

PREDICTORS OF EFFECTIVENESS OF BIOLOGIC AND TARGETED SYNTHETIC DISEASE-MODIFYING ANTIRHEUMATIC DRUGS IN THE TREATMENT OF RHEUMATOID ARTHRITIS

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BACKGROUND

Rheumatoid arthritis (RA) is a chronic, inflammatory, autoimmune disease that affects the joints. Biologic and targeted synthetic disease-modifying antirheumatic drugs (bDMARDs and tsDMARDs) are indicated as an alternative after failure of conventional synthetic DMARDs. Access to anti-TNF bDMARDs (adalimumab, etanercept, infliximab and certolizumab pegol), non-anti-TNF bDMARDs (tocilizumab and abatacept) and tsDMARD (tofacitinib and baricitinib - janus kinase inhibitors [JAKi]) requires an administrative approval and dispensing process in the **Brazilian Public Health System (BPHS)**.

OBJECTIVE

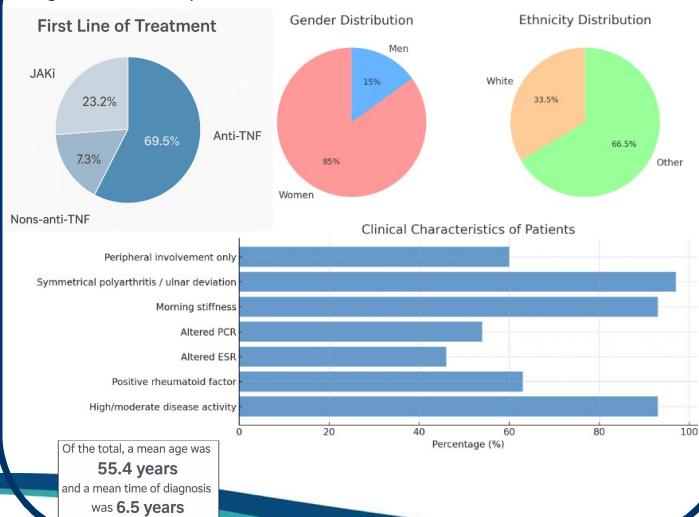
The aim of this study was to assess the **predictors of the effectiveness** of b/tsbDMARDs. **Treatment persistence** was used as a proxy for effectiveness.

METHODS

This is a **cohort of patients with RA** who requested their first **b/tsbDMARD** between June 2018 and September 2022. It was constructed from drug dispensing records, clinical and sociodemographic data. Patients were **followed up for 18 months**. The association between demographic and clinical variables and treatment persistence time was assessed using linear regression. A significance level of 20% was adopted for the univariate analysis and 5% for the multivariate analysis.

RESULTS

Figure 1: Profile of patients with RA.



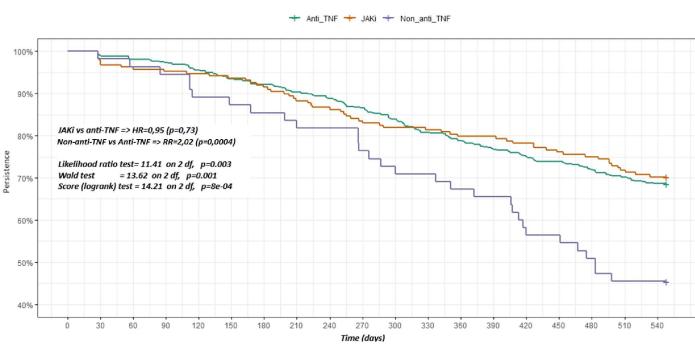
RESULTS

Treatment Status After 18-Month Follow-up

- ✓ Discontinued: 15.2%
- ✓ Switched: 36.3%
- ✓ Persisted: 48.5%

Anti-TNF and JAKi groups had the best persistence. Etanercept and baricitinib drugs showed greater persistence. **Non-anti-TNF group had less treatment persistence.**

Figure 2: Persistence of drugs groups.



Univariate analysis

In the univariate analysis, the following variables showed statistical significance: **age equal to or less than 30 years** was a **predictor of effectiveness** ($p=0.025$) and the **use of one of the non-anti-TNF drugs** in relation to the anti-TNF bDMARDs group ($p=0.024$) and to JAKi ($p=0.059$) and the **associated use of scDMARDs** ($p=0.113$), especially cyclosporine ($p=0.019$), were considered **predictors of non-effectiveness**.

Multivariate analysis

In the multivariate analysis, the **age of 30 years or more** remained as a **predictor of effectiveness** and the **use of non-anti-TNF drugs** in relation to the anti-TNF agents ($p=0.024$) was a **non-predictor variable**.

CONCLUSIONS

Overall, drugs from the anti-TNF agents and JAKi groups were more effective. Younger patients also tend to respond better to treatment. This knowledge can help **optimise the use of public resources**. This includes the **assessment of possible disinvestments in health technologies** and the development of public policies to improve access to treatments. There is still a **need for real-world studies** RA treatment that can help assess the drugs effectiveness, in order to reduce the uncertainties of benefits that result from clinical trials. These results are useful for understanding the effectiveness of bDMARDs and tsDMARDs and helping the futures **reassessment and decisions of health managers**.

CONFLICT OF INTERESTS: there are no conflicts.