



# Prescription-based prevalence of biological therapy in patients with psoriasis, rheumatoid arthritis, and inflammatory bowel diseases

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#### **Abstract**

The aim of this study was to determine the proportion of biological prescriptions over time. This study is based on data from IMS® Diagnosis Monitor and included patients who had received a biological drug in dermatology practices due to psoriasis (PSO), gastroenterology practices due to Crohn's disease (CD) or ulcerative colitis (UC), or rheumatology practices due to rheumatoid arthritis (RA) between April 2015 and December 2018. We analyzed 1,748,948 CD/UC-related prescriptions, 3,968,879 RA-related prescriptions, and 7,321,496 PSO-related prescriptions. Of these, 343,263 (19.6%) prescriptions for IBD, 92,343 (16.2%) prescriptions for RA, and 169,573 (6.9%) prescriptions for PSO were for biologicals. The proportion of biologicals has increased continuously over 4 years, namely from 16.3% to 21.3% (p < 0.01) for CD/UC treatment prescribed by gastroenterologists, from 12.4% to 16.0% (p < 0.01) for RA treatment prescribed by rheumatologists, and from 3.2% to 7.7% (p < 0.01) for PSO treatment prescribed by dermatologists. The proportions of biological therapies and their increase over time were age- and sex-dependent. In summary, we were able to show a significant increase in the proportion of biologicals used to treat CD/UC, RA, and PSO over the last four years

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# Persistence With Vedolizumab Compared With Antibodies Against Tumor Necrosis Factor-Alpha in Patients With Inflammatory Bowel Disease

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#### Aims

The goal of the study was to compare persistence with vedolizumab versus adalimumab, golimumab, and infliximab in biologics-naïve patients with inflammatory bowel disease treated in gastroenterological practices and outpatient clinics in Germany.

### Methods -

Patients aged 18 or older who had initiated a biological therapy (vedolizumab, infliximab, adalimumab, or golimumab) were included in the present study. Prescriptions between July 2014 and March 2017 of the respective biological drug emerging from gastroenterological practices or outpatient clinics in Germany were retrieved from the longitudinal prescription (LRx) database. Patients treated with vedolizumab were matched with patients treated with infliximab, adalimumab, or golimumab on the basis of age, gender, medication before biologic therapy, and index year. The primary outcome variable of the study was the rate of persistence with vedolizumab compared with antitumor necrosis factor biologics (infliximab, adalimumab, and golimumab) within 3 years of the first prescription in outpatient settings.

## Results -

Kaplan-Meier analysis was performed in 15,984 patients naïve to biologics revealing the statistically lower risk of discontinuation for vedolizumab compared with adalimumab, golimumab, or infliximab. In matched-pairs analyses, within 3 years after the first prescription, 39.5% of 2076 patients were persistent to vedolizumab compared with 33.5% of matched patients persistent to adalimumab (P<0.001). 37.6% of 716 patients were persistent to vedolizumab compared with 24.7% of matched patients persistent to golimumab (P<0.001). 35.7% of 2055 patients were persistent to vedolizumab compared with 30.2% of matched patients persistent to infliximab (P=0.119). Vedolizumab was associated with a significantly lower risk of therapy discontinuation compared with adalimumab [hazard ratio (HR)=0.86; 95% confidence interval (CI), 0.81-0.93] and golimumab (HR=0.60; 95% CI, 0.54-0.67), respectively; the vedolizumab risk of therapy discontinuation was numerically lower than infliximab but statistical significance was not achieved (HR=0.93; 95% CI, 0.85-1.02).

### Conclusion

In biologics-naïve IBD patients treated in outpatient settings in Germany, matched-pair analyses showed that vedolizumab was associated with significantly improved drug persistence compared with adalimumab or golimumab, whereas numerical improvement was shown in comparison with infliximab.

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# Comparative Analysis of the 3-Year Persistence Rate with Second-Line Vedolizumab and Tumor Necrosis Factor-α **Inhibitors**

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## Background

Our goal was to investigate the 3-year persistence rates with second-line vedolizumab and tumor necrosis factor-α (TNF-α) inhibitors (i.e., adalimumab, golimumab, infliximab) in patients with inflammatory bowel disease (IBD) who were followed in gastroenterology practices in Germany.

#### Methods -

This study included patients aged ≥18 years who had received prescriptions for second-line biological drugs in Germany between 2014 and 2017 (n = 5,150) retrieved from the longitudinal prescription database. Vedolizumab users were matched to adalimumab, golimumab, and infliximab users based on age, sex, and index year. The primary outcome of the study was the rate of persistence with vedolizumab compared with the rate of persistence with adalimumab, golimumab, and infliximab within 3 years of secondline therapy initiation in IBD patients. Persistence was estimated as therapy time without discontinuation, with discontinuation being defined as at least 90 days without any prescription for the biological drug of interest.

### Results -

After matching patients who had received vedolizumab with those who had received adalimumab, the rate of persistence after 3 therapy years was 30.3% for vedolizumab and 27.9% for adalimumab (log-rank p = 0.005). The corresponding figures were 27.8 and

20.8% in the vedolizumab-golimumab matched-pair analysis (log-rank p < 0.001) and 29.5 and 25.2% in the vedolizumab-infliximab matched-pair analysis (logrank p value = 0.008). Vedolizumab was associated with a significant 0.85-, 0.72-, and 0.86-fold decrease in the risk of discontinuation within 3 years of therapy initiation compared to adalimumab, golimumab, and infliximab, respectively.

### Conclusion -

Treatment persistence was higher for vedolizumab than for TNF-α inhibitors up to 3 years after initiating second-line biological therapy.

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# Persistence with biological drugs in psoriasis patients followed in dermatology practices in Germany: A retrospective cohort study of 1,201 patients

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#### Aims

The goal of this study was to analyze persistence with biological drugs in individuals with psoriasis followed in dermatology practices in Germany.

### Methods -

This study included 1,201 psoriasis patients who were prescribed biological drugs for the first time in 90 dermatology practices in Germany between 2010 and 2017 (index date). The main outcome of the study was the persistence with biological drugs within 3 years of therapy initiation. Covariates were sex, age, health insurance coverage, psoriasis subtype, route of administration of the first biological treatment, and co-prescriptions.

## Results -

Mean (SD) age was 49.3 (13.8) years, and 61.0% of patients were men. The most frequently prescribed biological drugs were adalimumab (42.3%), secukinumab (25.4%), and ustekinumab (16.6%). After 3 years of treatment, persistence with biological drugs was 59.7% in men and 53.0% in women (p = 0.028). The corresponding figures were 45.4%, 64.1%, 61.0%, 55.2%, and 55.5% in people aged 18 - 30, 31 - 40, 41 -50, 51 - 60, and > 60 years, respectively (p = 0.003),and 66.4% and 55.0% in those receiving intravenous and subcutaneous injections, respectively (p = 0.008). There was no significant association between

predefined covariates and persistence. However, median persistence per dermatology practice ranged from 187 to 877 days.

#### Conclusion

Persistence with biological drugs in psoriasis patients followed in dermatology practices was low 3 years after therapy initiation and varied between practices.

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