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Irish Point Prevalence Survey on Infections and Antibiotic Use in Specialist Palliative Care Inpatient Units

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Introduction

Infection is among the leading causes of death in palliative care. There are many reasons for this increased susceptibility among palliative patients including a myriad of co-morbid conditions, suppressed immune function and general functional decline.

The unintended consequences of treatment not only include burdens to the individual patient but extend to the wider population through the emergence of antimicrobial resistance.

Aims

The aim of this study is to collect baseline data on the prevalence of infection and antimicrobial use in Specialist Palliative Care (SPC) inpatient units in Ireland. This data will inform guideline development and antimicrobial stewardship in palliative care.

Methodology

National point prevalence survey (PPS) using 3 data collection tools.

The prevalence of infection, and antimicrobial use were calculated with 95% confidence intervals (CI).

Univariate analysis using Fisher's exact test were conducted for categorical risk factors and statistical significance set as a level of 5% ($P \leq 0.05$).

Results

The five sites surveyed had a total of 129 beds. This represents 83% of all SPC inpatient beds in Ireland. A total of 114 patients met the eligibility criteria.

- **31.6%** patients were prescribed antimicrobials
- **19.1%** had infections meeting the McGeer criteria
- **78%** of all antimicrobials were prescribed empirically.
- **33%** of all antimicrobials were prescribed for ENT/ oral infections, **30%** for RTIs and **19%** for UTIs.

Table 1: Risk factors by presence of infection

Risk factors for infection	Infection		p-value*
	Yes (n=22) N (%)	No (n=92) N (%)	
Gender (Male)	9 (40.9)	44 (47.8)	0.638
Aged over 85 years	2 (9.1)	7 (7.6)	0.684
Urinary/Faecal incontinence	3 (13.6)	30 (32.6)	0.115
Wheelchair/bedridden	10 (45.5)	47 (51.1)	0.813
Disoriented	4 (18.2)	21 (22.8)	0.779
Prescribed steroids	9 (40.9)	25 (27.2)	0.299
Urinary catheter	8 (36.4)	26 (28.3)	0.449
Vascular catheter	2 (9.1)	9 (9.8)	1
Malignant disease	19 (86.4)	81 (88.0)	0.732
Pressure wounds	1 (4.6)	8 (8.7)	1
Fungating wounds	0 (0.0)	1 (1.1)	1
Other wounds	12 (54.5)	39 (42.4)	0.345

*p-value from Fisher's exact test

Figure 1: Infection Type

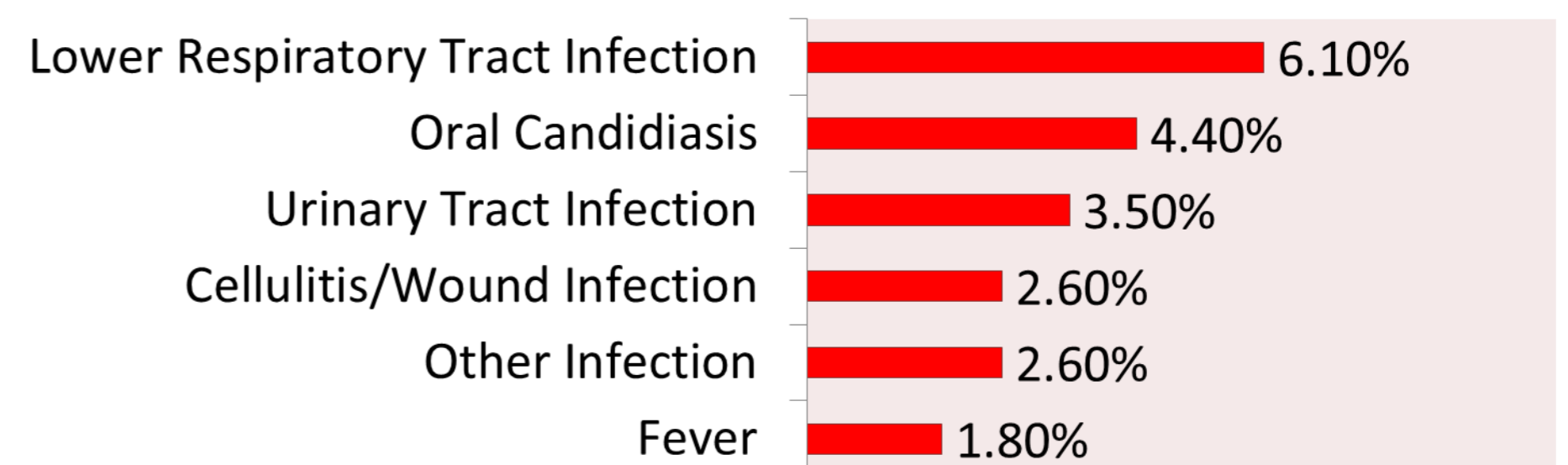


Figure 2: Antimicrobial Classification

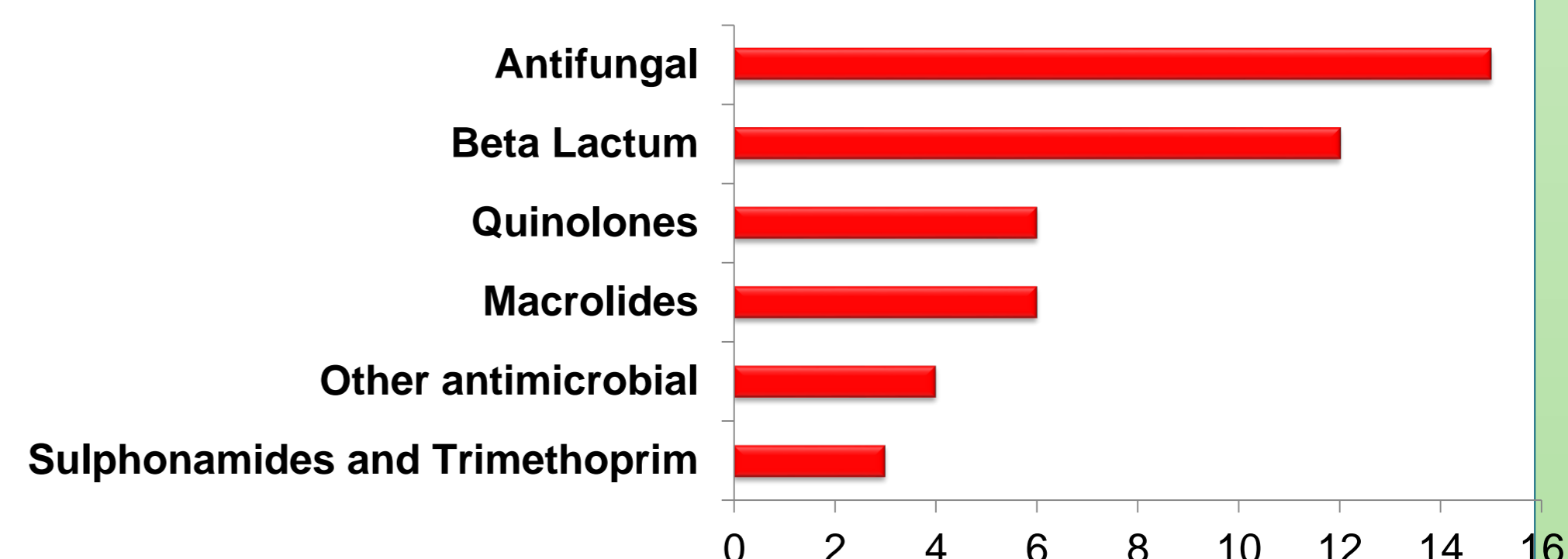
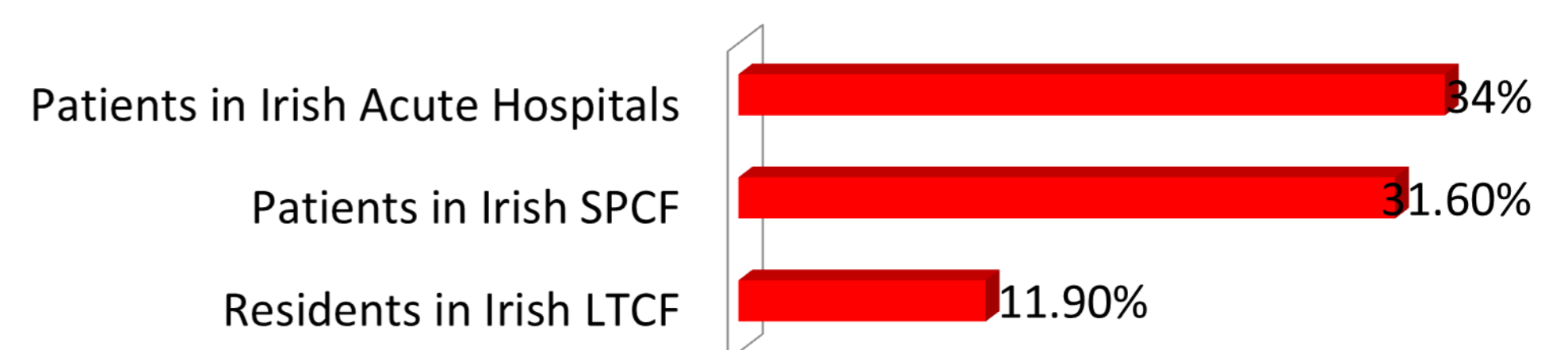


Figure 3: Prevalence of Antimicrobial Use: Comparison with other Irish facilities



Discussion

The patterns of infection in Irish SPC inpatient units is similar to those found in similar studies internationally. Following analysis of the risk factors for infection, no significant relationships were found in this study.

The threshold to treat infections in Irish SPC inpatients is low, 88% of patients meeting the McGeer criteria for infection were administered an antimicrobial. Prophylactic and empirical antimicrobial prescribing is common practice in Irish SPC inpatient units.

Conclusion

Inappropriate antibiotic use contributes to antimicrobial resistance. Prudent antimicrobial use is necessary to slow the resistance pathways. Antimicrobial resistance has evolved and is now a global epidemic.

The decision to treat infection in palliative care is complex and needs to be taken on a case by case basis. Stewardship guidelines should be developed to aid clinicians in this decision making process.

Further prospective studies should be carried out to gauge the symptom response to antimicrobial treatment in SPC inpatient units.

