Information needs of primary care physicians

Analysis of questions at point of clinical contact

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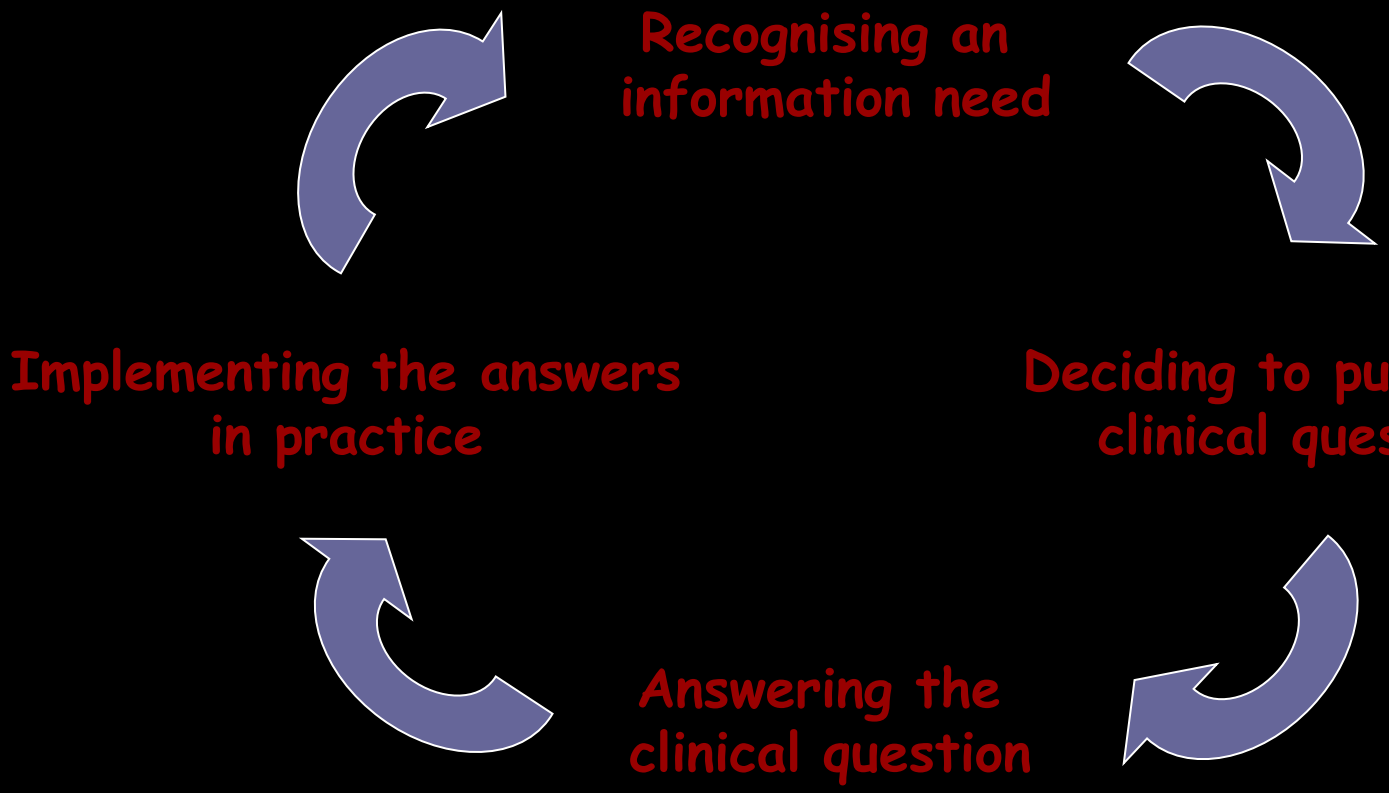
WHO IS THE IDEAL EVIDENCE-BASED PHYSICIAN?



WHAT DO WE ALREADY KNOW ABOUT THIS TOPIC?

- Doctors often have questions about the care of their patients:

Is it safe to use nicotine patches during pregnancy?

- Most questions occur at the point of clinical contact.
- Answers may or not be pursued, and, if pursued, they may or may not be found.

WHAT ELSE DO WE KNOW?

- Williamson and others (*Annals of Internal Medicine 1989;110:151-160*) showed physicians feel that the current volume of scientific information is unmanageable.
- Covell and colleagues (*Annals of Internal Medicine 1985:103:596-599*) demonstrated physicians underestimate their need of information (2 questions/3 patients) and overestimate their information seeking behaviour.
- Gorman and colleagues (*Med Decis Making 1995;15:113-9*) determined that the 2 factors that might prompt doctors to pursue questions were: the belief that a definitive answer exists and the urgency of the patient`s problem.
- Ely et al *(BMJ 1999;319:358-361)* developed a taxonomy to characterise clinical questions arising during consultation.

AIMS

- To identify the information needs of primary care physicians by:
  - Identifying the frequency and type of questions about patient care arising during consultation;
  - Describing the information seeking pattern by characterising the resources and the time used to find the answers.

METHODS

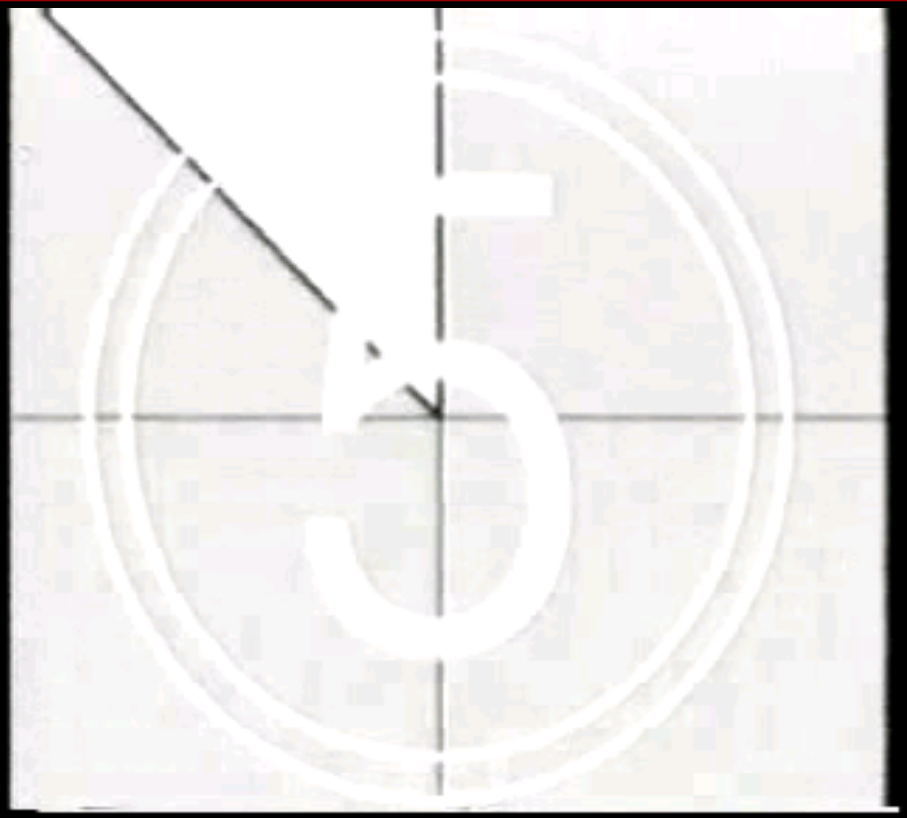
- Design: observational, descriptive study.
- Setting: primary care practices located in Madrid, Spain.
- Population: 61 primary care physicians randomly selected.
- Period: May 2002-September 2003.

METHODS

- Interventions:
  - 4 hours of consultation video-recorded per physician.
  - Physicians posed between patients all clinical questions arising during the patient visit.

WHY DID WE USE THE VIDEO-CAMERA?

- Time constraints in office practices do not allow proper interviews after each patient visit;
- Recording allows a complete record of consultations to be viewed repeatedly if necessary;
- Doctors can comment on the observed consultation rather than relying on their recall of events.
- All modalities of the doctor-patient interaction can be assessed simultaneosly.



METHODS

- Interventions (cont.):
  - Questions were classified by topic and type of information following Ely & colleagues taxonomy*.
  - Consensus from the coding group was required.
  - Unanswered questions were followed up by phone two weeks later.

*Ely JW et al. A taxonomy of generic questions: classification study. BMJ 2000;321:429-432

WHICH WERE THE PHYSICIAN`S CHARACTERISTICS?

SEX	Men	29,5%	
	Women	70,5%	
AGE	Less than 40	47,5%	
	40 y/o or more	52,5%	Mean age 41,65 (40,01-43,27)
SPECIALTY	General practitioners	77,0%	
	Paediatricians	23,0%	
TUTOR	Yes	31,1%	
	No	68,9%	
COMPUTER AT THE OFFICE	Yes	72,1%	
	No	27,9%	
INTERNET CONEXIÓN AT THE OFFICE	Yes	36,1%	
	No	63,9%	

TOTAL = 61 PRIMARY CARE PHYSICIANS

WHICH WERE THE INFORMATION NEEDS?

61 physicians (57,5%)

2012 patients recorded

401 patients with questions (20,0%)

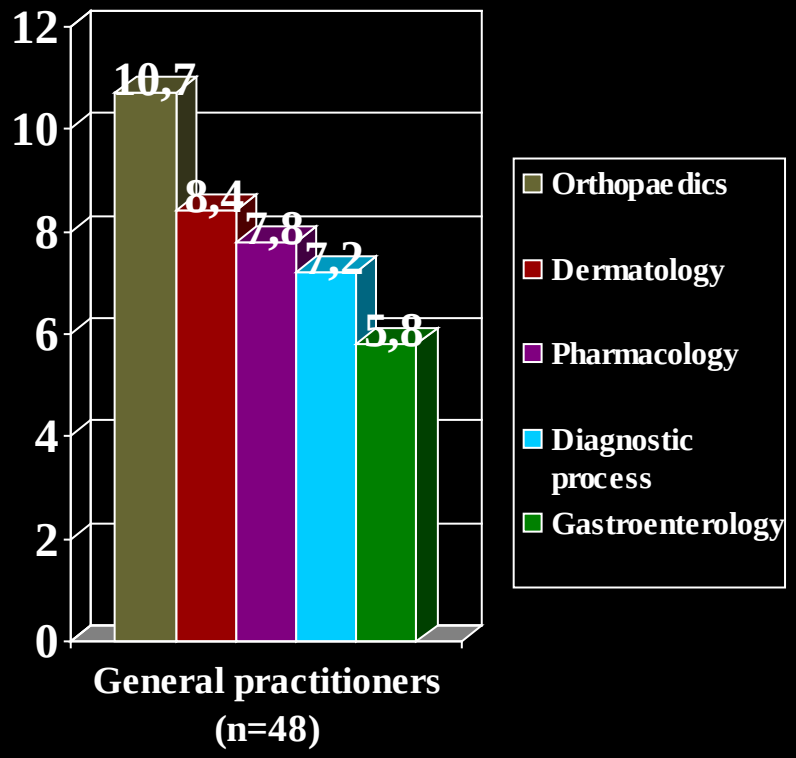
398 questions generated
2,04 questions / 10 patients
(95% CI 1,71-2,37)

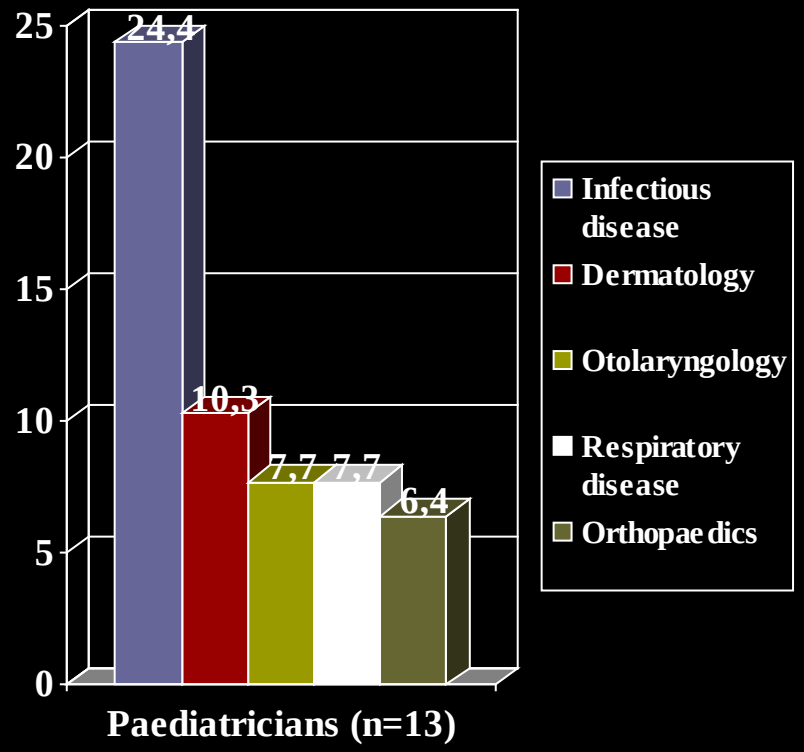
WHAT THE CATEGORIES OF FREQUENTLY ASKED QUESTIONS ARE?

- Classification by topic.
- Classification of generic clinical questions.
  - Primary categories.
  - Secondary categories.
  - Tertiary categories.
  - Classification by type.

Ely JW et al. A taxonomy of generic questions: classification study. BMJ 2000;321:429-432

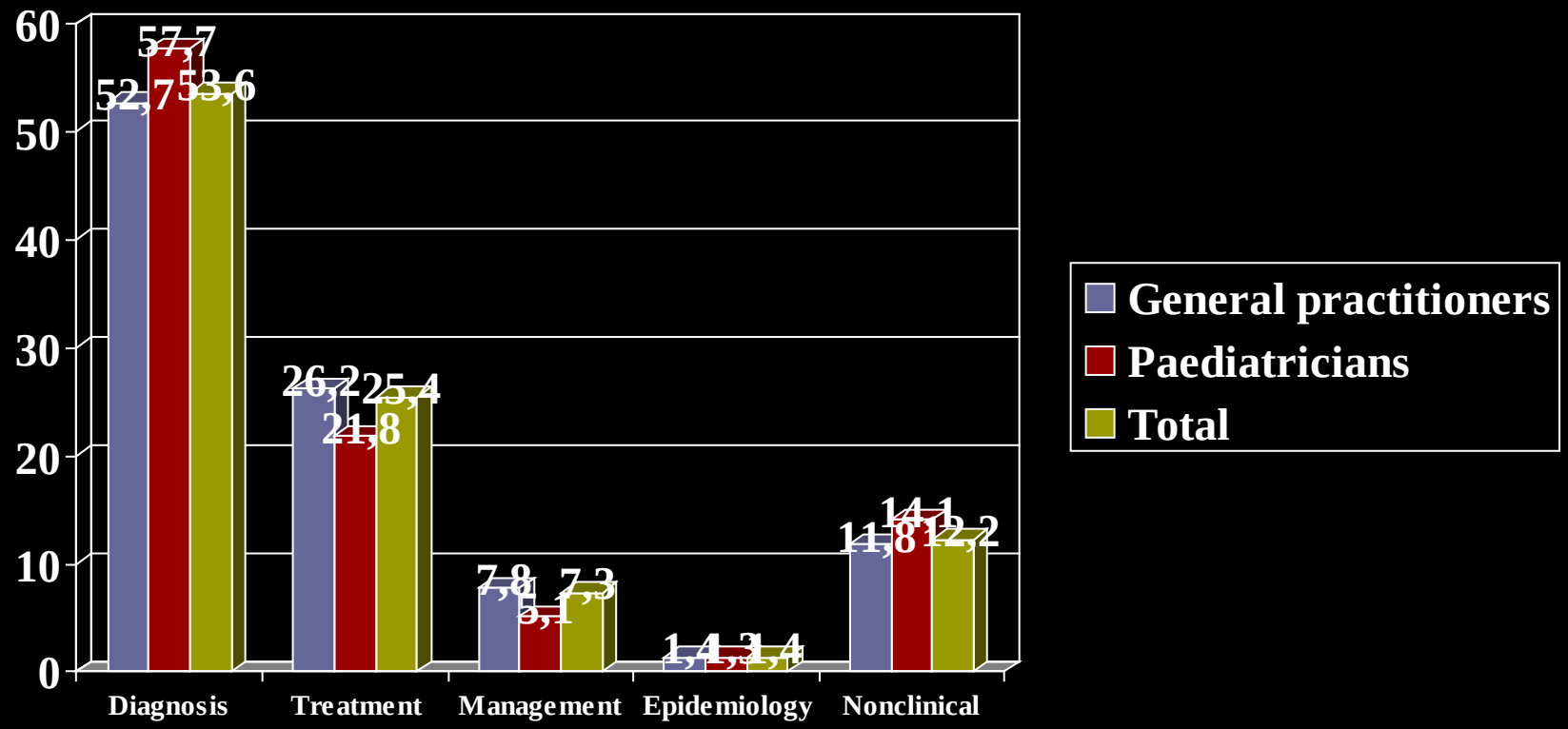
Classification by topic





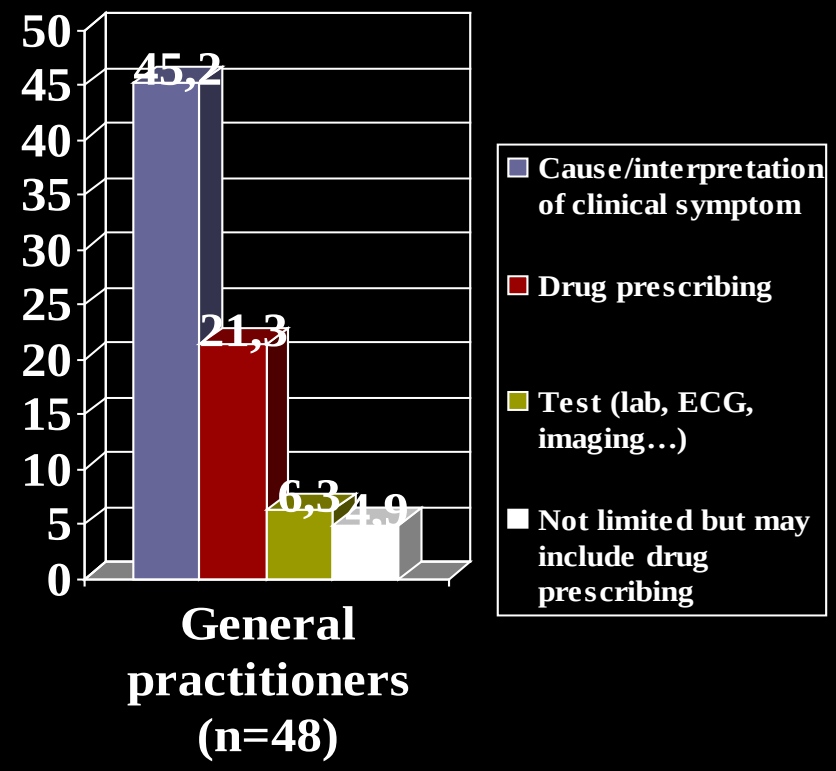
Total = 398 questions

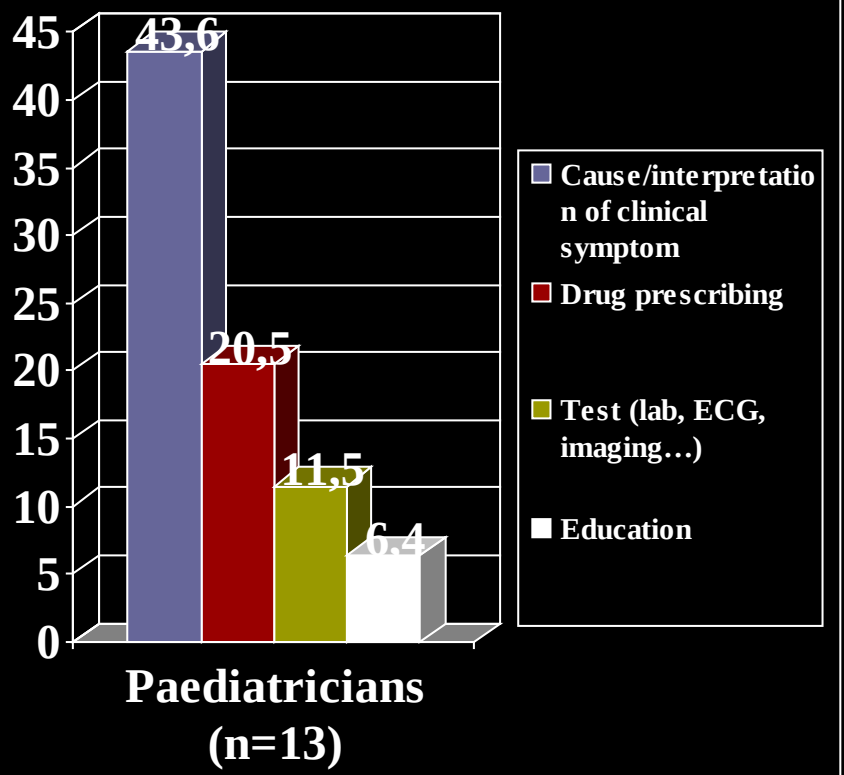
Generic Clinical Questions: primary categories.



Total = 398 questions

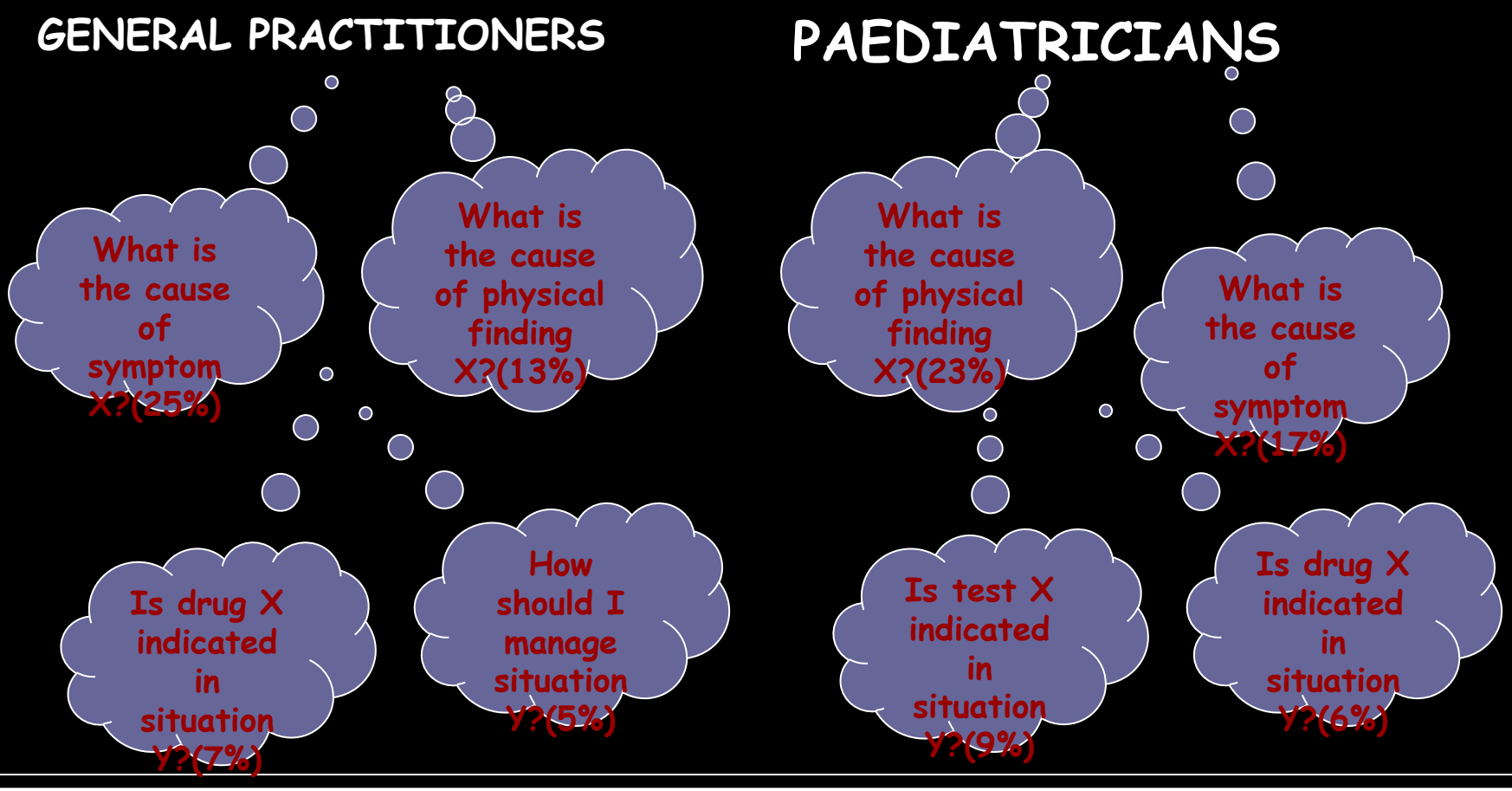
Generic Clinical questions: secondary categories.





Total = 398 questions

Generic Clinical Questions: classification by type



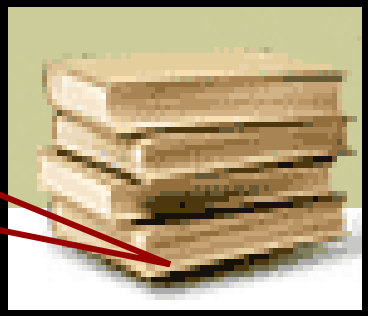
Total = 398 questions

WHICH WAS THE INFORMATION SEEKING BEHAVIOUR?

WHAT RESOURCES THEY FREQUENTLY PATRONIZE IN SEEKING ANSWERS TO CLINICAL QUESTIONS?

Drug compendium (63,2%)

Textbooks (25%)



Colleagues at work (15,8%)

Journals (18,2%)

WITHIN CONSULTATION (n=38)

OUTSIDE CONSULTATION (n=45)

WHICH WERE THE BARRIERS TO OBTAINING NEEDED INFORMATION?

- Did not think it was necessary → 19,5%.
- Lack of time → 16,1%.
- Did not remember the question → 15,5%.
- Referral to specialist → 10,3%.
- No success in previous search → 6,3%.
- Expecting test results → 3,4%.

Only 1,2% reported lack of training.

Total = 174 questions not searched

HOW LONG DID IT TAKE TO PURSUE THE ANSWERS?

- Mean time for searching the answer within the practice: 2,5 minutes (0,99-4,21);
- Mean time for searching the answer in two weeks: 21,38 minutes (16,16-26,59).

TOTAL = 82 QUESTIONS SEARCHED

CONCLUSIONS (I)

- Physicians frequently had questions about patient care (2 questions/10 patients) but did not pursue answers to most questions (20%).
- Of those pursued,most (89%) were answered.
- Orthopaedics, Dermatology and Pharmacology were the most common topics comprising 26% of all questions.
- The most common generic questions were "What is the cause of symptom/physical finding X?" and "Is drug X indicated in situation Y?".

CONCLUSIONS (II)

- The most common resources used to answer questions were readily available print and human resources; formal literature searches were rarely performed.
- On average, physicians spent 2 minutes within consultation and 21 minutes after consultation seeking an answer to a question.

CONCLUSIONS (III)

- Management decisions might have been altered if needed information had been available at the time of patient visit; it is possible that patient management may have subsequently been modified.
- Better methods are needed to provide answers to questions that arise in office practice.

Usefulness of medical information = relevance * validity /work to access

LIMITATIONS

- Revelation of ignorance is not a natural thing to do.
- Stimulation to formulate questions that may not been otherwise considered; some may have been reluctant to reveal gaps in their knowledge (internal validity).
- Restricted access to certain groups of physicians and patients (external validity).
- The taxonomy requires validation in other settings → this is not a validation study.

POTENTIAL USES

- Questions could help guide the content of medical information sources and medical training.
- To set priorities for research by identifying questions types for which answers do not exist.
- To route questions to appropiate knowledge resources by using automated interfaces.
- To characterise and help remedy areas where current resources fail to address specific question types.

"The big challenge for the next decade is to make computers that know you, learn about your needs, and understand verbal and non-verbal languages…"

Nicholas Negroponte

THE END

THANK YOU