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Ghana

The Global Point Prevalence Survey of Antimicrobial Consumption and Resistance (Global-PPS): Implications for Antibiotics Stewardship Programme for Komfo Anokye Teaching Hospital in Ghana

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INTRODUCTION AND PURPOSE

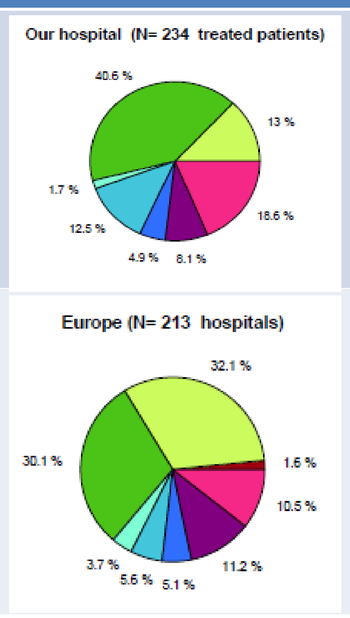
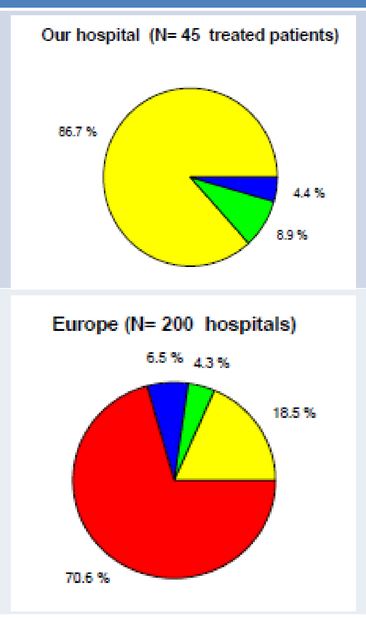
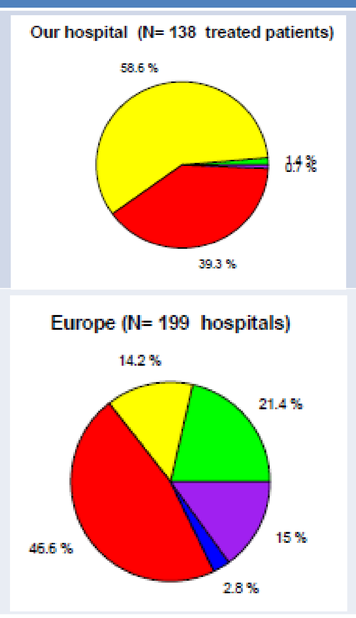
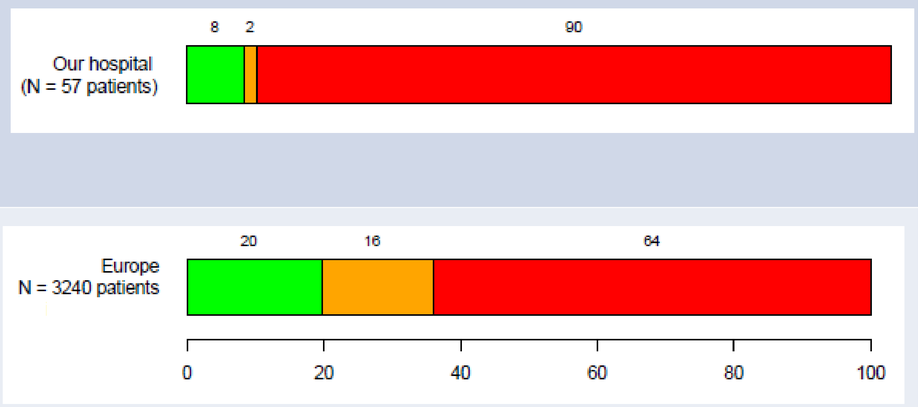
Antibiotic use may be abused in a developing economy such as Ghana where state-of–the-art diagnostics are difficult to come by. Komfo Anokye Teaching Hospital (KATH) took part in the 2015 Global Point Prevalence Survey of Antimicrobial Consumption and Resistance (www.global-pps.com). Aims: Monitor quantity and quality of antimicrobial prescribing in hospitalized patients admitted to 4 main Directorates of clinical care at KATH.

METHODS

The PPS was conducted across adult and child Directorates and Units in April 2015. Detailed information was collected for inpatients "on antimicrobial agents" at 8 am on the day of survey. All inpatients admitted on a ward (excluding day admissions such as endoscopy or renal units) at 8 o'clock in the morning on the day of survey count in the denominator. All inpatients "on antimicrobial agents" at 8 o'clock in the morning on the day of survey were included in the numerator (i.e., a patient form is to be filled in for these patients only). The exclusion criteria included day admissions and out-patients; admission after 8.00 am on the day of survey.

RESULTS

Out of 386 inpatients, 64.0% were treated with at least one antimicrobial. Highest prescribing rates were seen in adult medicine (76.7%) and surgical wards (69.8%) followed by neonatal wards (68.8%). Top 2 reason to prescribe antibiotics in adults was prophylaxis for obstetrics-gynaecology (23.4%) and pneumonia (12.3%). The most often reported reason in children was sepsis (35.5%). Of all antimicrobials, antibiotics for systemic use (81.0%) and drugs to treat tuberculosis (10.3%) were most frequently reported. Among antibiotics, cefuroxime (23.8%) and ceftriaxone (15.1%) were most frequent prescribed, often in combination with metronidazole (18.6%) (see Figure). Empirical use of antibiotics prevailed (85.4%). In medicine wards, antibiotic prescriptions were based on biomarker results (35.1%). Local guidelines were available in 70% of prescriptions; of which 74.8% were prescribed according to these guidelines (see Table). 90% of all antibiotics for surgical prophylaxis was prescribed for >1 day (see Figure).

	Overall proportonal antimicrobial use	Proportional use of beta-lactam antibacterials	Proportional use of other beta-lactam antibacterials	Duration of surgical prophylaxis in adults and children
Komfo Anokye Teaching Hospital Ghana				
Europe				

DISCUSSION - CONCLUSION

This was the first ever large scale of PPS on antimicrobial use and resistance done by a hospital in Ghana. It offered a first opportunity to sample antibiotic use at a particular point and to compare antibiotic use across selected countries worldwide.

Our main challenges were related to the high patient to doctor ratio making dedicated staff difficult to obtain. The poor data capturing by health care providers made data extraction on antibiotic use also a challenge.

As compared to European countries, our hospital prescribed many more antibiotics as compared to Europe. Reasons may include lack of standardized regulations and policy guidelines on antimicrobial use in Ghana and by extension most African countries. Also, the quality of antibiotics are often substandard due to cheap imports from equally poor regulated countries from other countries especially the Asian subcontinent. Moreover, antibiotics are purchasable over the counter making cultures of samples often negative.

We concluded that stewardship programs should target prolonged use of antibiotics for surgical prophylaxis. Diagnostic tools would be very helpful to guide clinicians in their decision to start and continue antibiotic treatment.

Table: summary of quality indicators – adult wards (2015)

	Hospital		Continent		Hospital type		Europe	
	N	%	N	%	N	%	N	%
Medical								
Reason in notes	85	98.8	382	80.6	318	82.8	8805	81.3
Guidelines missing	12	14.0	107	22.6	20	5.2	1499	13.8
Guideline compliant	6	13.0	106	53.5	106	54.4	5810	79.7
Stop/review date documented	69	80.2	149	31.4	123	32.0	3992	36.9
Surgical								
Reason in notes	98	52.1	453	61.2	407	63.2	5053	69.1
Guidelines missing	90	47.9	195	26.4	101	15.7	1400	19.1
Guideline compliant	64	91.4	182	70.8	181	71.0	3209	71.0
Stop/review date documented	151	80.3	299	40.4	266	41.3	3176	43.5

Antibiotic quality indicators by activity (medical, surgical, ICU) for patients admitted on adult wards receiving antibacterials for systemic use (ATC J01).
– For reason in notes and stop/review date documented: Count at antibacterial level.
– For guidelines missing: Count on NA (= no local guidelines for the specific indication) at patient level and diagnosis over total scores for this indicator.
– For guideline compliance: Count at patient level and diagnosis for compliance = yes or no only. For combination therapy with >1 antibiotic: if 1 antibiotic by diagnosis is not compliant, this combination therapy as a whole for this diagnosis will be counted as non-compliant.
If there are less than three participating hospitals, results are not reported.

WORLD MAP

REGIONS OF GHANA

KOMFO ANOKYE TEACHING HOSPITAL

Disclosures: "bioMérieux is the sole sponsor of the GLOBAL Point Prevalence Survey. The funder has no role in study design, data collection, data analysis, data interpretation, or writing the report. Data are strictly confidential and stored anonymous at the coordinating centre of the University of Antwerp."