

Bridging the gap between research and practice: A discussion about how to integrate evidence-based interventions in clinical practice through education

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Abstract: The benefits of incorporating evidence-based interventions (EBI) in mental health settings are well documented. However, many mental health settings continue not to adopt or implement evidence-based interventions despite the benefits EBIs offer providers. This formula creates a gap between research and practice, which needs to be addressed. Evidence-based practice and interventions are defined, and facilitating factors are described in detail and is followed by a clinical case example to provide further insight. The chasm between research and practice will begin to close as practitioners' concerns are addressed through education.

Keywords: evidence-based practice; evidence-based interventions; social work education; mental health

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Introduction

Over the past decade, there has been an ongoing discussion regarding the appropriateness, feasibility, and sustainability of evidence-based practice (EBP) for clinical social work practice. While the majority of the discussion has been focusing on the strength and weaknesses of evidence-based interventions (EBIs), much less attention has been paid to the concerns of the practitioners in the clinical settings, which will ultimately facilitate or impede the adoption of EBIs. The benefits of incorporating EBIs in mental health settings are well documented (Aarons, Fettes, Flores, & Sommerfeld, 2009; Baer, Wells, Rosengren, Hartzler, Beadnell, & Dunn, 2009; Evans, Koch, Brady, Meszaros, & Sadler, 2013; Garland, Brookman-Frazee, Hurlburt, Accurso, Zoffness, Haine-Schlagel, 2010; Grady, Wike, Putzu, Field, Hill, Bledsoe, & Massey, 2018; Hoagwood, Kelleher, Feil, & Comer, 2000; Wonderlich, Simonich, Myers, LaMontagne, Hoesle, Erickson, Crosby, 2011). However, many mental health settings continue not to or are slow to adopt or implement evidence-based interventions despite the benefits EBIs have to offer providers. This situation creates a gap between research and practice, which needs to be addressed. This paper highlights recent research that identifies the provider and organizational factors that facilitate the adoption and implementation of EBIs. Evidence-based practice and interventions are defined, and facilitating factors are described in detail, followed by a clinical case example to provide further insight. This paper also discusses the important role education plays as a moderator for the adoption of EBIs. Implications for social work education, practice, and research are also discussed.

What is evidence-based practice?

‘Evidence-based practice is a process, a verb, not a noun’ (Thyer & Myers, 2011, p.8). It is a process of examination intended to help practitioners or providers and their clients make important decisions about the treatment, interventions, and services the clients receive. Evidence-based practice is the treatment or use of an evidence-based intervention based on the best available science (McNeece & Thyer, 2004). Evidence-based practice in mental health services practices is the delivery of rigorously empirically

tested intervention and practice that takes into account the client's individual needs and the clinicians' expertise (Weisz & Gray, 2008). Currently, in the field of mental health services research, evidence-based practice refers to a body of scientific knowledge about clinical services (i.e., referral, assessment, and case management) and/or about the impact of a clinical intervention on the mental health concerns of children, adolescents, and adults. This knowledge base is evidence-based, for it is generated through the use of empirical study that examines the impact of certain practices on the outcomes for the client (Hoagwood, Burns, Kiser, Ringeisen, & Schoenwald, 2001).

A commonly used metaphor of evidence-based practice is the three circles (shown in Figure 1). Each circle represents a domain that needs to be considered and integrated to determine the optimal care for an individual patient. The contents of the three circles (shown in Figure 1) are (a) the best available research evidence, (b) clinical or practice expertise, and (c) individual and family's values and preferences. Evidence-based practice is the process of integrating the circles through the use of clinical decision-making (Spring, 2007). Again, EBP is a verb; it is a process with which clinical decisions are made.

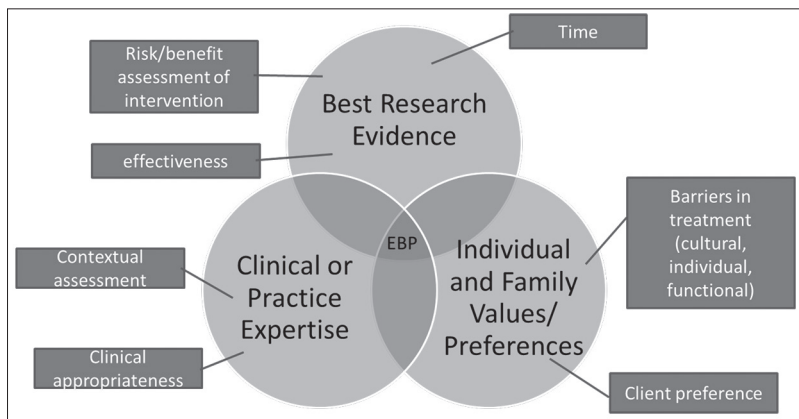


Figure 1
The Three Circles of Evidence-Based Practice

Choosing the best research evidence

What constitutes the best research evidence depends on the question needing to be addressed (Sackett & Wennberg, 1997). For example, a longitudinal cohort study is often the best research design for questions about etiology or prognosis. If the research question is addressing efficacy and/or effectiveness of treatments, the research design most often chosen is the randomized clinical trial (RCT) because it is the most rigorous and least prone to bias or error.

When deciding what constitutes the best research evidence, one must also consider what has been called the hierarchy of evidence or evidence pyramid (shown in Figure 2) (Spring, 2007). Topping the pyramid is the systematic review, which synthesizes the findings from many treatment trials. This synthesis is followed by a meta-analysis, which uses statistical methods to summarize the results of systematic reviews. Next randomized control trials (RCTs) that compare groups over time are presented. Further, outcomes research, which is cross-sectional, follows but does not compare groups and cannot lead to any causal inferences. Second to lowest in the evidence pyramid are case studies, which are at the individual level and often not generalizable. Lastly, our expert opinions without clear critical appraisal or empirical study.

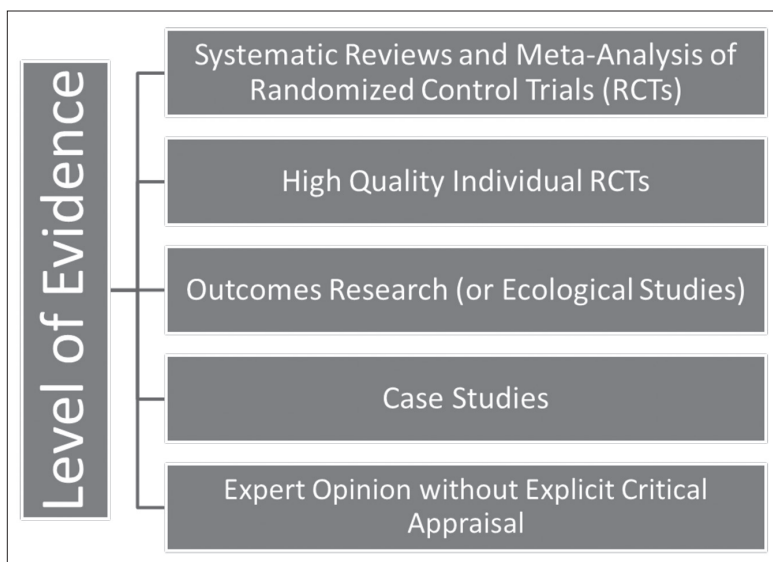


Figure 2: The Evidence Pyramid

Clinical expertise

Providers use their clinical and practice expertise to evaluate the clinical appropriateness of the EBI for the client (Spring, 2007). Providers use their experience and education to assess when the available research does not fit within the practice situation and/or when to make appropriate adaptations. For example, an EBI may be empirically found to be effective but not used by providers because it includes a module on meditation. A provider may be treating a client of a particular cultural or religious group that does not favor meditation. This provider should choose to use another intervention based on their clinical experience with this population. The most effective intervention may not always be the best intervention for specific clients, and providers must base their decision on their clinical expertise.

Patient preferences

Providers should engage clients in decision-making to foster self-management of their wellness and health care. The goal is for providers to respect and help patients clarify their values and treatment preferences. 'How patients weigh out the relative risks and benefits of treatment alternatives is personally distinctive, subjective, and often not previously considered by the patient' (Spring, 2007, p.614). Providers should inform clients about the range of interventions along with the risks and benefits. Clients' individual and family values and preferences need to be incorporated into the decision process.

Other important concepts

Other essential concepts related to EBP that require defining are innovation, dissemination, adoption, and implementation. An innovation in the field of social work is a new construct that has been studied empirically, such as an evidence-based intervention (Klein & Knight, 2005). *Dissemination* is the targeted distribution of scientific evidence and materials related to the EBI (Frueh, Ford, Elhai, & Grubaugh, 2012). Adoption is the decision to proceed with a full or partial implementation of innovation. *Implementation* is the use of specific strategies to ensure the

successful adoption of disseminated EBIs and integration into practice within clinical settings (Klein & Sorra, 1996).

Why use evidence-based practices?

There is a growing awareness that mental health care, like other divisions of health care, requires rigorous practice standards and professional accountability. Evidence-based practice is a critical means to uphold these standards in outpatient mental health settings serving both child and adult populations (Barlow, 2000; Frueh et al., 2012; Grady et al., 2018; Spring 2007; Torrey, Drake, Dixon, Burns, Flynn, Rush, Klatzker, 2001). Unfortunately, clinical services and interventions used in mental health practice settings are often not carefully based on empirical evidence, resulting in a discrepancy between research and practice (Hanson, Self-Brown, Rostad, & Jackson, 2016; Kazdin, 2008; Schoenwald & Hoagwood, 2001). Without incorporating research into practice, practitioners are doing a disservice to their clients by not providing the best quality of care.

The use of EBP in mental health care is vital for several reasons. Most significantly, the use of EBP will foster a framework to ensure the best care for clients as well as reliable accountability of the provider. EBP use will also allow a shared vocabulary and conceptual framework, which will help to facilitate interdisciplinary research and improve the quality of mental health care that is being provided. Improved communication among professionals and disciplines will lead to the dissemination and implementation of the very best available clinical practices to ensure high-quality services (Frueh et al., 2012; Grady et al., 2018; Kazdin, 2008). This approach will result in decreasing the gap between research and practice.

Facilitating implementation

Despite the proven benefit of incorporating evidence-based practice in outpatient mental health settings, the implementation of EBP has encountered barriers common to all knowledge diffusion efforts. The result has been the slow adoption and the implementation of evidence-based

practices and interventions (Glisson, Williams, Hemmelgarn, Proctor, & Green, 2016; McHugh & Barlow, 2010). EBIs are slowly being disseminated and implemented in generalized, every day, clinical practice settings. (Aarons & Sommerfeld, 2012; Drake et al., 2001; Frueh et al., 2012; Grady et al., 2018; Gold, Glynn, & Mueser, 2006; Mueser, Torrey, Lynde, Singer, & Drake, 2003). Research is beginning to explore the factors that impact this slow rate of implementation.

The literature to date on ways to implement effective dissemination and adoption of EBIs emphasizes the need to offer providers the training, tools, and ongoing supervision to deliver empirically validated treatments (Glisson et al., 2016; Frurh et al., 2012; Torrey et al., 2001). Agreeing that these strategies are necessary, these strategies alone are not sufficient in addressing and overcoming the organizational and provider barriers to the implementation and sustainment of EBI in most outpatient mental health settings. These provider and organizational barriers largely include a lack of motivation and/or resistance to change by both the organizations and providers. Provider level barriers include attitudes and beliefs related to EBIs, lack of skills, and inadequate training among providers, limited resources, and incentives for providers. Most of the provider level barriers can be counteracted by infusing education round the importance of EBI's during graduate school education. Organizational level barriers include cost concerns regarding implementation and maintenance, lack of ongoing quality assurance or fidelity monitoring, limited involvement and commitment from key stakeholders, diffuse leadership, and insufficient accountability at multiple organizational levels (Corrigan, McCracken, & Blaser 2003; Drake, Goldman, Leff, Lehman, Dixon, Mueser, & Torrey Drake, 2001; Frurh et al., 2012; Ganju, 2003; Glisson et al., 2016; Mueser et al., 2003; Schoenwald & Hoagwood, 2001; Torrey et al., 2001) can also be moderated by providing continuing education to the organization and the organization's leaders around the effectiveness and efficiency of EBI's in practice.

Mental health service providers are delivering services to youth and families to the best of their abilities. These mental health providers are often hard-working, compassionate, and resourceful. However, these providers are often not incorporating EBIs into routine care despite their effectiveness (Aarons, 2004; Glisson et al., 2016; Grady et al., 2018). If the most effective interventions are to be disseminated and implemented in outpatient mental health settings, a better understanding of provider

and organizational factors that facilitate the dissemination is needed to tailor the EBIs and increase use effectively. To bridge the gap between research and practice, the provider and organizational factors that support the dissemination, adoption, and implementation of EBIs need to be incorporated in both the development of EBIs and in the outpatient settings trying to incorporate them. The rich pool of intervention research will only be usable for providers once EBIs can be implemented practically in outpatient clinical settings. Increased application of authentic evidence-based practice will only happen if providers are taught how to conduct true EBP by being able to choose the best evidence and integrate it into their clinical practice while keeping in mind the client's preference. This skill should be taught to social work students while they are earning their degree and retaught throughout their career via continuing education.

Organizational factors

The most impacting organizational factor facilitating the adoption and implementation of evidence-based interventions is the organizational climate. Organizational climate is the employees' shared perceptions of the work environment, and the providers' emotional responses to the characteristics of their work environments (Aarons & Sawitzky, 2006). Organizational climate has been empirically linked to service quality, treatment planning decisions, provider attitudes, staff turnover, and client mental health outcomes in mental health care settings (Aarons et al., 2009; Aarons, Glisson, Green, Hoagwood, Kelleher, & Landsverk, 2012; Glisson & Green, 2006; Greener, J. M., Joe, Simpson, Rowan-Szal, & Lehman, 2007; Morris, Bloom & Kang 2007). The current literature that explores innovation adoption in mental health settings highlights organizational climate as a factor in the adoption of evidence-based interventions because the organization often plays the role of gatekeeper for innovation adoption. The organizational climate determines not only which evidence-based interventions are to be adopted but also once adopted, the extent to which the evidence-based interventions are implemented within the organizational social context (Glisson & Schoenwald, 2005). Adoption and successful implementation of an evidence-based intervention depend primarily on the 'fit' between the innovation and the organizational climate in which the new practice is implemented (Glisson, 1978).

Research in the area has found that organizational climate has a direct

and significant impact on the adoption of evidence-based practices. Specifically, providers who reported an organizational climate to be more supportive of EBI adoption and implementation reported increased use of evidence-based interventions (Aarons et al., 2009; Aarons et al., 2012; Glisson & Green, 2006; Greener et al., 2007; Morris et al., 2007). Thus, emphasizing the impact of the role of organizational climate on the adoption and implementation of EBIs. Organizations set the stage for the adoption, and the use of EBIs, for it, is the organization that chooses which EBIs will be implemented and how they will be incorporated organization-wide. An organization that promotes the use and supports the implementation of EBIs is likely to result in the increased use of EBIs, resulting in improved treatment for clients.

Provider factors

Provider factors that facilitate the adoption and implementation of evidence-based practices in outpatient mental health settings are attitudes and beliefs about innovation and demographic factors. These factors can be a precursor to the decision of whether or not to try an innovation (Aarons, 2004). Previous research findings report that provider beliefs have a direct impact on the adoption of evidence-based interventions in outpatient mental health clinics serving youths. (Aarons, 2004; Addis & Krasnow, 2000; Addis, Wade, & Hatgis, 1999; Flaherty, 2019; Morrow-Bradley & Elliott, 1986; Prochaska & Norcross, 1983; Rye, Friborg, & Skre, 2019). Research indicates that providers who reported more positive attitudes and beliefs concerning EBP adoption and implementation also reported the increased use of evidence-based interventions, emphasizing the important influence of provider beliefs on the adoption and implementation of EBPs.

Furthermore, on average, younger practitioners with less experience in the field endorsed greater use of EBIs. Previous research conducted by Aarons (2004) also indicated that practitioners who are still completing their education and transitioning into professional roles (e.g., interns in the practicum phase) are more adaptable to learning the most recent and effective innovations and practices. Clinical interns are thought to be less influenced by a long history of clinical practice, for their training is still in progress. As a result, interns might be more willing to adopt evidence-based practices as compared to providers who have been practicing for longer periods of time (Flaherty, 2019). A study conducted by Garland,

Kruse, & Aarons (2003) found that interns practicing in mental health clinics reported more positive attitudes regarding the use of evidence-based assessment protocols as compared to the more seasoned providers. This difference could also be explained in relation to the increased discussion and education around the importance of EBIs in graduate school programmes. As graduate programmes increasingly educate about the importance of EBP, graduates will have more positive beliefs related to the benefits of EBIs and are more likely to adopt and implements EBIs in their work.

Case example

When working as an outpatient mental health provider serving youth, the agency that I was employed at made an effort to incorporate research into practice. It was understood that the pressure to incorporate EBIs was with the intention to improve services for our clients as a result of mental health reform and policy changes that require more accountability. There was a high value in education, and the overall message was that training in specific EBIs would be offered to providers to improve services for at-risk youth seeking treatment. Below is an example of a successful and less successful example of EBP implementation in an outpatient mental health setting serving youth.

The first EBI was introduced at a staff meeting and was reinforced by the organization. The organizational climate was one of support for EBI use. The agency was going to provide training for the providers in Motivational Interviewing (MI). MI is a therapeutic approach that integrates the relationship-building principles of humanistic therapy with more active cognitive-behavioural strategies targeted to the client's stage of change. It is a client-centered method for enhancing intrinsic motivation to change by exploring and resolving client ambivalence regarding the change (Burke, Arkowitz, & Menchola, 2003).

The entire organization, from management to line worker, felt that there was a need for MI and was in support of its implementation. Organizational questions were raised around the feasibility of the EBI (such as how long it will take to train staff, will staff be compensated for the extra time, and will these trainings be required of personnel). The organization showed support of EBI implementation and answered these questions in ways that reduced the staff's concerns by demonstrating a favorable climate

for change. Following the introduction of the EBI, the entire clinical staff was trained and quickly began to incorporate MI techniques into clinical practice. The adoption, implementation, and sustained use of MI were witnessed in this clinic over the next few years. It resulted in improved care for adolescents and families being treated at the clinic.

The second EBI was not implemented as successfully. The staff was being introduced to Trauma-Focused Cognitive Behavioral Therapy (TF-CBT). TF-CBT is a psychotherapy approach for children and adolescents who are experiencing significant emotional and behavioural difficulties related to traumatic life events. It is a components-based treatment model that incorporates trauma-sensitive interventions with cognitive-behavioral, family, and humanistic principles and techniques (Cohen & Mannarino, 2008).

Again, organizational concerns, such as feasibility and concerns related to incorporating a manualized intervention, came up with the implementation of TF-CBT. Although still providing a supportive organizational climate, this time, more was being asked of the providers (longer training, more time commitment, etc.) due to the nature of this specific evidence-based intervention. TF-CBT is a more specific and manualized intervention that requires more rigorous training by the providers.

Providers also expressed concerns regarding the appropriateness of this intervention for the population and the feasibility in the clinical. TF-CBT was seen by the providers to be 'sterile' and rigid, lacking any space for modification. There were also collective questions about the effectiveness of the interventions for the specific population being treated at the clinic due to language and ethnicity barriers. However, as the training continued, these concerns were addressed through education, and it was clear the TF-CBT did consider the therapeutic relationship, had room for modification when needed, and was empirically found to be effective with the population being treated at the clinic. Ultimately TF-CBT was implemented and found to be very successful in the reduction of trauma symptoms for the adolescents being treated in this clinic.

When evaluating the differences between these two implementation case studies, it was easier to implement MI than TF-CBT. As both interventions were eventually implemented successfully, the organizational climate was one of support. If the climate were not supportive of the EBIs, neither would have been implemented. The differences in implementation were due to provider beliefs. In the case of MI, the providers had a strong

positive reaction allowing for immediate buy-in and quick adoption. In the case of TF-CBT, the providers had concerns about the effectiveness leading to less positive beliefs and slower adoption. Education was the key component to create more positive beliefs and buy-in by providers.

The provider's demographic characteristics were also a factor in implementation. The younger providers with less clinical experience adopted the interventions quicker than the older, more experienced providers. As previously noted, this difference could be due to the increased incorporation of EBIs in social work education. The lack of support of EBIs by the older, more experienced providers is of concern. If not incorporating EBIs and practicing from an EBP framework, what services will be provided and based on what research?

Role of education

Provider's attitudes and beliefs have a direct impact on the adoption of evidence-based practices in outpatient mental health clinics serving youths (Flaherty, 2019) and previous research supports that providers' positive attitudes and beliefs of EBP and EBI use can be fostered through education (Aarons, 2004; Addis & Krasnow, 2000; Addis, Wade, & Hatgis, 1999; Morrow-Bradley & Elliott, 1986; Prochaska & Norcross, 1983). This should be considered when developing a bachelor's and master's level educational programs. Incorporating curriculum focused on the benefits and implementation of EBI in bachelor and master's level social work education will result in increased use of EBI in mental health settings by strengthening providers' positive beliefs related to EBI use. Additionally, by integrating dialogue around the importance of EBI use early on in the social work education will not only increase EBI use in clinical practice but will also foster continued research which will result in the production of more EBI to integrate into practice.

Further, as practitioners are now mandated by state and countrywide to obtain continuing education units (CEUs) to retain their licensing, there is an opportunity to highlight the benefits of EBP use and thus foster more positive beliefs of EBPs and increase adoption and implementation of EBPs by providers already in the field. Incorporating education around EBP use in CEUs can also help to destigmatize EBP use for providers. By focusing CEU on EBIs, older, more experienced providers can be targeted from both

a provider level and organizational level. Education can play an essential role for in both the provider and organizational levels to increase the use of EBIs in outpatient mental health settings.

Conclusion

Widespread adoption and implementation of an EBP framework and of EBI use are critical to improving mental health care for children, adolescents, and families. Many clinicians are still unaware of the benefits of incorporating EBIs in their clinical work. EBIs do require fidelity to a model of assessment and treatment. However, they also require providers to incorporate their clinical knowledge and clients' preferences. Mental health providers perform a disservice to their clients when they do not incorporate research into their practice. This disservice of withholding effective interventions could be considered malpractice in other health care settings.

There has been a movement in the social work profession towards an evidence-based model of service delivery. Schools and agencies are playing a significant role in the movement through coursework, training, and organization-based programmes. Younger and newer providers are being exposed to the EBP framework through education, highlighting the value of incorporating EBIs. As EBIs were not being promoted 20-30 years ago, organizations are integrating programmes to expose providers already in the field to the benefits of EBIs. Aimed to educate providers, these programmes will foster more positive views of EBIs, thus increasing EBI adoption resulting in improved services for clients. However, without a clear understanding of the barriers to EBI implementation, universal programmes cannot be developed, and further research is needed to understand the factors that facilitate and impeded the adoption of EBI in outpatient mental health settings.

Effective interventions are being disseminated and should be adopted and implemented when appropriate. The EBP framework should be applied when providers are making a clinical decision. Evidence-based interventions can be seen as a clinical 'tool belt' that will give providers the best practices to use with various clients, and EBP is the process of choosing the best tool. Mental health providers, like other health providers, should be held accountable for ensuring the best care for clients. There should not be a significant gap between research and practice.

When there is, this chasm between research and practice threatens the wellbeing of clients.

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