PHARMACOECONOMIC INDICATORS OF THE EFFECTIVENESS OF DIFFERENT 6-MONTH REGIMENS FOR THE TREATMENT OF DRUG-RESISTANT PULMONARY TUBERCULOSIS

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Abstract

Aim: to conduct a pharmacoeconomic analysis of various 6-month treatment regimens for drug-resistant tuberculosis (DR-TB), evaluating cost-effectiveness indicators to determine the most optimal treatment algorithm within the framework of the Ukrainian healthcare system.

Materials and methods: A pharmacoeconomic analysis was conducted based on treatment outcomes of 393 patients with DR-TB (150 with MDR-TB and 243 with pre-extensively drug-resistant TB pre-XDR-TB). MDR-TB patients received either the BdqLzdMfxhdCsDlm regimen (89 individuals) or the BPaLM regimen (61 individuals); pre-XDR-TB patients received the BPaL regimen (197 individuals), BdqLzdCfzCsDlm (25 individuals), or BdqLzdMrpAmx/ClCsDlm (21 individuals). Cost-effectiveness indicators were calculated taking into account the costs of medications, symptomatic treatment of adverse events, and treatment efficacy.

Results. The cost of treatment regimens for MDR-TB was: BPaLM — UAH 18,113.8; BdqLzdMfxhdCsDlm — UAH 104,503.0 per course. For pre-XDR-TB: BPaL — UAH 16,996.0; BdqLzdCfzCsDlm — UAH 109,603.3; BdqLzdMrpAmx/ClCsDlm — UAH 150,341.7 per course. The main driver of high costs was delamanid, accounting for approximately 80 % of expenses in delamanid-containing regimens. The average cost of symptomatic treatment for adverse events was UAH 14,163.78 per patient. The best cost-effectiveness indicators were demonstrated by: for MDR-TB — BPaLM regimen (UAH 347.6) compared to BdqLzdMfxhdCsDlm (UAH 1,448.2); for pre-XDR-TB — BPaL regimen (UAH 502.9) compared to BdqLzdCfzCsDlm (UAH 1,398.02) and BdqLzdMrpAmx/ClCsDlm (UAH 1,573.5).

Conclusion. The BPaL and BPaLM regimens show the most favorable cost-effectiveness profiles among the 6-month short-course DR-TB regimens. BPaLM should be prioritized for MDR-TB treatment, while BPaL is optimal for pre-XDR-TB. The cost of anti-tuberculosis treatment remains high, necessitating further efforts to reduce the prices of anti-TB drugs, especially delamanid.

Key words: drug-resistant tuberculosis, pharmacoeconomics, cost-effectiveness, BPaL, BPaLM, adverse events.

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