



COST-EFFECTIVENESS ANALYSIS OF USING THE FIXED-DOSE COMBINATION OF LEVODOPA/CARBIDOPA/ENTACAPONE IN PATIENTS WITH PARKINSON'S DISEASE IN KAZAKHSTAN

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OBJECTIVES: This study aims to assess the clinical and economic impact of levodopa/carbidopa/entacapone (LCE) in the management of Parkinson's disease (PD) in the context of the Kazakhstani healthcare system.

METHODS: Our analysis incorporated annual direct costs per patient in the management of PD in adult patients comparing a fixed-dose combination of LCE with levodopa/carbidopa (LC). We conducted a comprehensive economic evaluation focusing on the cost-effectiveness and one-way sensitivity analysis up to 50%. The primary endpoint measure utilized the change observed in QALY, and secondary the Unified Parkinson's Disease Rating Scale (UPDRS).

RESULTS: The findings of the cost-effectiveness analysis unveiled a compelling cost-effectiveness advantage of a fixed combination regimen of LCE over of LC, in the PD management. LCE resulted in a better ratio of the main cost-effectiveness ratio (CER) parameters and a positive incremental cost-effectiveness ratio (ICER), regardless of which effectiveness criterion was applied.

For the QALY, the CER was USD 1 254 versus USD 388 and **the ICER was USD 11 437**; for the UPDRS, the CER was USD 4 958 versus USD 6 014 and **the ICER was USD 4 634**.

Obtaining the ICER value is significantly less than the conditional readiness threshold for Kazakhstan, estimated as a 3 GDP (USD 32 967). Our findings are confirmed with sensitivity analysis.

CONCLUSION: Recent findings have unveiled compelling evidence regarding the efficacy and safety profile of the fixed-dose combination of LCE among individuals diagnosed with PD. These pivotal insights have substantiated its incorporation into numerous global clinical guidelines. Moreover, the favorable pharmacoeconomic attributes of LCE warrant its endorsement for the management of PD in Kazakhstan.

Table 1. Results of the Cost-effectiveness Analysis

Main parameters	LCE group	LC group
Annual direct costs per patient	639.72	182.24
QALY (based on the duration of the "off-time")	0.51	0.47
CER	1 254.35	387.75
ICER	11 436.96	
UPDRS (% change)	0.13	0.03
CER	4 957.83	6 013.99
ICER	4 633.67	

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