COST-UTILITY OF RIBOCICLIB AS THE FIRST-LINE TREATMENT IN POSTMENOPAUSAL WOMEN WITH ADVANCED/METASTATIC BREAST CANCER, HORMONE RECEPTOR POSITIVE AND HUMAN EPIDERMAL GROWTH FACTOR RECEPTOR-2 NEGATIVE, IN COLOMBIA

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Objective: To estimate the cost-utility of ribociclib as the first-line treatment in postmenopausal women with advanced/metastatic breast cancer, Hormone Receptor positive (HR+) and HER2-, from the perspective of the Colombian health system.

Methods

A partitioned survival model was built with pre-progression, post-progression and death health states, according to the areas under the curve for the survival functions, with a 40-year time horizon. Direct medical costs for medicines and their administration, monitoring, handling of adverse events and terminal care were included; a local expert validated resource usage. The sources of costs were price control circulars, SISMED, ISS and SOAT tariff manuals, and the database of sufficiency (values in USD 2021: 1 USD = 3,770.9 COP). The probabilities of the events were based on a systematic review and the hazard ratios of survival were estimated with an indirect comparison meta-analysis. Health utility values were extracted from the literature. A 5% discount rate was applied for outcomes and costs. Health effects were valued as Quality Adjusted Life Years (QALY). Cost-effectiveness was analyzed against a range of willingness to pay thresholds in a probabilistic sensitivity analysis type acceptability curve.

Results

In the base case, average values per patient are: USD$ 22,919.90/2.92 QALY for fulvestrant, USD$ 79,385.04/3.17 QALY for ribociclib+letrozole, USD$ 84,735.61/3.17 QALY for palbociclib+letrozole and USD$ 110,699.86/3.47 QALY for ribociclib+fulvestrant. Ribociclib+letrozole is a dominant alternative to palbociclib+letrozole and between a willingness to pay of USD$ 0.0-84,064 is the alternative with the highest probability of cost-effectiveness. Ribociclib+fulvestrant has the greater effectiveness among all alternatives and has extended dominance over ribociclib+letrozole; however, its incremental cost-effectiveness ratio exceeds the three times gross domestic product per capita threshold (USD$ 16,728.36).

Conclusions: Ribociclib+letrozole is a cost-effective and cost-saving alternative to the Colombian health system, as a first-line treatment in postmenopausal women with advanced/metastatic breast cancer, HR+ and HER2-.

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