

Sept 2010
QUESTION 19

Define levels of evidence with respect to Evidence Based Medicine (EBM). (30% of marks) Discuss the strengths and weaknesses of meta-analysis. (70% of marks)

Levels of evidence (NHMRC)

- I Systematic review of level II studies
- II Randomised controlled trial
- III-1 Pseudorandomised controlled trial
- III-2 Comparative study with concurrent controls
- III-3 Comparative study without concurrent controls
- IV Case series with post test and/or pre test outcomes

Meta-analysis

is a process of combining the results of different trials to derive a pooled estimate of effect

Advantages

- considered to be very reliable
- applicable to practice as it measures effect
- the studies are already completed therefore avoiding time and costs and ethics approval

Disadvantages

- Systematic errors
 - publication bias (negative studies often aren't published)
 - same data sets may be published multiple times
 - different studies may get different weighting depending on author bias
- Heterogeneity
 - studies may not be measuring the same thing
- Study may be outdated
- No controls over the study design