

## **Material and Methods**

In March 2017, we systematically reviewed the scientific literature searching for quantitative epidemiological data of psoriasis treatment, using 2 main databases/browsers: PubMed/Medline and EMBASE. Search strings used in PubMed/Medline included: psoriasis AND (observational study OR registry OR real life OR retrospective study OR daily practice OR real world OR cohort OR prospective study) AND (failure rate OR persistence OR survival rate OR drug survival OR discontinuation OR treatment change OR adherence OR compliance OR effectiveness) AND (biological OR biologics OR biologic OR etanercept OR infliximab OR adalimumab OR ustekinumab OR Enbrel OR Remicade OR Humira OR Stelara). A similar search string based on the same terms was used in EMBASE.

Papers were evaluated and selected in order to extract the relevant ones for this review. We selected original articles from observational studies conducted in adult patients with psoriasis, with results on effectiveness of biological therapies, including measurements based on clinical outcomes and adherence and/or persistence. Studies were restricted to those in humans, in the English language. Congress abstracts were excluded, since they cannot be exhaustive in methodological details. No studies were excluded a priori because of weakness of design or data quality. In a first step, only titles and abstracts were examined, and those papers that were clearly not relevant were excluded (e.g., those not focused on psoriasis, those from experimental studies, etc.). In a second step, the remaining publications were evaluated more in depth based on full-text versions and examining the presence/absence of relevant quantitative information on the effectiveness of biological therapies in psoriatic adult patients. Two review team members (G.B. and C.P.) retrieved and independently assessed the potentially relevant articles. Disagreements of judgement were resolved by discussion.

In order to check the accuracy of earlier searches and thus the completeness of the articles selected, additional cross-validation searches were performed using the following criteria: (a) we examined the reference lists of relevant reviews and meta-analyses on psoriasis and biological therapies; (b) we searched in Google Scholar by entering together various key words such as “psoriasis,” “biological therapies,” “efficacy,” “effectiveness,” “real world,” or “drug survival,” ordering the results by relevance and then reviewing the first 250 publications retrieved; (c) we searched the Cochrane Database of Systematic Reviews, according to a specific string (i.e., “Psoriasis (Tit/Abs)” by excluding clinical trials, health technology assessment, and economic evaluation); (d) we performed additional searches in PubMed/Medline using the names of identified relevant registries (search term “[registry name]” AND “psoriasis”), and we screened articles as described above [17].

Relevant information included in the publications selected was extracted and organized in summary tables – separately for each study design examined, i.e. prospective registry, prospective study, retrospective study, and retrospective administrative database/claims – to facilitate the synthesis and interpretation of the main findings. Data extraction was performed by 2 review team members (C.G. and G.B.) independently, and disagreements were resolved by discussion.

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