

Not Birds of a Feather: Case Reports, Case Studies, and Single-Subject Research

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If the practice of therapeutic massage and bodywork (TMB) is to become evidence-informed, practitioners, educators, and presenters must better develop their research literacy and critical appraisal skills. Given that the IJTMB supports the publication of case reports as one fundamental form of knowledge development within the fields of TMB, it is imperative that researchers, educators, and practitioners know the difference between case reports and similar, but unrelated, forms of research. There are legal and ethical implications that must be carefully considered for each form of research or reporting.

At the International Massage Therapy Research Conference in Seattle, USA, in May this year (2016), it was exciting to learn about the variety of new research efforts, and engage attendees about issues of future directions in therapeutic massage and bodywork (TMB) research and research capacity. Yet, it is difficult to discuss complex issues in research when within the professional therapeutic massage community, generally, the basics of research are still not understood. If the practice of TMB is to become evidence-informed, practitioners, educators, and presenters must better develop their research literacy and critical appraisal skills. There is also a duty of the professional organizations and educational programs to start integrating research literacy and research translation skills into the framework of all they do—clinically and within the professional support framework—not just as an isolated course or occasional reference. This was sadly something I learned remains an on-going professional issue.

The *IJTMB* supports the publication of case reports as one of the fundamental units of developing the knowledge base within the fields of TMB. Without reported exemplars and interesting cases shared and confirmed among colleagues, it is difficult to develop and confirm the hypotheses needed to drive research and changes in practice.

However, even for something as fundamental as case reports, I have a clarion call: Learn your research basics! At the Seattle conference, I presented an introductory lecture on single-subject research designs,

a family of not-very-well-known research methods that have great clinical research potential for TMB. The designs are so little known that I found there is a dangerous crossover occurring between case reports and single-subject experimental research. Because that crossover can lead to unethical or inappropriate research, the following is a brief review of the different reporting forms that could be conflated, yet should be clearly distinguished.

Case reports are a classic reporting mechanism employed when a practitioner realizes they have an interesting or unusual case in their care, or they realize that the care chosen might provide insight into work with similar patients. Perhaps the case has become an exemplar of successful, or unsuccessful, care. Case reports are based on one fundamental issue: standard clinical care, reflecting a practitioner or student's normal clinical practice. Presumably this would incorporate treatment planning, on-going evaluation of treatment, treatment variation according to the needs of the patient, and proper clinical notes. Historically case reports have also been called "case study reports" or "case studies", but now they should only be referred to as case reports to prevent confusion with case studies research, described below.

Case series are used when documenting the similarities and differences between several case reports from your clinical care. These require a practitioner, as part of standard clinical care, to see a number of cases that have similar (the same) condition or basis for treatment. Like case reports, these also require informed consent from the clients for any use outside of clinical care.

Case studies are a specific qualitative research design involving a specific research question, protocol, qualitative analysis plan, and research ethics committee (RECs) review[†]. Formally, a case study is a focused exploration of the "case's" situation,

[†] Because they are simply reports of standard clinical care, case reports and case series do not require research ethics committee review. Case studies and single-subject research are considered research on humans, requiring ethical oversight, as well as informed consent. For more on ethics considerations, see the *IJTMB* June 2016 editorial.

which will be comprised of an individual, a group of individuals, or other defined sampling frame (e.g., an office, a position, or an institution). It may entail interviews with case members, note-taking of observations of the environment, interactions within the case and of the case with the external environment, examinations of records/documents about the case and by the case, and so on. The purpose is to develop a complete description of the “case” in the context of the research question. Thus, while a case study of a single person’s health care treatment may superficially seem similar to a case report, the framework, process, and results are very different.

Single-subject research designs (SSRDs) comprise a family of research designs that are experimental in nature and undertaken using carefully developed protocols, a treatment plan involving specific manipulation or variation of the independent variable(s), and consistent, on-going measurement of the outcome(s) of interest. The study unit is the individual, who serves as his or her own treatment control as well as test subject, and the evaluative frame is multiple measurements across time. These are experiments on humans, and unless this full development is normal clinical practice for you or you can prove that you are doing an SSRD to address a specific clinical problem (i.e., for clinical care only, not for documenting results), these require REC review. Additionally, in some jurisdictions, SSRDs will always require REC review, even for clinical care, because of the experimental nature[‡].

[‡] For more on the ethical considerations of SSRDs, please see Punja S, Vohra S, Eslick I, Duan N. Chapter 2. An ethical framework for N-of-1 trials: clinical care, quality improvement, or human subjects research? In: Kravitz RL, Duan N, eds. *Design and Implementation of N-of-1 Trials: A User’s Guide*. AHRQ Publication No. 13(14)-EHC122-EF. Rockville, USA. 2014. p.13–22. www.effectivehealthcare.ahrq.gov/N-1-Trials.cfm

While I applaud schools for integrating case report assignments into the curriculum—their use will concretize research skills, emphasize the use of the literature base for foundational knowledge about a situation, encourage the objective assessment of results from clinical treatment, and help develop effective writing skills for describing therapeutic choices and treatment—there can be legal and ethical implications if the assignments are not integrated properly or end up being SSRDs. How many of us use (or teach) assessment tools, like the Brief Pain Inventory or Insomnia Severity Index, to evaluate patients as a *routine* part of practice? From a broader perspective, if the TMB professions want to become established as evidence-informed practices, then the correct use of evidence-informed knowledge and approaches must be incorporated throughout our training and communication, undergraduate and professional alike.

The Seattle IMTRC conference sessions and interchanges encourage me by showing that we are off to a good start and growing our evidence knowledge well. So we need to establish our research foundations and language accurately, now, before inappropriate or misleading knowledge and terminology become the norm, and careless misuse undermines the respect we are beginning to earn.

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