

CENTERED ANALYSIS OF PHARMACEUTICAL INTERVENTIONS ON HIGH-ALERT MEDICATIONS IN AN EMERGENCY DEPARTMENT

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Background and importance:

High-Alert Medications (HAMs) carry a heightened risk of significant patient harm when they are used in error.



Aim and objectives:

To analyze pharmaceutical interventions (PIs) involving HAMs upon admission.

Materials and methods:

Prospective interventional study of patients admitted to the Emergency Department who received pharmaceutical care (PC) from 20-01-2025 to 07-03-2025.



Collected data: Demographic data, drugs, PIs and acceptance rate were obtained from electronic medical records and healthcare activity.

PIs and acceptance rate were obtained from electronic medical records and healthcare activity. PIs related to HAMs from hospital drug (HAM-H) and chronic pathology (HAM-C) lists of the **Institute for Safe Medication Practices** were analyzed.

Results:

Who received pharmaceutical care?

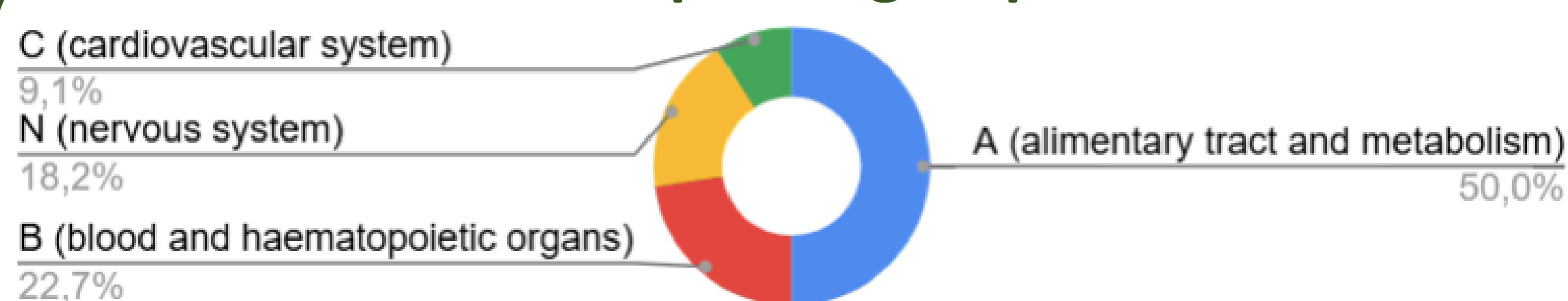
N = **139 patients**
 ♀ = **69%**
 Median age = **73** (IQR = 66-85) **years**
 Drugs in e-prescribing = **14** (IQR=11-17)

38.1% patients had any PIs

N = **110 PIs**
 Median PIs /patient = **2** (IQR=1-2)
 Acceptance rate = **88.2%**
37 PIs related to HAMs were found in **32 patients (23%)**

PIs related to HAM-H list 20.0% (n=22/110)

Therapeutic groups



Drugs involved

Insulins (38.1%) Oral anticoagulants (19%)
 Opioids (14.3%) Oral antidiabetics (9.5%)

PIs related to reconciliation

= **78.9%** (n=19/22)

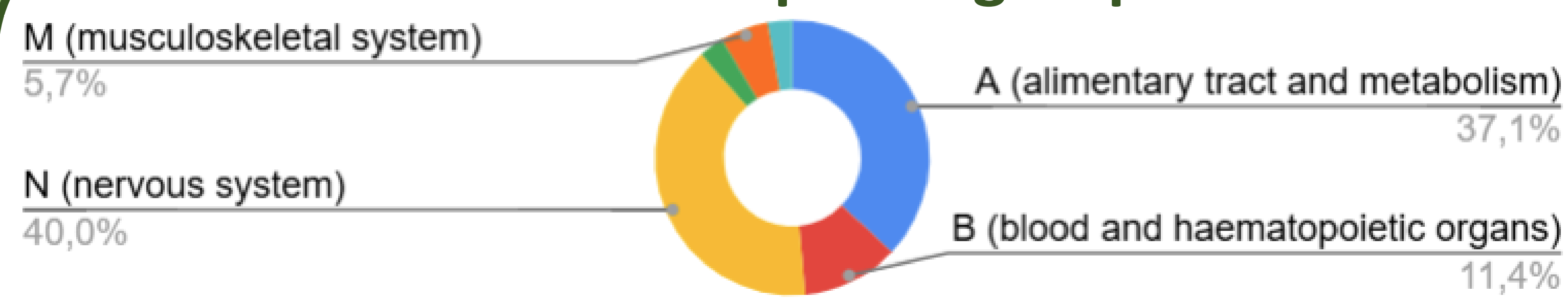
Omission (54.5%) Different regimen (18.2%)
 Incomplete regimen (9.1%) Commission (4.5%)

Other PIs
(n=3/22)

Interaction (4.5%)
 Contraindication (4.5%)
 Age/renal adjustment (4.5%)

PIs related to HAM-C list 31.8% (n=35/110)

Therapeutic groups



Drugs involved

Insulins (22.9%) Opioids (8.6%)
 Benzodiazepines (20.0%) Antipsychotics (8.6%)
 Oral anticoagulants (11.4%) Digoxin (2.9%)
 Long-term corticosteroids (8.6%)
 NSAIDs (8.6%)
 Narrow therapeutic index antiepileptics (2.9%)

PIs related to reconciliation

= **86.7%** (n=30/35)

Omission (60.0%) Different regimen (14.3%)
 Incomplete regimen (2.9%) Commission (8.6%)

Other PIs
(n=5/35)

Interactions (8.6%)
 Contraindications (5.7%)

Conclusion and relevance:

PIs on HAMs in ED are mainly **reconciliation errors**, the most frequent is omission.

PIs mainly involve **insulins, benzodiazepines, OAC, and opioids**.

These findings highlight the need to reduce HAM-related errors and PC potential optimising pharmacotherapy.



4CPS-237