

Supplementary Materials

Inappropriateness of Antibiotic Prescribing in Medical, Surgical and Intensive Care Units: Results of a Multicentre Observational Study

Table S1. The Units evaluated in Naples.

Napoli Units		
Medical Units (10)	Surgical Units (16)	Intensive Care Units (3)
Neurology	Oncological Surgery of Digestive system	Intensive Care Unit
Gastroenterology	4 th General Surgery	Neonatal Intensive Care Unit
Rheumatology	Thyroid Surgery	Intensive Care Unit number 2
Infectious Diseases	General and Geriatric Surgery	
Nephrology	9 th General Surgery	
Psychiatry and Involuntary Psychiatric Treatment	Plastic Surgery	
Internal Medicine	Orthopedics	
Geriatrics	Maxillo-Facial Surgery and Pedodontics	
Endocrinology	Pediatric Surgery	
Pediatrics and pediatric onco-hematology	Gynecology and Obstetrics	
	Otolaryngology	
	Urology	
	Thoracic Surgery	
	7 th General Surgery	
	Digestive System Surgery	
	11 th General Surgery	

Table S2. The Units evaluated in Caserta.

Caserta Units		
Medical Units (9)	Surgical Units (9)	Intensive Care Units (6)
Geriatrics	Orthopedics	Emergency Surgery and Trauma Centre
Pediatrics	Short hospitalization Surgery	Neonatal Intensive Care Unit
Onco-Hematology	Urology	Coronary Intensive Care Unit
Infectious Diseases	General and Oncological Surgery	Emergency Medicine
Pneumology	Otolaryngology	Intensive Care Unit after Heart Surgery
Internal Medicine	Maxillo-Facial Surgery	Anesthesia
Nephrology and Dialysis	Gynecology and Obstetrics	
Gastroenterology	Vascular Surgery	
Neurology	Heart Surgery	

Table S3: Characteristics of units and antimicrobial prescription according to medical, surgical and intensive care units.

Variables	Medical Units	Surgical Units	Intensive Care Units
<i>Characteristics of Units</i>			
Units, N° (%)	19 (35.9)	25 (47.2)	9 (16.9)
Beds available, N°	232	269	109
Patients assessed/Occupancy rate beds, N° (%)	210 (90.5)	187(69.5)	89 (81.7)
Units in ASP, N° (%)	5 (26.3)	6 (24)	4 (44.4)
<i>Characteristics of antimicrobial prescriptions</i>			
N° of Antimicrobial prescriptions	65 (31%)	104 (55,6%)	39 (66,3%)
Antibiotic prophylaxis N° (%)	4 (6.2)	69 (66.3)	5 (12.8)
Antimicrobial therapy N° (%)	61 (93.8)	35 (33.7)	34 (87.2)
<i>Prescriptive appropriateness</i>			
N° of Antimicrobial prescriptions	65	104	39
Inappropriate antimicrobial prescription N° (%)	35 (53.8) ^A	83 (79.8) ^B	25 (64.1) ^C

Notes: A vs. B, p= 0.0003; A vs. C, p= 0.30; B vs. C, p = 0.052

Table S4. Prescription of the different antimicrobials according to medical, surgical and intensive care units.

Variables	Medical Units	Surgical Units	Intensive Care Units	P value
<i>Antibiotics</i>				
N° of Antibiotics	91	121	60	
Aminopenicillin, N° (%)	12 (13.2)	37 (30.6)	8 (13.3)	A vs b= 0.0029 A vs c=0.98 B vs c= 0.011
Piperacillin/tazobactam, N° (%)	13 (14.3)	7 (5.8)	11 (18.3)	A vs b= 0.036 A vs c=0.50 B vs c= 0.008
Carbapenem, N° (%)	2 (2.2)	4 (3.3)	7 (11.7)	A vs b=0.70 A vs c= 0.03 B vs c= 0.043
First-generation cephalosporins, N° (%)	0	28 (23.2)	2 (3.3)	A vs b= 0.00001 A vs c=0.16 B vs c= 0.0005
Third-generation cephalosporins, N° (%)	20 (22)	13 (10.7)	5 (8.3)	A vs b= 0.025 A vs c= 0.027 B vs c=0.61
Macrolides, N° (%)	4 (4.4)	1 (0.8)	2 (3.3)	A vs b=0.17 A vs c=1 B vs c=0.25
Lincosamides, N° (%)	0	2 (1.7)	0	A vs b=0.51 A vs c=1 B vs c=1
Aminoglycosides, N° (%)	2 (2.2)	1 (0.8)	6 (10)	A vs b=0.58 A vs c= 0.02 B vs c= 0.006
Quinolones, N° (%)	13 (14.3)	13 (10.7)	4 (6.7)	A vs b=0.44 A vs c=0.19 B vs c=0.43
Glycopeptides, N° (%)	8 (8.8)	3 (2.5)	2 (3.3)	A vs b= 0.06 A vs c=0.32 B vs c=1

Oxazolidinone, N° (%)	0	1 (0.8)	3 (5)	A vs b=1 A vs c= 0.06 B vs c=0.11
Cotrimoxazole, N° (%)	4 (4.4)	2 (1.7)	0	A vs b=0.76 A vs c=0.15 B vs c=1
Metronidazole, N° (%)	4 (4.4)	7 (5.8)	4 (6.7)	A vs b=0.76 A vs c=0.71 B vs c=0.75
Colistin, N° (%)	0	0	2 (3.3)	A vs b=1 A vs c=0.16 B vs c=0.11
Lipopeptide, N° (%)	1 (1.1)	0	0	A vs b=0.43 A vs c=1 B vs c=1
Tygecilin, N° (%)	0	1 (0.8)	0	A vs b=1 A vs c=1 B vs c=1
Azole, N° (%)	2 (2.2)	1 (0.8)	3 (5)	A vs b=0.58 A vs c=0.39 B vs c=0.11
Echinocandin/Amphotericin B, N° (%)	2 (2.2)	0	1 (1.7)	A vs b=0.18 A vs c=1 B vs c=0.33
Antituberculosis Agents, N° (%)	4 (4.4)	0	0	A vs b= 0.03 A vs c=0.15 B vs c=1
<i>Way of administration</i>				
N° of Antibiotics	91	121	60	
Oral, N° (%)	19 (21.4)	15 (12.5)	4 (6.3)	A vs b=0.096 A vs c= 0.02 B vs c=0.31
Intravenous, N° (%)	72 (80.9)	106 (88.3)	56 (87.5)	A vs b=0.096 A vs c= 0.02 B vs c=0.31