Knowledge & Expectations Regarding the Role of Antibiotic Treatment in URIs

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Introduction

- **Treatment of upper respiratory infections is a major misuse of antimicrobial therapy**
- **URIs are usually viral, but many physicians prescribe antibiotics**

The National Ambulatory Medical Care Survey

Indication	No of Prescriptions
Viral URIs	1000 million
Bronchitis	16 million
Otitis media	10 million
Sinusitis	20 million

NAMCS 1996

Why do physicians prescribe antibiotics in viral infections?

- Good intention: motivated to give best treatment
- Pressure from the patients or their parents
- Fear that a viral infection will lead to a secondary bacterial infection
- Cost and non-availability of investigations
- Inadequate knowledge of diagnostic procedures
- Fear of malpractice and legal issues
- Influence by pharmaceutical companies

Fishman: Principle and Practice of ID

Influence of Parents on Antibiotic Prescribing

- Patient pressure and demand for antibiotics force physician to prescribe antibiotic and contribute bacterial resistance

WHO. *JAMA* 2000, 117:245-250.

Study Aim

- This study aimed to
  - evaluate parents' expectations, knowledge and beliefs about the role of antibiotics in childhood URIs in *order to develop a relevant strategy to control misuse of antibiotics*

Study Design, Setting, and Participants

- Cross-sectional study was conducted in the winter months of 2004/2005.
- 10 primary health care centers in Qassim, Saudi Arabia.
- A questionnaire to obtain relevant information from those parents:
  - the current illness, reasons for attending and expectations from the visit, knowledge about URIs and role of antibiotics
- Parents of children who attended with URI symptoms were included in the study.
- General practitioners interviewed the parent and filled in the questionnaire according to parent's response

Study Design, Setting, and Participants

- Inclusion criteria:
  - Children from 3 mo to 6 years with symptoms:
    - congested and running nose, cough, sore throat and fever
  - First visit for current illness
- Exclusion criteria:
  - Not first visit
  - Fever lasting > 7 days
  - Chronic diseases
  - Earache
  - Children not accompanied by their parents

RESULT cont.

Socio-demographic Characteristics of Parents	
Characteristics	Number (Percent)
Escort Parent	
Mother	784 (75%)
Father	261 (25%)
Age of parents	
Mother	25.7 ± 5.5 (18-45)
Father	32.8 ± 5.6 (20-50)
Education (University)	
Mother	150 (19%)*
Father	84 (32.2%)
Saudi Nationality	994 (95.1%)

** Statistically significant*

Description of Current Illness

- Duration of symptoms:
  - less than 24 hours in 35% of cases
  - only 18% the symptoms lasted more than 4 days before visit
- Severity of illness:
  - moderate in 53%
- Symptoms:
  - Runny nose (87%),
  - Cough (86%)
  - Fever (66%)
- Reason for visit:
  - To get reassurance (95%)
  - To get medication (45%)

Beneficial Effects of Antibiotics

Characteristics	No (Percent)
Expecting prescribing antibiotics	364 (35%)
Current illness is a self–limited disease	773 (74%)
Antibiotics are beneficial for current illness	679 (65%)
Antibiotics is beneficial to (n=679)	
Relieve symptoms	591 (87%)
Prevent complications	421 (62%)
Shorten course of disease	360 (53%)
Prevent spread infections to others	54 (8%)
Symptoms that necessitate antibiotics prescription (n=679)	
Runny nose & lacrimation	122 (18%)
Sore throat	516 (76%)
Cough	604 (89%)
Fever	631 (93%)

Harmful Effects of Antibiotics

Characteristics	No (Percent)
Antibiotics have side effects	783 (75%)
Side effects are evident if taken (n=784)	
For shorted or longer period than prescribed	387 (37%)
Without prescription	449 (43%)
Without following prescribed dose	711 (68%)
Previous experience with antibiotics	
Antibiotics were received in past URIs	470 (45%)
There were complications in past URIs	334 (32%)

Past Faulty Behaviors on Antibiotics

Behavior (n = 470)	No (Percent)
Used antibiotics without prescription	259 (55%)
Stopped intake when symptoms disappeared	202 (43%)
Saved remaining antibiotics for future use	146 (31%)
Shared use with other household members	108 (23%)

Expectation for Antibiotic Prescription

- Expectation: 35% of parents

  (65% think antibiotic is not helpful in current illness)
- Parental expectation for getting antibiotic is significant in:
  - Female > male
  - Less education > higher education
  - One child in family > multiple children
  - Youngest child > older children

Discussion

- Parents of children with URIs expect to receive antibiotic treatment:
  - Current study 35%
  - Other studies 50-65%

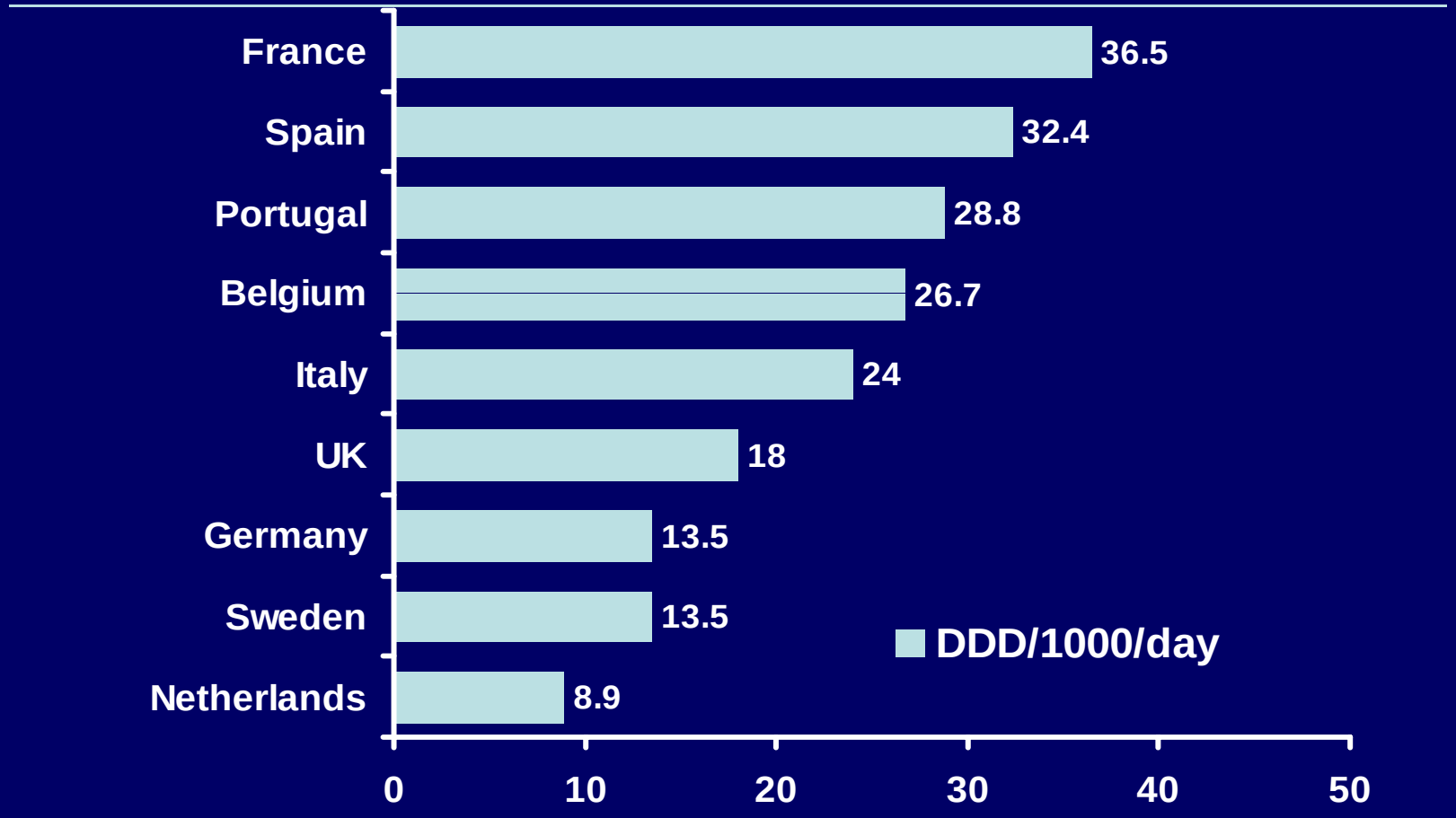
Cummings et al. Emerg Infect Dis. 2005
Braun et al. Arch Fam Med. 2000
Azab AS. Saudi Med J. 2000 Aug

- Explanation for lower expectation:
  - Exclusion ear symptoms
  - Using antibiotics for children not for adult

Antimicrobial Use in the Community

- About 80% of antibiotic use is out-side hospitals; up to 80% of this is inappropriate
- Are available without prescription in many countries

Non-hospital usage of antibiotics in Europe: defined daily dose/1000/day (1997)



Cars *et al. BMJ* 2001; **357**:1851–1853

Compliance with antibiotic therapy by American patients

- 54% do not complete the treatment course
- 54% stop the course when they feel better
- 56% miss one or more doses
- 82% prefer once/twice daily regimens
- < 5% tolerate a 14-day regimen

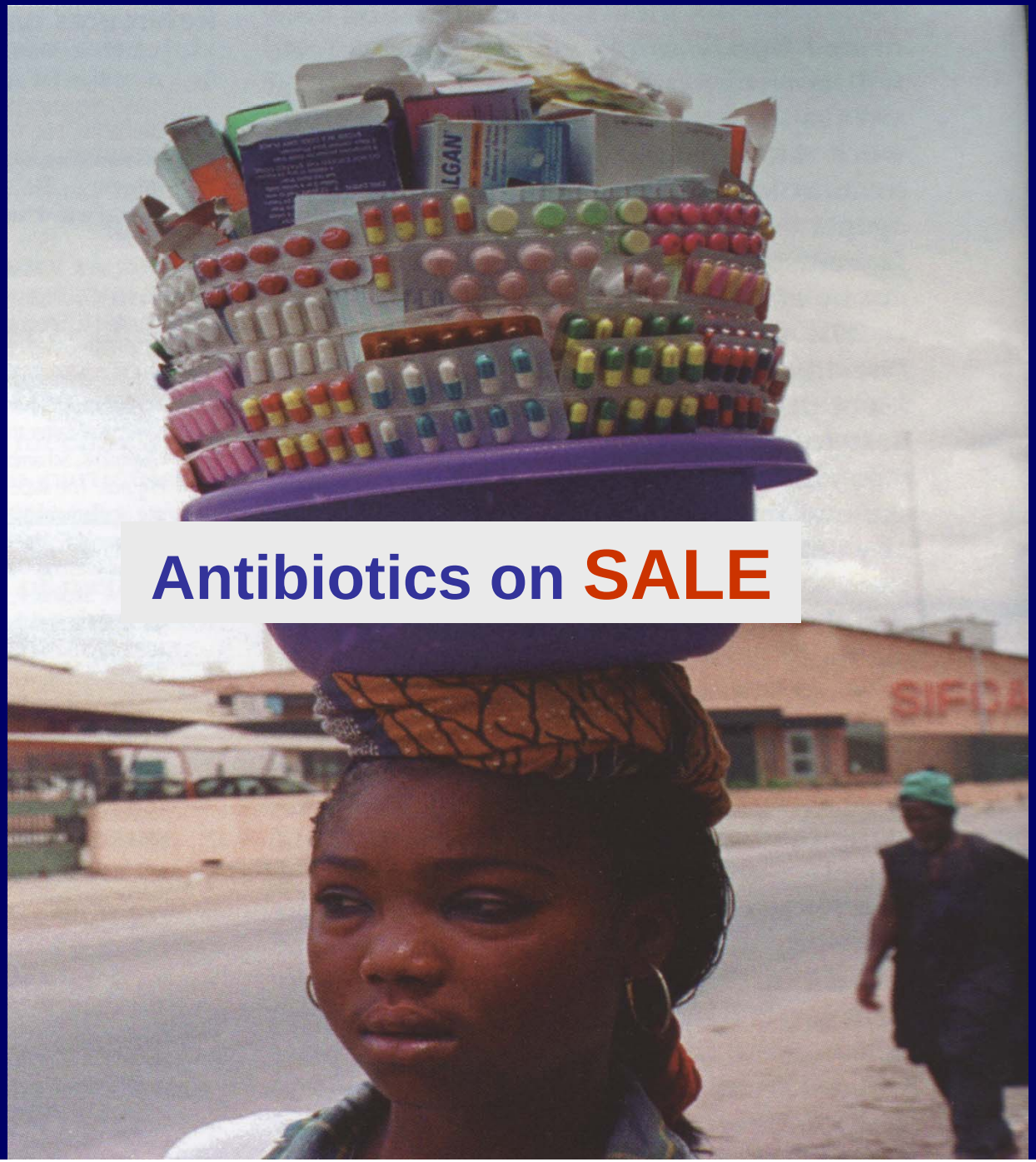
Gallup, 1995

What about figures in our communities?

- Stopped intake when symptoms disappeared 43%
- Saved remaining antibiotics for future use 31%
- Shared use with other household members 23%

Alarming

Used antibiotics without prescription in 55% (prohibited by law)


Antibiotics on SALE

Impact of the Study

- Education of parents will improve knowledge and awareness about illness of their children
- Educational program for physicians and medical students on prudent use of antimicrobial agents to reduce bacterial resistance

الجمعية العربية للاستخدام الأمثل للمضادات الميكروبية

Arab Alliance for the Prudent Use of Antimicrobials

ARAPUA

Towards Rational Use of Antimicrobials

First Step To Change

"Never expect anyone to engage in a behavior that serves your values unless you give that person adequate reason to do so."

Charles E. Dwyer


Thank You