

Title: Cost-Effectiveness of ribociclib (Kisqali ®) + letrozole versus palbociclib + letrozole for the treatment of postmenopausal patients with advanced breast cancer HR-positive, HER2-negative from perspective of the public health system in Panama.

Abstract (250 words)

Objective: The aim of this study is to estimate the cost-effectiveness of ribociclib (Kisqali ®) + letrozole, Abemaciclib + letrozole or ANAS (Anastrozole) versus palbociclib + letrozole in the treatment of HR-positive, HER2-negative advanced breast cancer patients in the first line of treatment from the perspective of the National Cancer Institute of Panama (ION).

Methods: We developed a cost-effectiveness model studying the area under the curve that considers the health states of progression-free survival, progression and death. The time horizon was 20 years with monthly cycles, the average age of the cohort was 62 years and the discount rate for both effects and costs was 3% per-year. Efficacy of treatments was obtained from the MONALEESA-2, MONARCH-2, and PALOMA-2 clinical trial studies, through a Matching-adjusted indirect treatment comparison (MAIC). The identification, quantification and valuation of resources represented the Panamanian purchase portal and the ION. Costs of drugs, management of the disease, and adverse events were considered.

Results: The total expected QALYs for ribociclib + letrozole was 4,121 QALY, on the other hand the total expected QALYs for Abemaciclib + letrozole was 3.891 QALY and for palbociclib + letrozole 3,688 QALY. Ribociclib + letrozole showed dominance over palbociclib + letrozole and Abemaciclib + letrozole.

The total costs for ribociclib + letrozole were estimated in US\$116.93, for Abemaciclib + letrozole were estimated in US\$162.356 and for palbociclib + letrozole were US\$148.756 being a dominant alternative in at least 90% of the scenarios modelled.

Conclusions: Ribociclib + letrozole reports an average incremental saving of US\$73,498 and an average incremental gain of 0,433 QALY compared versus Palbociclib + letrozole, and an average incremental saving of US\$45,425 and an average incremental gain of 0,14 QALY compared versus Abemaciclib + letrozole.

Highlights

2-3 brief summary statements

75-word limit for each highlight statement

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