CARD 4: Systematic Reviews

When reading a systematic review (meta-analysis or qualitative systematic review), there are 3 broad issues to consider: 1. How good is the systematic review itself (can you trust it)? 2. How many studies were found and how good are they (is the evidence convincing)? 3. How robust were the results (were they statistically significant and clinically important)?

1. How Good Was the Systematic Review Methodology?

(Transparent & thorough? Quality assessed? Unbiased?)

**Thorough?**

1. What data bases?
2. What search terms?
3. Hand searches?
4. How current?
5. English only?
6. Unpublished data?
7. At least 2 researchers

**Quality assessed?**

1. Were **inclusion criteria** clear and reasonable?
2. Were studies and conclusions clearly labeled as to the level of quality?
3. Was the quality **rating method** clear and transparent?

**Unbiased?**

1. Who did it? (Any conflicts of interest?)
2. Do the summary points in the conclusion match the data?

2. How Much and How Strong is the Evidence? (QicKNeSS)

- **QUALITY of the studies:** high, low or moderate?
- **KIND of studies:** rating on the evidence pyramid (i.e. for therapy: RCTs or systematic reviews of RCTs vs cohort or case control studies)
- **NUMBER of studies:** the more, the better, especially if well done
- **SIZE:** how many subjects (N) did each study have (>100? >50? >20)? What was the combined number of subjects?
- **SIMILARITY:** patients, conditions, treatment. (If a meta-analysis, was there sufficient similarity to justify?)

3. Are the Results and Conclusions Robust?

- **Statistically significant?** Was the p value < .05 overall or at least in one higher quality RCT?
- **Clinically significant/important?** Did within-patient outcomes improve above baseline to a minimally clinically important degree (MCID)? Is the difference between groups clinically significant? Were LRs large enough to appreciably affect post-test probability (diagnostic studies)
- **Results precise?** (Check for wide vs narrow confidence intervals)
- **Results consistent?** (Do the studies consistently agree or disagree; is there a difference between lower quality and higher quality?)

What is the Bottom Line?

- **Green light- GO** solid consistent research evidence in support
- **Yellow Light-Caution** favorable but inconclusive
- **Red Light-STOP** unfavorable but inconclusive

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