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Evidence-based practices in the field of intellectual and developmental disabilities: An international consensus approach☆

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ABSTRACT

As evidence-based practices become increasingly advocated for and used in the human services field it is important to integrate issues raised by three perspectives on evidence: empirical–analytical, phenomenological–existential, and post-structural. This article presents and discusses an evidence-based conceptual model and measurement framework that integrates these three perspectives and results in: multiple perspectives on evidence-based practices that involve the individual, the organization, and society; and multiple interpretation guidelines related to the quality, robustness, and relevance of the evidence. The article concludes with a discussion of five issues that need to be addressed in the future conceptualization, measurement and application of evidence-based practices. These five are the need to: expand the concepts of internal and external validity, approach evidence-based practices from a systems perspective, integrate the various perspectives regarding evidence-based practices, develop and evaluate evidence-based practices within the context of best practices, and develop a set of guidelines related to the translation of evidence into practice.

1. Introduction and overview

The concept and application of evidence-based practices started originally in medicine in the 1990s and has spread rapidly to many social and behavioral disciplines including education and special education, aging, criminal justice, nursing, public health, mental and behavioral health, and intellectual and closely related developmental disabilities. Representative references for each of these areas are found in Appendix A. Across these broad areas, evidence-based practices generally refer to the use of current best evidence in making clinical decisions about the interventions and/or supports that service recipients receive in specific situations.

Despite their widespread advocacy and use, there are at least three different perspectives on evidence and evidence-based practices: the empirical–analytical, the phenomenological–existential, and the post-structural (Broekaert, Autreque, Vanderplasschen, & Colpaert, 2010). These three perspectives relate to different approaches to intervention and the conceptualization, measurement, and application of evidence-based practices. For example, the empirical–analytical perspective places a premium on experimental or scientific evidence as the basis for evidence-based practices (e.g., Blayney, Kalyuga, & Sweller, 2010; Brailsford & Williams, 2001; Cohen, Stavri, & Hersh, 2004). In distinction, the phenomenological–existential perspective approaches treatment or intervention success based on the reported experiences of well-being concerning the intervention (e.g., Kinash & Hoffman, 2009; Mesibov & Shea, 2010; Parker, 2005). From a third, post-structural perspective, treatment or intervention decisions and intervention success should be based on an understanding of public policy principles such as inclusion, self-determination, participation, and empowerment (e.g., Broekaert, D'Oosterlinck, & van Hove, 2004; Goldman & Azrin, 2003; Shogren et al., 2009).

As evidence-based practices become increasingly advocated for and used in fields such as intellectual and closely related developmental disabilities (ID/DD) it is important to address and integrate the issues raised by these three perspectives. To that end, the purpose of this article is to present and discuss an evidence-based conceptual and measurement framework that integrates these three perspectives and results in: (a) multiple perspectives on evidence-based practices that involve the individual, organization, and society; and (b) multiple interpretation guidelines related to the quality of the evidence, the robustness of the evidence, and the relevance of the evidence. Subsequent articles by the authors expand on the interpretation guidelines (Claes, van Hove, Vandevelde, Broekaert, & Decramer, in preparation), and application to individuals (Buntinx & Didden,

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in preparation) and organizations (Van Loon & Bonham, in preparation).

The five sections of the article: (a) present an operational definition of evidence-based practices that integrates the various definitions found in the literature; (b) present an evidence-based practices conceptual model that integrates the sequential component steps involved in moving from the practices in question to interpretation guidelines for the evidence produced; (c) summarize the parameters to an evidence-based practices measurement framework that aligns each major component of the conceptual model to three perspectives: the individual, the organization, and society; (d) presents a number of guidelines that can be used to evaluate the quality, robustness, and the relevance of the evidence; and (e) discuss the utility of the proposed conceptual model and measurement framework in reference to the challenges posed by evidence-based practices in any field, but especially ID/DD. As suggested in the title, the material presented reflects an international consensus approach. Additionally, the authors want to stress the on-going nature of this work and the need for continued dialog among all stakeholders. Throughout the article we suggest there are three valid uses of current evidence-based practices. These purposes are to make:

- Clinical decisions about the interventions, services, or supports that clients receive in specific situations. Such decisions should be consistent with the client's values and beliefs.
- Managerial decisions about the strategies used by an organization to increase its effectiveness, efficiency, and sustainability.
- Policy decisions regarding strategies for enhancing an organization or system's effectiveness, efficiency, and sustainability.

2. Defining evidence-based practices

Evidence-based practices are practices that are based on current best evidence that is obtained from credible sources that used reliable and valid methods and based on a clearly articulated and empirically supported theory or rationale. This operational definition developed by the authors is consistent with both the multiple perspectives on evidence and the following four core aspects of evidence-based practices definitions found in the literature:

1. *Experimental or empirical basis*. For example Kazdin and Weisz (2003) stress that interventions must be evaluated in well-controlled experiments, and must show replications of the effects so there are assurances that any effect or outcome can be reproduced ideally by others.
2. *Multiple research designs*. Chaffin and Friedrich (2004), for example stress that evidence can also include information from qualitative studies, and even information from interactions with clients. Thus, interventions can be qualified as evidence-based when they receive qualitative, theoretical or clinical support. Similarly, Rathvon (2008) indicates that evidence-based practices are based on the application of rigorous, systematic, and objective procedures or experiments, rigorous data analysis, and [those] accepted by a peer-reviewed journal or approved by a panel of independent experts. Even single-case research studies are an important source for evidence-based practice (Parker & Hagan-Burke, 2007)
3. *Practice-driven evaluation*. As discussed by Veerman and van Yperen (2007) practice-driven evaluation as a research enterprise involves researchers and providers working jointly to gather information about the effects of an intervention—and thus conducting 'transdisciplinary evaluations.' As summarized by these authors, practice-driven evaluation is contrasted with methods driven evaluation, which treats randomized control trials as the gold standard.
4. *Aid to decision making*. For example, Sackett, Richardson, Rosenberg, and Haynes (2005), and Scott and McSherry (2008) approach evidence-based practices on the basis of conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individuals and the services/supports they receive.

3. Evidence-based practices conceptual model

3.1. Context

Three types of models have been formulated recently to address the complexity of evidence-based practices. We refer to these models as sequential, developmental, and transdisciplinary. Cooley, Jones, Imig, and Villaruel (2009), for example, have developed *a five step, sequential model* that involves: (a) determine question(s) to be answered to inform the client-specific decision; (b) search for research evidence related to the question(s); (c) evaluate the research evidence for its validity, relevance, and clinical applicability; (d) integrate the research evidence with clinical experience and client preferences to answer the question; and (e) assess performance of the previous steps as well as outcomes in order to improve future decisions.

In distinction to a sequential model, Veerman and van Yperen (2007) have suggested a four-stage *developmental model* that requires one to: (a) specify the core elements of an intervention; (b) explicate the rationale and theory underlying an intervention; (c) obtain preliminary evidence that the intervention works in actual practice; and (d) present clear evidence that the intervention is responsible for the observed effect(s) and involves randomized control trials and well-designed repeated case studies. A third model focuses on both transdisciplinary research and an ecological framework. Satterfield, Spring, and Brownson (2009), for example, present a *transdisciplinary model* of evidence-based practices that includes an ecological framework that emphasizes shared decision making and focuses on the environmental and organization context, best available scientific evidence, practitioner's expertise, clinical expertise, decision making, and client preferences.

3.2. Authors' conceptual model

The evidence-based practices conceptual/process model proposed by the authors reflects aspects of each of the three types of models just described as well as the systems perspective towards the establishment of evidence-based practices. As shown in Fig. 1, the first step of the model focuses on a clear understanding *from a systems perspective* of the practices in question. Such practices typically relate to assessment, intervention, and the provision of individualized supports and/or the organization's use of quality strategies. Each of these practices has intended effects at the level of the individual (e.g., enhanced personal outcomes), the organization (e.g., enhanced effectiveness and efficiency, or improved service quality), and society (e.g., people with disabilities achieving a higher social-economic status, more positive community attitudes towards persons with ID/DD, changes in education and training programs, changes in resource allocation patterns, or changes in public policies). These intended effects are evaluated on the basis of behavior change indicators and changes in personal outcomes, organization outputs, and societal-level indicators reflective of the above-referenced societal intended effects. As discussed later in reference to Fig. 2, a number of evidence-gathering strategies can be used to evaluate the evidence