

Independent Pharmacist Prescribing in Pediatric and Neonatal Settings: A Systematic Review of Clinical Impact, Barriers, and Facilitators

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ADMINISTRATIVE INFORMATION

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 1 September 2026 and was last updated on 1 September 2026.

INTRODUCTION

Review question / Objective To synthesize all reported outcome data from included studies to evaluate the overall impact, effectiveness, and scope of independent pharmacist prescribing in pediatrics and neonates, and to analyze the barriers and facilitators to its implementation.

Rationale Global workforce shortages have driven the reallocation of prescribing responsibilities to pharmacists. While non-medical prescribing demonstrates safety and effectiveness in adults, evidence on independent pharmacist prescribing in pediatric and neonatal populations remains sparse. Therefore, this systematic review aims to evaluate the overall impact and scope of independent pharmacist prescribing in pediatrics and neonates, and to analyze the barriers and facilitators to its implementation.

Condition being studied Impact and scope of independent pharmacist prescribing in all medical conditions related to pediatrics and neonates.

METHODS

Search strategy To identify relevant evidence, we employed a multi-stage search strategy. An initial scoping search using broad terms was carried out in PubMed, Scopus, and Web of Science. After analyzing the results, we refined the approach by eliminating redundant terms and incorporating relevant MeSH headings and keywords. This refined strategy was then applied consistently across PubMed, Scopus, and Web of Science. The final query consisted of: (pharmac* AND ((prescrib* OR prescri* OR prescriptive* OR prescriber* OR prescribers) AND (independ* OR autonomous* OR non-medical OR "non medical"))) AND (child* OR pediatric* OR paediatric* OR adolescent* OR teen* OR teenage* OR youth* OR "young person" OR "young persons" OR "young people" OR infant* OR neonate* OR newborn* OR baby OR babies

OR toddler* OR preschool* OR "pre school" OR schoolchild OR "school child" OR juvenile OR minor* OR underage"))).

Participant or population Pharmacists' independent prescribers working in conditions related to pediatric and neonates.

Intervention Intervention parameters (type of pharmacist authority, clinical actions taken, and primary outcome measures).

Comparator Effectiveness and scope of Independent Prescribing, and Barriers and Facilitators Analysis.

Study designs to be included A systematic review aims to provide a comprehensive summary of pharmacist prescribing patterns in neonatal and pediatric settings, guided by the Cochrane Handbook for Systematic Reviews of Interventions, as well as the Preferred Reporting Items for the Systematic Reviews and Meta-Analyses (PRISMA).

Eligibility criteria • Articles depicting pharmacists' independent prescribing paradigms.

- Articles with separate data for pediatric and neonatal settings.
- Articles could be downloaded in full text.

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Main outcome(s) 1- Effectiveness and scope of Independent Prescribing
2- Barriers and Facilitators Analysis.

Quality assessment / Risk of bias analysis The quality of the included studies was assessed using validated tools tailored to each study design. Observational studies were scrutinized using the Joanna Briggs checklist for qualitative studies. Two reviewers then assessed all studies, with a third reviewer arbitrating any disagreements.

Strategy of data synthesis Relevant data were extracted into a structured template, encompassing baseline study details, participant characteristics, and intervention parameters (type of pharmacist authority, clinical actions taken, and

primary outcome measures). We synthesized all reported outcome data from the included studies to evaluate the overall impact of independent pharmacist prescribing. We gathered all data regarding barriers and facilitators on the personal, interpersonal, and system levels.

Subgroup analysis A senior author anonymized all records by removing author names and identifying metadata. Two independent reviewers then screened titles and abstracts against a predefined checklist, with the senior author resolving any disagreements. The same masked reviewers subsequently assessed full texts for final eligibility, reconciling discrepancies through discussion. This was guided by the Cochrane Handbook for Systematic Reviews of Interventions, as well as the Preferred Reporting Items for the Systematic Reviews and Meta-Analyses (PRISMA).

Sensitivity analysis The quality of the included studies was assessed using validated tools tailored to each study design. Observational studies were scrutinized using the Joanna Briggs checklist for qualitative studies. Two reviewers then assessed all studies, with a third reviewer arbitrating any disagreements.

Language restriction Only studies published in English language were included.

Country(ies) involved Worldwide.

Keywords Pharmacist independent prescribing; Pediatrics; Neonatal intensive care; Barriers and facilitators; Medication stewardship; Systematic review.

Contributions of each author

Author 1 - Saeed Saad A. Alghamdi - Both authors contributed equally to all stages of the study, including study conception and design, literature search, data extraction, analysis and interpretation of results, manuscript drafting, critical revision, and approval of the final manuscript.

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