

ANALYSIS OF AMBULATORY AND HOSPITAL TREATMENT OF PATIENTS WITH BETA BLOCKING AGENTS AT THE DIVISION OF PAEDIATRICS OF TERTIARY HOSPITAL IN YEARS 2022 AND 2023

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Key words: paediatric pharmacotherapy, beta blocking agents, age-related prescribing, dosage forms, off-label use

BACKGROUND AND IMPORTANCE

The use of β -blocking agents in paediatric population in Slovenia

Metoprolol
indication:
arterial
hypertension

Propranolol
indications:
arrhythmias,
haemangiomas

Other uses/
other agents

OFF-LABEL

Clinical challenges

- Limited information on **dosing**
- Limited information on **dosage forms**
- Need for further research

AIM AND OBJECTIVES

Study scope

- Drug group: **ATC C07** (Beta-blocking agents)
- Setting: Division of Paediatrics, tertiary hospital
- Timeframe: 2022–2023

Patient population

- Ambulatory and hospitalized **children** aged 0-19 years
- Inclusion: Received ≥ 1 beta-blocker during study period



Study aim

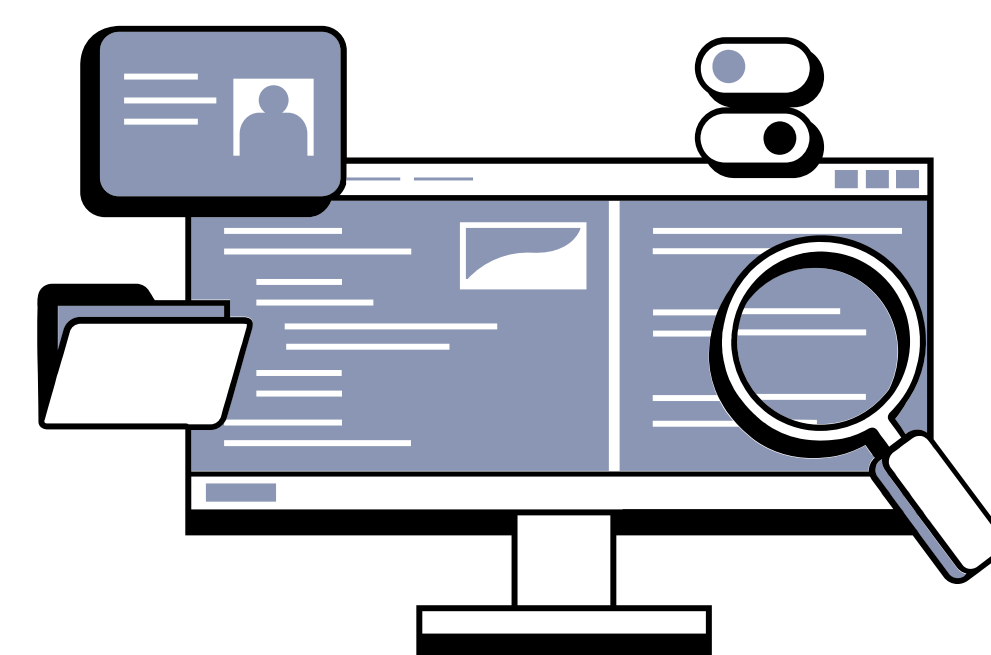
- Analysis of prescribing patterns and clinical use of beta-blockers in paediatric patients

MATERIALS AND METHODS

RESULTS

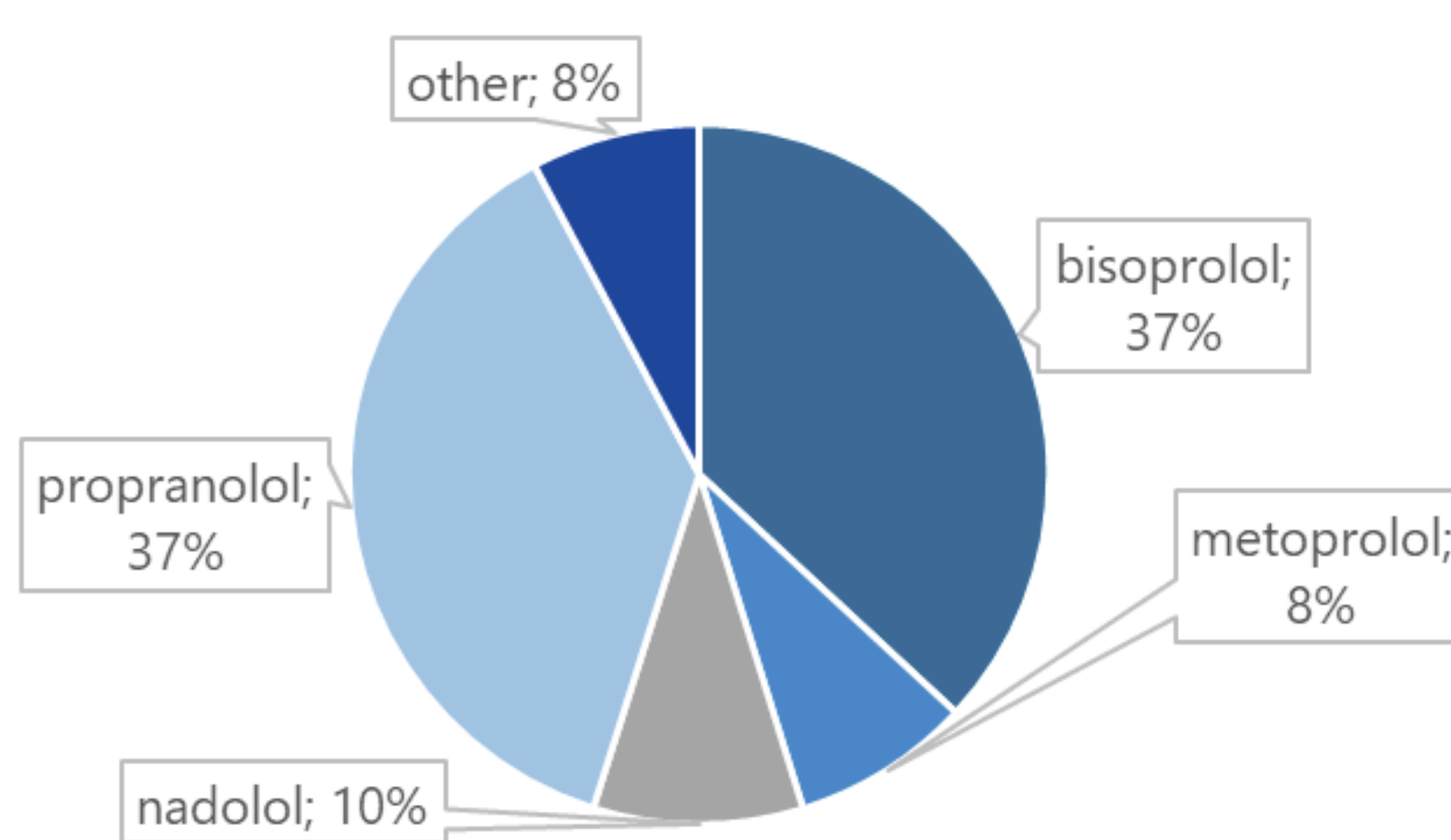
Data collected from the hospital information system:

- patient age
- duration of β -blocking therapy
- the specific drug from ATC group C07
- prescribed dose
- dosing interval
- main diagnosis



80,6%
 of beta-blockers were used **off-label**

Most frequently used β -blocking agents



Indications

- Congenital circulatory malformations – 17,6%
- Tachycardia – 17,1%
- Others (Fallot's tetralogy, haemangiomas, myocarditis, portal hypertension ...)

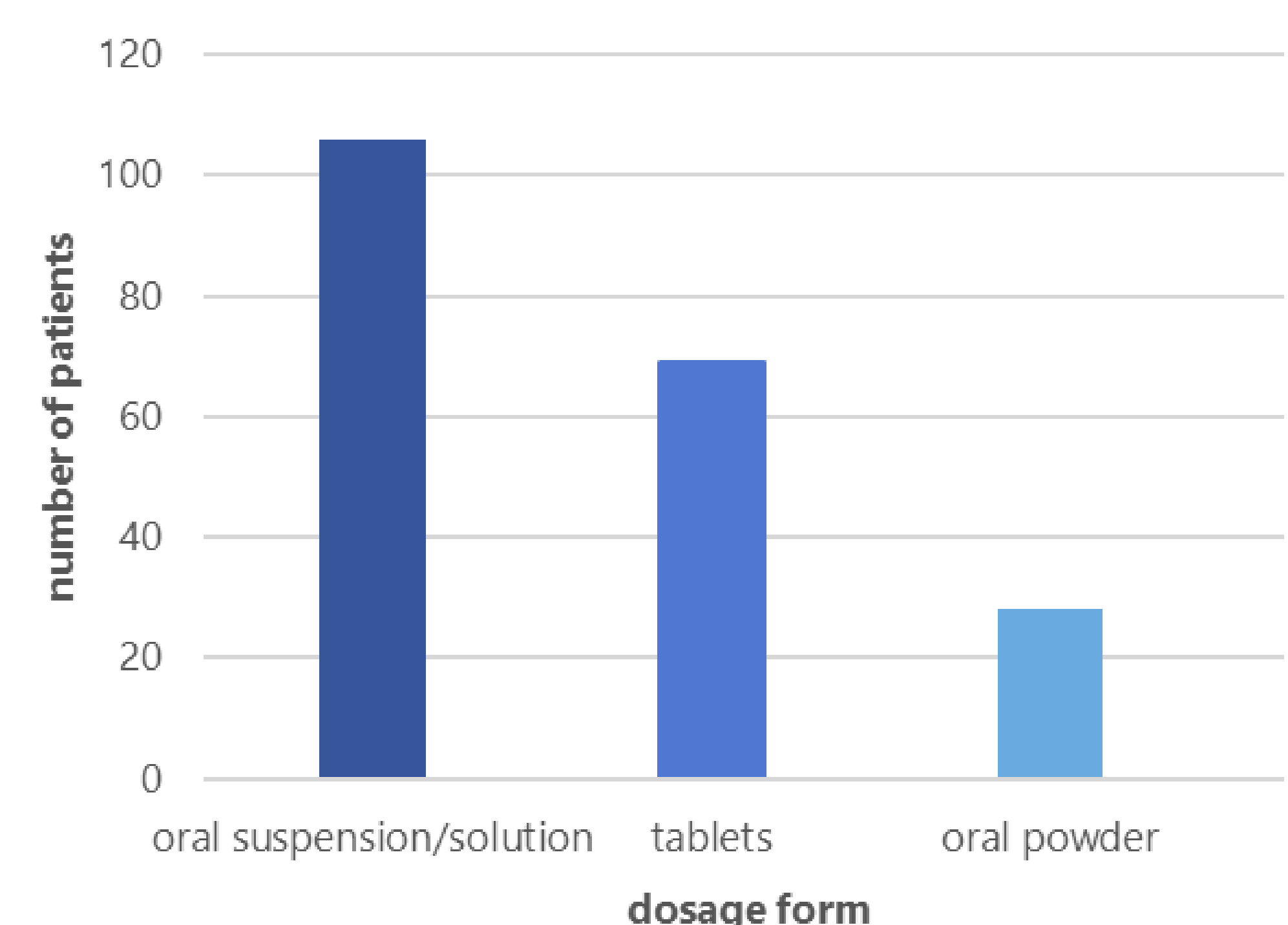
number of patients: 205

	Preterm and term neonates (0-27 days)	Infants and toddlers (28 days to 23 months)	Children (2-11 years)	Adolescents (12-18 years)
Bisoprolol	1,4%	23,2%	27,5%	47,8%
Propranolol	26,9%	44,9%	21,8%	6,4%

mainly propranolol

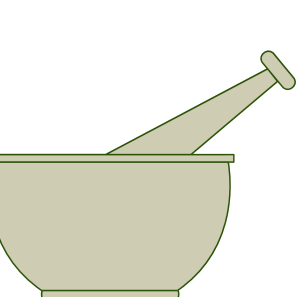
mainly bisoprolol

Most frequently used dosage forms



Preparation

60% prepared by hospital's galenic laboratory



CONCLUSION AND RELEVANCE

- **propranolol** was preferred in **younger** patients
- **bisoprolol** was predominantly prescribed to **older** patients
- most used formulation was oral suspension/solution
- future direction; bisoprolol suspension
- key issue: frequent off-label prescribing

Off-label prescribing in paediatrics is ethically **acceptable** but relies on adult data, while pharmacokinetic differences may affect treatment **safety** and outcomes.

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