

Cost of hypoglycaemia in patients with diabetes in Poland

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OBJECTIVES

To estimate indirect and selected direct costs of hypoglycaemia in patients with type 1 and type 2 diabetes in Poland

METHODS

This study was conducted at 4 Polish diabetes centres: 2 urban and 2 suburban. An anonymous questionnaire comprising 35 questions was used in direct interviews. Data were analysed in a population of 180 patients with diagnosed diabetes who experienced severe (requiring third-party support) or/ and non-severe hypoglycaemia. Indirect costs were estimated using a human capital approach based on lost Gross Domestic Product (GDP) and lost gross earnings. Additional estimations of direct costs attributable to a hypoglycaemic event were based on medical resources used and their unit prices. Fear of hypoglycaemia was estimated using a visual analogue scale (VAS).

RESULTS

An average total monthly cost of severe hypoglycaemia was 699.77 EUR mostly driven by hospitalization and 40 EUR in the case of non-severe episodes. Of the studied population 23% were professionally active. Average time lost was 3.85 hours for an absenteeism cost per month of 16.27 EUR (GDP lost) and 16.99 EUR (lost earnings) per person per month. Of employed patients 52,38% reported reduced productivity while at work (presenteeism), with estimated value of 14.88 EUR and 15.53 EUR per patient per episode according to GDP and earnings lost respectively. Indirect costs related to sick-leaves and hospitalizations were not reported. 58% of patients expressed fear of hypoglycaemia.

Indirect Costs

Absenteeism: monthly

Average number of work hours lost due to a hypoglycaemia: 3.85 h (SD: 2.7)

Individuals who have missed hours at work stand for 30.95% of working people in the study population.

Workers' absenteeism costs per month:

- Based on GDP: 211.54 EUR (per person: 16.27 EUR)
- Based on average gross salary: 220.86 EUR (per person: 16.99 EUR)

Presenteeism due to a single hypoglycaemia

Average productivity loss due to a single hypoglycaemia episode: 44.09% (SD: 19.43)

Patients who have reported productivity loss stand for 52.38% of working people in the study population.

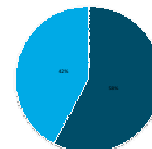
Lost productivity costs:

- Based on GDP: 327.31 EUR (per person: 14.88 EUR)
- Based on average gross salary: 341.73 EUR (per person: 15.53 EUR)

Indirect costs related to sick-leaves and hospitalization in the working-age population were not reported in the study.

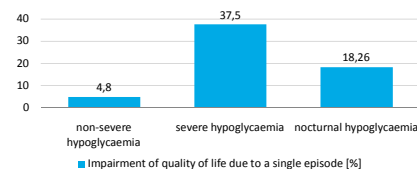
Fear of Hypoglycaemia

Fear of hypoglycaemic episode

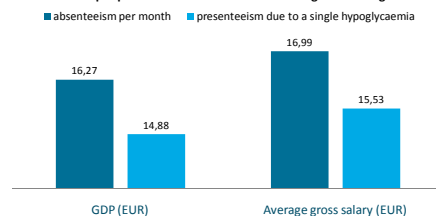


Negative Impact of Hypoglycaemia

Negative impact of each type of hypoglycaemia on patient functioning the day after experiencing a single episode



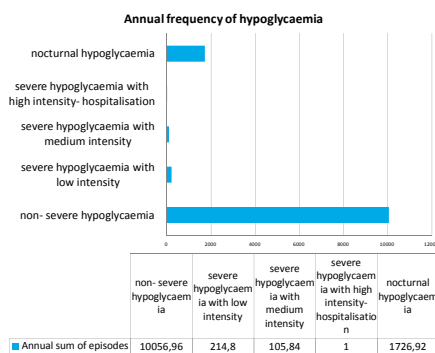
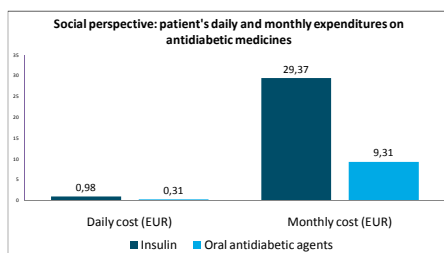
Costs per patient based on lost GDP and lost gross earnings



Direct Costs

Total expense (EUR) of all patients for a given medical intervention type in the study population

Hospitalization	478.05 EUR
Emergency medical services	731.83 EUR
A&E	119.51 EUR
Diabetological consultations	79.64 EUR



TOTAL COSTS OF HYPOGLYCAEMIA

Indirect costs (absenteeism, presenteeism)
 Direct costs (additional glucose test strips, hospitalizations, Emergency Medical Services, A&E and additional diabetological consultations)

Average total cost of severe hypoglycaemia in one-month perspective: 699.77 EUR (4.55% of total= indirect costs)

Average total cost of mild hypoglycaemia in one-month perspective (without hospitalization, Emergency Medical Services and A&E): 40 EUR.

CONCLUSIONS

Hypoglycaemic episodes are associated with economic consequences for patients and employers. Hypoglycaemia negatively affects work productivity, patients' presence at work and mental health and well-being.

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