

Can we still call it “evidence-based practice” if we deviate from the evidence?

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Best evidence for evidence-based practice (EBP): systematic reviews

- Developed (ideally!) using a PICO(T)(S) question:
 - Population
 - Intervention
 - Comparator
 - Outcome(s)
 - (Time point of outcome(s))
 - (Setting)

Ravi DK, Kumar N, Singhi P.

Effectiveness of virtual reality rehabilitation for children and adolescents with cerebral palsy: an updated evidence-based systematic review.

Physiotherapy. 2017 Sep;103(3):245-258.

- “seeks to update the latest evidence and summarize the current body of literature”
- “findings should be useful to optimize approaches in ... clinical practice on virtual therapy”
- Systematic review “conducted” (sic) according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)
- Meta-analysis of primary studies’ results not considered appropriate

Effectiveness of virtual reality rehabilitation for children and adolescents with cerebral palsy: an updated evidence-based systematic review.

- **Participants:** People with cerebral palsy: mean age from 5 to 18 years
- **Intervention:** Use of any virtual reality system or active video games
- **Control:** Compared with baseline or presence of any control group
- **Outcomes:** Body structure, body functions, activity and participation, environmental and personal factors

Intervention reported for 31 papers, and specifics for DaSilva 2015:

- Device (Xbox 360 Kinect)
- Nature of VR: non-immersive, semi-immersive, immersive (non-immersive)
- Input device used (Wii Balance Board and Remote)
- Output device used (N/A)
- Duration of sessions (30 minutes)
- Sessions per week (3)
- Total number of sessions (40)

Results

- Body structure and function:
 - 10 studies (among which 3 RCTs) found improvement in balance (more so using Wii or Kinect?)
 - 12 studies (1 RCT) found improvement in upper extremity skills – but 8 studies (3 RCTs) found no change
 - 2 studies found improvement in lower extremity function and gait – but 2 did not
 - 3 of 4 RCTs found improvement in overall motor function
- Activity and participation: no clear improvements
- Personal factors: not reported

What did we expect: PRISMA reporting guidelines for SRs/MAs

- **18. Study characteristics:** For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.
- **20. Results of individual studies:** For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.

Primary vs secondary studies: results reporting

- Do we get (more) useful information in primary studies on
 - patient sample (age, impairment(s), activity limitation(s), participation restriction(s), co-morbidities, etc.)
 - what, who provided, how, where, when, how much, tailoring
 - nature and timing of outcomes

Is TIDieR (Template for Intervention Description and Replication) any better?

WHAT

(3) Materials: Describe any physical or informational materials used in the intervention, including those provided to participants or used in intervention delivery or in training of intervention providers. Provide information on where the materials can be accessed (e.g. online appendix, URL)

(4) Procedures: Describe each of the procedures, activities, and/or processes used in the intervention, including any enabling or support activities.

Is TIDieR (Template for Intervention Description and Replication) any better?

WHO PROVIDED

(5) For each category of intervention provider (e.g. psychologist, nursing assistant), describe their expertise, background and any specific training given.

HOW

(6) Describe the modes of delivery (e.g. face-to-face or by some other mechanism, such as internet or telephone) of the intervention and whether it was provided individually or in a group.

WHERE

(7) Describe the type(s) of location(s) where the intervention occurred, including any necessary infrastructure or relevant features.

Is TIDieR (Template for Intervention Description and Replication) any better?

WHEN and HOW MUCH

(8) Describe the number of times the intervention was delivered and over what period of time including the number of sessions, their schedule, and their duration, intensity or dose.

TAILORING

(9) If the intervention was planned to be personalised, titrated or adapted, then describe what, why, when, and how.

Even the best-reported rehabilitation evidence summarized in an SR/MA

- Generalizes over 2-20 studies done, all with a somewhat unique
 - P: inclusion/exclusion criteria
 - I: variations in intervention duration, total hours, differences in multiple component of a complex intervention
 - C: usual care, wait-list control, single controlled comparator
 - O: outcome(s) considered, and instrument(s) used for each outcome
 - T: time between treatment completion and post-test, follow-up tests
 - S: setting (first vs third world; inpt. vs outpt.; primary vs secondary vs tertiary care; etc.)

Even the best-reported rehab evidence, whether from primary or secondary study

- Needs to be 'adjusted', 'tweaked', 'individualized' for local resources, patients, staff capabilities, patient priorities and preferences, insurance willingness to pay, etc.

Does evidence-based practice cease to be EBP, when we change ...

- (specifics of the) **Population**
- (superficial or key details of the) **Intervention**
- Consider **Outcomes** not included in the systematic review
- Are interested in **Time points** not considered in the systematic review
- (Details of the health care system) **Setting**

Discussion questions

- In a typical well-executed and well-reported systematic review, if the evidence is convincing that the intervention studied is a good one, do you get enough information on patients, intervention, resources needed, timing, outcomes to be expected, etc. to be able to implement this intervention with YOUR clients/ patients?

Discussion questions

- What is the situation for a well-designed, -executed and -reported primary study – Do you typically get the information needed for speedy and faithful local implementation?

Discussion questions

- If, as is almost always the case, your local implementation of an evidence-based intervention deviates in some aspects from what was in the primary or secondary study that delivered the evidence, can you still call your practice evidence-based?

Discussion questions

- Is the answer to the last question affected by WHAT is modified from the evidence?:
 - Nature of all or most patients treated locally
 - Quantity, quality, timing or exact nature of the intervention
 - Outcomes that you aim to achieve for your clientele
 - Timing of outcomes, especially long-term ones (vs the short-term ones common to most research)
 - Other factors

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Please complete brief evaluation form:

<http://www.surveymoz.com/s3/3838495/Evaluation-EBP>

Disclaimer

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