

Evidence Update

Health Sector Development Series

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Does teaching critical appraisal to health professionals improve practice or patient outcomes?

There is currently insufficient evidence to know whether teaching critical appraisal improves knowledge or practice.

Inclusion criteria

Types of studies:

Randomised controlled trials (RCTs), controlled clinical trials (CCTs), controlled before and after studies (CBAs), and interrupted time series (ITSs).

Types of participants:

Any qualified health care professionals (including managers and purchasers) in any clinical setting.

Types of intervention:

Educational interventions (defined as a co-ordinated educational activity, of any medium, duration or format) teaching critical appraisal (defined as the process of assessing and interpreting evidence by systematically considering its validity, results and relevance to ones' own work). The intervention could be a single intervention or one of a package of interventions.

Types of outcome measures:

Objectively measured: process of care variables; patient outcomes (mortality, morbidity, quality of life and satisfaction). Assessments of the impact of teaching critical appraisal on health professionals' knowledge/awareness were considered if assessment of outcome measure was based on standardised and reliable instruments (tests and questionnaires).

Results

- One hospital-based randomised trial involving 44 doctors in the USA met the inclusion criteria. The randomisation process was not specified and it is unclear whether the control group were protected from contamination.
- Critical appraisal teaching was reported to significantly improve critical appraisal knowledge in the intervention group by 25% (adjusted figure) compared to 6% in the control group ($p=0.02$).
- Process of care, patient health, and provider attitudes and awareness were not assessed.



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Reviewer's conclusions

Implications for practice:

One trial suggests that critical appraisal teaching has positive effects on participants' knowledge. We do not know whether it impacts on the process of health care or on patient health. Due to limitations on validity and significance in practice and the total absence of results for important outcomes, the evidence is not sufficient to encourage further expansion of critical appraisal activities without rigorous evaluation of whether they work.

Implications for research:

There is a need for a multicentre randomised controlled trial of teaching critical appraisal to postgraduates or as part of continuing professional development. It should define in advance changes in outcomes that are 'significant in practice'. One way of achieving this might be multicentre, methodologically rigorous, controlled before and after studies in comparable groups with the same valid instruments, measuring the same outcomes, which may be able to give answers of reasonable validity when randomisation is not feasible.