

The epidemiology of drug-related hospital admissions in paediatrics

– a systematic review

Screening - full texts: Inclusion / exclusion criteria

Inclusion criteria, description:

Topic: Studies with information on the epidemiology of drug-related hospitalisation of children (frequency, distribution, patterns, and determinants of paediatric hospitalisation associated with drug related problems)

- Exposure: “Drug related problems”
- Population: Studies including paediatric patients < 18 years
- Outcome: Hospitalisation
- Types of study: Systematic quantitative studies → retrospective or prospective studies, observational or experimental studies, studies with longitudinal design or cross-sectional design (e.g., cohort studies, case-control studies, or before-after studies)
- Context: Different study sites are possible: (paediatric) hospitals, emergency departments or other hospital referrers

Exclusion criteria, description:

- Exposure / Outcome: Drug related problems during hospital stay
- Population: Studies on other age groups or that do not report separate paediatric data
- Types of studies: Studies without systematic examination of the relationship between hospital admission and drug-related problems, (e.g. only spontaneous or voluntary reporting methods, case reports or case series).

Screen on full texts: Codes

	Code	Criteria
"Include"	INCLUDE	- Study population: - patients < 18 years included - separate paediatric data are available - Study examines drug-related hospital admissions. (exposure: "Drug-related problem": In the context of drug therapy, exposure to a systemic or topical drug caused any clinical adverse event or therapy problem.) - Study informs about drug-related hospital admissions "Hospitalisation as a consequence": Hospital admissions with a causal relationship to drug-related problems were measured. - includes information on incidence or nature. - Study type: - systematic quantitative study - retrospective or prospective studies / observational or experimental studies / studies with longitudinal design or cross-sectional design (e.g., cohort studies, case-control studies, or before-after studies). - studies without a peer-review process (e.g., conference abstracts, letters to editors, correspondence, editorials, discussion papers): If the necessary original data are presented include, but mark --> exclusion from analysis will depend on quality assessment - Study site: (paediatric) hospitals, emergency departments or other hospital referrers, or health care facilities
	EXCLUDE on study population (Topic would match (or is related), but study population does not match)	- Not a paediatric study population (under 18 years) - No paediatric study population included. - Paediatric data not separately reported - Study explicitly excludes paediatric patients below 18 years of age (i.e. study that looks at other age groups). - Study on general population does not report separate paediatric data. (<--> Eligible study population: patients < 18 years (at least separate paediatric data must be available)).
	Exclude: Exclude on topic: Exposition (Topic / study population would match, but exposition does not match)	- Study does not examine drug-related problems as cause of hospital admissions (e.g., drug-related problems during hospitalisation). - No standardised monitoring of drug-related problems leading to hospitalisation - No causal relationship between drug and problem
	Exclude: Exclude on topic: Outcome (Topic / study population / exposition would match, but study outcome does not match)	- Study does not inform about hospital admissions due to drug related problems, i.e., it does not include information on incidence or nature of drug related hospital admissions. - there is no defined study population at risk ("no reference")
	EXCLUDE on study type (Topic / study population / exposition / outcome would match, but type of study does not match)	- Study does not systematically examine the relationship between hospital admission and drug-related problems, e.g., - only spontaneous or voluntary reporting methods - case reports or case series. - It is another type of study/ publication - systematic review - literature / scoping review - special citation e.g. an editorial without sufficient information. (The research question of the review could be answered by retrospective or prospective studies, observational or experimental studies, studies with longitudinal design or cross-sectional design (e.g., cohort studies, case-control studies, or before-after studies). Therefore, provided they are systematic quantitative studies, there are no restrictions on the types of study design eligible for inclusion.)
"Exclude": (hierarchical decisions):	"Special cases"	Inclusion criteria fulfilled, but – just special population / conditions / special manifestations → no generalisable data → flag these studies, studies should only be included in special analyses if possible.