COST-PER-RESPONSE OF ADVANCED THERAPIES IN SPONDYLOARTHRITIS FROM THE PERSPECTIVE OF THE BRAZILIAN PRIVATE HEALTHCARE SYSTEM

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INTRODUCTION

Ankylosing spondylitis is a debilitating chronic inflammatory disease that affects the spine and joints, initially treated with conventional anti-inflammatory drugs and, in case of therapeutic failure, with multiple lines of advanced therapies (AT).

Clinical trials of new drugs typically investigate patient-reported improvements relative to baseline across four key domains:

1. Overall well-being (0-10 scale)
2. Back pain (0-10 scale)
3. Difficulty with daily tasks, such as bending forward
4. Severity of morning stiffness (0-10 scale)

These four domains compose the Assessment of Spondyloarthritis International Society (ASAS) response criteria.

OBJECTIVE

Aiming to measure the efficiency of AT available in Brazil, this study calculated the cost per responder (CPR) to achieve at least a 40% improvement in the Assessment of Spondyloarthritis International Society (ASAS 40) based on a published network meta-analysis (NMA) using local list prices from the perspective of private health system (ANVISA, 2026; Walsh et al, 2023).

In detail, ASAS40 means an improvement of at least 40% and an absolute improvement of ≥ 2 units (on the 0-10 scale) in no less than three of the four domains, with no worsening in the remaining domain.

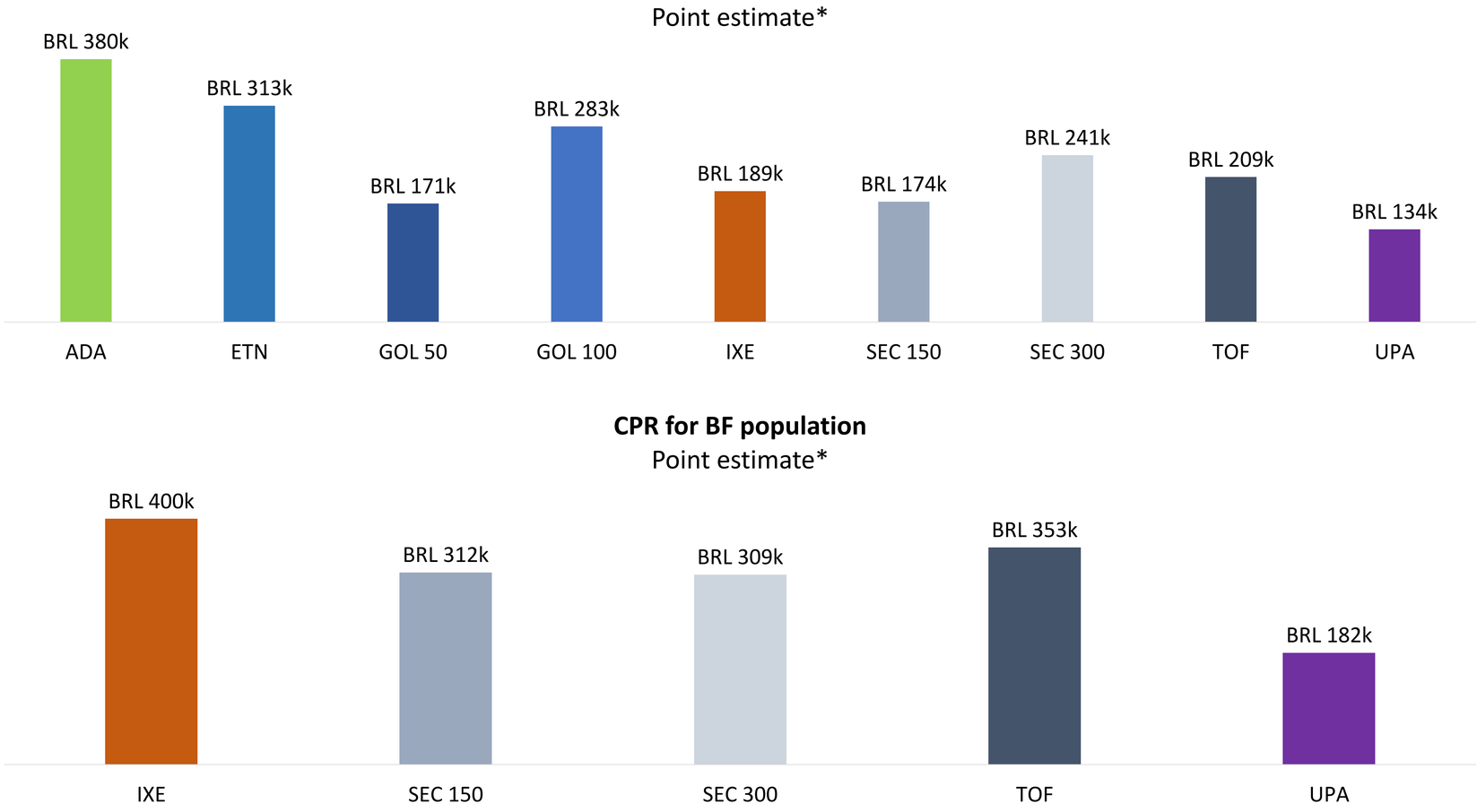
METHOD

- The CPR calculation is the total cost of treatment of each AT divided by its respective response rate from the referenced NMA (Walsh et al, 2023), representing the cost required for one patient to achieve ASAS 40, therefore, the lower the CPR, the more cost-effective the treatment is.
- The cost of treatment was estimated based on labeled posology and list prices plus tax rate of 18% from Brazil (local standard practice).
- The results were stratified by CF (conventional treatment failure) and BF (biological treatment failure) populations.
- The time horizon was extrapolated to 52 weeks, assuming constant response rates, to facilitate an annualized interpretation by healthcare managers and inform decision-making.

RESULTS

In the CF population, upadacitinib 15 mg (UPA) was the AT with the lowest CPR, R$ 133.951,79. Compared to UPA, golimumab 50 mg (GOL 50) had a 50% higher CPR, secukinumab 150 mg (SEC 150) had a 30% higher CPR, ixekizumab 80 mg (IXE) had a 41% higher CPR, tofacitinib 5 mg (TOF) had a 56% higher CPR, secukinumab 300 mg (SEC 300) had a 80% higher CPR, golimumab 100 mg (GOL 100) had a 111% higher CPR, etanercept 25/50 mg (ETN) had a 133% higher CPR and adalimumab 40 mg (ADA) had a 184% higher CPR.

In the BF population, UPA was associated with lowest CPR too, R$ 181.767,49. Compared with this AT, SEC 300, SEC 150, TOF and IXE demand higher financial investment to achieve the same outcome: 70%, 72%, 94% and 120% higher CPRs, respectively.



** Approximate cost to achieve the clinical outcome in thousands of Brazilian Reais (BRL)*

CONCLUSIONS

Among all advanced therapies, upadacitinib was associated with the lowest cost per patient achieving ASAS40 response in both populations.

The health technology assessment (HTA) process weighs relative clinical evidence (efficacy and safety) and economic results (cost-effectiveness and budget impact, for instance. Still, not every decision-making opportunity can be evaluated using lifetime horizon analysis, which takes significant time and effort to develop. Therefore, simple calculations combining relevant outcomes and treatment costs, such as CPR, are very helpful.

The findings of this CPR analysis support UPA's role as a highly cost-effective treatment option in the care of axial spondyloarthritis patients in the Brazilian private healthcare system.

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