Willingness to pay for diabetes drug therapy based on meta-analysis results

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Objectives

- This study aimed to investigate, in people with type 2 diabetes, the relative willingness to pay (WTP) for different diabetes drug therapies based on outcomes of clinical trials with liraglutide.

Methods

- WTP for diabetes drug therapy in people with type 2 diabetes was assessed by combining results from a meta-analysis of liraglutide compared with other diabetes drug therapies in the liraglutide clinical development programme (Liraglutide Effect and Action in Diabetes; LEAD) and a survey on WTP for important aspects of diabetes medication in people with type 2 diabetes.
- A meta-analysis of six randomised trials with 3967 subjects in the LEAD programme compared the efficacy and safety of liraglutide, a once-daily human glucagon-like peptide-1 analogue, with rosiglitazone, glimepiride, insulin glargine and exenatide (Table 1).
- The WTP survey had 461 participants with type 2 diabetes from Sweden and used a discrete choice experiment methodology to evaluate convenience and clinical effects of treatments in type 2 diabetes.[1] Results, shown in Figure 1, were converted from SEK to EUR (EUR 1 = SEK 10.14).

Results

- Combining meta-analysis and WTP results revealed that people with type 2 diabetes preferred liraglutide to all comparators.
- They were willing to pay an extra EUR 2.49/day for liraglutide 1.2 mg compared with rosiglitazone, EUR 1.82/day compared to glimepiride, EUR 3.17/day compared to insulin glargine and EUR 0.74/day compared to exenatide (Table 2; Figure 2).
- For the comparisons with rosiglitazone, glimepiride and insulin glargine, the largest component was based on the additional weight improvements with liraglutide.
- Compared to exenatide, the largest component of preference was administration of the drug.

Figure 1 Comparison of diabetes treatment attributes based on WTP calculations. Maroon bars represent WTP for beneficial attributes, grey bars represent amount needed to accept the change.

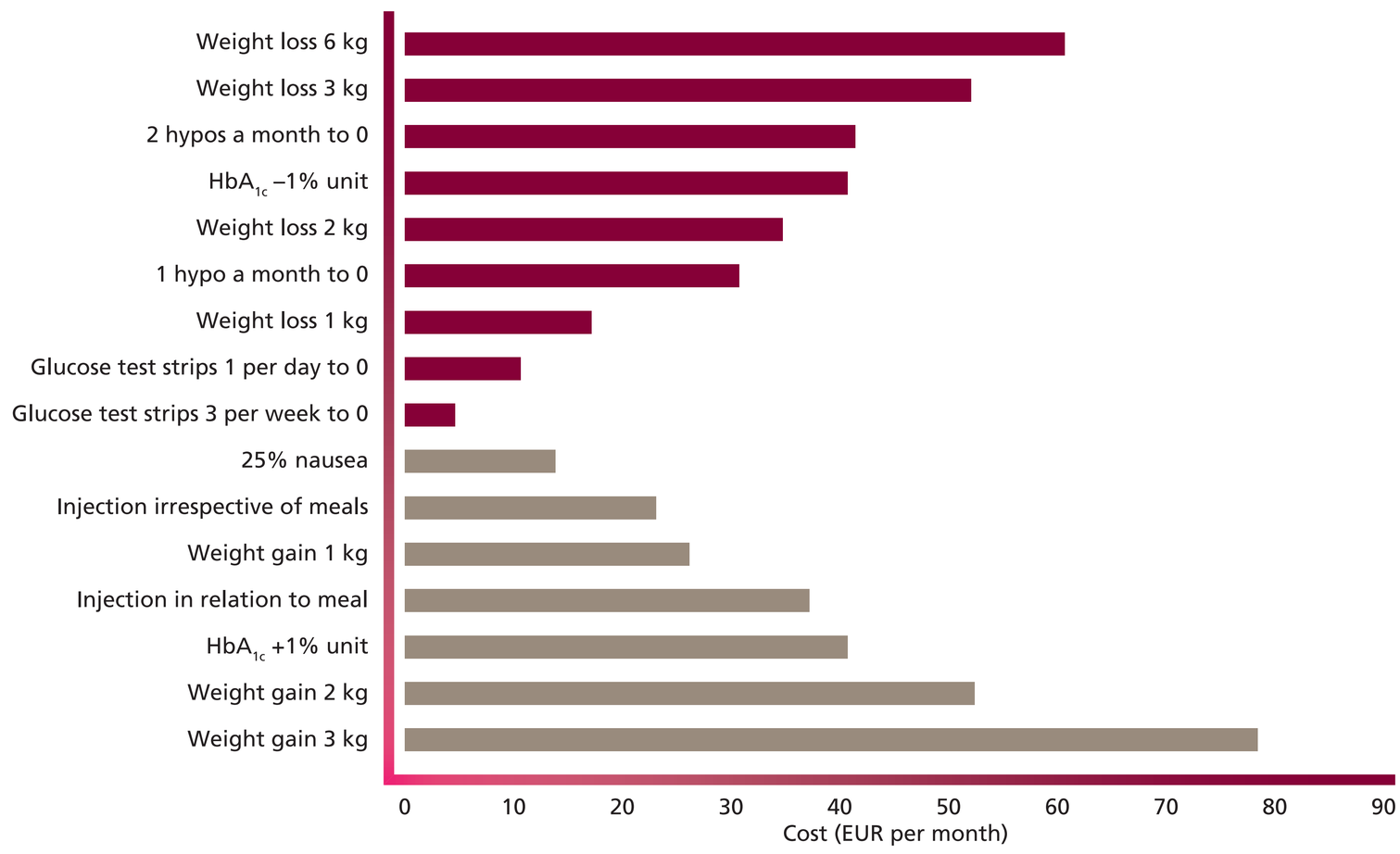

Figure 2 WTP per day for liraglutide 1.2 mg compared to other standard therapies (EUR per day).

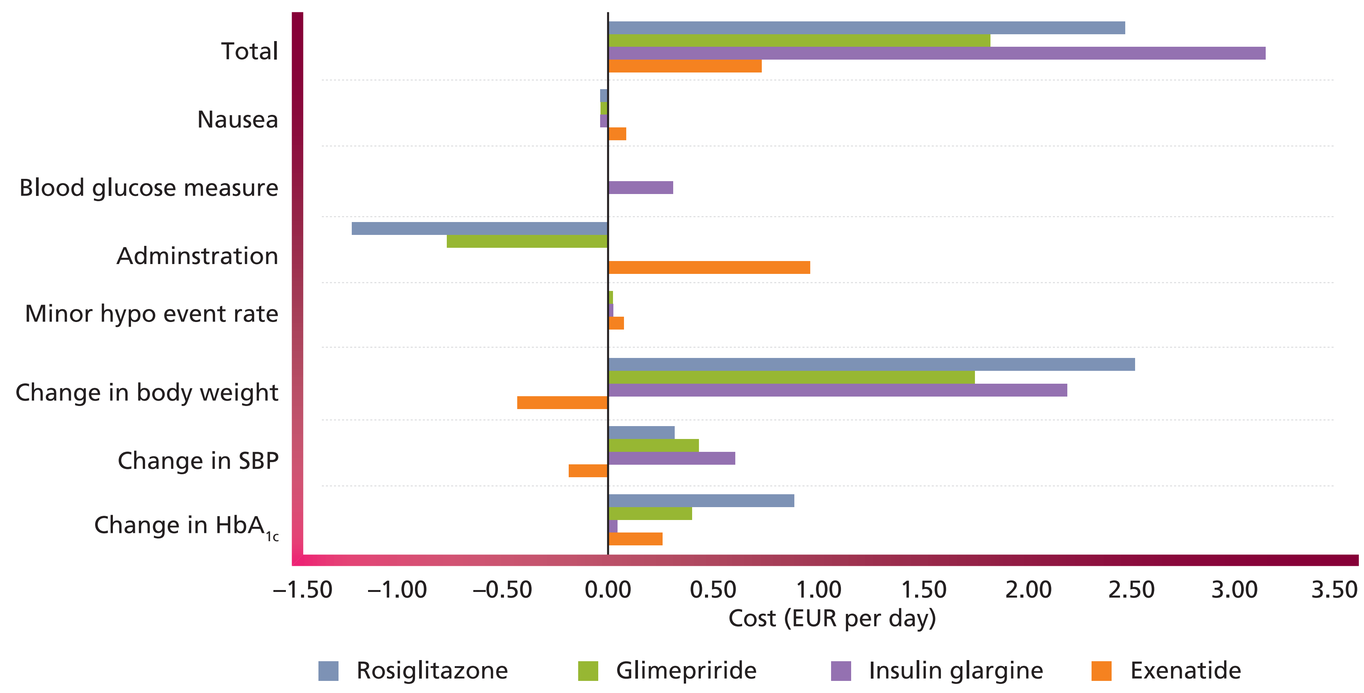

Table 1 Main results from the meta-analysis.

Parameters	Liraglutide 1.2 mg	Rosiglitazone	Glimepiride	Insulin glargine	Exenatide
Change in HbA_{1c}, % (26 weeks)	–1.01	–0.35	–0.71	–0.98	–0.82
Change in systolic blood pressure, mmHg (26 weeks)	–2.57	–0.35	0.41	1.64	–3.89
Weight change, kg (26 weeks)	–1.52	1.94	1.04	1.57	–2.29
Hypoglycaemic event rate	0.284	0.134	1.365	1.403	2.669
Blood glucose measure, tests/day[2]	0.77	0.77	0.77	1.63	0.77
Nausea, % of patients	4.1	0.2	0.8	0.1	12.2

Table 2 WTP per day for liraglutide 1.2 mg compared to other standard therapies (EUR per day).

Results compared to liraglutide 1.2 mg/day	Rosiglitazone	Glimepiride	Insulin glargine	Exenatide
Change in HbA_{1c} (26 weeks)	0.89	0.40	0.04	0.26
Change in SBP (26 weeks)	0.32	0.43	0.61	–0.19
Change in body weight (26 weeks)	2.53	1.76	2.21	–0.43
Minor hypo event rate (minor + major per patient per year)	0.00	0.03	0.03	0.07
Administration	–1.22	–0.77	0.00	0.98
Blood glucose measure	0.00	0.00	0.31	0.00
Nausea	–0.04	–0.03	–0.04	0.08
Total	**2.49**	**1.82**	**3.17**	**0.74**

References.

1. Jendle *et al. Curr Med Res Opin* 2010;26:917–23.
2. Gfk (2006): Diabetes Patient Market study – Roper Global Diabetes Programme.

Conclusions

- WTP for liraglutide by people with type 2 diabetes was noticeably higher compared to other standard therapies based on the clinical results from the meta-analysis.
- Primary drivers were weight decrease (compared to rosiglitazone, glimepiride and insulin glargine) and administration (compared to exenatide).
- In total, people were willing to pay up to EUR 3.17/day more to use liraglutide 1.2 mg than other glucose-lowering treatments.

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