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A Scoping Review of Guidelines/Consensus for Pre-Treatment Screening and On-Treatment Monitoring of Targeted Small-Molecule Drugs in Dermatology

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ADMINISTRATIVE INFORMATION

Support - No support.

Review Stage at time of this submission - Data analysis.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 July 2026 and was last updated on 17 July 2026.

INTRODUCTION

Review question / Objective This study aims to summarize and evaluate current guideline/consensus recommendations regarding pre-treatment screening and on-treatment monitoring items for small-molecule drugs in dermatology to guide clinical practice.

Background Chronic inflammatory skin diseases such as psoriasis and atopic dermatitis, particularly in moderate-to-severe cases, are characterized by persistent, treatment-resistant symptoms and frequent relapses, leading to prolonged physical and psychological distress and substantial disruption of patients' daily lives. In 2019, approximately 40 million people worldwide suffered from psoriasis and 171 million from atopic dermatitis. Among these, China stands as a country with a high prevalence of both conditions.
In recent years, advances in understanding skin immunology have shifted the treatment paradigm from traditional immunosuppressants to targeted therapies, including biologics and novel small molecules. Compared to macromolecular drugs, small molecules offer advantages in pharmacokinetics, cost, patient compliance, and storage/transport. Targeted small-molecule drugs for skin diseases primarily include JAK inhibitors (e.g., upadacitinib, baricitinib, ruxolitinib, tofacitinib, abrocitinib) and PDE4 inhibitors (e.g., apremilast). However, while effective, they carry risks of adverse events such as increased infection, cardiovascular events, and malignancy.

Rationale While effective, targeted small-molecule drugs carry risks of adverse events such as increased infection, cardiovascular events, and malignancy. Consequently, the US Food and Drug Administration (FDA) mandates black box warnings for JAK inhibitors regarding serious cardiovascular events, cancer, thrombosis, and death. To ensure the standardized use of these drugs in dermatological therapy and reduce the incidence of adverse reactions, the “2025 Quality Control Improvement Targets for Various Specialties”

issued by the General Office of the National Health Commission of the people's republic of China emphasizes the need to increase screening rates before and during the administration of small-molecule targeted drugs in dermatological treatment. However, in clinical practice, significant discrepancies persist across guidelines regarding the specific screening tests required, appropriate monitoring frequency, and threshold definitions. These inconsistencies may lead to confusion among clinicians in real-world practice. Therefore, this study aims to review current guidelines/consensus for pre-treatment screening and on-treatment monitoring of targeted small-molecule drugs in skin diseases, evaluate their methodological quality using the AGREE II tool, and summarize and compare differences in monitoring items and frequency across various guidelines/consensus documents.

METHODS

Strategy of data synthesis We systematically searched seven guideline websites—namely the Guidelines International Network(GIN), the official website of the World Health Organization(WHO), the Scottish Intercollegiate Guidelines Network(SIGN), the Canadian Medical Association Journal (CMAJ), the Agency for Healthcare Research and Quality (AHRQ) of the United States, the National Institute for Health and Care Excellence (NICE) of the United Kingdom, and the Medlive platform—along with five comprehensive literature databases including PubMed, China National Knowledge Infrastructure (CNKI), MedSci, Yiigle, and Wanfang Data. The search covered guidelines/consensus published from the inception of each database through July 30, 2025, relevant to pre-treatment screening and treatment monitoring for targeted small-molecule drugs in dermatology patients. No language restrictions were applied. Search terms included "abrocitinib", "apremilast", "ivarmacitinib", "baricitinib", "deucravacitinib", "ritlecitinib", "tofacitinib", "upadacitinib", "ruxolitinib", "targeted small-molecule drugs", "guidelines", "guidance", and "consensus".

Eligibility criteria Studies were included if they were: 1) guidelines or expert consensus; 2) focused on skin diseases; and 3) contained recommendations on pre-treatment screening, on-treatment monitoring, or safety data of targeted small-molecule drugs (primarily include abrocitinib, apremilast, ivarmacitinib, baricitinib, beucravacitinib, ritlecitinib, tofacitinib, upadacitinib, ruxolitinib, which were the common targeted small-molecule drugs for treating skin diseases).

Source of evidence screening and selection Literature searching, screening, and data extraction were performed independently by two authors. Any discrepancies were resolved by a third researcher.

Data management Data organization and statistical analysis were performed using Microsoft Excel 2021 and R 4.3.1 software.

Reporting results / Analysis of the evidence Recommendations for screening/monitoring, comprising pre-treatment screening items, on-treatment monitoring items, and monitoring frequencies.

Language restriction None.

Country(ies) involved China.

Keywords Targeted Small-Molecule Drugs, Skin diseases, Monitoring, Adverse events.

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