



South Africa



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The Global Point Prevalence Survey of Antimicrobial Consumption and Resistance (Global-PPS): Results of antimicrobial prescribing in a South African Tertiary Hospital

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INTRODUCTION AND PURPOSE

South Africa is a developing country with a high incidence of tuberculosis and HIV disease. There is a high burden of infectious diseases with frequent prescribing of antimicrobials. Antibiotic resistance is a global concern and South Africa is at risk of increasing rates of antibiotic resistance. Antibiotic Stewardship is important in trying to combat this threat. The PPS will help us monitor antibiotic prescribing practises and identify areas of concern which can be targeted for intervention.

METHODS

A PPS was conducted between April – August 2015, in a tertiary teaching hospital in Cape Town. All inpatients receiving an antimicrobial on the day of PPS were included in the survey. Data collected included age, gender, weight, antimicrobial agents, doses, reasons for treatment, microbiological data, compliance to guidelines, documentation of reasons and stop/review date. Denominator included all admitted patients. A web-based application was used for data-entry, validation and reporting as designed by the University of Antwerp (www.global-pps.com). The study was approved by the Stellenbosch University Ethics committee.

RESULTS

A total of 58 wards (11 ICU, 25 medical and 22 surgical) and 1156 patients were surveyed during the PPS. Bed occupancy rate was 91%. 31% (359/1156) of patients were receiving antibiotics. ICU had the highest antimicrobial prescription rate at 70% (57/82), followed by medical wards (36%, 179/495) and surgical wards had the lowest (23%, 123/541). Breakdown by age group is shown in **Table 1**.

	ADULT	PAEDIATRIC	NEONATAL
Treated patients (n)	837	187	132
Treated patients(%)	27.8	48.7	26.5
Medical(n)	286	130	120
Medical(%)	29	55.4	20.8
Surgical(n)	496	45	
Surgical(%)	23.4	15.6	
ICU(n)	55	12	12
ICU(%)	60.3	100	83.3

Table 1: Percentage of patients on antibiotics according to ward activity

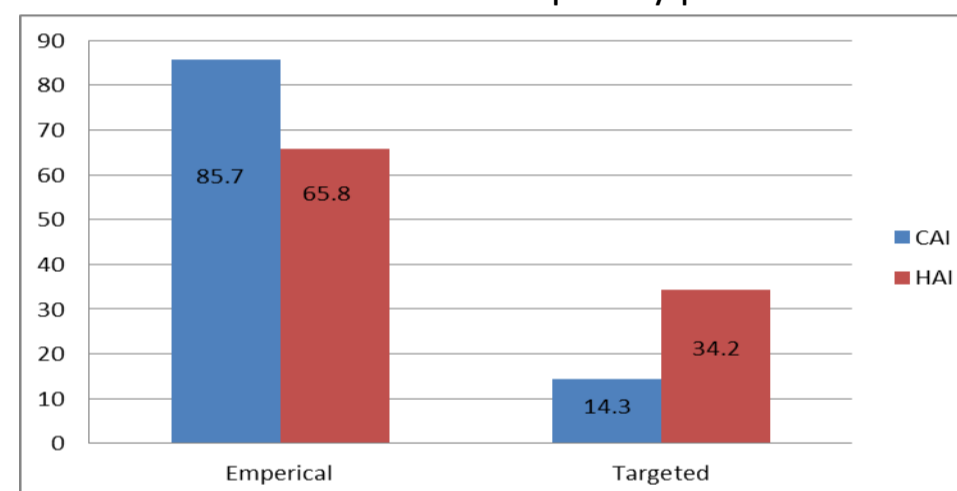
Indication	Number	Percentage
Pneumonia	87	27.2
Skin and soft tissue infections	57	17.8
Tuberculosis	35	10.9
Gastrointestinal Infections	22	6.9
Intra abdominal Sepsis	14	4.4
Central Nervous System	14	4.4
Sepsis	14	4.4
Bone and Joint Infections	10	3.1
ENT	10	3.1
Lower Urinary Tract Infections	8	2.5

Table 2: 10 Most common conditions for which antimicrobials were prescribed

Name	Number	Percentage
Amoxicillin and enzyme inhibitor	65	11.48%
Ampicillin	39	6.89%
Ceftriaxone	33	5.83%
Meropenem	28	4.95%
Amoxicillin	27	4.77%

Table 3: 5 Most frequently used Antimicrobials

Antimicrobials were most frequently prescribed for community acquired infections(CAI) (n=392; 76%)



Parental antibiotic prescription was high at 56% (321/566). The majority of prescriptions were empirical (468/566 (83%)).

Figure 1: Antimicrobial use for community and hospital acquired infections by type of treatment. (Percentage)

Quality Indicators: Guideline compliance was 73% (414/566) with 86% (489/566) of doctors documenting the reason for prescription in the notes, however only 11% (62/566) had documented a stop or review date on the prescription chart. Breakdown by discipline is shown in **Table 4**.

Table 4: Quality indicators by Discipline

	Medical		Surgical		ICU	
	N	%	N	%	N	%
Reason in Notes	193	91.5	109	77.3	80	89.9
Guideline Compliant	136	83.4	64	61.0	41	83.7
Stop/Review Date Documented	32	15.2	13	9.2	11	12.4

CONCLUSION

The PPS provided useful information on the quality of prescribing, and identified a number of targets for quality improvement. The prevalence of antibiotic prescribing, HAIs, the diagnosis and treatment of LRTIs, high prevalence of the intravenous route and the lack of documenting start or review dates should receive attention. The PPS did not include more detailed information that may be amenable to antibiotic stewardship interventions eg. appropriate samples sent before starting antimicrobials, duration and appropriateness of the intravenous route. Based on this PPS, we will introduce interventions, including a dedicated antibiotic prescription chart, limited restrictions on the use of certain antibiotics in the general wards, increased training on appropriate antibiotic use and updating institutional guidelines. A post intervention PPS should be conducted in one year to assess the efficacy of these interventions.