

Background

- The disability associated with Rheumatoid arthritis (RA) can result in significant negative impact on patients' health-related quality of life (HRQoL).¹⁰⁻¹²
- Relatively expensive biologics, such as Tocilizumab (TOC)(interleukin-6 inhibitor (IL-6)), has been increasingly used to manage RA due to its believed incremental effectiveness in comparison to cheaper alternatives, such as anti-TNF biologics (adalimumab (ADA) and etanercept (ETA)).^{7,9}

Objectives

- The aim of this study was to assess the HRQoL among patients with RA who have been treated with TOC versus other commonly used biologics, such as ADA and ETA.

Methods and Materials

- This was a single-center, interview-based, cross-sectional study.
- Patients' medical characteristics were retrieved from the electronic medical records (EMRs).
- RA patients ≥ 18 years with a disease and treatment durations of at least 12 months treated with TOC, ADA, or ETA were included.
- Pregnant women and those with cancer or active infections were excluded.
- The Arabic version of EUROQOL (EQ-5D-5L) was used to assess the HRQoL of RA patients on biologics.
- Multiple linear regression was conducted to examine the impact of TOC versus other biologics on the visual analog scale (VAS) score controlling for age, gender, disease and treatment duration, number of comorbidities, and the use of steroids.
- The statistical analysis was conducted using SAS® version 9.4 (SAS institute, Cary, NC, U.S.).

Results

Table 1. Baseline characteristics.

| Variable | ADA (n=31) | ETA (n=37) | TCZ (n=37) | p-value |
|------------------------------------|------------|------------|------------|---------|
| Age, mean±SD | 53.2±15.8 | 54.2±11.3 | 53.3±10.6 | 0.9289 |
| Gender, n(%) | | | | |
| Male | 1(3.23) | 4(10.81) | 1(2.70) | 0.3687 |
| Female | 30(97.77) | 33(89.19) | 36(97.30) | |
| Disease duration (yrs.), mean±SD | 9.4±5.9 | 13.8±6.9 | 10.9±5.9 | 0.0241 |
| Treatment duration (yrs.), mean±SD | 4.3±2.5 | 5.9±2.5 | 2.3±1.3 | <.0001 |
| Number of comorbidities, n(%) | | | | |
| 0-1 | 24(77.42) | 27(72.97) | 29(78.38) | 0.8804 |
| ≥ 2 | 7(22.58) | 10(27.03) | 8(21.62) | |

Figure 1. EQ-5D-5L across biologics

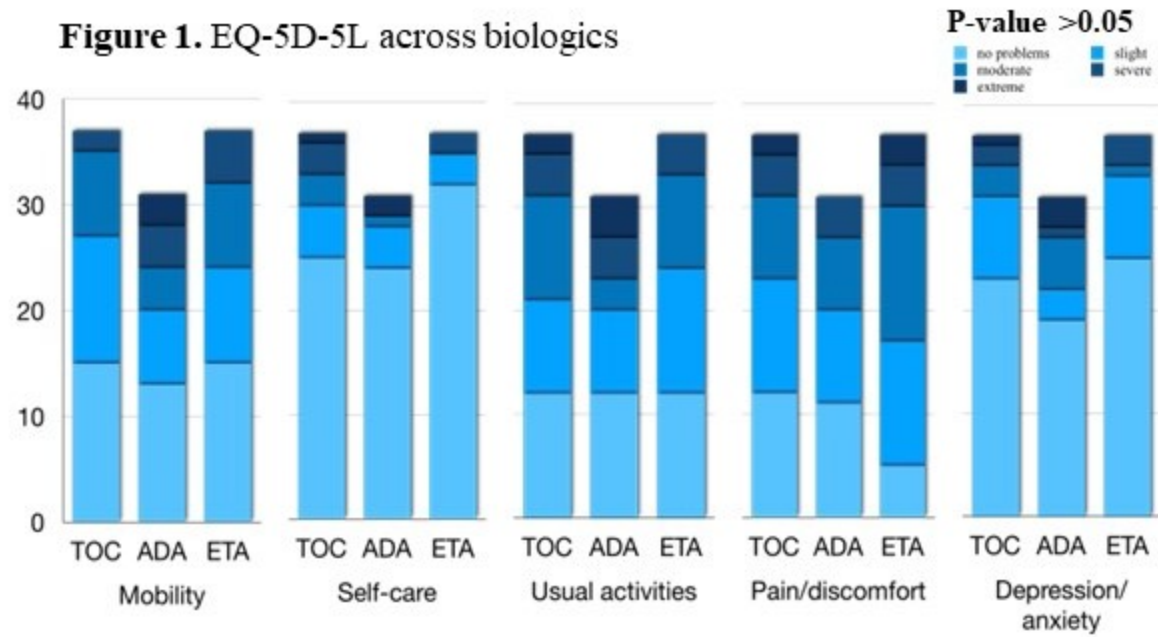


Figure 2. Mean EQ-5D VAS scores.

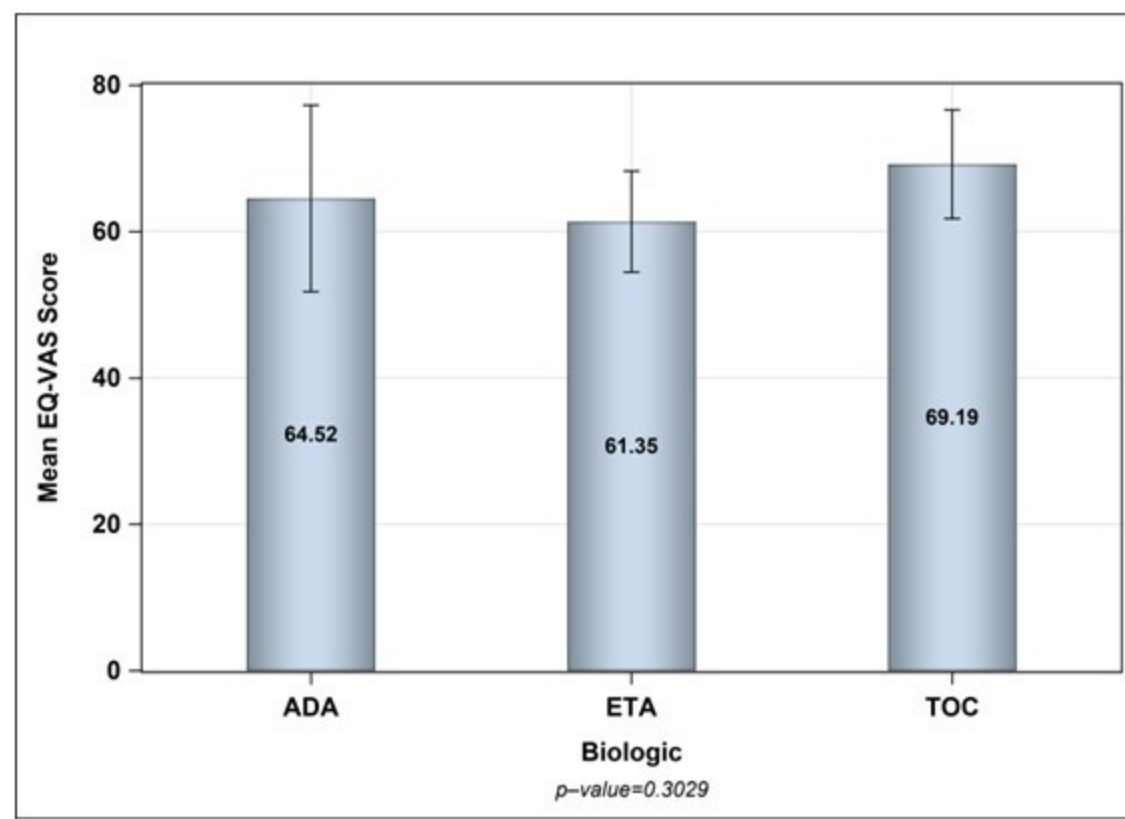


Table 2. Multiple regression analysis for VAS.

| Variable | β -Estimate | Odds Ratio | P-value | 95% CI |
|-------------------------|-------------------|------------|---------|----------------|
| Tocilizumab | 4.26 | 70.80 | 0.5201 | -8.83 -17.36 |
| Age | -0.06 | 0.941 | 0.7937 | -0.52 -0.40 |
| Gender | 7.84 | 2540.2 | 0.5008 | -15.20 - 30.89 |
| Treatment duration | -0.96 | 0.382 | 0.4625 | -3.54 -1.62 |
| Disease duration | -0.04 | 0.960 | 0.9290 | -0.95 -0.87 |
| Number of comorbidities | 0.83 | 2.293 | 0.7486 | -4.29 -5.95 |
| Corticosteroids | -9.81 | 0.00005 | 0.3282 | -29.64 - 10 |

Conclusions

- This is the first study to the best of our knowledge that explored the impact of TOC on HRQoL versus other commonly utilized biologics in Saudi Arabia.
- Patients with RA seem to have better HRQoL, however, this difference did not reach statistical significance controlling for a myriad of covariates.
- Future studies with better design, larger sample size, and more robust analysis should further examine this finding to ensure spending efficiency for the management of RA in Saudi Arabia.

