

Best Evidence Medical Education

An extended summary of BEME Guide No 1

This guide was first published in *Medical Teacher* 1999:

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The full text of this guide comprises 15 pages and 49 references and is available from:

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Guide overview:

There is a need to move from opinion-based education to evidence-based education. Best Evidence Medical Education (BEME) is the implementation, by teachers in their practice, of methods and approaches to education based on the best evidence available. It involves a professional judgement by the teacher about their teaching taking into account a number of factors – the QUESTS dimensions. The **Q**uality of the research evidence available – how reliable is the evidence? the **U**tility of the evidence – can the methods be transferred and adopted without modification, the **E**xtent of the evidence, the **S**trength of the evidence, the **T**arget or outcomes measured - how valid is the evidence? and the **S**etting or context – how relevant is the evidence?

The need for evidence-based teaching

New approaches may be introduced in medical education with much rhetoric but little real, reliable or valid evidence. Other teachers may follow in lemming-like droves before evidence is available confirming the value of the approach, and find themselves locked in, with evangelical partisanship determining action. We need to think more critically about current educational practice and about new approaches to medical education. The need for evidence-based medical education has been highlighted.

Problems with evidence-based teaching

Compared to medicine, research in education may be more complex, confounding factors may be more apparent, content may be more implicit and controlled trials may be difficult. Many would disagree with this view and it has been argued that compared to medicine, education faces very similar, if not identical, problems of complexity, context specificity, measurement and causation.

The concept of Best Evidence Medical Education (BEME)

A helpful view of evidence-based teaching is of it as a continuum between 100% opinion-based education at one end of the spectrum where no useful evidence is available, and 100% evidence-based education at the other where decisions can be taken on the basis of detailed evidence. In Best Evidence Medical Education (BEME), teachers make decisions about their teaching practice on the best evidence that is available at whichever point they find themselves on the continuum.

The grading of evidence

There are obvious advantages in a scoring or grading scheme which places the evidence available at the appropriate point on the continuum between opinion-based and evidence-based teaching. A multi-dimensional approach with six dimensions has been explained, each with its own continuum, and represented by the QUESTS acronym:

- | | |
|-------------|--|
| 1. Quality | How good is the evidence? |
| 2. Utility | To what extent can the method be transferred and adopted without modification? |
| 3. Extent | What is the extent of the evidence? |
| 4. Strength | How strong is the evidence? |
| 5. Target | What is the target? What is being measured? How valid is the evidence? |
| 6. Setting | How close does the context or setting approximate? How relevant is the evidence? |

Use of Best Evidence Medical Education

The aim of Best Evidence Medical Education is to have medical teachers think more clearly about the actions they are taking as teachers and to utilise evidence where it is relevant and available to inform their decision. In Best Evidence Medical Education teachers combine their teaching and professional judgement with the evidence available in order to decide the most appropriate action in a particular situation.

Tensions Highlighted

A number of tensions in applying evidence-based teaching are highlighted by the QUESTS dimensions. There are tensions between the quality of the evidence and its applicability in a particular setting. Should more or less importance be attached, for example, to a single randomised controlled trial carried out in a different setting compared to a series of carefully reported case studies carried out in a similar setting? There is also a tension between the push for higher quality research and controlled trials, often at the expense of validity and the targets or outcomes evaluated. A further tension exists between the utility and the setting dimensions. The teacher tends to compensate for a difference between the setting in which the research was undertaken and the context in which he or she practices by adapting the method to suit the local context. This inevitability, however, lowers the utility scale.

Conclusion

The adoption of Best Evidence Medical Education does not require the teacher to be a researcher in education. It does require the teacher to be able to appraise the evidence available or to have access to a review of the evidence and for the teachers to come to a decision on the basis of his or her judgement.

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