

# Newsletter of the International Society for Evidence-Based Health Care

## Newsletter 10, January 2013

---

### Mission

*The mission of the International Society for Evidence-Based Health Care is to develop and encourage research in evidence-based health care and to promote and provide professional and public education in the field.*

### Vision

The society is inspired by a vision to be a world-wide platform for interaction and collaboration among practitioners, teachers, researchers and the public to promote EBHC. The intent is to provide support to frontline clinicians making day-to-day decisions, and to those who have to develop curricula and teach EBHC.

### Key objectives of the Society

- To develop and promote professional and public education regarding EBHC
- To develop, promote, and coordinate international programs through national/international collaboration
- To develop educational materials for facilitating workshops to promote EBHC
- To assist with and encourage EBHC-related programs when requested by an individual national/regional organization
- To advise and guide on fundraising skills in order that national foundations and societies are enabled to finance a greater level and range of activities
- To participate in, and promote programs for national, regional and international workshops regarding EBHC
- To foster the development of an international communications system for individuals and organizations working in EBHC-related areas
- To improve the evidence systems within which health care workers practice.



Evidence-Based Clinical Practice Office  
McMaster University, Canada



# TABLE OF CONTENTS

## EDITORIALS

Editors Choice .....	3
Cartoon Hilda Bastian .....	3
All trials registered; all results reported .....	4
More research and guidance about efficient strategies for monitoring and updating clinical practice is needed. ....	5
Developing Evidence for Practice: A general overview of Evidence-Based medicine (EBM) .....	6

## TEACHING & PRACTICE TIPS

Teaching Evidence Based medicine: A critical appraisal .....	8
Evidence based medicine in India .....	10

## RESEARCH & REVIEWS

Going forwards by going backwards: the birth of BestBETS .....	15
Mobilizing EBM education by a national literature searching and appraisal championship .....	16
OSCE Integrated workshops can enhance evidence-based nursing education .....	16
Dissemination of systematic reviews in hospital setting: a comparative survey for diffusing the cochrane library. ....	17
Evaluation of medical school evidence based medicine curriculum .....	17

## RESOURCES & REVIEWS

The physiotherapy evidence database (PEDro) .....	18
---	----

## WORKSHOPS AND CONFERENCES

Evidence Live Oxford 2013.....	21
International Shared Decision Making Conference 2013 .....	22
GIN Conference 2013 .....	22
EBHC International Joint Conference 2013 .....	23

# Editorials

## Editors Choice

The first ISEHC Conference in October last year was a huge success with over 200 attendees, and a substantial impact on EBM in India and elsewhere. In this issue there are a few of the Abstracts from the conference, and also an editorial from the Journal of Clinical Epidemiology on the development of EBM in India by Kameshwar Prasad, who organised the conference. These are all worth a read.

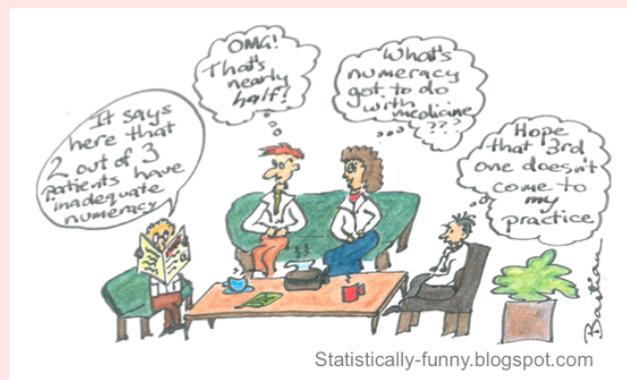
One of the clear needs from the conference was more guidance and models of evidence-based practice curriculums, and we'd appreciate suggestions and submissions - which should go to Craig Mellis. In this issue we've extracted part of the EBM curriculum document for Fiji which has an interesting breakdown of the teaching in different terms, showing more integration than many courses. And there is a viewpoint on the difficulties of practicing and teaching EBM in Libya, where there is little support and infrastructure.

What is the impact of practicing EBM on research? No randomized trials I am sorry to say, but Kevin Mackway-Jones, who developed BestBets (critically appraised topics for emergency medicine) has some interesting data on their success in research as a positive side effect of developing EBM in their emergency department.

Finally, the campaign to have "All trials registered; all results reported" has been heating up, and an editorial explains some of the background - and where you can sign up! There are a number of EBM events this year - starting with EvidenceLive in March in Oxford, then the Shared Decision Making conference in Peru, the GIN meeting, and finally the 2nd ISEHC conference will be run jointly with the 6th EBHC Teachers & Developers conference in Sicily in October/November. I hope you can get along to at least one of these events.

Paul Glasziou

Fright night in the doctors' lounge



*It doesn't come as a terrible shock to hear that a lot of patients struggle with statistics. It's a little more scary, though, to be reminded that doctors' understanding of health statistics and data on screening isn't all that fabulous either. And now this month we hear that "a considerable proportion of researchers" don't understand routinely used statistical terms in systematic reviews. Gulp.*

*We definitely need bloggers and journalists to help turn this around. Improving the use of numbers - and critiquing misuse of statistics - is the focus of a session co-moderated by Evelyn Lamb and me coming up this month at Science Online. Evelyn gets the ball rolling further discussion in her blog at Scientific American. And Frank Swain from the Royal Statistical Society also weighs in on journalists' desire to learn more about statistics in the era of data journalism. (#scio13 #PublicStats)*

*Trials show that reading this book, Know Your Chances, could help.*

**Author:** Hilda Bastian

## All trials registered; all results reported

The ISHEC board recently voted to sign the petition to have “all trials registered, all results reported” which you can find details of at: [www.alltrials.net](http://www.alltrials.net), and GIMBE have also set up an Italian version at [www.gimbe.org/alltrials](http://www.gimbe.org/alltrials). As well as dozens of organizations, there are also over 11,000 individual signatures so far. The blog (originally posted in “The Conversation”) explains some of the background to the petition, which we urge you to sign and pass on to others.

Paul Glasziou, for the ISEHC board.

---

If researchers go to the effort of getting funds, recruiting patients, and following them up, you would think that they would be keen to publish the results. Surprisingly, our best estimate is that around half of all completed clinical trials have never been published in academic journals. And the half we have is biased towards trials with positive results. This non-publication is both a waste of research resources, and a problem for decision makers attempting to use the biased set of studies they have access to.

Sometimes non-publication and selective publication occurs for commercial reasons. This is illustrated by the Cochrane review of drugs for treating influenza which has been hampered by access to the results of all studies. Tom Jefferson, one of the authors recently said: “We identified that a large number of studies, including data from 60% of the people who have been involved in randomized, placebo-controlled phase III treatment trials of oseltamivir, have never been published. This includes the biggest treatment trial ever undertaken on oseltamivir that on its own included just over 1,400 people of all ages.” [1] but despite this governments have spent billions in stockpiling them, the review authors have concluded that there is no clear evidence of the effect of these anti-flu drugs: “The evidence supports a direct oseltamivir mechanism of action on symptoms but we are unable to draw conclusions about its effect on complications or transmission.”

However, non-publication is almost as frequent among non-commercial trials. Sometimes lead authors can move jobs, become ill, retire, or (as with a 68,000 person colorectal cancer screening trial) die as the trial is finishing. Occasionally authors give up after several attempts to publish,

but more often the results are never submitted for publication. For example, a randomized trial of deworming treatment of almost a million children in India has not been published since it completed in 2005 (but rumour suggests it will be published early this year). Given the extent of deworming programs in developing countries, this non-publication of crucial evidence is hampering rational decisions about such program investment - should it stop or be extended?

The problems of non-publication have been known for at least 3 decades. Indeed, John Simes, the director of the Clinical Trials Centre at Sydney University, demonstrated the problem and proposed universal registration of trials in the 1980's[3].

While awareness and some action has grown, a number of recent events - and the publication of *Bad Pharma* by Ben Goldacre - have seen more awareness and willingness to act at a regulatory and political level. It seems we are at a critical juncture, and pushing for sufficient action now is vital. Hence a coalition of several organisations have put together the "AllTrials campaign". Their website sets out the details of why action is important now, and includes a number of proposals including a petition that everyone globally is urged to sign - [www.alltrials.net](http://www.alltrials.net). So if you want the waste of non-published research to stop, and if you want doctors and health policy makers to base decisions on all research rather than a selected sample, then I urge you to sign to.

### References

1. <http://www.cochrane.org/features/neuraminidase-inhibitors-preventing-and-treating-influenza-healthy-adults-and-children>
2. Hawkes, N. Deworming debunked. *BMJ* 2013;346:e8558
3. Simes RJ. Publication bias: the case for an international registry of clinical trials. *J Clin Oncol.* 1986 Oct;4(10):1529-41.

## **More research and guidance about efficient strategies for monitoring and updating clinical practice guidelines is needed**

**Pablo Alonso-Coello, Laura Martínez García, Ingrid Arévalo, Robin W.M. Vernooij, Andrea Juliana Sanabria, Ivan Solà, David Rigau, Ignacio Araya.**

The constant changes in scientific knowledge require a frequent re-evaluation of the available research results in order to implement them in patient's care. Clinical practice guidelines (CPGs) are not exempt: they need to be updated frequently to maintain the validity of their recommendations. Surprisingly little attention has been paid to this issue with a little amount of research conducted. Guideline developers lack a formal procedure for deciding when a guideline becomes out of date. Also, one out of three developers acknowledge that their process could be more rigorous (1). As a consequence guidelines often languishing out of date in institutions' websites and clearing houses.

We recently completed a systematic review of studies evaluating one or more methods for the update (with or without monitoring) of CPGs or clinical recommendations (2). We searched MEDLINE (PubMed) and The Cochrane Methodology Register (The Cochrane Library) from 1966 to June 2012. Additionally, we hand-searched reference lists of relevant studies and the Guidelines International Network book of abstracts.

As a result, we identified a total of eight studies concerning CPGs updating. Four of them evaluated if CPGs were out of date, three updated CPGs, and one continuously monitored and updated CPGs. The most detailed reported phase of the process was the identification of new evidence. As opposed to studies updating guidelines, studies evaluating if CPGs were out of date applied restricted searches. Only one study compared a restricted versus an exhaustive search suggesting that a restricted search is sufficient to assess recommendations' validity. Finally, one study analyzed the survival time of CPGs and

suggested that these should be reassessed every three years.

Our systematic review shows that there is limited evidence about optimal strategies for monitoring and updating clinical practice guidelines. While a restricted search is likely to be sufficient to monitor new evidence and assess the need to update, more information is needed about the timing and type of search. Only an exhaustive search strategy has been assessed for updating CPGs. Therefore, development and evaluation of more efficient strategies is needed to improve the timeliness and reduce the burden of maintaining the validity of CPGs.

Our group is running several projects to fill this research gap that will yield further results during 2013. One is an overview of the guidance provided in methodological handbooks from guideline development institutions. The second is an evaluation of two potentially efficient strategies to retrieve evidence to update recommendations (using the McMaster Premium Literature Service (PLUS) database or a restrictive search strategy using MeSH and free text terms). Finally, we are leading, together with Melissa Brouwers from McMaster University, an international effort with the goal of providing a common resource for practice guideline updating. The goal is to draw on existing work and knowledge in the area of practice guideline updating and to provide guidance both for the guideline developers and for the users. You will hear more about the latter at the upcoming 2013 GIN meeting - [www.g-i-n.net/events/10th-conference/10th-g-i-n-conference-overview](http://www.g-i-n.net/events/10th-conference/10th-g-i-n-conference-overview).

1. Alonso-Coello P, Martínez García L, Carrasco JM, Sola I, Qureshi S, Burgers JS. The updating of clinical practice guidelines: insights from an international survey. *Implementation science* : IS. 2011;6:107. Epub 2011/09/15.
2. Martínez García L, Arévalo-Rodríguez I, Sola I, Haynes RB, Vandvik PO, Alonso-Coello P. Strategies for monitoring and updating clinical practice guidelines: a systematic review. *Implementation science* : IS. 2012;7:109. Epub 2012/11/21.

**Iberoamerican Cochrane Centre, Biomedical Research Institute Sant Pau (IIB Sant Pau), Barcelona, Spain.**

# View point

## Developing Evidence for Practice

### A general overview of Evidence-based medicine (EBM)

**Dr Ebtisam, MBBCh, MScRes, ADD, DRH.**

I have known few years back about the Evidence-based medicine (EBM) in fact, and realised how much it is crucial for the daily clinical practices. It is actually a challenging and a hard work without a doubt. I started personally searching and reading about it and I have even published a small paper about it in 2010 because it was appealing to me. I have selected a careful title after my through reading and named it "putting knowledge into action - The sculpture of doctoring -We have met the enemy, and he is us".

As a clinician, Evidence-based medicine and practice (EBM&P) is very crucial to my daily practice, and I am hoping to adopt as well as to implement it into life-long habits, as I am really keen about learning always.

Although various definitions of the EBM exists, I can define EBM, as 'an Art and the science of medicine', with an appraisal to reach a good decision. EBM remains however an unfinished tale; it remains open to many debates, such as interpretations, and applications as well. I think personally it is a new entity all over the medical practice and it should be integrated with the medical curricula, and didactic to enhance clinicians' knowledge and skills at an earlier epoch of the medical career.

Though, EBM seems the impossible dream that can bridge the gap between research and practice. We clinicians need an efficient, through, sift and strategic act on new research to help our patients. We need to move from opinion-based medicine to evidence-based medicine.

From that concept, EBM is the integration of best research evidence (clinically relevant patient centered clinical research of basic medicine for precision and accuracy) with clinical expertise

(using clinical skills with past experience to identify each patient unique state) and patient values (unique preference of each patients concerns and expectations). All of which shall optimizes clinical outcomes and quality of life.

#### EBM into reality

There are five-step models of the EBP, which is guided by ongoing research. The main foundation assessment for each of the steps must uphold to be developed, validated, accredited and should be made free of charge reachable.

I believe very strongly that applying the EBM in practice is very essential. It should be recognized, and implemented through evidence based policies to make it happen. We do still have many seniors who are resistant by culture to the new paradigm (problem of adherence). Habits are however hard to be changed easily overnight. It needs sometimes a life time to implement and to take it forward into an action in real life. Also on the level of journals, we need to be aware of good and bad journals and to be vaccinated against the poor evidence journals to keep with high ranked and quality one.

As the statement explain itself, "Knowing is not enough; we must apply. Willing is not enough, we must do" thus to get the best evidence to our practice, we need to act and have the necessary appraisal skills, also ability and willing to criticize our attitudes to our own practice and to evidence to maximize the utmost patients benefits and cause no harms.

EBM and EBP is a one marker for lifelong learning among physicians. It needs patient-centred consultations which is totally lacking in the Arab world and developing countries.

Effective clinical practice decision needs explicit research evidence and non research knowledge (accumulated wisdom in other words). It involves clinical reasoning, problem solving, and awareness of the patient needs, and the whole health care context.

## **Obstacles to practicing and teaching EBM in developing worlds**

There are some hurdles in the developing countries such as Libya. We do practice in places where computers connection facility totally none existing. The only internet connected computers you could ever see is at the bosses' offices and their surroundings, apart from that, there isn't. In many times, you see such people with computers which are only for look and prestige. If you ever happened to visit any place in any health sector, for instance all OPDs in Libya lacks such connections for any clinicians for whatsoever. Thus the GP or the clinicians won't be able to get connected and look for answers instantly and momentarily. Moreover there are not any adequate library facilities per se where you can log in and take a time out for conducting an efficient search, and research for answers to specific problems electronically (literature databases). Moreover to find that most of the journals you need are not on the shelves. Furthermore, as we all know, all journals need an institutional subscription to be accessible. All of that can be attributed to lack of proper, efficient, and effective policy planning, lack of proper health system in place with good standards to catch up with the exterior worlds, and thus EBM cannot see the light.

Nowadays in the western countries, the trend has changed dramatically from using the traditional resources of text books (outdated) and print of materials, which could be ineffective in one way or another, to the electronic resources by accessing the desired information via the internet and the personal digital assistants (PDA).

## **Strategies for teaching, applying and delivering EBM,**

Most medical schools stick to standard methods of teaching and submissive and passive learning techniques, which are conducted in large classrooms. As a result of which, applicant is a shy, timid, and inhibited individual, unaccustomed to public discussions and spontaneous interactions. Lecturers are problematic as well. They are accustomed to giving lectures and hear their voices only. The experience and the researches proved that breaking into small groups' discussion to

elaborate discourses is the best useful tool to have all participants is actively engaged.

By experience and practice, neither of these problems is insurmountable, and both are worth addressing. By given sufficient time and disclosure, lecturers (facilitators) get the hang of things, spending less time talking and devoting more time encouraging participation to engage in the discussion and give opinions. Applicants (participants), on the other hand, soon get the idea, realise and join the dispute. Thus this yielded always an enjoyable, productive and rewarding interaction and communication.

Lastly, I aspire to EBP proficiencies to skill me up and drive my wishes to continued efforts for improvement in my practical application to make the most of its benefit. The lack of access to EBM tools is a barrier to EBM in most developing countries including Libya. Medicine remains a science and an art, and instruction sessions integrate the human being touch of mentorship stay ubiquitous. Computer information technology is mandatory to be applied for the quicker patient care setting. A motivation environment is required to continue the use and the application of EBM. Journal clubs are another option to keep with the flow. A proper policy planning is needed to keep with the flow.

All the best and keep the good work up.

Ebtisamya@yahoo.com

# Teaching & Practice Tips

The following article is an extract for a document prepared for the revision of evidence-based medicine teaching in the Fiji medical curriculum. The full document is available from its author: Dr Manueli Kavika [manueli.kavika@fnu.ac.fj](mailto:manueli.kavika@fnu.ac.fj)

## Teaching Evidence Based Medicine: A Critical Appraisal

**Dr Manueli Kavika**

Teaching and learning Evidence Based Practice (EBP) has become an integral part of the education process for many students and professionals in the health sector, and has become a commonplace in social services and education. (Evidence Based Education, 2003).

An increasing number of medical schools, even residency programs are instituting curricula for teaching the principles and practice of Evidence-Based Medicine (EBM). 95% of US internal medicine residency programs have journal clubs. (Sidorov J, 1995). 37% of US and Canadian internal medicine residencies have time dedicated for EBM (Green ML, 2000).

Parkes J. et.al, 2003 attempted to quantify the number of courses of EBP in health-care, but reported that information is not easily accessible. He further on says that, despite the effort, they were unable to find objective evidence quantifying the extent to which EBP is used, and that documentation is particularly poor outside primary care.

Norman GR, Shannon SI (1998) in a systematic review states that teaching critical appraisal skills improve knowledge at the undergraduate level showed consistent improvement.

Taylor R. et.al (2000), in another systematic review, adds that teaching critical skills not only improves knowledge about research methodology and statistics in clinical research, it also improved attitudes toward use of medical literature.

Bradley. et. al, (2004), in another review also affirmed that short classroom-based courses in Evidence Based Medicine (EBM), successfully transfers knowledge and attitudes to EBM for medical students and newly qualified doctors

compared with no intervention or “traditional medical syllabus”

Khan KS, Coomarasamy A, (2004) in a similar article confirmed that integrated and interactive teaching was the most productive technique of teaching evidence based medicine as opposed to the cultural, didactic approach.

Leung GM.et.al, (2003) in a randomized controlled trial concluded that a rapid and convenient access to valid and relevant evidence on a portable computer device not only improves learning in evidence based medicine, but increases current and future use of evidence and boosts students’ confidence in clinical decision making.

Collaborative efforts are under way among numerous institutions to evaluate EBM teaching intervention. While multi-institutional research has been rare until recently, it could provide a giant step forward for research into the optimal ways of teaching EBM and multi-centre trials could address methodological issues such as reducing contamination between interventions and achieving adequate sample size (Dobbie AE, 2000).

Educators and educational researchers should continue to develop rigorous studies of medical education in general and of the teaching of EBM in particular. Research into teaching of EBM must not be immune from the standards that EBM educators seek to convey to their students. (Hatala R, Guyatt G, 2002)

The Fiji School of Medicine needs to utilize the literatures best evidence in its plight to improve EBM training; the task will indeed be enormous in the sense that affordability, and the availability will be key issues to address.

On the contrary, Johnston JM et.al (2004) identified the following as barriers: the learning environment that include prevailing norm for student learning involving examination-oriented, textbook learning, prior availability of clinical practice guidelines lack of encouragement from teachers and economy of time by utilizing teacher expertise; limitation of evidence consisting of poor point-of-care access to medical literature, difficulty in locating evidence; lack of opportunity to practice EBM due to lack of continuity of care and anxieties about negative teacher attitudes towards EBM use at the point-of-care; finally, time constraints such as competing study demands and long evidence search time.

## APPENDIX I: Evidence Based Health Care Matrix

Courses	EBM Components
Library Sciences	2-hours by 3-4 small group sessions on MEDLINE, demonstrating basic strategies, as part of the orientation program (MBBS 1, 2 and 3);
Clinical Skills	All students are to attend library sessions on question/ search formulation in the first few clinical skills classes of the third year
Epidemiology	The first hour introductory lecture reviews the standard biostatistical concepts and construction of clinical questions; class is then introduced to clinical questions that will be discussed in small groups e.g. after watching “Viagra” commercials and part of an “ER” TV episode.
	Session will be integrated into Surveillance, Identification and Management of an Outbreak Module @ Year IV
Medicine	Each student presents the answer to a clinical question based on one of their own patients, with a critique of the evidence (3-4 students/ group preceptor session): Prognosis Research Paper
Pediatrics	Each student presents the answer to a clinical question based on one of their own patients, with a critique of the evidence (3-4 students/ group preceptor session): Overview of EBM
Psychiatry	Each student presents the answer to a clinical question based on one of their own patients, with a critique of the evidence (3-4 students/ group preceptor session): Therapy/ Intervention Research Paper
Surgery	Course director and Library staff presents session sessions on basic EBM topics: Harm Research Paper
Ob/ Gynae.	Three oral presentations require use of primary sources. Students to attend house-staff journal club and 3 one-hour student journal clubs: Diagnostic Research Paper
Community Medicine (Year V)	Students present an in-depth critique on an article used in a research paper; MEDLINE review by Library Staff in preparation for research project: small group; also include a 1-2 hours Web search Exam as part of summative assessment; EBM session
Year VI (Trainee Internship Year)	Concepts of Evidence based medicine be implemented into Public Health activities to be covered in their 20-weeks of PH attachment (in form of learning portfolio, health education sessions, Continuing Medical Education (CME) sessions etc.

# Evidence-based medicine in India

Kameshwar Prasad\*

Department of Neurology, Clinical Epidemiology Unit, All India Institute of Medical Sciences, Ansari Nagar, New Delhi 110029, India

Accepted 12 July 2012; Published online 8 November 2012

## 1. Introduction

Evidence-based medicine (EBM) is the integration of current best evidence with clinical experience and patients' values and preferences in clinical decision-making process [1]. Clinical experience has played a key role in clinical decision-making process since ages. But research evidence and patients' preferences have received a variable degree of attention in the process. With the introduction of EBM, the clinicians are exhorted to consider all the three factors in the process.

Proponents of EBM conceptualized evidence-based clinical practice as a paradigm shift in the way health care practitioners make clinical decisions. The focus has been on clinical decisions that maximize benefit–risk and benefit–cost ratios to the patients. When evidence is weak, EBM empowers the patients, whereas when evidence is strong, EBM empowers the organizations to measure and improve quality of care. These are laudable goals, endpoints, or products, but we should not underestimate the value of the process.

The EBM process is a method of problem-solving and self-directed lifelong learning as well as a strategy to deal with the ever-increasing quantity and quality (often misleading) of information. All these have great educational value. Engagement in this process in workshops, without fail, ignites the scientific temper of the participants and motivates them to contribute toward research.

## 2. Relevance for India

India, the second-most populous country in the world, clearly has a large patient population. High prevalence of poverty and illiteracy and a well-established association between poverty and disease means that a large number of patients are ill informed, powerless, and voiceless. Lack of health insurance cover to more than 90% of population necessitates out-of-pocket expenditure for most consultations,

drugs, and procedures. Health expenditure accounts for 70% of spending by uninsured households. Eighty percent of care is provided by private practitioners. Regulations are weak for both private practice and pharmaceutical companies.

The above circumstances create distorted incentive structure for practitioners and opportunities for exploitation of poor patients. Under the influence of aggressive marketing of pharmaceuticals, the practitioners are at risk of unwittingly prescribing ineffective (or even harmful) medicines to those who cannot afford to pay [2]. In the process, the patients are at risk of losing their income, incurring debts, and falling into poverty trap; and if they are already poor, they delve deeper into poverty. Under the burden of large patient load and lack of time and incentives, the clinicians are at huge risk of being out of date and provide poor quality of care. Not surprisingly, many (if not most) patients pay unduly heavy fees for poor quality care. Some authors are rightly promoting critical appraisal of the promotional literature [3]. EBM has a huge role to play toward ameliorating the aforementioned difficult situation. Training of today's and future practitioners in EBM can help them to remain up to date and provide effective protection against unwittingly falling prey to any misleading medical literature and misconceived marketing pressures. Ability to analyze the quality of evidence and correctly conceptualize the benefit–risk and benefit–cost ratios of a health care intervention can empower clinicians to optimize value for money for their patients. Even at a policy-making level, EBM informs the debate on the role of insurance and regulation in health care.

## 3. EBM in India

Internationally, EBM as a recognizable movement started with the publication of an article [4] and a series of articles referred to as the Users' Guides to the Medical Literature originally published in the *Journal of American Medical Association* (JAMA) from 1993 to 2000 [4,5]. The guides contained concepts that were part of clinical epidemiology training. At the time when guides were appearing, India was part of the International Clinical Epidemiology Network

\* Corresponding author. Tel.: +91-11-26593497; fax: +91-11-26588663.  
E-mail address: kp0704@gmail.com

(INCLLEN) program that was funded by the Rockefeller foundation. Sixty faculty from six medical colleges/institutes received training in clinical epidemiology under the program between 1988 and 1998.

These faculties developed expertise in teaching the concepts of EBM and incorporated these concepts to a variable extent in their teaching of medical students and residents. Probably, the first formal workshop on EBM was organized as a part of the annual meeting of the Indian Clinical Epidemiology Network (INDIACLEN) in 1995 in Kodaikanal. Since then, 1- to 3-day workshops, lectures, seminars, and “How to teach EBM” workshops have been conducted in different parts of the country. These workshops have been held with the efforts mostly at the individual level and sometimes at the organizational level. The author has had the privilege to be involved in many of these workshops, mostly targeted at medical college faculty and practitioners, and some workshops targeted toward residents and students. Institutions where such workshops have been held regularly include All India Institute of Medical Sciences, New Delhi; Christian Medical College, Vellore; Postgraduate Institute of Medical Education & Research, Chandigarh; MGR University of Health Sciences, Chennai, to name a few.

Over the years, it became clear that one of the difficulties faced across the country was somewhat difficult and jargon overload of the EBM literature. This certainly surfaced in many workshops in which the author personally participated as faculty across many states spanning from Punjab in north to Tamil Nadu in south and Maharashtra in the west to Shillong in the east. Many participants somehow found the author’s English and method of teaching user friendly and advised (some literally, requested) him to write a book in his English and style. The author took their advice seriously, and over several weekends and vacations completed writing the book entitled “Fundamentals of Evidence-Based Medicine,” published in 2004 [6]. Initially, the response to the book was lukewarm but seems to have significantly increased after a favorable review in JAMA [7].

It is well known that practice of EBM is greatly facilitated by the availability of evidence summaries in the form of systematic reviews. Cochrane collaboration is playing a leading role in preparing, maintaining, and disseminating systematic reviews of health care interventions. Indians have actively participated in the activities of Cochrane collaboration from the beginning. However, the first attempt at establishing a Cochrane center/network in India was made at the All India Institute of Medical Sciences in 1998. The event to bolster the attempt was a planned visit of the then President of Cochrane collaboration, Prof Chris Silagy, but the plan had a setback for several years because of his sudden illness and untimely demise in 2001. A second attempt from Christian Medical College, Vellore, succeeded and finally, the South Asian Cochrane Network (SACN) was established in January 2005 as a branch of the Australasian Cochrane Centre, with geographical responsibility for South Asia (India, Sri Lanka, Pakistan, Bangladesh, Bhutan, the Maldives and Nepal, and

more recently, Afghanistan) [8]. With the efforts of SACN, the Cochrane Library is available free to all residents of India (see the following sections).

*Indian Pediatrics* journal launched the section termed “EURECA” (Evidence that is Understandable, Relevant, Extendible, Current and Appraised) [9] in 2008. In this section, evidence summaries on relevant clinical problems were presented in easily understandable language for the readers of *Indian Pediatrics*. The *Journal of the Association of Physicians of India* also encouraged the adoption of EBM to the patients’ bedside [10]. There is an increasing interest to implement evidence-based approaches in clinical and public policies. Sharma et al. [11] have audited 2,993 prescriptions of physicians practicing at primary, secondary, and tertiary levels and reported that there is suboptimal use of various evidence-based drugs. *Indian Journal of Medical Research* has opened a forum for discussion on government of India policies pertaining to health. For example, the journal published “Policy document: evidence-based national vaccine policy,” [12] which was the report of a workshop held on June 4 and 5, 2009 aimed at reengineering the design and implementation of universal immunization program. Reproductive health has launched a cluster randomized controlled trial to evaluate the effectiveness of a clinically integrated Reproductive Health Library (RHL) EBM course to test the hypothesis that the RHL-EBM (clinically integrated e-learning) course will improve participants’ knowledge, skills, and attitudes, as well as institutional practice and educational environment, as compared with the use of standard postgraduate (PG) educational resources for EBM teaching that are not clinically integrated [13]. These represent some sincere attempts to implement EBM in India.

#### 4. Barriers and attempts to overcome them

It will be naive to think that implementation of EBM will be easy in India. The need to overcome several barriers is obvious but not easily achievable. A study by Mittal and Perakath [14] among surgical trainees found a positive attitude toward EBM, but only 50% of actual practice was considered evidence based. Many clinicians have a misconception that clinical experience or clinical judgment is ignored in EBM, but Karthikeyan and Pais [15] have published a review to correct the misconception and achieve reconciliation. A big challenge is overcoming the advertisements from pharmaceutical companies that are mostly not supported by scientific evidence [16].

EBM movement in India has received support from national organizations. Indian Council of Medical Research paid a national subscription for the Cochrane Library in January 2007, thus making a rich and reputed source of evidence summaries available for all residents of India. This has been highlighted in various EBM workshops all over India. Increasing number of hits to the Cochrane Library is a testimony to increasing awareness and probable use

of Cochrane Library in clinical decision making. This exemplifies the symbiotic relationship between the Cochrane Collaboration (producer of evidence summaries) and evidence-based practice (consumer of evidence summaries) and contributes to the creation of an enabling environment to promote EBM in India. However, the most effective intervention in creating such an environment in other countries has been the inclusion of EBM in undergraduate (UG) and PG examinations. This has not happened in India. The organization with maximum influence on medical education in India is the Medical Council of India (MCI), but attempts to urge MCI or the National Board of Examination (NBE) to include EBM in UG or PG curriculum or examinations has yet to succeed.

## 5. Issues from Indian perspective

There are several EBM-related issues peculiar to India. Here, allopathy, ayurveda, yoga, unani, siddha, and homeopathy coexist and are recognized by the government of India. Patients often attempt to receive simultaneous treatment from multiple systems of medicine. For example, a patient attending a modern hospital in the morning and receiving advice from allopathic specialists may go to a traditional healer in the evening to receive a herbal powder or the like [17]. The government has established institutions where alternative systems of medicine like ayurveda, unani, and others are taught, practiced, and promoted [18]. Government jobs are provided to practitioners of these systems of medicine. The complex web of various systems makes it difficult to implement EBM. Another issue that heavily influences practice is a relatively weak system of regulation for licensing of drugs in India. Many drugs that are not licensed in western countries are somehow able to receive approval of regulatory authorities in India. Many of these drugs may have inadequate evidence to support the use, yet they cost significantly to patients. There is a clear need and move by the government of India to strengthen the regulatory processes through establishment of a strong Food and Drug Administration.

The need to promote evidence-based approaches to practice the alternative systems of medicine is obvious. The government of India has strengthened the Central Council of Research to promote generation of evidence in all the alternative systems of medicine. The practitioners of these systems of medicine have evinced keen interest in EBM. (The author like many others has been invited to contribute to their conferences and workshops.) However, there is a huge gap to fill through generation of evidence and promotion of evidence-based alternative medicine.

## 6. The way forward

Regulation for approval of new drugs for marketing [19] needs to be strengthened. A critical appraisal of published

and trials data is necessary before approval of the drugs. It is important to involve experts of clinical epidemiology during evaluation of trial data in decision making. Although, only 3–5% of Indians are covered under any forum of health insurance, it will go a long way to promote EBM if reimbursement is based on evidence of cost-effectiveness of the drugs.

Although practitioners need training in EBM through workshops, it is necessary to introduce EBM in UG and PG curricula. Methods to formulate clinical question, find the current best evidence, as well as appraise and apply the evidence need to be taught to students, residents, and physicians. Research into question processing and biomedical question system is an attempt in the right direction [20]. MCI, Indian Council of Medical Research, Universities of Health Sciences, and the premier institutions like All India Institute of Medical Sciences, New Delhi; Christian Medical College, Vellore; St John's Medical College, Bengaluru; and Armed Forces Medical College, Pune have a responsibility to promote EBM in India.

EBM has a great potential to favorably impact the education, practice, and research in medicine in India. The characteristics of Indian health system put the medical practitioners and patients at the risk of unfavorable influences that can be partially offset with promotion of EBM. The spread of EBM in India benefited from the INCLIN, Indian Council of Medical Research's national subscription for the Cochrane Library and recent establishment of SACN but is so far mainly based on the sporadic activities of individuals. Support from the MCI and NBE is necessary to give it a quantum jump.

EBM in India is likely to get a fillip with "the First International Conference on Evidence-Based Health Care" to be held between October 6 and 8, 2012 at the India International Centre, New Delhi. The clinical epidemiology unit of All India Institute of Medical Sciences is proud to organize this inaugural conference of the International Society for Evidence-Based Health Care (ISEHC) ([www.isehcon2012.com](http://www.isehcon2012.com)). The great enthusiasm of those interested in attending this conference augurs well for EBM in India and the world. The society is being led by Paul Glasziou (Australia) and Gordon Guyatt (Canada) who started its newsletter in October 2010 and rather generously wrote that the "society was prodded into existence" by the author, who merely acted as a catalyst [21]. The society has the following mission, vision, and objectives:

### 6.1. Mission

The mission of the society for evidence-based health care (EBHC) is to develop and encourage research in EBHC and to promote and provide professional and public education in the field [21].

### 6.2. Vision

The society is inspired by a vision to be a worldwide platform for interaction and collaboration among practitioners, teachers, researchers, and the public to promote EBHC. The intent is to provide support to frontline clinicians making

day-to-day decisions and to those who have to develop curricula and teach EBHC [21].

### 6.3. Key objectives

- To promote EBHC
- To develop and promote professional and public education regarding EBHC
- To develop, promote, and coordinate international programs through national/international collaboration
- To develop educational materials for facilitating workshops to promote EBHC and regional organizations
- To assist with and encourage programs when requested by an individual national/regional organization
- To advise and guide on fund-raising skills in order that national foundations and societies are enabled to finance a greater level and range of activities
- To participate in and promote workshops for national, regional, and international workshops to promote evidence-based clinical practice
- To foster the development of an international communications system by encouraging the regional activities of organizations, EBHC networks, foundations, and organizations, as they operate within the goals and objectives of the organization.

In addition, the ISEHC will work to improve the evidence systems within which health care workers practice and hence will also seek the following:

- To develop and promote research in all aspects of EBHC
- To develop and promote other appropriate activities, such as fundraising and advocacy for EBHC, including those required to avoid publication bias.

### References

- [1] Sackett DL, Rosenberg WM, Gray JA, Haynes RB, Richardson WS. Evidence based medicine: what it is and what it isn't. *BMJ* 1996;312:71–2.
- [2] Prasad K. Publication bias perpetuates use of ineffective drugs in stroke. *Int J Stroke* 2009;4:183–4.
- [3] Shetty VV, Karve AV. Promotional literature: how do we critically appraise? *J Postgrad Med* 2008;54:217–21.
- [4] Evidence-Based Medicine Working Group. Evidence-based medicine. A new approach to teaching the practice of medicine. *JAMA* 1992;268:2420–5.
- [5] Guyatt GH, Rennie D. Users' guides to the medical literature. *JAMA* 1993;270:2096–7.
- [6] Evidence-based medicine. Fundamentals of evidence-based medicine: basic concepts in easy language. Book review. *JAMA* 296, 2862 (2006).
- [7] Prasad K. Fundamentals of evidence-based medicine: basic concepts in easy language. New Delhi, India: Meeta Publishers; 2006.
- [8] Allen C, Clarke M, Tharyan P. International activity in the Cochrane Collaboration with particular reference to India. *Natl Med J India* 2007;20:250–5.
- [9] Mathew JL. Beneath, behind, besides and beyond evidence based medicine. *Indian Pediatr* 2010;47:225–7.
- [10] Hoskote SS, Joshi SR, Ghosh AK. Bringing evidence-based medicine to the bedside. *J Assoc Physicians India* 2009;57:13–5.
- [11] Sharma KK, Gupta R, Agrawal A, Roy S, Kasliwal A, Bana A. Low use of statins and other coronary secondary prevention therapies in primary and secondary care in India. *Vasc Health Risk Manag* 2009;5:1007–14.
- [12] Jacob John T. Policy document: evidence-based national vaccine policy. *Indian J Med Res* 2010;132:228–9.
- [13] Kulier R, Khan KS, Gulmezoglu AM, Carroli G, Cecatti JG, Germar MJ, et al. A cluster randomized controlled trial to evaluate the effectiveness of the clinically integrated RHL evidence-based medicine course. *Reprod Health* 2010;7:8.
- [14] Mittal R, Perakath B. Evidence-based surgery: knowledge, attitudes, and perceived barriers among surgical trainees. *J Surg Educ* 2010;67:278–82.
- [15] Karthikeyan G, Pais P. Clinical judgement & evidence-based medicine: time for reconciliation. *Indian J Med Res* 2010;132:623–6.
- [16] Islam MS, Farah SS. Sources of information in drug advertisements: evidence from the drug indexing journal of Bangladesh. *Indian J Med Ethics* 2008;5:136–7.
- [17] Sheikh SI. International issues: of saints and sickness: a neurology elective in India. *Neurology* 2009;72:e24–6.
- [18] Narahari SR, Ryan TJ, Aggithaya MG, Bose KS, Prasanna KS. Evidence-based approaches for the Ayurvedic traditional herbal formulations: toward an Ayurvedic CONSORT model. *J Altern Complement Med* 2008;14:769–76.
- [19] Thatte U, Hussain S, de Rosas-Valera M, Malik MA. Evidence-based decision on medical technologies in Asia Pacific: experiences from India, Malaysia, Philippines, and Pakistan. *Value Health* 2009; 12(suppl 3):S18–25.
- [20] Sondhi P, Raj P, Kumar VV, Mittal A. Question processing and clustering in INDOC: a biomedical question answering system. *EURASIP J Bioinform Syst Biol* 2007;28576.
- [21] Glasziou P, Guyatt G. The International Society for Evidence-Based Health Care. Newsletter of the International Society for Evidence-Based Health Care. Newsletter 1, October 2010, 1.

## Research & Reviews

### Going forwards by going backwards: the birth of BestBETS

**Kevin Mackway-Jones, Professor of Emergency Medicine, Webmaster BestBETS, Emergency Department, Manchester Royal Infirmary, Oxford Road.**

At the back end of 1993 I started as a Consultant in the Central University Hospital in Manchester, UK. I had a specialty (Emergency Medicine) and an “ology” (Physiology – I had just spent two years in the MRC Trauma Unit under the tutelage of Professor Rod Little). I started with high hopes of combining clinical and academic work. I had (as I suspect most new consultants do) a very nasty shock. Very soon the realities of being one of two senior clinicians in a department that had never produced an academic paper hit home. It was clearly impossible.

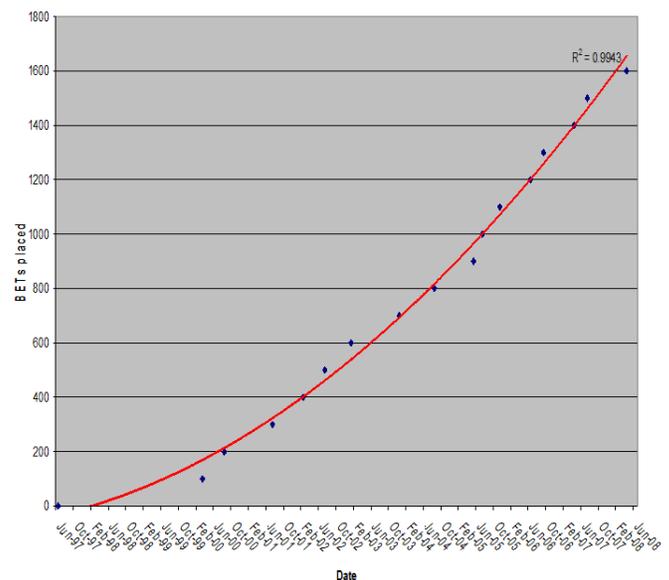
So I settled down to sort out some of the underpinning nuts and bolts issues in emergency medicine both in medical competences (Advanced Paediatric Life Support<sup>1</sup>, Major Incident Medical Management and Support<sup>2</sup>) and systems (Manchester Triage System<sup>3</sup>) as well trying to service the day to day issues that keep a busy Emergency Medicine practice safe and effective. Manchester was blown up on my watch which helped us break the paper drought<sup>4,5</sup> but in the main life was occupied in keeping the hamster wheel turning.

At the end of 1996 (both as an antidote to bombs and as a distraction) we founded a journal club for residents. It failed miserably. Not because of lack of enthusiasm (though that faded as failure set in) but because the papers we read were underwhelming. Participants reported that they left the sessions frustrated and unsatisfied because change never seemed to happen even if we thought it should. While

partly our own ineptitude, some of it, we reasoned, was because we were managing the poor evidence badly. Thus BestBETS were born.

The concept of best evidence topic reports (BestBETS) is a simple one and the title summarises it well. These reports, grounded in clinical practice, seek and find the best evidence (whatever level it is), extract and tabulate the relevant findings from the papers identified and then generate a clinical bottom line for clinicians. Because the evidence is virtually never good the clinical bottom line is a bit of a gamble (our best bet). The concept proved popular and was taken up by the Emergency Medicine Journal in 1998<sup>5,6</sup>

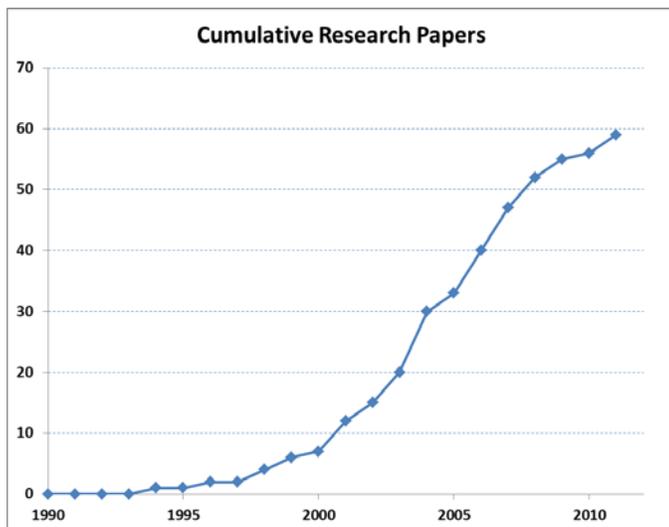
The number of BestBETS has exceeded our wildest expectation. As shown in figure 1, the rise was exponential over the first ten years.



So what effect did the huge effort in evidence-based practice have on our non-existent primary research effort?. If you remember being an academic clinician was my thwarted dream. Well those “publication successes” with BestBETS spurred us on to answering some of the questions we asked by going out and getting funding. We got our first research

fellow, submitted our first PhD and started our publication journey with a little lag.

Here's a graph of our primary publications (BestBETS articles have been removed) prepared by Sarah Thorning (from Paul Glasziou's group in Bond, Australia). What do you think?



## ABSTRACTS from the 2012 ISEHC Conference, New Delhi

### Mobilizing evidence-based medicine education by a national literature searching and appraisal championship

Heng-Lien Lo - Taiwan

**Introduction:** The promotion of evidence-based medicine (EBM) through an innovative educational strategy is important to overcome the obstacles of teaching complex 5-step EBM process. Aims: To accelerate the diffusion of EBM in clinical setting and to increase multi-disciplinary team learning by a National Literature Searching and Appraisal Championship (NaLSAC).

**Methods:** To promote the EBM application, series activities of NaLSAC were conducted since 2006. Three participants with more than one clinical specialty are required to form a team. Each team has to fulfill the following tasks within three hours. The tasks include (1) according to pre-designed clinical scenario, developing at least 2 PICO questions, (2) describing search strategies, search process and related results accordingly, (3) selecting the best evidence, demonstrating appraising process and suggesting level of evidence, (4) applying study results to the patient based on pre-defined clinical scenario. Multi-disciplinary to team presentations. Evaluation criteria were validated with consensus from EBM experts and comprise major EBM components such as quality of PICO question, literature search, critical appraisal, clinical application.

**Results:** The participants of NaLSAC have steadily increased, from only 10 teams in 2006, 38 in 2007, 50 in 2008, 77 in 2009, 89 in 2010, to 101 teams in 2011. Among EBM steps, the step of applying evidence in clinical setting showed a relatively poor performance comparing to other EBM techniques. Feedbacks from more than 90% of participants indicated the NaLSAC can accelerate the application of EBM in their clinical practice.

**Conclusion:** NaLSAC provide an effective strategy to foster EBM education environment. By contest, the championship provides model demonstration as

an effective method in EBM education. The accelerating factors for the successfulness consist of a standardized and well-organized NaLSAC program, supports from hospital leadership, and comprising multi-disciplinary and simulating learning within championship.

## OSCE-Integrated Workshops Can Enhance Evidence-Based Nursing Education

Joyce Kee-Hsin Chen – Taiwan

**Background:** Objective Structured Clinical Examinations (OSCEs) are not merely an essential tool for measuring clinical skills, but also a valuable strategy for stimulating learning motivation. **Aims:** The aim of this study was to determine the effectiveness of teaching strategies for OSCE-integrated evidence-based practice (EBP) workshops in which we planned to enhance the knowledge, skill, and attitude toward EBP among nurses.

**Methods:** This is a quasi-experimental study with repeated measures. Convenience sampling was conducted in two university hospitals in Taiwan, with 650 to 750 nurses each. The inclusion period was between July 2010 and March 2011. The intervention was the “OSCE-integrated workshop”, which involved an OSCE one week after a 4-hour EBP workshop. The outcomes were measured by the Taipei Evidence-Based Practice Questionnaire (TEBPQ) three times as follows: (1) before the EBP workshop, (2) after the EBP workshop, and (3) after the OSCE. The measurements were then converted into standardized scores to evaluate learning efficiency. : The study sample comprised 70 participants, 61 of whom were eligible for analysis, resulting in a completion rate of 87.1 %. The post EBP workshop learning efficiency was increased by 19.7 % over baseline. Furthermore, after participating in the OSCE-integrated workshop, the scores for all domains, “Ask,” “Acquire,” “Appraisal,” “Apply,” and “Attitude,” were significantly increased ( $p < .05$ ). Finally, in this study, an OSCE-integrated workshop improved

overall learning efficiency by 35% over and above the efficiency of workshop alone.

**Conclusions:** In this study, OSCE-integrated workshops improved the knowledge, skill, and attitude toward EBP among nurses. Educators may be able to use an OSCE design to enhance the educational effectiveness of an EBP workshop.

## Dissemination of systematic reviews in hospital setting: a comparative survey for diffusing the Cochrane library

Heng-Lien Lo - Taiwan

**Background:** The Cochrane Library is the most important online evidence retrieval database of systematic reviews. Since 2007, the National Health Research Institutes has offered Taiwan’s regional hospitals to freely access Cochrane Library. **Aims:** This study investigated how Taiwan’s regional hospitals disseminate its utilization.

**Methods:** The using rate of Cochrane reviews was measured in the participating hospitals from January 2008 to December 2009. Thereafter a questionnaire survey was conducted for each disseminator of regional hospitals at the beginning of 2010 to analyze their methods for disseminating Cochrane reviews.

**Results:** The hospitals were stratified into three groups by the relative rate of access: high ( $n=15$ ), medium ( $n=16$ ), and low ( $n=13$ ). In comparison with the low-usage hospitals, the high-usage hospitals tended to assign a disseminator of evidence-based medicine (EBM) to take charge of the dissemination of Cochrane reviews ( $p<0.001$ ). In addition, the high-usage hospitals more often used the following six methods: providing relevant information via e-mail ( $p<0.05$ ), investing in early adopters ( $p<0.05$ ), having assistance of designated personnel ( $p<0.05$ ), making the activity of early adopters observable ( $p<0.05$ ), conducting workshops ( $p=0.001$ ), and inviting experts for speeches ( $p<0.001$ ). There was no significant difference between high- and low-usage hospitals in organizational barriers.

**Conclusions:** This study has identified several helpful strategies used by Taiwan's hospitals to enhance the dissemination of the Cochrane Library, including awareness raising, active delivery of information, mentoring relationships, and educational training. The data suggest that disseminating EBM simultaneously is a key element.

**Note:** The full text for this study has now been published in *Postgrad Med J* 2012;88:511-514

## Evaluation of Medical School Evidence-Based Medicine Curriculum using the validated Berlin Questionnaire

Kuang-Hui Yu - Taiwan

Evaluation of Medical School Evidence-Based Medicine Curriculum using the validated Berlin Questionnaire

**Objective:** Evidence-based medicine (EBM) has been increasingly taught in medical schools, but few curricula have been evaluated using the validated instrument. To evaluate EBM curriculum knowledge and skills by the validated Berlin Questionnaire for clerkship medical students. **Materials and Methods:** We evaluated EBM knowledge and skill of 96 medical students as they progressed through an EBM curriculum in 2009 at Chang Gung University and Memorial Hospital. The EBM training course consisted of eighteen one-hour sessions held over eighteen weeks. The validated 15-item Berlin Questionnaire set A was conducted during the mid-term examination and, two weeks apart, at the end of the curriculum.

**Results:** Berlin Questionnaire score increased from  $9.4 \pm 1.7$  (median 9.5, range 5–14) to  $12.8 \pm 0.9$  (median 13.0, range 10–14). EBM knowledge and skills scores increased from mid-term examination baseline by 3.4 points at the end of the curriculum ( $p < 0.001$ ). Self-rated EBM knowledge increased by 0.3 points from

$2.7 \pm 0.7$  to  $3.0 \pm 0.6$  in a five point Likert scale ( $p < 0.001$ ).

**Conclusions:** A semester of 18-hour medical school EBM curriculum was associated with an increased EBM knowledge and skills and high Berlin EBM Questionnaire score. This knowledge and skills increased after a repeated test two weeks apart at the end of the curriculum. The item discrimination index and difficulty index will be presented at the meeting

# Resources & Reviews

## The Physiotherapy Evidence Database (PEDro)

Joanna Diong,<sup>1,2</sup> Anne Moseley<sup>1</sup> on behalf of the PEDro group: Robert Herbert,<sup>2</sup> Catherine Sherrington,<sup>1</sup> Anne Moseley,<sup>1</sup> Christopher Maher,<sup>1</sup> Mark Elkins<sup>3</sup>

<sup>1</sup>The George Institute for Global Health;

<sup>2</sup>Neuroscience Research Australia;

<sup>3</sup>Department of Respiratory Medicine, Royal Prince Alfred Hospital

The [Physiotherapy Evidence Database](http://www.pedro.org.au) (PEDro, [www.pedro.org.au](http://www.pedro.org.au)) is a free, online evidence resource which indexes over 23,000 reports of randomised controlled trials, systematic reviews and clinical practice guidelines in physiotherapy. For each trial, review or guideline, PEDro provides the citation details, abstract, and links to full-text (where available).<sup>1</sup> PEDro is a comprehensive database that is accessed by users worldwide. PEDro indexes 92-99% of all reports of physiotherapy trials; indexing on PEDro is comparable to major medical databases such as PubMed, CENTRAL and EMBASE and is more comprehensive than CINAHL, AMED and Hooked on Evidence.<sup>2,3</sup> Approximately 10% of all records in PEDro are written in languages other than English. In 2011, PEDro was accessed by users from 165 countries to answer close to 5000 clinical questions per day (that is, a search was performed every 18 seconds on average).<sup>1</sup> The homepage is now available in simplified Chinese, German, English, French, Italian, Japanese, Portuguese, Spanish, and Korean. Translation into traditional Chinese is in progress. Users can be notified of monthly updates to PEDro via subscription to syndication feeds, the PEDro email list, Twitter or Facebook.<sup>1</sup> PEDro is produced and hosted by the Centre for Evidence Based Physiotherapy at The George Institute for Global Health, an independent not-for-profit organisation affiliated with The University of Sydney.

The PEDro database can be searched using links to a simple or advanced search, or using a link to

the Allied Health Evidence search ([www.alliedhealthevidence.com](http://www.alliedhealthevidence.com)) on the PEDro home page which searches PEDro in combination with other databases such as OTseeker ([www.otseeker.com](http://www.otseeker.com)), PscybITE ([www.pscybite.com](http://www.pscybite.com)) and SpeechBITE ([www.speechbite.com](http://www.speechbite.com)) databases. When conducting an advanced search, reports of trials, reviews or guidelines can be retrieved and filtered by a number of criteria including report method, PEDro scale score and clinical area or subsdiscipline (Figure 1). Reports of trials retrieved from the search are displayed and sorted by PEDro scale score (Figure 2) and when each report is selected, its bibliographic details are displayed. PEDro therefore provides direct, rapid access to high-quality physiotherapy research and allows users to search and filter reports of randomised controlled trials by quality and other criteria.

The screenshot shows the PEDro advanced search form. The search criteria are: Abstract & Title: fracture; Therapy: strength training; Problem: ; Body Part: thigh or hip; Subdiscipline: ; Topic: ; Method: clinical trial; Author/Association: ; Title Only: ; Source: ; Published Since: [ ] [YYYY]; New records added since: [ ] [MMDDYYYY]; Score of at least: [ ] [10]; Return: 20 records at a time; When Searching: Match all search terms (AND) selected, Match any search term (OR) unselected. The Principal Supporter logos for NSW and Horizon Accounts Australia are visible on the right.

Figure 1. Advanced search of “fracture” in PEDro filtering by “strength training” in Therapy, “thigh or hip” in Body Part and “clinical trial” in Method.

### Search Results

Click on a title to view details of that record. If your search has returned many records you may need to click on *Next* (at the top or bottom of the list of records). To display a list of records from one or a series of searches, click on *Select* and then *Display Selected Records* (at the top of the page).

Record 1 - 20 of 46 [Next](#) [Last](#)

Title	Method	Score (10)	Select Record
<a href="#">Prolonged strength training in older patients after hip fracture - a randomised controlled trial [with consumer summary]</a>	trial	8/10	<a href="#">Select</a>
<a href="#">Progressive strength training in older patients after hip fracture - a randomised controlled trial [with consumer summary]</a>	trial	8/10	<a href="#">Select</a>
<a href="#">Mobility training after hip fracture - a randomised controlled trial [with consumer summary]</a>	trial	8/10	<a href="#">Select</a>
<a href="#">Nutritional supplementation and resistance training in nutritionally at risk older adults following lower limb fracture - a randomised controlled trial [with consumer summary]</a>	trial	8/10	<a href="#">Select</a>
<a href="#">Home-based leg-strengthening exercise improves function 1 year after hip fracture - a randomised controlled study</a>	trial	7/10	<a href="#">Select</a>
<a href="#">Effect of early rehabilitation on the hip joint function in patients with comminuted posterior wall fractures of the acetabulum after internal fixation [Chinese - simplified characters]</a>	trial	7/10	<a href="#">Select</a>
<a href="#">Randomised controlled trial of electrical stimulation of the quadriceps after proximal femoral fracture</a>	trial	7/10	<a href="#">Select</a>
<a href="#">The effects of muscle strength and power training on mobility among older hip fracture patients</a>	trial	7/10	<a href="#">Select</a>
<a href="#">Interdisciplinary intervention for hip fracture in older Taiwanese: benefits last for 1 year</a>	trial	7/10	<a href="#">Select</a>
<a href="#">A multidisciplinary, multifactorial intervention program reduces postoperative falls and injuries after femoral neck fracture</a>	trial	7/10	<a href="#">Select</a>

Figure 2. Results from the search shown in Figure 1. Trials are sorted by PEDro scale score.

PEDro differs from other evidence resources because all trial reports are independently assessed for risk of bias using a checklist called the “[PEDro scale](#)”<sup>4</sup> and these quality scores are used to rank the search results to quickly guide users to trial reports which are likely to be of lower risk of bias. (Systematic reviews and clinical practice guidelines are indexed on PEDro but are not scored.) The PEDro scale considers three aspects of trial quality: internal validity (“believability”) of the report, whether the report contains sufficient statistical information to be interpretable, and external validity (“generalisability”) of the report. The 10 items relating to internal validity and interpretability are summed to produce a total PEDro score. Most items of the PEDro scale were designed based on the Delphi List developed by Verhagen and colleagues<sup>5</sup> which is a list of trial characteristics thought to be important for assessing trial quality based on clinical expert consensus. The PEDro scale contains additional items related to completeness of follow-up and reporting of between-group statistical comparisons. One item from the Delphi List relates to external validity (that is, eligibility criteria) and is excluded from the calculation of the total PEDro score, however this item has been retained so all Delphi List items are represented in the PEDro scale. There is considerable research that provides evidence of the reliability and validity of the PEDro scale at measuring trial quality.<sup>4,6,7</sup> Randomised controlled trials are rated based on information that

is unambiguously reported for the 10 criteria. Trials are rated by staff of the Centre for Evidence Based Physiotherapy or volunteer physiotherapists. All trials are independently rated by two raters and a third consensus rater arbitrates the scores. Informal and non-systematic checks of the quality of some ratings are performed and users of PEDro may dispute trial ratings if errors are detected.

PEDro is supported by several organisations including the Motor Accidents Authority of New South Wales, the American Physical Therapy Association, the Australian Physiotherapy Association and 42 Member Organisations of the World Confederation for Physical Therapy. PEDro also links to many international websites including those of academic institutions, national physiotherapy associations, libraries and other collaborators.<sup>1</sup> PEDro aims to continue providing users with rapid access to high-quality physiotherapy research. Please visit the website or [contact us](#) for more information.

### References

1. Elkins MR, Moseley AM, Sherrington C, Herbert RD, Maher CG. Growth in the Physiotherapy Evidence Database (PEDro) and use of the PEDro scale. *Br J Sports Med* 2012.
2. Michaleff ZA, Costa LO, Moseley AM, Maher CG, Elkins MR, Herbert RD, et al. CENTRAL, PEDro, PubMed, and EMBASE are the most comprehensive databases indexing randomized controlled trials of physical therapy interventions. *Phys Ther* 2011; 91(2):190-197.
3. Moseley AM, Sherrington C, Elkins MR, Herbert RD, Maher CG. Indexing of randomised controlled trials of physiotherapy interventions: a comparison of AMED, CENTRAL, CINAHL, EMBASE, hooked on evidence, PEDro, PsycINFO and PubMed. *Physiotherapy* 2009; 95(3):151-156.
4. Maher CG, Sherrington C, Herbert RD, Moseley AM, Elkins M. Reliability of the PEDro scale for rating quality of randomized controlled trials. *Phys Ther* 2003; 83(8):713-721.
5. Verhagen AP, de Vet HC, de Bie RA, Kessels AG, Boers M, Bouter LM, et al. The Delphi list: a criteria list for quality assessment of randomized clinical trials for conducting systematic reviews developed by Delphi consensus. *J Clin Epidemiol* 1998; 51(12):1235-1241.

6. Bhogal SK, Teasell RW, Foley NC, Speechley MR. The PEDro scale provides a more comprehensive measure of methodological quality than the Jadad scale in stroke rehabilitation literature. *J Clin Epidemiol* 2005; 58(7):668-673.
7. de Morton NA. The PEDro scale is a valid measure of the methodological quality of clinical trials: a demographic study. *Aust J Physiother* 2009; 55(2):129-133.

## Workshops & Conferences

# EvidenceLive<sup>13</sup>

*from the world's leading thinkers, researchers and practitioners of evidence-based healthcare*

**March 25-26 2013  
Oxford**

The annual Evidence Live conference is other event in healthcare. It brings leading speakers in evidence-based from all over the world, from the fields of clinical practice & commissioning. Live is the place for learning about the advances in evidence-based healthcare out how they can be best applied in practice.



unlike any  
together  
medicine  
research,  
Evidence  
latest  
and finding  
clinical

At the Evidence Live conference researchers, clinicians and professionals, working with evidence at different stages in the healthcare chain, learn about important issues in healthcare. The programme is designed to showcase the most innovative ideas, processes and best practices that form the foundations of an evidence-based approach.

More information can be found at - <http://www.evidencelive.org/>

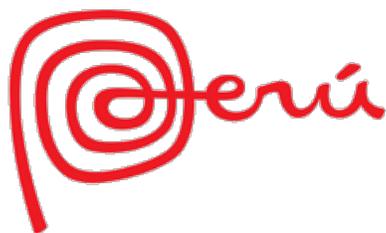
### **General enquiries, venue and travel**

**Ruth Davis**

**Tel: +44 (0) 1865 289 322**

**Email: [info@evidencelive.org](mailto:info@evidencelive.org), [ruth@evidencelive.org](mailto:ruth@evidencelive.org)**

## 7<sup>th</sup> International Shared Decision Making Conference



**June 16-19 2013**  
**[www.isdm2013.org](http://www.isdm2013.org)**

**GLOBALIZING  
SDM**

**PACIENTES  
@ the CENTRE  
of HEALTHCARE**

Between June 16 and June 19 of 2013 we will be meeting in Lima, Perú to push for a patient revolution. Researchers, patients, clinicians, and policymakers will get together to discuss how to globalize patient-centered care in general and shared decision making in particular, globalizing it to people, practices, healthcare environments, and countries, in which these practices are not common, considered feasible, or accepted.

To accomplish our goals we will set several inspiring keynote addresses and thought provoking panels, offer plenty of time for dialogue and networking, training courses for newbies and experts, and a rich social calendar to make more colleagues, collaborators and friends.



### ***Important Dates:***

Abstract Submission Opens	10 December 2012
Registration Opens	14 January 2013
Deadline for Abstract Submissions	Midnight* 15 February 2013
Notification of Acceptance of Abstracts	15 April 2013
End of Early Registration	19 April 2013
Conference	18 – 21 August 2013

\*Pacific Standard Time



2<sup>nd</sup> Conference of International Society for EBHC  
6<sup>th</sup> International Conference for EBHC Teachers and Developers  
**Evidence, Governance, Performance**  
Taormina (Italy), 30<sup>th</sup> October - 2<sup>nd</sup> November 2013



The GIMBE Foundation and the International Society for Evidence-Based Health Care are pleased to announce the **EBHC International Joint Conference 2013**, which will take place in Taormina (Italy), from 30<sup>th</sup> October to 2<sup>nd</sup> November 2013.

The **6<sup>th</sup> International Conference of Evidence-based Health Care Teachers & Developers** will be held jointly with the **2<sup>nd</sup> Conference of International Society for Evidence-based Health Care**.

The 3-day program will include a mix of renowned keynote speakers, oral presentations, workshops, poster sessions, participant surveys with televoter, and productive small group sessions to encourage exchange and the development of new ideas in teaching and practicing evidence-based health care.

More details and abstract form (due 15<sup>th</sup> March) are at: [www.ebhc.org](http://www.ebhc.org)

**Nino Cartabellotta,**  
GIMBE Foundation (Italy)  
Conference Chair

**Paul Glasziou**  
Bond University (Australia)  
Chair of the Steering Committee

|

|

## EDITORS

### ***Jason Busse***

Assistant Professor, Clinical Epidemiology & Biostatistics  
McMaster University, Faculty of Health Sciences  
Clinical Epidemiology & Biostatistics  
1280 Main Street West, HSC-2C12  
Hamilton, ON L8S 4K1  
[j.busse@rogers.com](mailto:j.busse@rogers.com)

### ***Paul Glasziou***

Professor of Evidence-Based Medicine  
Director of the Centre for Research in Evidence Based Practice  
Bond University  
Qld, Australia 4229  
[paul\\_glasziou@bond.edu.au](mailto:paul_glasziou@bond.edu.au)

### ***Gordon Guyatt***

Professor, Clinical Epidemiology & Biostatistics  
McMaster University, Faculty of Health Sciences  
Clinical Epidemiology & Biostatistics  
1280 Main Street West, HSC-2C12  
Hamilton, ON L8S 4K1  
[guyatt@mcmaster.ca](mailto:guyatt@mcmaster.ca)

## SECTION EDITORS

Teaching Tips: Kameshwar Prasad (India) - [drkameshwarprasad@yahoo.co.in](mailto:drkameshwarprasad@yahoo.co.in)  
Research & Reviews: Jose Emparanza (Spain) - [jemparan@chdo.osakidetza.net](mailto:jemparan@chdo.osakidetza.net)  
Resource Reviews: Lubna Al-Ansary (Saudi Arabia) - [lansary@yahoo.com](mailto:lansary@yahoo.com)  
Regional Reports: Ken Kuo (Taiwan) - [KENNANK@aol.com](mailto:KENNANK@aol.com)

## EDITORIAL ASSISTANT

### ***Chrissy Erueti***

Assistant Professor  
Centre for Research in Evidence Based Practice  
Bond University  
Qld, Australia 4229  
[cerueti@bond.edu.au](mailto:cerueti@bond.edu.au)  
|

## MAILING LIST

We would like to keep our mailing list as up to date as possible. If you are planning to move, have moved, or know someone who once received the newsletter who has moved, please e-mail [maddock@mcmaster.ca](mailto:maddock@mcmaster.ca) or write your new address here and send to Deborah Maddock, CE&B, HSC 2C12, McMaster University Health Sciences Centre, 1280 Main Street West, Hamilton, ON L8S 4K1, Canada. Thank you!

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

CITY: \_\_\_\_\_

PROVINCE OR STATE: \_\_\_\_\_

POSTAL CODE: \_\_\_\_\_

COUNTRY: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

FAX: \_\_\_\_\_

E-MAIL: \_\_\_\_\_

## SIGN UP A COLLEAGUE!

If you would like to encourage a colleague to attend the workshop next year, please e-mail [maddock@mcmaster.ca](mailto:maddock@mcmaster.ca) or write the address here and send to Deborah Maddock, CE&B, HSC 2C12, McMaster University Health Sciences Centre, 1280 Main Street West, Hamilton, ON L8S 4K1, Canada. Thank you!

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

CITY: \_\_\_\_\_

PROVINCE OR STATE: \_\_\_\_\_

POSTAL CODE: \_\_\_\_\_

COUNTRY: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

FAX: \_\_\_\_\_

E-MAIL: \_\_\_\_\_

RECOMMENDED BY: \_\_\_\_\_