EDUCATIONAL INTERVENTIONS: ONE CAN DRAW ON SYSTEMATIC REVIEWS TO INFORM EDUCATIONAL STRATEGIES

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AIMS
This feature on evidence-based health care (EBHC) aims to present useful practice-related information on topics relevant to readers of Current Allergy & Clinical Immunology. The treatment of topics is not comprehensive. The main aim is to illustrate the aspects of the EBHC process, viz. (i) asking the question; (ii) identifying the best evidence; (iii) appraising the evidence; (iv) applying valid and relevant evidence; and (v) auditing what we have implemented in clinical practice.

BACKGROUND
EBHC requires critical thinking and decision making – an integration of knowledge, cognitive skills and behaviour that supports and promotes life-long learning. It is recommended that EBHC becomes an integral part of learning in the curriculum as well as continuing professional development of all healthcare professionals, since learning the fundamentals of research and the basic knowledge and skills of EBHC are essential for successful implementation of EBHC and subsequent improvement in quality of health care.

You regularly engage with healthcare professionals, at both student and professional level, and have been using various teaching and learning strategies. You decide to review the evidence to assess the effects of EBHC teaching and learning.

SO WHAT IS THE QUESTION?
What are the effects of teaching EBHC to health professionals on EBHC knowledge, skills, attitudes and practice?

THE TYPE OF EVIDENCE TO LOOK FOR, AND WHERE TO LOOK FOR IT
The best evidence to answer questions on the effects of interventions comes from randomised controlled trials (RCTs). If more than one RCT has been conducted, the most reliable evidence, if available, is a well-conducted up-to-date systematic review of all relevant primary studies. Systematic reviews can be used to provide robust answers to many different research questions and in the education field there are a number of collaborations conducting systematic reviews on the effects of educational strategies (Table I).

You therefore decide to start by searching for systematic reviews in MEDLINE.

WHAT WAS FOUND?
There are a number of systematic reviews on teaching EBHC. You decide to read the Cochrane systematic review by Horsley and colleagues which assessed the effects of teaching critical appraisal skills in healthcare settings.

METHODS AND RESULTS
A key first step in reading the review is to appraise its validity. The AMSTAR: A MeaSurement Tool to Assess Reviews instrument is a validated tool to assess methodological quality of systematic reviews (Table II). AMSTAR assesses the degree to which review methods avoided bias by evaluating the methods reported against 11 distinct criteria. Each item on AMSTAR is rated as ‘yes’ (clearly done), ‘no’ (clearly not done), ‘can’t answer’, or ‘not applicable’. For all items, except item 4, a rating of ‘yes’ is considered adequate. For item 4, a rating of ‘no’ (that is, the review did not exclude unpublished or grey literature) is considered adequate. A review that adequately meets all of the 11 criteria is considered to be a review of the highest quality. The tool has been shown to have good face and content validity for measuring the methodological quality of systematic reviews.

Horsley et al. followed a predetermined protocol, conducted comprehensive searches in various databases (EMBASE, LISA, ERIC, CDSR, DARE, EPOC specialised register, ISI web of knowledge, MEDLINE), scanned reference lists and contacted experts in the field to identify RCTs, controlled clinical trials, controlled before-and-after studies and interrupted time series analyses that examined the effects of educational interventions teaching critical appraisal to health professionals. They did not consider studies involving...
### Table I. Collaborations conducting systematic reviews on educational strategies

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<tr>
<th>Collaboration</th>
<th>Website</th>
<th>Description</th>
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<tr>
<td>Campbell Collaboration</td>
<td><a href="http://www.campbellcollaboration.org/">http://www.campbellcollaboration.org/</a></td>
<td>The Campbell Collaboration prepares, maintains and disseminates systematic reviews in education, crime and justice, social welfare and international development. Completed reviews are published in the Campbell Library.</td>
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<tr>
<td>BEME Collaboration</td>
<td><a href="http://www.bemecollaboration.org/">http://www.bemecollaboration.org/</a></td>
<td>The Best Evidence Medical Education (BEME) Collaboration is an international group of individuals, universities and professional organisations committed to the development of evidence-informed education in the medical and health professions. BEME conducts systematic reviews and promotes best evidence education among individuals, institutions and national bodies.</td>
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<tr>
<td>Cochrane Collaboration</td>
<td><a href="http://epoc.cochrane.org/">http://epoc.cochrane.org/</a> <a href="http://www.cochrane.org/">http://www.cochrane.org/</a></td>
<td>The Cochrane Collaboration’s Effective Health Care and Organisation of Care (EPOC) Review Group conducts Cochrane reviews on interventions designed to improve the delivery, practice, and organisation of healthcare services. This includes continuing education.</td>
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### Table II. Assessing methodological quality of systematic reviews – AMSTAR tool

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<th>Criteria</th>
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<td>Was an a priori design provided?</td>
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<td>Was there duplicate study selection and data extraction?</td>
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<td>Was a comprehensive literature search performed?</td>
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<tr>
<td>Was the status of publication (i.e. grey literature) used as an inclusion criterion?</td>
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<tr>
<td>Was a list of studies (included and excluded) provided?</td>
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<tr>
<td>Were the characteristics of the included studies provided?</td>
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<tr>
<td>Was the scientific quality of the included studies assessed and documented?</td>
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<td>Was the scientific quality of the included studies used appropriately in formulating conclusions?</td>
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<td>Were the methods used to combine the findings of studies appropriate?</td>
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<td>Was the likelihood of publication bias assessed? (where relevant)</td>
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<td>Was the conflict of interest stated?</td>
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evidence-based health care

students. Two review authors independently selected studies, extracted data, assessed risk of bias and collated the findings.

They included three RCTs conducted among interns in internal medicine and healthcare professionals. The interventions included a journal club supported by a half-day workshop; critical appraisal materials including papers with methodological reviews, list serve discussions and articles; and a half-day workshop based on a Critical Appraisal Skills Programme (http://www.caspinternational.org/). Outcomes assessed included knowledge scores and critical appraisal skills. The review found that teaching critical appraisal skills to health professionals may improve their knowledge. There was however a lack of good-quality evidence as to whether teaching critical appraisal skills led to changes in the process of care or to changes in patient outcomes.

CONCLUSION
Systematic reviews and robust RCTs are both useful in assessing medical education strategies and should be consulted to inform decisions on education strategies to use in teaching EBHC.

REFERENCES

Foundation of Southern Africa

SPEAKING FOR PEOPLE WHO CANNOT SPEAK FOR THEMSELVES

The MedicAlert Foundation is a non-profit emergency medical information and identification organisation founded in 1956; headquartered in the United States it has international affiliates in nine countries. The MedicAlert South Africa headquarters are located in Cape Town and has a partnership with ER24. Their mission is to protect and save lives.

As a trusted third-party custodian of comprehensive personal health information, Medic-Alert provides a complete life-saving system built around a repository of health information that enables members to manage their personal health records while maintaining security, privacy and confidentiality. The Medic-Alert repository can connect to and provide critical medical information between patients, providers and first responders 24 hours a day anywhere in the world.

Speedy and efficient medical care, especially in emergency situations, is essential to saving lives. Emergency Medical Services, paramedics, nurses, doctors and other health professionals are often forced to take critical decisions under difficult circumstances and in most cases without access to all the information they would like to have.

For a MedicAlert member wearing a MedicAlert identification emblem, one call could save a life! In an emergency it may be just as vital to know who the next of kin is as it is to know the medical details.

Each MedicAlert product carries the instantly recognisable international emblem of the MedicAlert Foundation, with the reverse side engraved with basic vital medical information, such as allergies and chronic conditions.

Also engraved on the reverse side is the 24-hour telephone hotline number which emergency personnel can call to obtain more detailed medical information by quoting the wearer’s unique confidential membership number.

There are 200 plus medical conditions and allergies (25 of them chronic). All health professionals should advise their patients of the importance of wearing an identification emblem at all times. It is in the interest of the patients and the medical profession as a whole.

Wearing one of MedicAlert’s identification emblems is a life-saving start for all people who:
♦ have any type of hidden medical condition
♦ have an allergy
♦ have had any type of implant – pacemaker, heart valve, organ transplant, joint replacement, etc.
♦ take regular medication
♦ would like their blood group to be recorded
♦ have a living will or wish to be an organ/body donor
♦ simply want someone else to know if they have been involved in an accident.

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