Cost per Responder and Number Needed to Treat of iGlarLixi vs Premix BIAsp 30 in Algerian Setting

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BACKGROUND

- Insulin-based regimens are still the go-to option for people with insufficiently controlled type 2 diabetes mellitus (T2DM). Unfortunately, complex insulin regimens are often associated with side effects, such as hypoglycemia and weight gain, and in some cases may still not provide adequate glycemic control to individuals who need further insulin treatment advancement.

OBJECTIVE

A cost per Responder analysis was developed to explore the absolute cost of a responder treated with Insulin glargine /Lixisenatide (iGlarLixi). This analysis evaluated the short-term cost-effectiveness in Algerian setting of iGlarLixi vs premix insulin BIAsp30 (30% rapid-acting insulin aspart + 70% basal insulin) twice-daily (BID) in people with T2DM failing to achieve glycemic target on basal insulin alone.

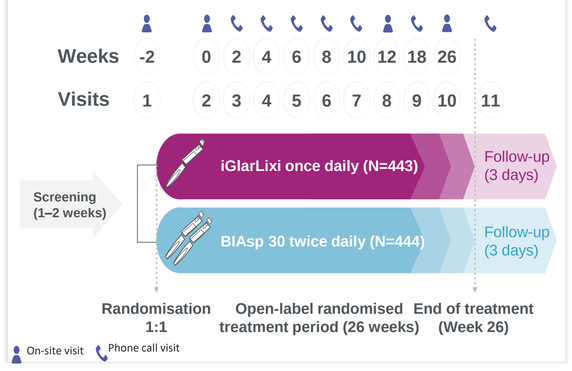
METHODS

- The short-term cost-effectiveness of iGlarLixi vs BiASP 30 was evaluated in terms of cost per responder and number needed to treat (NNT) in Algerian setting. iGlarLixi once daily was compared to premix BIAsp 30 twice daily. A successfully treated patient was defined by 1 single endpoint and 3 composite endpoints:

–HbA1c < 7% at week 26
–HbA1c <7 % AND no weight gain at week 26
–HbA1c < 7% AND no weight gain AND no documented hypoglycemia (plasma glucose <70mg/dL) at week 26
–HbA1c < 7% AND no documented level 2 hypoglycemia (ADA definition: plasma glucose <54mg/dL) at week 26

- The proportion of patients achieving each target in the full trial population were secondary and composite endpoints of the SOLIMIX study.
- The NNT was calculated to determine the average number of patients to be treated to bring one patient to target for all endpoints

Figure 1: Solimix Study design



RESULTS

Cost per responder :

- iGlarLixi was associated with a slightly higher cost per responder than BIAsp 30 BID for the single component endpoint of HbA1c<7%: (1296,02€ vs 1096,36€) or for HbA1c AND no level 2 hypoglycemia (1384,61€ vs 1310,69 €). However, when considering other composite endpoints, iGlarLixi was associated with a lower cost per responder than BIAsp 30 BID as for HbA1c<7% without weight gain (1988,81 € vs 2811,64€) or HbA1c<7% without weight gain AND without hypoglycemia <70mg/dL (2819,18€ vs 4980,63 €).

POSTER HIGHLIGHTS

Table 1: Percentage of patients achieving treatment targets at week 26

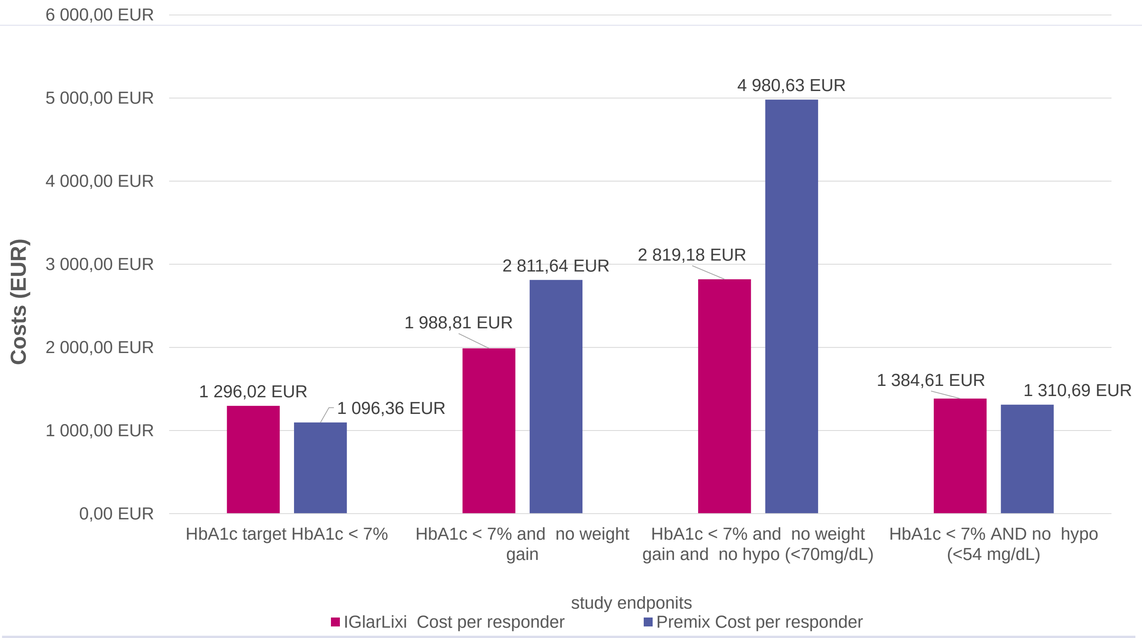
Study end points*	iGlarLixi	Premix BiASP 30
HbA1c <7 %	42,2%	31,8%
HbA1c <7% AND no weight gain	27,5%	12,4%
HbA1c <7% AND no weight gain AND no documented hypoglycemia (PG** < 70mg/dL)	19,4%	7,0%
HbA1c <7% AND no documented hypoglycemia (PG < 54mg/dL)	39,5%	26,6%

*Solimix trail
**PG : Plasma Glucose

Table 2: Cost per responder resources

	Populations	Costs	Insulin dose
Methodology	• T2DM failing to achieve glycemic target on basal insulin alone	• Treatment costs[1] • Glycemic self-monitoring costs[1] • Administration costs[1]	• iGlarLixi = 40UI • Premix BiASP 30 = 58 UI
References	• SoliMix study patient populations	• IMS data 2022[1]	• SoliMix study average daily dose

Figure 2: Cost per responder results



*Exchange rate : 1 EUR = 160DZD

Table 3 : Number needed to treat

*Study end points	iGlarLixi vs Premix BiASP 30	
	NNT	95% CI
HbA1c <7 %	9,6	6,0 – 24,5
HbA1c <7% AND no weight gain	6,6	4,9 – 10,1
HbA1c <7% AND no weight gain AND no documented hypoglycemia (**PG < 70mg/dL)	8,1	6,0 – 12,5
HbA1c <7% AND no documented hypoglycemia (PG < 54mg/dL)	7,8	5,3 – 14,8

*Solimix trail
**PG : Plasma Glucose

RESULTS (continued)

Number needed to treat patient :

- The NNT analysis showed that for every 6,6 treated with iGlarLixi, there was one additional responder compared to premix BiASP 30 for the composite endpoint of HbA1c <7% AND no weight gain.
- When the additional endpoint of no hypoglycemia (PG <70mg/dL) is added to the composite endpoint, the NNT increased to 8,1.
- The NNT analysis with the composite endpoint of HbA1c <7% AND no hypoglycemia (PG <54mg/dL) showed that for every 7,8-patient treated, one additional patient achieves the target with iGlarLixi compared to premix BiASP 30.

DISCUSSION

- For cost-effective decision-making, this analysis combined clinical and economic dimensions and compared both intervention.
- Although, iGlarLixi was associated with a higher cost per responder for the single component endpoint HbA1c < 7%, 42,2% of trial population were successfully treated.
- iGlarlixi costs approximately 30% less of premix BiASP 30 to achieve outcome for HbA1c <7% AND no weight gain.
- When no documented hypoglycemia (PG < 70mg/dL) was added to the composite endpoint, iGlarLixi costs were approximately 44% less to achieve this target compared to premix BiASP 30.
- Considering level 2 hypoglycemia (PG < 54mg/dL), cost per responder were very close in the 2 arms.
- Overall NNT outcomes has shown the effectiveness of iGlarLixi vs premix BiASP 30.
- To capture the full benefit of iGlarLixi over long-term projection of clinical and cost outcomes, a cost-effectiveness analysis is recommended.

CONCLUSIONS

While the SoliMix trial demonstrated the potential clinical benefits of once-daily iGlarLixi compared to twice-daily BIAsp 30 in terms of bringing patients to glycemic target as well as composite endpoints, this cost per responder and NNT analysis helps to show the potential cost benefits of iGlarLixi (especially when considering all treatment effects), further reinforcing iGlarLixi as an effective alternative, in Algeria.

REFERENCES

1. McCrimmon et al. Diabetes Obes Metab.2021

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