

Letter to the Editors

## What is evidence-based medicine?

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I am writing with regards to the article published in the *Ceylon Medical Journal*, Vol 66 Issue 1, Evidence based medicine: ideology, hegemony, statistical gaze and beyond by Karunatilake H.

The author's 'objective of this three-part article series is to have a simple philosophical discourse using the EBM paradigm'. Philosophy consists of speculations on questions to which there are no universally accepted answers such as origin of what really exists (ontology), the nature of human knowledge (epistemology) and how we ought to conduct ourselves (ethics) [1]. It is acceptable that the author may be exploring an issue thinking EBM is not universally accepted.

A philosophical discourse should start with the current understanding of the subject under discussion, Evidence Based Medicine (EBM). EBM has been evolving for nearly three decades since its introduction in 1992. However, the author has used the oldest, outdated paradigm of EBM. There may be two reasons: the author purposely picked the old paradigm of EBM for the philosophical discourse, or he has not been updated with modern evidence-based practice.

The author commences by stating "one of the standard definitions of EBM reads as follows: the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients". This is only the 1992 definition [2] and not the 'standard' definition given by Sackett. In their 1996 editorial titled, 'Evidence based medicine: what it is and what it isn't, Sackett et al' clarified, elaborated EBM, and replied to the critics as well. This was especially for clinicians practising evidence-based medicine, which according to Sackett, was the turning point of EBM [3].

Author states 'Patients' values, perception of good health and physician-patient interaction are deemed unimportant in the EBM paradigm. Most of these ideas are non-quantitative and they are dismissed as evidence and not represented in EBM. If the author had only read the 1996 reply by Sackett [3] it should be clear that: "By individual clinical expertise we mean the proficiency and judgement that individual clinicians acquire through clinical experience and clinical practice. Increased expertise is reflected especially in more effective and efficient diagnosis and in the more thoughtful identification and compassionate use of individual patients' predicaments, rights, and preferences in making clinical decisions about their care". Furthermore, Guyatt also acknowledges that in the 1992 JAMA article there was little about patient values. It was over the next five years that patient values and preferences became much more central, and since then strongly emphasized [4].

Author continues to state that 'Most of these ideas are non-quantitative and they are dismissed as evidence and not represented in EBM. The current hierarchy of EBM tends to define qualitative research as of lower evidentiary status, despite its appropriateness to many research questions'. And the answer is in the next few lines of the 1996 paper "By best available external clinical evidence we mean clinically relevant research, often from the basic sciences of medicine, but specially from patient centred clinical research into the accuracy and precision of diagnostic tests, the power of prognostic markers, and the efficacy and safety of therapeutic, rehabilitative, and preventive regimens".

Author then quotes a 2004 article written in a Medical Informatics Journal, 'Secondly acceptable research for EBM must be based on randomised controlled trials design

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which constitute only 2% of the literature. Rest of the 98% is deemed scientifically redundant by EBM'. This is the furthest from the truth as EBM is propagated by all types of available study designs, even observational studies, if that is the only level of evidence available. The 5S model of EBM explains how one can use different levels of evidence starting from the highest level to the lowest deal with different levels of evidence [5].

Author laments that 'It is ironic to find there is no convincing evidence to date to say that doctors practicing EBM provide better health care than those who do not. Evidence based medicine is not evidence based'. This kind of research comparing the individual doctors view, what we call the eminence based medicine, has been compared even before Sackett introduced EBM. One of the best examples is the article published in 1992, A comparison of results of meta-analyses of randomized control trials and recommendations of clinical experts in treatments for myocardial infarction. The paper concluded that the review articles often failed to mention important advances or exhibited delays in recommending effective preventive measures. In some cases, treatments that have no effect on mortality or are potentially harmful continued to be recommended by several clinical experts [5].

The author claims that 'hegemony is a form of consent given by the people without coercion to dominant ruling ideology, considering it as common sense' and goes on to say that 'they go so far as to suggest that this 'evidence' being so 'self-evident', it seems, that to question it would be foolish. We consent to the rule of EBM without any form of coercion as we were pre-conditioned'. There has been serious confusion with hegemony and scientific truth. Philosophy has no issues with scientific truth. I agree that in a very short period of three decades, EBM has become widespread and accepted. This has not happened in an authoritative communist state but in an open world including countries having different kinds of ruling systems. A PubMed search with the phrase 'evidence-based medicine' will give you over 215,000 hits; if you use 'evidence based medicine' [MeSH] the count is more than 75,000 citations. These include articles that are critical of EBM. This is how science progresses, and it has nothing to do with hegemony, defined as 'influence or authority over others'. This is how allopathy is different from Ayurveda.

Therefore, I have to say that the author has misrepresented EBM as it is currently defined and practised. I have provided evidence with a few key references of EBM to support my case.

### Conflicts of interest

There are no conflicts of interest.

### Acknowledgements

I thank my friend who helped me to structure this reply but wishes to remain anonymous.

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### Author's reply

We thank Professor Mendis for raising several interesting points in response to our discourse on evidence based medicine (EBM). Our article is a simple discussion on philosophical background of EBM and not a devious plan to purposely use an outdated definition to misrepresent the EBM paradigm. Our novice philosophical discourse should not be interpreted as an attempt to undermine the value of EBM practice.

Epistemology is the branch of philosophy that examines the nature of knowledge and questions the validity and foundation of various ways of knowing. EBM deals with nature of knowledge in medicine and define optimal ways to describe that knowledge. Thus EBM represents a school of medical epistemology. There have been discourses into philosophy underpinning EBM paradigm from its beginning [1]. There has been a recent philosophical debate concerning the concept of evidence in EBM [2].

EBM proponents might argue that since EBM is not a test, or an intervention, it does not need the same level of evidence for support. However EBM requires clinician to keep up with the latest research and train in EBM methods. In that sense, EBM a new way of practicing medicine, can be considered as an intervention. According to the principles of EBM, compelling evidence should be present to accept an intervention. A comparison of results of meta-analyses of randomized control trials with recommendations of a clinical expert does not meet that rigorous EBM standards.

As you have mentioned in 1996 editorial Sackett *et al* redefined the EBM movement as “the integration of best research evidence with clinical expertise and patient values”. This rightful shift in focus acknowledge the importance of patients values in clinical decision making. However even proponents of EBM admit that the method to integrate clinical expertise and pathophysiological knowledge and patient’s preference in medical decision making is not clearly stated except that ‘clinical judgment and expertise’ are viewed as essential for success” [3].

In 2007 Henry *et al* while arguing that medicine needs a more robust epistemology capable of recognizing patients and clinicians as persons notes that EBM “despite such attempts to develop more nuanced definitions, in everyday speech evidence-based medicine connotes adherence to the hierarchy of evidence and is considered separate from or even antithetical to reliance on clinical expertise or patient values” [4].

This integration of current evidence, clinical expertise and mechanistic reasoning and patient’s values is what entails good clinical practice. Commenting on broader

definition of EBM Tonelli states “unless EBM specifically tells us something about the relationship and priorities of various forms of medical knowledge it represents not a “new paradigm” but rather a new name for a still nebulous process called clinical medicine” [1].

## References

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