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DIFFERENCES BETWEEN PHARMACEUTICAL INTERVENTIONS PERFORMED ON ANTIMICROBIALS IN MEDICAL AND SURGICAL SERVICES

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BACKGROUND AND IMPORTANCE

The increasing in-hospital use of **antimicrobials** requires pharmacists' involvement in multidisciplinary teams.
Pharmaceutical interventions (PI) are essential to optimize antimicrobials' effectiveness and safety.

AIM AND OBJECTIVES

✓ To describe PI performed on antimicrobials in different hospitalization services.
✓ To analyze differences between **sociodemographic variables** and **mortality** depending on type of service and PI performed.

MATERIALS AND METHODS

Retrospective observational study in a 750-bed University Hospital. PI analyzed from October 2020 to March 2021.
Registered variables: PI type, service, age, length of stay (LOS) and mortality.
Statistical analysis: Wilcoxon or Kruskal-Wallis test for quantitative variables; Chi-Square test for qualitative variables.

RESULTS

Total PI performed: 16913, 3145 (18.6%) on antimicrobials.
PI at medical services 2449 (77.9%), surgical 696 (22.1%). Services with most PI performed:

	Optimization of treatment effectiveness	Toxicity prevention	Administration enabling and/or information	Pharmacotherapy monitoring	p
Medical	353 (14.4%)	692 (28.3%)	807 (33.0%)	597 (24.4%)	**p<0.001**
Surgical	187 (26.9%)	143 (20.6%)	222 (31.9%)	144 (20.7%)	
Geriatrics	81 (11.0%)	198 (26.8%)	209 (28.3%)	251 (34.0%)	**p<0.001**
Infectious	91 (14.7%)	194 (31.2%)	219 (35.3%)	117 (18.9%)	**p<0.001**
Other surgeries	67 (25.0%)	54 (20.2%)	95 (35.5%)	52 (19.4%)	**p<0.001**
Traumatology	57 (23.7%)	37 (15.4%)	83 (34.4%)	64 (26.6%)	**p<0.001**
ICU	18 (12.1%)	27 (18.1%)	56 (37.6%)	48 (32.2%)	p=0.005
Internal	21 (14.1%)	35 (23.5%)	48 (32.2%)	45 (30.2%)	p=0.226

	Medical	Surgical	p
Age	77 (65-86)	68 (56-79)	**p<0.001**
LOS	16 (8-28)	17 (9-35)	p=0.036
Mortality	444 (18.6%)	31 (4.6%)	**p<0.001**

	Effectiveness	Toxicity	Administration/ information	Monitoring	p
Age	72 (60-81)	79 (67-87)	72 (59-83)	76 (64.5-86)	**p<0.001**
LOS	17 (8-31)	16 (9-28)	15 (8-29)	17 (9-30)	p=0.129
Mortality	66 (12.5%)	149 (18.2%)	166 (16.7%)	94 (13.2%)	p=0.007

CONCLUSION AND RELEVANCE

⇨ The most common type of PI was administration/information, except in geriatrics where monitoring was predominant.
⇨ Toxicity prevention is the second most frequent PI type at medical services; while effectiveness optimization is second in surgical ones.
⇨ LOS at surgical services is longer than medical services, with higher mortality at medical ones.
⇨ Patients with PI to prevent toxicity present higher mortality and, together with monitoring requiring ones, are older.

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