An Economic Evaluation of Risankizumab versus Adalimumab on the Treatment of Plaque Psoriasis for Moderate to Severe Adult Patients in Egypt.

5329

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INTRODUCTION

Plaque psoriasis (PsO) is a common, chronic autoimmune disease. Patients mainly suffer from pain, sleep interference, difficulty concentrating, dry, itchy, raised skin patches (plaques) covered with scales that appear on the elbows, knees, lower back, and scalp. The patches vary in color, depending on skin color. Several clinical trials have shown that patients who used Risankizumab achieved 90% clearer skin compared to Adalimumab.

OBJECTIVE

This study aims to conduct a cost-effectiveness analysis comparing Risankizumab and adalimumab for the treatment of moderate to severe psoriasis in adult Egyptian patients over a one-year period.

By evaluating the costs and clinical outcomes associated with each treatment, the study seeks to inform Egyptian policymakers in making evidence-based decisions regarding optimal psoriasis therapies.

Our focus is to identify the most cost-effective treatment option while ensuring adherence to the latest medical advancements for improved patient outcomes.

METHOD

- A Markov cohort model was constructed from the payer's perspective to assess Risankizumab versus Adalimumab in treating PsO for 16 weeks and assessed based on Psoriasis Area and Severity Index (PASI) scores.
- Successful responders who scored a minimum PASI score of 75 transitioned to a maintenance phase, while those who scored PASI (50-74) considered as primary nonresponsive and received Ustekinumab as the preferred supportive care and not received systemic oral treatments, validated with the local dermatology physicians.
- The cost of medications was captured from the unified procurement authority in Egypt while the cost of services captured from the governmental hospitals.
- All costs were converted to USD for comparability of results.

RESULTS

According to the results of the **predictive Markov model** and the assessment of QALY and ICER in this study.

ICERs must be **around 3 times the GDP per capita**, which is the willingness to pay benchmark for the treatment to be considered cost-effective according to the healthcare systems in Egypt, while the country's **willingness-to-pay threshold is $58,758.91**.

The cumulative cost of Risankizumab and Adalimumab over 1 year was **$38,626 and $13,147,** respectively.

While the cost of the switch of Risankizumab from Adalimumab showed an **incremental cost-effectiveness ratio (ICER) of $4,311,314 over 1 year.**

This means an additional **$25,480** is needed for an additional **0.006 quality-adjusted life year (QALY).**

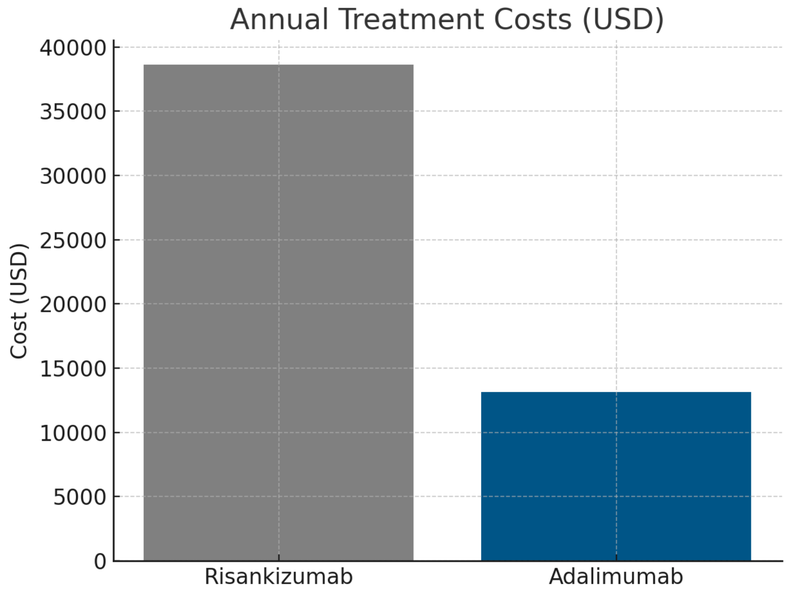

Figure 1: Comparative Annual Treatment Cost

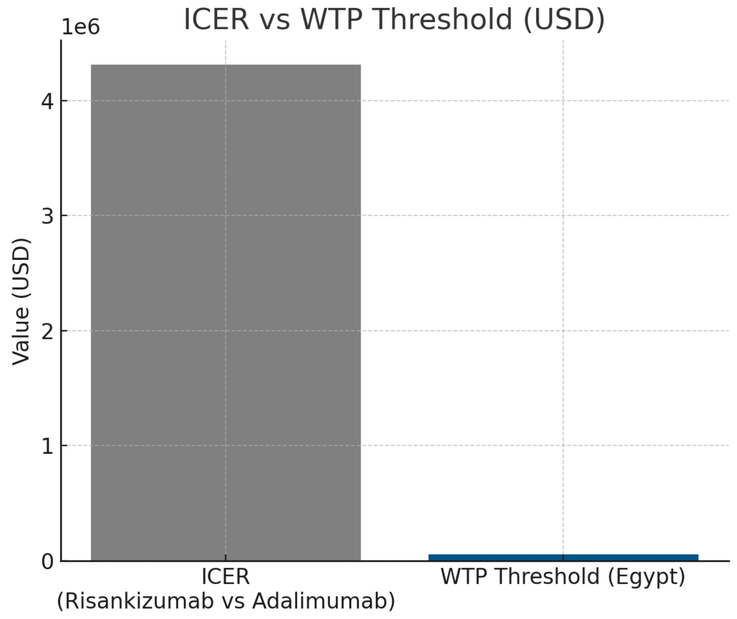

Figure 2: Incremental Cost-Effectiveness Ratio (ICER) Vs Willingness to Pay (WTP)

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CONCLUSIONS

- A cost-effectiveness analysis comparing Risankizumab to adalimumab for the treatment of moderate to severe plaque psoriasis in the Egyptian setting revealed Risankizumab to be a non-cost-effective option.
- The incremental cost-effectiveness ratio (ICER) significantly surpassed the generally accepted willingness-to-pay threshold, indicating that the additional expenditure on Risankizumab did not justify the observed marginal gains in patient outcomes.
- Consequently, the treatment was deemed economically unfavorable for the Egyptian healthcare system.

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