



Trends in prescription of biologics for common autoimmune diseases during 2012 to 2018 in Germany

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Abstract

Background

Biologics are a growth market for the pharmaceutical industry and are of particular importance as disease-modifying treatments of autoimmune diseases. This study aimed to analyse regional variations and trends over time of prescription of biologic pharmaceuticals licensed for the treatment of autoimmune diseases, considering the impact of changing prevalence of common autoimmune diseases.

Methods

This study was based on all outpatient physician billing claims and all dispensations of outpatient prescriptions of German residents covered by statutory health insurance (SHI), constituting roughly 87% of German inhabitants. Annual diagnosis prevalence of the autoimmune diseases, ulcerative colitis, Crohn's disease, multiple sclerosis, psoriasis and rheumatoid arthritis was assessed for Germany as a whole and on the level of regional Associations of SHI Physicians (17 regions) in the population of all SHI insurants for the years 2012 to 2018. For each disease, patients diagnosed in at least two quarters of a given year were considered as prevalent cases. Prescription trends of biologics licensed for the treatment of these autoimmune diseases were assessed in the population of all SHI insurants and among patients with autoimmune diseases using annual defined daily doses (DDD) and the prescription prevalence, i.e. the number of individuals with a prescription per 1,000 individuals. The actual trend of biologics DDD on the population level over time was compared to a corresponding theoretical time-dependent change, under the assumption, that the number of autoimmune patients remained unchanged over the study period.

Results

The prevalence of at least one autoimmune disease in the SHI population rose from 3.5% in 2012 to 4.0% in 2018. A steady prevalence increase over time was observed for all five diseases and in all German regions. With a relative increase by 25%, the upward trend was most pronounced for Crohn's disease (prevalence in 2012: 0.26%; 2018: 0.32%). In 2018, 89% of DDD of biologics licensed for the treatment of autoimmune diseases in the SHI population were prescribed to patients with autoimmune diseases. From 2012 to 2018 biologic prescription prevalence increased from 61 to 86 autoimmune patients with a prescription per 1,000 patients. Meanwhile, the total number of DDD of biologic agents rose by 80% in the SHI population and by 92% in autoimmune patients. Overall, 58 %-points of this increase in autoimmune patients could be attributed to rising DDD per capita in autoimmune patients between 2012 and 2018, while 34 %-points could be attributed to a growing size of the population affected by autoimmune diseases.

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Conclusion

A substantial increase of the DDD of biologic disease-modifying drugs in the SHI population mainly results from an increment of DDD per capita in autoimmune patients. To a lesser but still considerable extent, the increase of the use of biologics on the SHI population was driven by rising numbers of patients affected by autoimmune disease, which could be observed for all five autoimmune diseases included in the analysis and in all German regions.

Keywords

Autoimmune disease, biologics, DDD, diagnosis prevalence, ulcerative colitis, Crohn's disease, multiple sklerosis, prescription prevalence, psoriasis, rheumatoid arthritis

Citation

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