

THE IMPACT OF ANTIBIOTIC CHOICE ON DRUG COST AND LENGTH OF STAY OF DIARRHEA INPATIENT

AT PROF. DR. MARGONO SOEKARJO HOSPITAL 2006

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Background

- ❑ In Indonesia, diarrhea is one of the leading cause of death in children, average 100.000 children / year.
- ❑ The incidence rate : 60 million cases / year, 70 – 80% were children <5 years.
- ❑ Almost 100% diarrhea patients receive antibiotics in hospital or health centre
- ❑ Research in the U.S. showed that there's an impact of antibiotic choice on drug cost and length of stay in the hospital. (Wilson *et al.* 2005)

Objectives

To assess the impact of antibiotic choice on drug cost and length of stay in hospital for pediatric inpatients suffered by diarrhea at Margono Soekarjo Hospital, Purwokerto, 2006.

Methods

- Retrospective data collection
- Random sampling method
- January – December 2006
- Inclusion criteria:
 - Pediatri (0 – 14 years old)
 - Diagnose: diarrhea without complication
 - Inpatients
- Exclusion criteria: diarrhea with complication

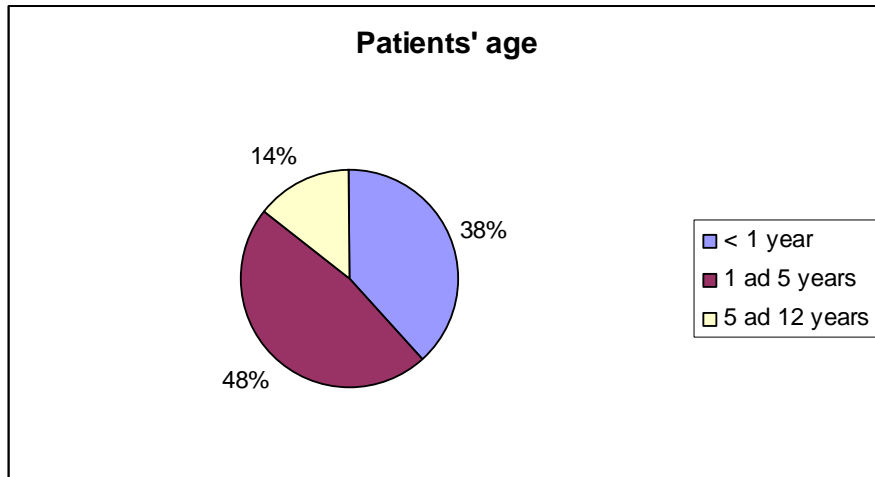
Methods..

- Data collected:
 - Patients identification (Medical Records number, age, sex, weight)
 - Diagnosis
 - Medical treatment (medicines, dosage, forms)
 - Treatment outcomes
 - Drug (antibiotics) cost
 - Length of stay in hospital

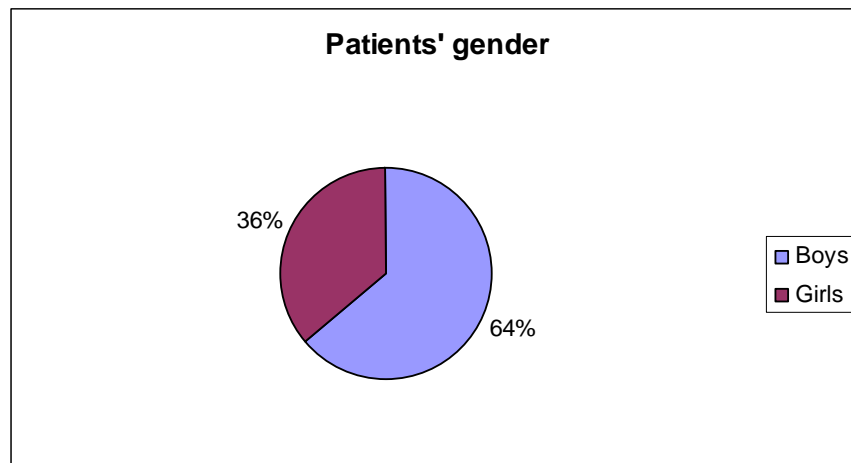
Results

- From 235 medical records of pediatrics inpatients with diarrhea → 195 met the inclusion criteria → analyzed descriptively
- Data with normal distribution (samples > 30) were analysed using t-test

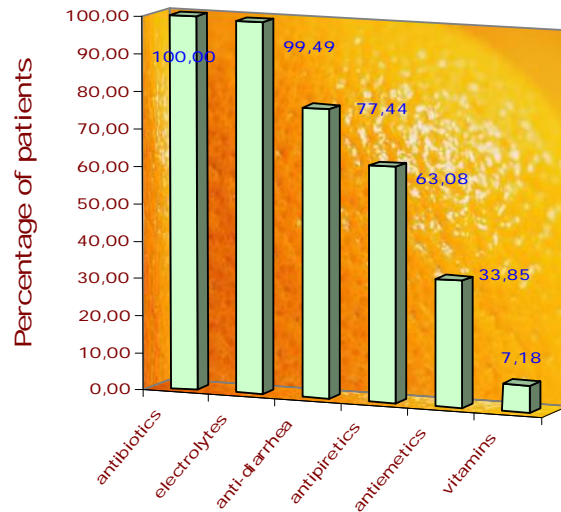
Results: Patient's demographic



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Drugs used for pediatric inpatients with diarrhea



Antibiotic's cost and length of stay in hospital

No.	Antibiotics	Number of patients	LOS x (day) ± SD	Antibiotic cost x (Rp.) ± SD
1	Mikasin® (Kanamisin)	2	3 ± 1,4	547.536 ± 258.111
2	Ampisilin, Gentamisin and Sefotaksim	2	7,5 ± 0,7	379.930 ± 35.820
3	Ampisilin, Gentamisin and Colistine® (Kolistin)	2	4 ± 1,4	163.443 ± 57.786
4	Ampisilin and Flagyl® (Metronidazol)	3	6,7 ± 2,9	137.290 ± 40.150
5	Ampisilin and Kelfex® (Sefadroksil)	10	3,6 ± 1,2	114.487 ± 16.326
6	Ampisilin and Gentamisin	41	4,1 ± 1,7	86.595 ± 36.849
7	Ampisilin	116	3,5 ± 1,6	48.081 ± 23.446
8	Kotrimoksazol	3	3 ± 1	6.431 ± 0,000
		179		

Comparison between ampicillin and ampicillin – gentamicin

	Ampicilin	Ampicilin-gentamicin	P value (t-test)	Notes
Length of stay (day ± SD)	3,5 ± 1,6	4,1 ± 1,7	0,040	Statistically significant
Antibiotic cost/patient (Rp ± SD)	48.081 ±23.446	86.595 ±36.849	0,000	Statistically significant

Studi Limitations:

- ❑ Assumption that all diarrhea patients have the same conditions (we didn't take into consideration the different degree of the disease).
- ❑ Medication cost only antibiotics (not all medications)
- ❑ Small number of patients (not generalisable)

Conclusion:

Ampicillin was associated with shorter hospital stay and lower drug cost compared to combination of ampicillin-gentamicin

THANK YOU

Questions ?

