Cost-Minimization Analysis for Treating T1DM and T2DM with GLA-300U/mL in Turkiye

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Introduction

- Diabetes caused a total annual cost of $548 billion worldwide in 2013 and accounted for 11% of total healthcare expenditures for adults.
- Due to the high number of DM patients in Turkiye, it carries almost 13% of the diabetes burden in Europe[1].
- In 2010, diabetes-related health expenditures in Turkiye were determined as 6.5 Billion USD[2].
- The aim of this study is to conduct a pharmacoeconomic evaluation of insulin glargine injection 300 Units/mL (GLA-300U/mL), used to treat type-1 and 2 diabetes (T1DM-T2DM), and compare its cost-minimization to that of its competitors in Turkiye.

Medicine Cost Results

GLA- 300U/mL
1,251.76 TL

GLA-100U/mL(a)
1,428.96 TL

Insulin Detemir
1,674.30 TL

GLA-100U/mL(b)
1,373.90 TL

GLA-100U/mL(c)
1,428.96 TL

Cost Minimization Results

	GLA- 300U/mL	GLA- 100U/mL (a)	Insulin Detemir	GLA-100U/mL (b)	GLA-100U/mL (c)
Annual Cost (TL)	12,072.84	12,646.66	12,892.00	12,591.61	12,646.66
Incremental Cost		-573.82	-819.16	-518.77	-573.82

Methods

- A cost-minimization analysis in Microsoft Office Excel was used to model the treatments of T1DM-T2DM in Turkiye.
- Analyses were conducted from the perspective of the payer institution over a period of one year.
- The number and rate of annual outpatient visits by patients with T1DM and T2DM, of imaging and laboratory tests, of complications, of hospitalizations, and of interventions were obtained from expert opinions, epidemiological studies, and a literature review.
- The costs of healthcare were calculated based on the Social Security Institution Health Implementation Communiqué.
- All insulin injections currently available in Turkiye that are eligible for reimbursement were included in the study.

Results

- The annual costs of medications and other medical devices were 2,377 TL for GLA-300U/mL, 2,554 TL for GLA-100U/mL(a), 2,780 TL for insulin detemir, 2,449 TL for GLA-100U/mL(b), and 2,554 TL for GLA-100U/mL(c).
- Therefore, the total annual cost of treating patients with T1DM and T2DM with GLA- 300U/mL was 12,073 TL; for treatment with GLA-100U/mL(a), the total cost was 12,647 TL; for treatment with insulin detemir, the total cost was 12,892 TL; for treatment with GLA-100U/mL(b), the total cost was 12,592 TL; and for treatment with GLA-100U/mL(c), the total cost was 12,647 TL.

Conclusions

- Cost of outpatient visits, hospitalization and other interventions, incidence complications, and medicines in the use of GLA-300U/mL offer lower costs compared to other treatments.
- This is due to the lower test frequency, hospitalization rate and number of hospitalization days, complication costs and medication costs when using GLA-300U/mL.
- The results of the cost-minimization analysis show that GLA-300U/mL is both cheaper and more effective than other treatments for T1DM-T2DM in Turkiye.
- It is recommended that cost-effectiveness studies be conducted on GLA-300U/mL and other competitors.

Footnotes

1. The analyzes were carried out with the medicine and health resources costs valid on 27.04.2022.

References

1. International Diabetes Federation. IDF Diabetes Atlas 6th Edition revision Brussels 2014.
2. International Diabetes Leaders Summit. Diabetes problem in Turkiye and the countries of the region. 2013.

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