



THE UNIVERSITY  
OF BIRMINGHAM



# Effectiveness of EBP teaching in undergraduate, postgraduate and continuing education

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University of Birmingham

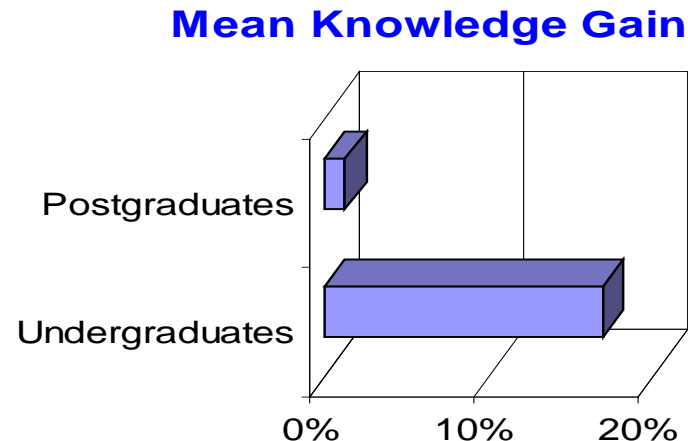


# **EBM Teaching for Undergraduate Postgraduate & Continuing Medical Education**

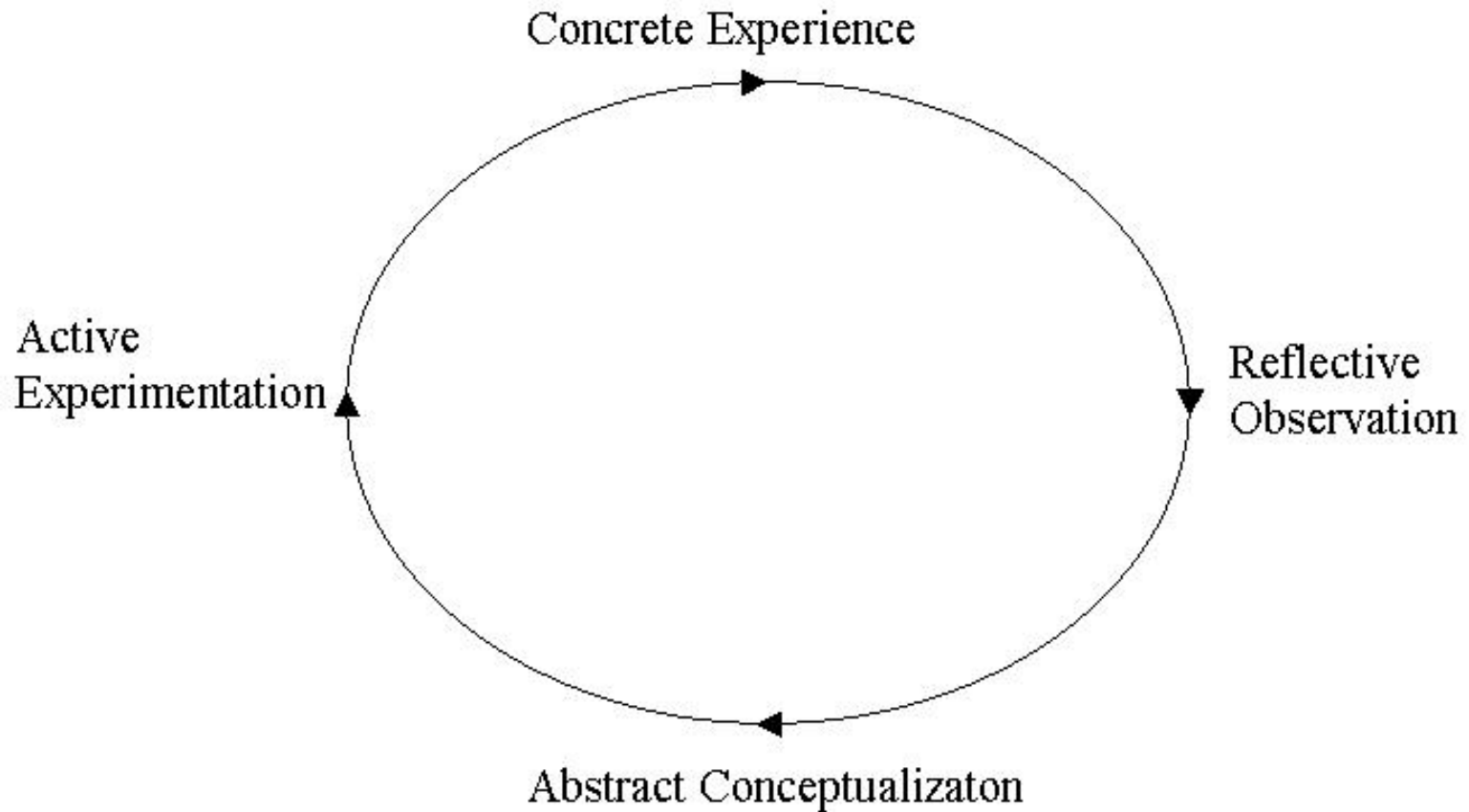
- Formal teaching
- Integration into other teaching
- Incorporation into practice

# Effectiveness of EBHC Teaching

- Norman and Shannon. *CMAJ* 1998;158:177.
- Postgraduate vs undergraduate EBM teaching
- Systematic review of 10 studies (1966 - 1995)
  - 4 studies relating to postgraduates
  - 6 studies relating to undergraduates



# Adult Learning Theory



# What are we doing?

- Research in EBM teaching
- Journal Club
- Evidence based ward round
- Teaching the teachers to teach EBM
- Masterclass
- E-learning in EBM
- EU Learning and Skills Council project
- One-day EBM Workshops (Deanery)
- EU EBM Unity - Leonardo da Vinci


# **Postgraduate obstetrics and gynaecology trainees' views and understanding of evidence-based medicine**

## **A systematic review of postgraduate teaching in evidence-based medicine and critical appraisal**


Development and validation of a questionnaire to evaluate the effectiveness of evidence-based practice teaching


## **Critical appraisal workshops to promote evidence-based healthcare**

 **A new approach to teaching and learning in journal club**

 **Incorporating the views of obstetric clinicians in implementing evidence-supported labour and delivery suite ward rounds: a case study**

**Critical appraisal in clinical practice: sometimes irrelevant, occasionally invalid**

 **Assessments in evidence-based medicine workshops: loose connection between perception of knowledge and its objective assessment**

 **What is the evidence that postgraduate teaching in evidence based medicine changes anything? A systematic review**

# Learning in practice

## What is the evidence that postgraduate teaching in evidence based medicine changes anything? A systematic review

Arri Coomarasamy, Khalid S Khan

### Abstract

**Objective** To evaluate the effects of standalone versus clinically integrated teaching in evidence based medicine on various outcomes in postgraduates.

**Design** Systematic review of randomised and non-randomised controlled trials and before and after comparison studies.

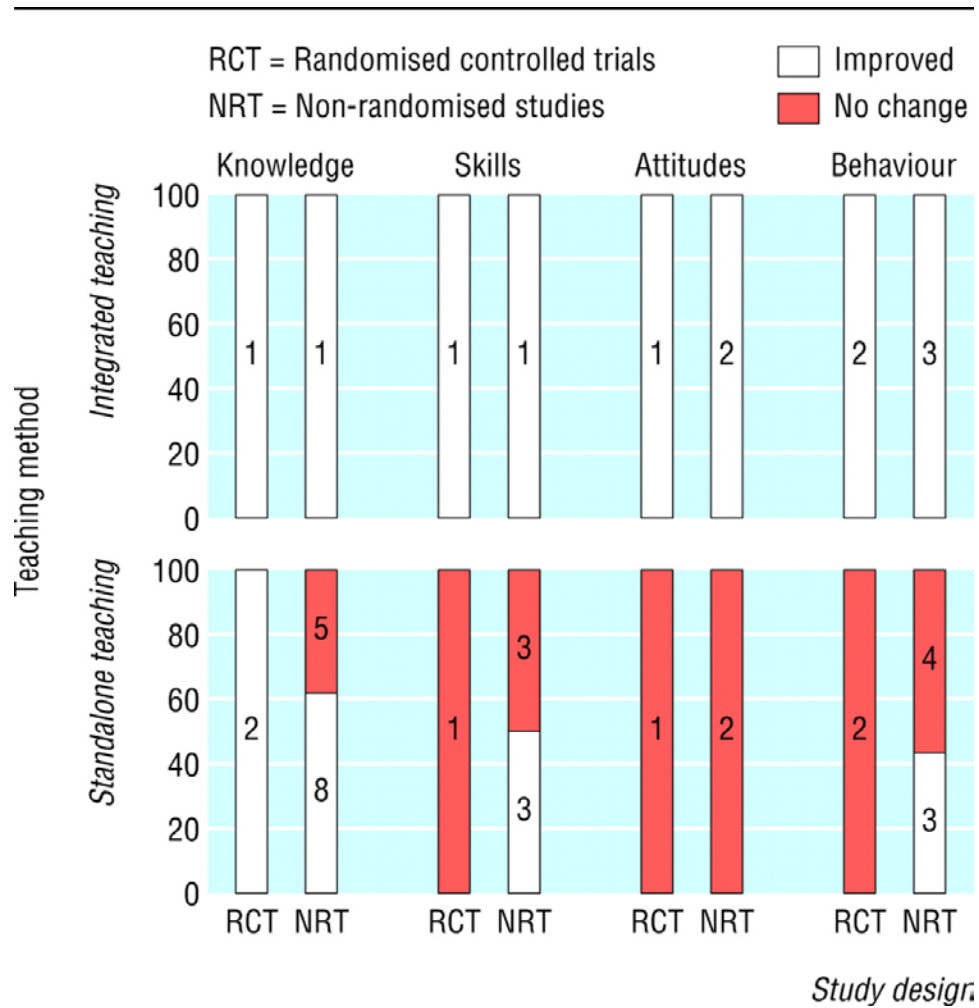
**Data sources** Medline, Embase, ERIC, Cochrane Library, DARE, HTA database, Best Evidence, BEME, and SCI.

**Study selection** 23 studies: four randomised trials, seven non-randomised controlled studies, and 12 before and after comparison studies. 18 studies (including two randomised trials) evaluated a standalone teaching method, and five studies (including two randomised trials) evaluated a clinically integrated teaching method.

Best Evidence Medical Education (BEME), and Science Citation Index (SCI) using the following search terms and their word variants: "evidence", "critical", "appraisal" or "journal club" combined with "AND" to "teach\$", "learn\$", "instruct\$", or "education". We also searched reference lists of known systematic reviews.<sup>1-4</sup> The final electronic search was conducted in April 2004.

We included studies that evaluated the effects of postgraduate EBM or critical appraisal teaching compared with a control group or baseline before teaching, using a measure of participants' learning achievements or patients' health gains as outcomes. Learning achievement was assessed separately for knowledge, critical appraisal skills, attitudes, and behaviour.

Knowledge relates to issues such as remembering materials as well as grasping the meaning, for example defining and



Coomarasamy, A. et al. BMJ 2004;329:1017



# Formal teaching: does knowledge really improve?

<b>Correctness of Knowledge</b>	<b>Correct</b>	<b>Incorrect</b>	
<b>Level of Confidence</b>	<b>Sure</b>	<b>Unsure</b>	<b>Sure</b>
<b>Usability of Knowledge</b>	<b>Useable</b>	<b>Unusable</b>	<b>Useable</b>
<b>Level of Decision Making</b>	<b>Well informed</b>	<b>Uninformed (ignorance)</b>	<b>Misinformed</b>

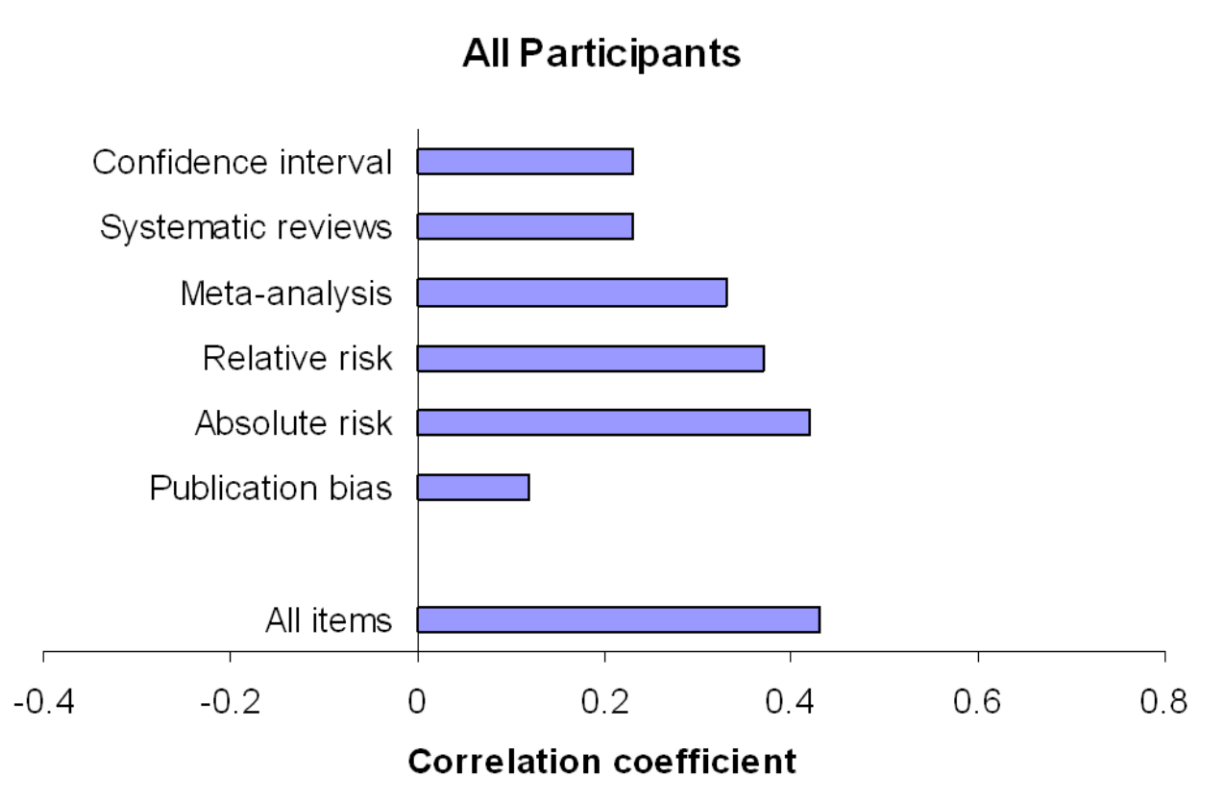
# Formal teaching: does knowledge really improve?

## **Subjective and objective assessment of knowledge**

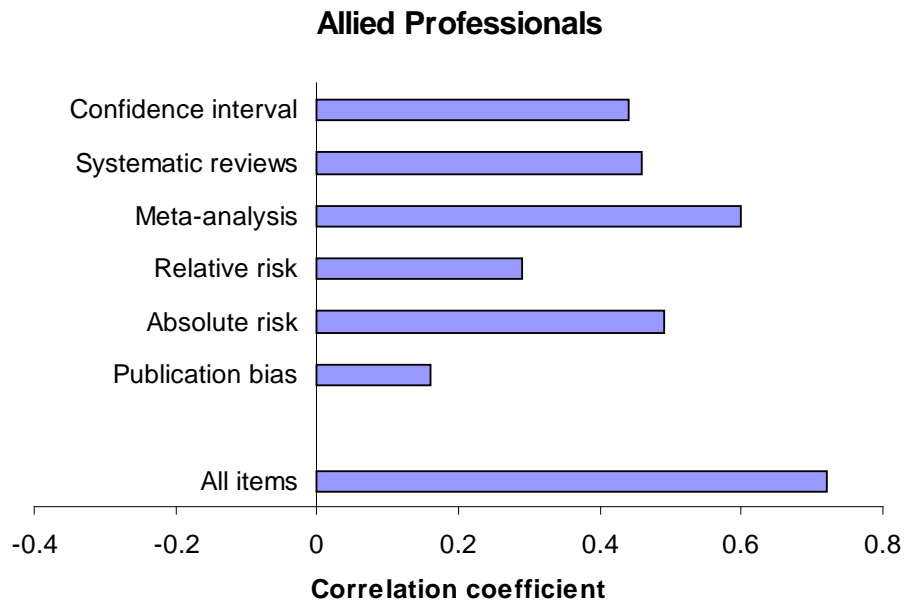
**Subjective assessment:** Participants were asked to circle the number that most closely fitting their understanding of an term on a 1 – 5 rating scale, where 1 referred to “Unaware of the term” and 5 referred to “Understand it and could define it”

**Objective assessment:** For the terms subjectively assessed, participants were asked to circle “True”, “False”, or “Don’t Know” about statements such as “Any difference in treatment outcomes between patients receiving the new and the old treatments can be attributed to the new treatment”

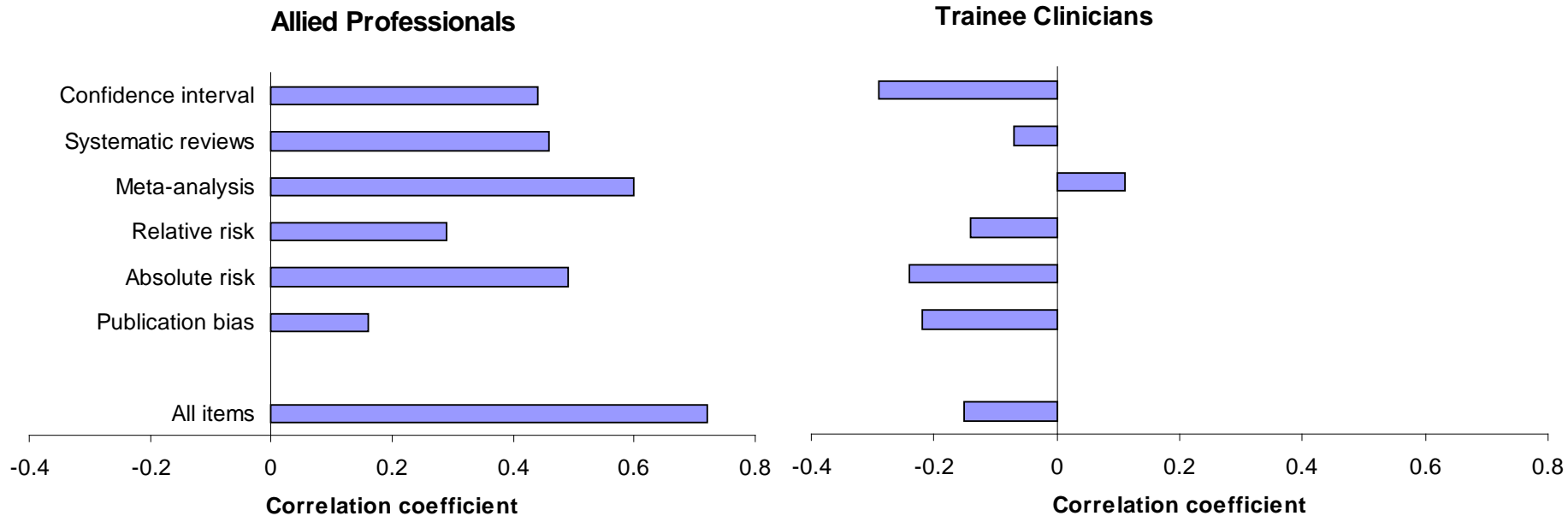
# Formal teaching: does knowledge really improve?



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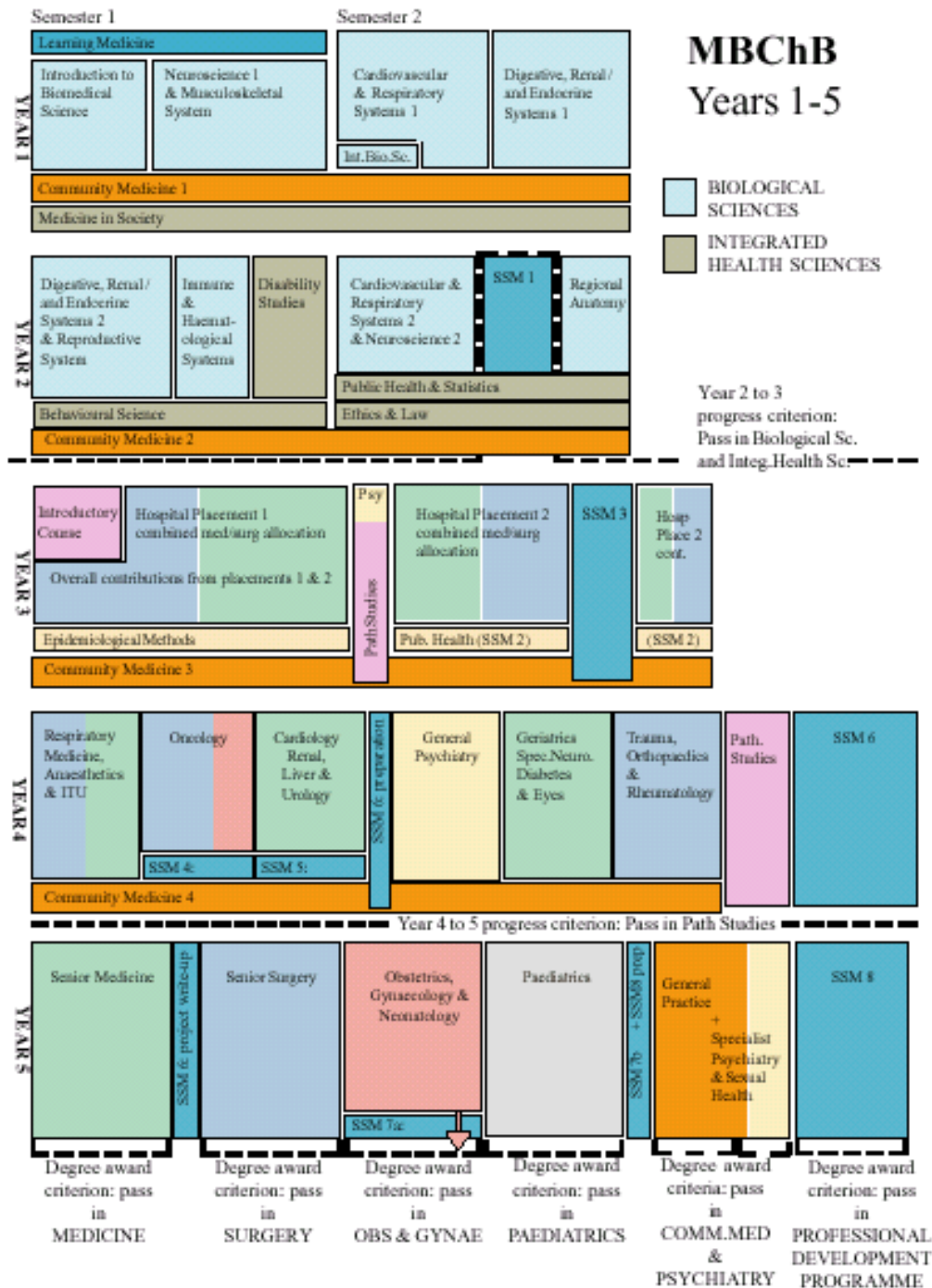
# EBM Teaching for Undergraduate, Postgraduate & Continuing Medical Education

- Formal EBM teaching
  - Workshops, lectures, courses, journal club
- Integration into other teaching
  - CPD/CME/PGME, Specialty-based modules, journal club
- Incorporation into practice
  - Evidence-based ward round

# EBM Teaching for Undergraduate, Postgraduate & Continuing Medical Education

- Formal EBM teaching
  - Improve knowledge & skills
- Integration of EBM into other teaching
  - Improve comprehension & adaptation / Change attitude
- Incorporation of EBM into practice
  - Improve application / Change behaviour (improve patient care)

# MBCbB Years 1-5





# EBM Teaching for Undergraduates

## How we do it in Birmingham

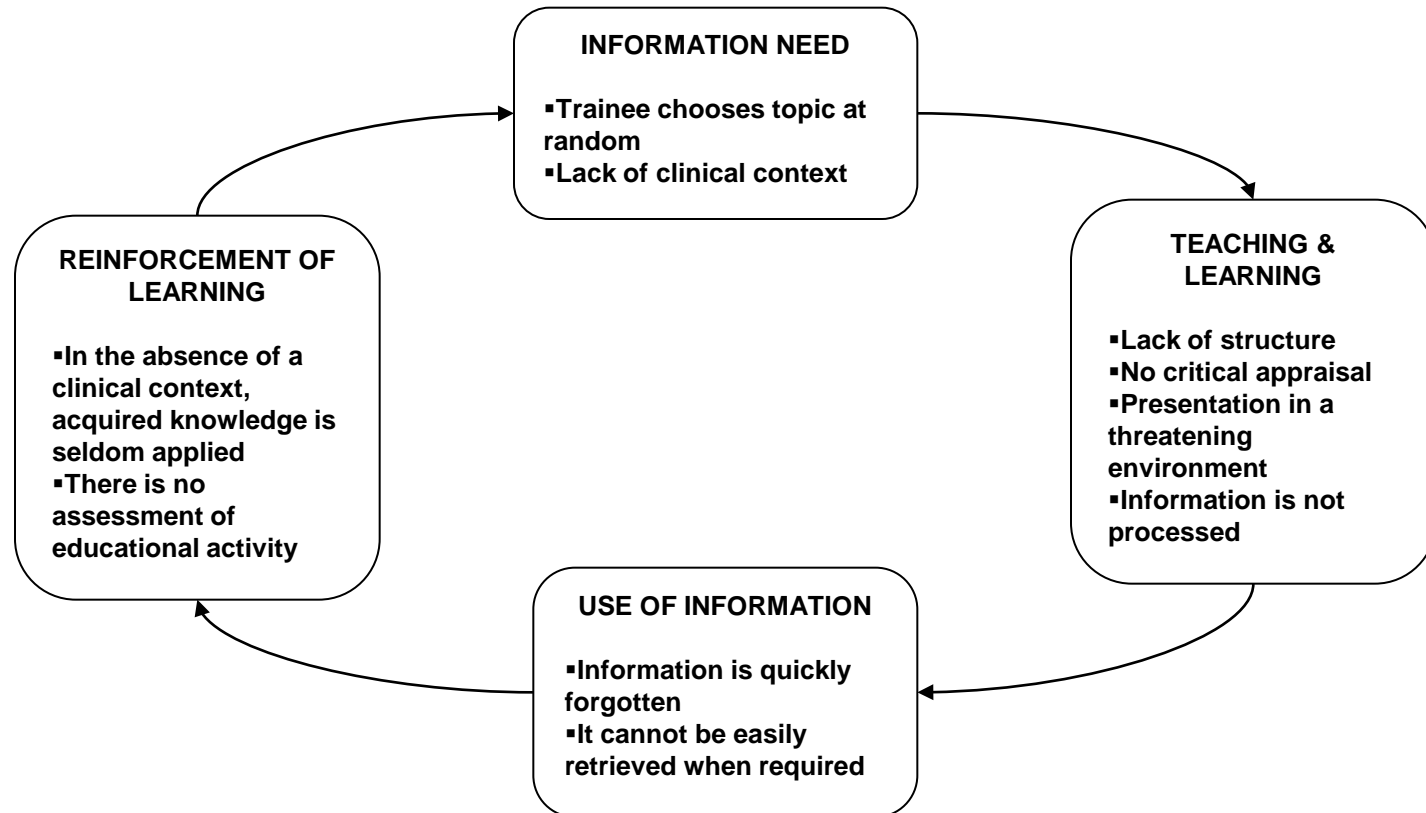
- Learning Outcomes
- Curriculum
  - Formal teaching
  - Integration into other teaching
  - Incorporation into practice
- Electronic Curriculum

# EBM Teaching for Undergraduates

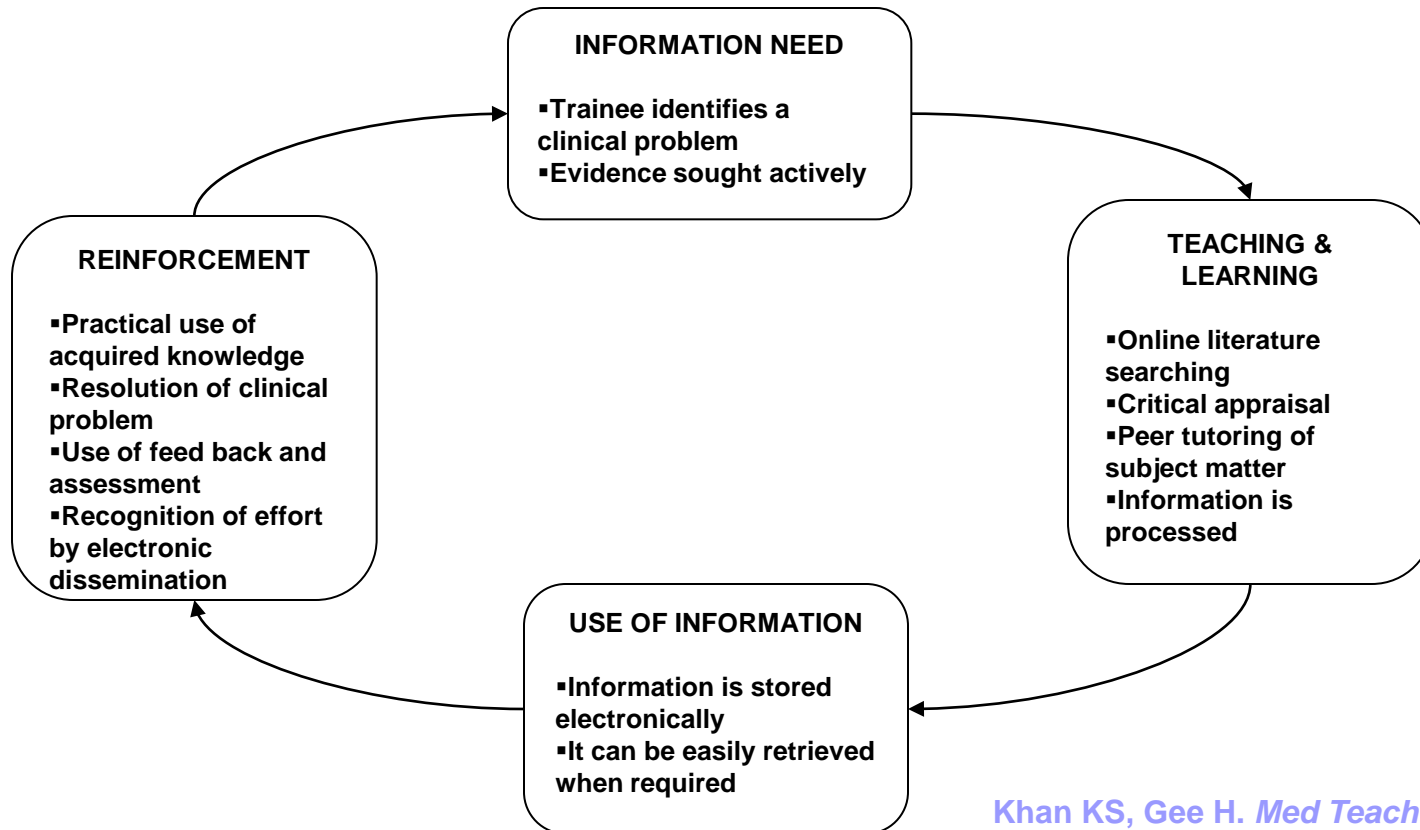
## How we do it in Birmingham

- Learning Outcomes
- Curriculum
  - Formal teaching
  - Integration into other teaching
  - Incorporation into practice
- Electronic Curriculum

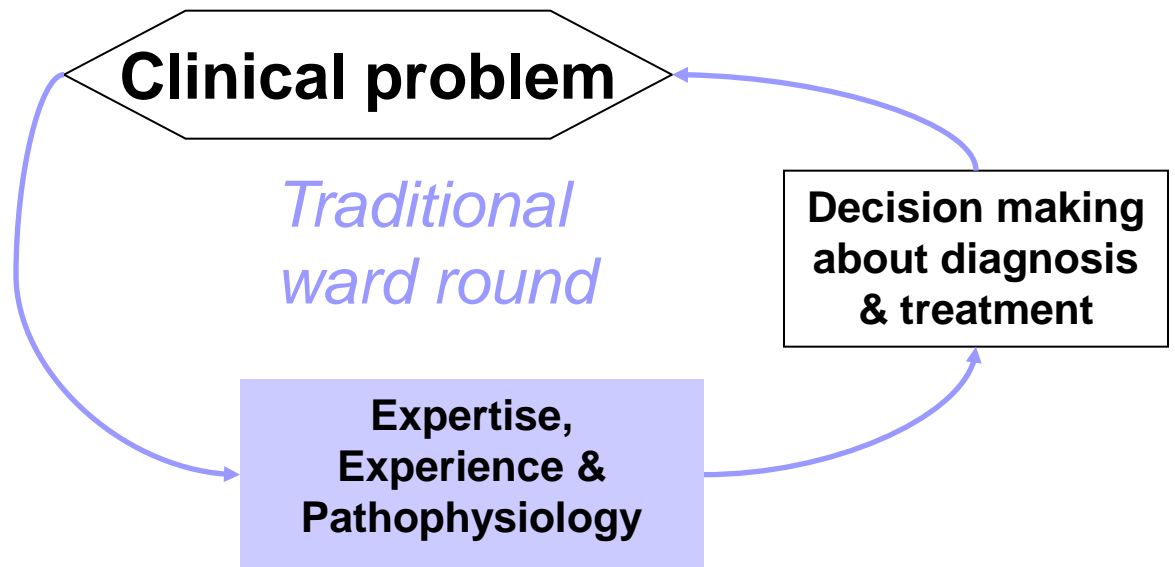
# Traditional Journal Club



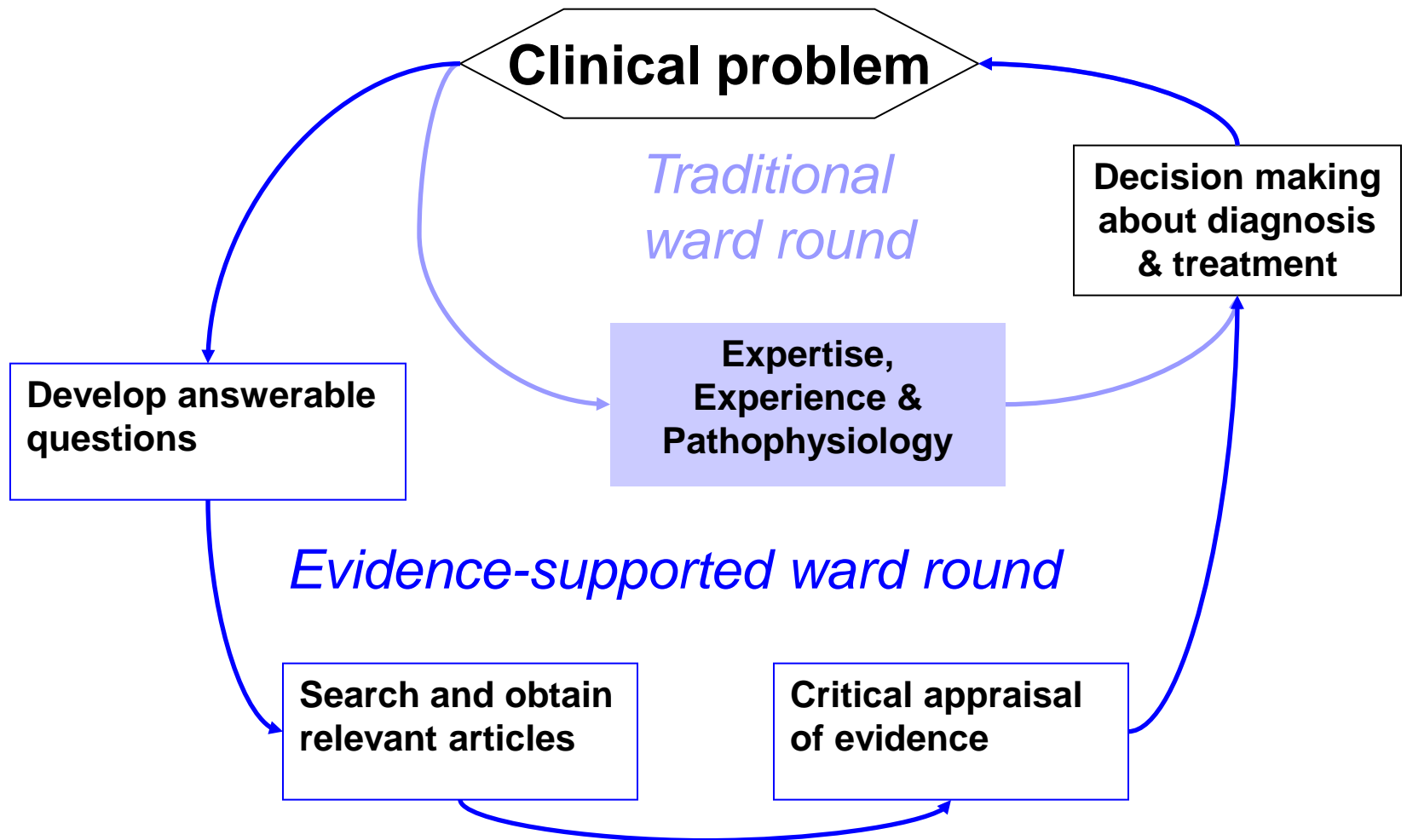
# EBM Journal Club



# Ward round

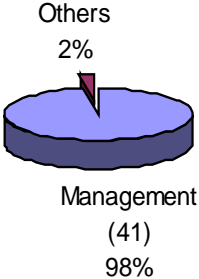


# Ward round

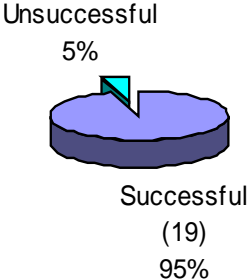


# Evidence-based labour ward round

## Questions generated (n=42)



## Acquisition of evidence (n=20)



## Effect on clinical management

