Background
Janus Associated Kinases family, JAK 1, JAK 2, JAK 3 and Tyk2 are molecular targets for enzyme inhibition that represents a useful strategy for the treatment of different clinical conditions like arthritis, psoriasis, organ rejection and multiple cancer types. However, JAK inhibitors are associated to major adverse drug reactions (ADR), which underlines the importance of close monitoring by healthcare professionals.

Purpose
The aim of this study is to review all JAK inhibitors that are available in national and international pharmaceuticals markets, their therapeutic indications, their underlying mechanism of action and ADR, in order to improve pharmaceutical counseling.

Material and Methods
Literature review of Summary of Product Characteristics of JAK inhibitors available in the pharmaceutical market and literature sources from the PubMed through intersecting the terms «JAK inhibitors», «Janus Associated Kinases inhibitors» and «Janus Kinases inhibitors». Drug databases of the European Medicines Agency (EMA) and United States Food and Drug Administration (FDA) were also consulted to search for JAK inhibitors authorized in clinical practice.

Conclusions
JAK inhibitors currently available in the pharmaceutical market have proven benefits in the treatment of oncologic and autoimmune diseases, but have significant ADR. Knowledge of these undesirable effects is an important factor for pharmacists to give proper information and advice to the health professionals and patients regarding the correct and safe use of these drugs. On the other hand it is important that healthcare professionals be alert for the pharmacodynamics profile of these new drugs and report any suspected adverse reactions. Hospital pharmacists also have an important role in this task being active in the ADR notification process.

Competing interests None.