABETES IN FRANCE

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BACKGROUND:

Diabetes is a pandemic of major public health importance. In France, about 6.7% of the population is concerned [1]. Among them, more than 92% have a type 2 diabetes mellitus (T2DM) [2,3]. While the increase in type 2 diabetes prevalence is recognized, information on the economic burden of the disease remain sparse. In France, the development of large claims databases offer new opportunities to describe the healthcare consumptions of people with diabetes and to estimate at least, direct costs associated with diabetes and its complications.

OBJECTIVES:

To estimate direct healthcare costs of type 2 diabetes in France in 2013 distinguishing overall healthcare resource use in patients with T2D and costs directly attributable to T2D and its complications/related conditions.

METHODS:

The study was performed using a bottom-up approach based on retrospective data from the EGB* (Echantillon Généraliste des Bénéficiaires).

Selection of the population

- Patients with diabetes were identified as follows:
  - Patient having a regular treatment for diabetes with at least 3 reimbursements of hypoglycemic drugs (ATC class A10) at 3 different dates in 2012 or in 2013 (or 2 dates in case of 3-month drug conditioning)
  - Or Patient having a 100% health coverage for diabetes in 2012 or 2013
  - Only patients ≤18 years of age were selected.
- A classification algorithm was used to select T2DM patients through their use of glucose-lowering medication and coding of hospital stays and long-standing condition insurance coverage in the database (Figure 1).
- Only patients identified as having a T2DM condition before January 1st, 2013 and still alive on December 31st, 2013 were considered in the study.

Economic analysis

- Direct healthcare costs of T2DM patients were estimated using a societal perspective.
- They were compared to the costs observed in a control group without diabetes matched by age, gender, geographical area. The burden of T2DM and its complications was represented by the health care consumption differences between T2DM population and the control population.
- The total direct cost was split according to the following costs components:
  - Ambulatory setting: medical fees (including visits and medical procedures), medications, tests, paramedical/healthcare (including nurses and physiotherapists), medical devices, dental fees, transport, others
  - Hospitalizations.
- Health resource use and associated medical costs were analyzed according to several factors including antihypertensive treatment use.

RESULTS:

Patients

The cost analysis was conducted on a sample of 35,987 patients with T2DM (mean age 67.5 (SD 12.5), 53.9% male) matched with a control group of 76,406 individuals without diabetes and present in the database during 2013.

Healthcare costs (Figures 2 and 3)

- Overall average per patient per year (pppy) medical expenditures were 6,505€ (SD 10,106) in the T2DM group as compared to 3,686€ (SD 6,854) in the control group. Consequently the cost of diabetes and associated conditions was estimated to 2,838 ppy.
- Except for dental fees, all cost items were significantly higher in T2DM patients than in the control population:
  - The annual mean paramedic cost per patient was 2.8 ties higher in T2DM patients than in the control population (6811 versus 4317 ; p<0.0001);
  - The annual mean pharmacy cost per patient was 2.1 times higher in T2DM patients than in the control population (41,571 versus 7377 ; p<0.00001);
  - Among T2DM patients, the largest components of medical expenditures were insulin care (33.2% of the total medical cost), prescription medications (23.8%), paramedics (13.5%), physician office visits (11.5%), and medical devices/self-monitoring (9%).
- Few costs differences were observed among patients treated with monotherapy, dual or multidrug therapy (respectively: 4.779, 4.555, 4.754€ pppy). Conversely medical expenditures were much higher in patients treated with insulin as compared to other T2DM patients (on average 12,889€ versus 8,464€ ppy).

Overall healthcare costs of T2DM patients are 1X1.8 the healthcare costs of a matched population without diabetes (X3.5 when T2DM is treated with insulin).

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Figure 1: Selection of T2DM patients in the database

Figure 2: Distribution of the total expenditure (year 2013) per healthcare item

References

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