

The use of journal clubs to teach evidence-based medicine to clinicians: a systematic review and meta-analysis

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AIM

To determine the effectiveness of journal clubs for increasing health professionals' competency in evidence-based medicine (EBM).

METHODS

P: medical and allied health professionals, and students

I: EBM facilitated through journal clubs

C: any other form of education, or no educational intervention

O: change in EBM competency as defined by knowledge, attitudes, skills or behaviours

S: Randomised controlled trials (RCTs)

- Databases searched:
 - MEDLINE, ERIC, Scopus, PsychINFO, CINAHL and The Cochrane Library
- Quality assessed using the Cochrane Risk of Bias tool

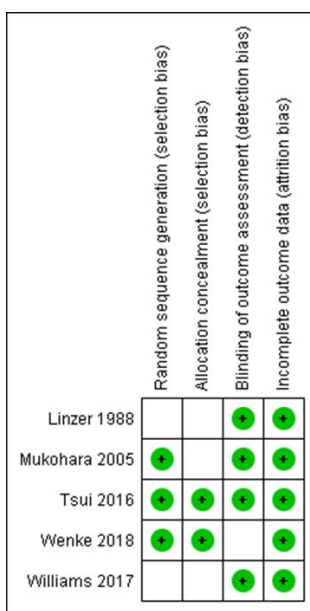


Figure 2. Risk of bias for included studies

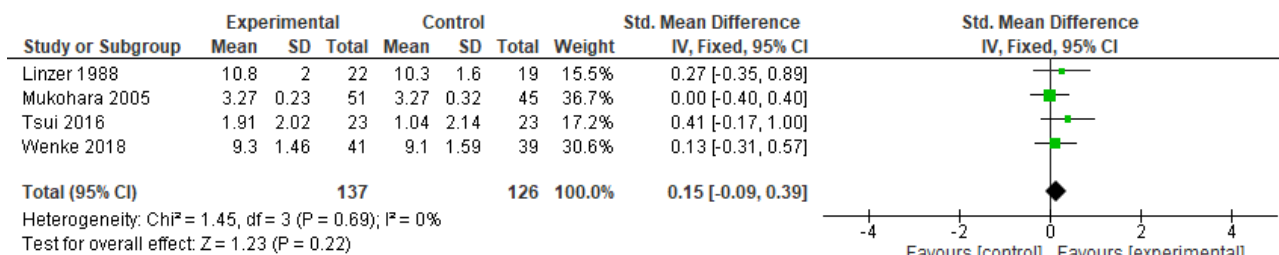


Figure 3. Meta-analysis of the included studies for mean difference in knowledge

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BACKGROUND

- A 2011 BEME systematic review identified 17 observational and one RCT on the effectiveness of journal clubs on competency in EBM.
- It concluded that that journal clubs designed to teach EBM to health professionals resulted in an improvement in reading behaviour, critical appraisal and ability to use findings in clinical practice.

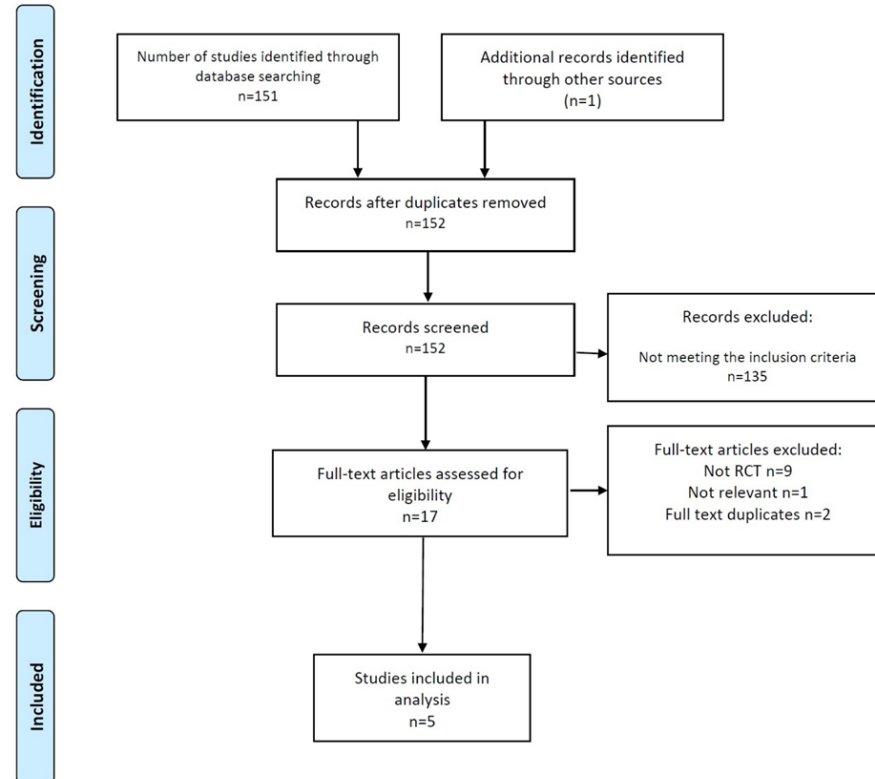


Figure 1. PRISMA flowchart

Characteristics of included studies

Authors/year	Country	Study design	Sample size	Participants	Intervention	Comparison	Duration of intervention	Findings
Linzer 1988	USA	RCT	n=44	Medical Interns	Weekly journal club	Standard seminar series	9.5 months	Knowledge of epidemiology and biostatistics No difference Critical appraisal skills No difference
Mukohara 2005	USA	RCT	107	General internists	Weekly e-mail summarising 1 or 2 selected articles	Weekly e-mailed link to a commercial news website (Yahoo! Health,)	3 months	Use of research evidence: No difference Attitudes No difference Confidence No difference
Tsui 2016	China	RCT	52	Chinese medical professionals	Fortnightly journal club	Self-study	2 months	Knowledge No difference
Wenke 2018	Australia	Cluster RCT	138	Allied health professionals	Tailored, one-hour, monthly journal club	Existing journal club	6 months	EBP skills No difference EBP practice No difference EBP attitudes EBP knowledge No difference
Williams 2017	USA	RCT	n=50	Third-year medical students	Journal club plus additional review session on discipline specific content	Journal club only	11 months	Knowledge @ 1 day Statistically significant higher scores in Journal Club group Knowledge @ 3 months No difference

DISCUSSION

- Journal clubs are widely used in clinical medicine.
- Our results support the need for further RCTs to investigate in the effectiveness of journal clubs in increasing the knowledge, attitudes and implementation of evidence-based skills by health professionals in clinical practice.
- Interventions should include interactive components with auditing and feedback to facilitate more effective learning.