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The BE-ACTIV Project: How Research, Professional Training, Education, and Practice Were Integrated in a Single Clinical Trial

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Abstract

This paper describes how research, practice, and education were integrated in an NIMH-funded clinical trial for treating depression in nursing homes. Involving undergraduate and doctoral students in our clinical trial supported the development of key competencies, expanded the professional pipeline, and provided an avenue for disseminating the treatment to other settings. The clinical trial served as a teaching laboratory for sixteen undergraduate and six doctoral students to: (1) observe the culture of older adults in nursing homes, (2) develop and adapt clinical skills to a challenging patient population, (3) refine skills for collaborating in multidisciplinary teams, and (4) appreciate the relationship between science and practice. Dissemination of the intervention to non-research settings was served when the students took their skills to the settings where they launched their careers. Involvement of trainees in clinical trial research expands and enriches the capacity of the healthcare workforce in both evidence-based practice and practice-informed research.

Keywords

Geropsychology training; experiential learning; mental health; nursing homes; research training

The need for increased specialist and generalist training in the mental health care of older adults has been recognized for more than a decade, pushed by the rapid increase in the proportion of the population over age 65 and the changing health care needs of the oldest segments of that population (Knight, Karel, Hinrichsen, Qualls, & Duffy, 2009). The Institute of Medicine (IOM) (2012) recently published a workforce study suggesting that the health care system would be overwhelmed if deliberate efforts are not made to increase the professionally trained workforce prepared to address mental health issues in late life. Qualls, Segal, Norman, Niederehe and Gallagher-Thompson (2002) recognized the dearth of gerontology-specific practicum and didactic experiences in psychology a decade ago, and the first published guidelines for psychological practice with older adults appeared in 2004 (APA, 2004). The presence of practice guidelines was helpful for identifying which training competencies would be needed to improve workforce preparedness in geropsychology, emphasizing the importance of specialized training models for achieving those competencies. Knight, Karel, Hinrichsen, Qualls, and Duffy (2009) offered the Pikes Peak model as “an aspirational model” (p. 205) for training in geropsychology, a model that has since been widely accepted among geropsychology training programs. The Pikes Peak model outlines geropsychology competencies in three domains: attitude competencies, knowledge competencies, and skill competencies. The Pikes Peak model and the updated APA guidelines (APA, 2014) both emphasize the importance of developing competencies within age-specific contexts, especially in nursing homes.

According to Karel and Moye (2005), “nursing homes provide a rich environment for teaching geropsychology competencies” (p. 83), where students are exposed to a host of issues related to mental health service delivery to medical populations. For example, students learn about how physical frailty, mental health problems, and polypharmacy interact to complicate both medical and psychological interventions. They learn how to adapt interventions for use with individuals who have poor vision and hearing combined with impaired cognitive functioning. Further, nursing homes provide opportunities for developing inter-professional relationships, a skill that is critical to successful delivery of mental health care for frail older adults, especially in medical settings (IOM, 2012; Karel & Moye, 2005; Qualls, Scogin, Zweig, & Whitbourne, 2010). However, there are financial barriers to providing training in nursing homes and other long term care and health settings that include the inability of supervising psychologists or social workers to bill Medicare for clinical services provided by trainees, and therefore there is no ready compensation for either the trainee or the supervisor (Karel & Moye, 2005). Such barriers have limited the number of training opportunities available in nursing homes, while the need for such training continues to be significant.

Mentoring in a research context is one way to build graduate students’ competencies in geropsychology (Qualls et al., 2010; Zimmerman, Fiske, & Scogin, 2011). Research mentoring in the context of a clinical trial can improve students’ research skills, and also enhance students’ technical ability to deliver high quality evidence-based therapies in their future careers, reducing a common barrier to successful dissemination of these therapies to health care settings (Arean & Gum, 2011). The purpose of this paper is to describe how involving undergraduate and doctoral geropsychology students in a federally-funded clinical trial supported the development of key attitudinal, knowledge, and skills competencies,

expanded the pipeline for future gerontology professionals, and provided a natural avenue for disseminating the treatment to other settings.

Description of BE-ACTIV and the Clinical Trial

BE-ACTIV (Meeks, Looney, Van Haitsma, & Teri, 2008) is a 10-week psychosocial intervention for depression built on previous behavioral treatment models (Lewinsohn, Hoberman, Teri, & Hautzinger, 1985; Teri, Logsdon, Uomoto, & McCurry, 2007), and specifically tailored for delivery in nursing homes. We described how the treatment manual was developed and how the clinical trial was designed in a previous publication (Meeks et al., 2008). Briefly, BE-ACTIV is a hybrid intervention in which 10 individual therapy sessions are delivered by a mental health professional, while pleasant events are initiated or supported by activities staff members at the facility who have been trained in understanding and responding to depression and the BE-ACTIV intervention. Activities staff consult with the mental health professional weekly and attend one to three sessions. This intervention model allows mental health professionals to be reimbursed for the ten individual sessions, and staff participation is encouraged with minimal collateral time in weekly consultation. This model was tested in a randomized clinical trial (see Meeks, Van Haitsma, Schoenbachler, & Looney, 2014 for a detailed description of this trial and primary outcomes). Twenty-four nursing homes participated in the clinical trial. The facilities were randomized to one of two groups: in the treatment condition, the consenting depressed residents received BE-ACTIV, and in the control condition, they received treatment as usual. Eighty-two residents participated in the clinical trial, 42 from the BE-ACTIV facilities and 40 from the control facilities. Data were collected at baseline, post-treatment, and at three and six months post treatment. Although individuals in both treatment groups improved over time, the residents receiving BE-ACTIV were significantly more likely than the residents in the control facilities to achieve remission from major depression.

Involvement and Training of Students in the Conduct of the Clinical Trial

Undergraduate Students

Sixteen undergraduate students, all psychology majors, participated in the data collection. They attended weekly staff meetings, and completed about 20 hours of training and practice on the behavioral observation system related to identifying emotions in older adults with cognitive impairment, before conducting observations independently in nursing homes. These students first viewed and discussed videotapes of nursing home residents with dementia and then coded the emotions depicted in the tapes; they were required to meet a minimum reliability standard of 75% correct before they could move on in the training. They then memorized behavioral codes and practiced using hand-held computers to complete *in vivo* behavior observations recording resident affect, activity participation, and staff interaction until they reached the 75% reliability standard. Once trained, students conducted weekly observations in the participating nursing homes, observing each participant six times per week in five-minute intervals across the 13 weeks of the trial and during the two follow-up assessment periods. Thus the undergraduate students spent considerable time in nursing homes watching both staff and residents, and were also integral to the research team, learning about the rigors of experimental research.

Graduate Students

Six doctoral students in clinical psychology participated in the project, and all of them were trained to deliver BE-ACTIV; five of them were therapists in the trial and all of them collected data from nursing home residents, staff, family members, and medical records. The graduate students' work in the clinical trial was integrated with their education and clinical training. They each completed two training cases and demonstrated adequate adherence to the treatment protocol before they were permitted to see patients in the clinical trial. The PI conducted weekly group supervision sessions for the students, and all received practicum credit for their participation in the clinical trial in addition to a graduate assistantship from the project that funded their stipends and tuition. The nursing home residents who participated in the trial were diverse with respect to age, disability, cognitive impairment, and ethnicity, so students were exposed via direct experience or group supervision to a broad sample of patients. The principal investigator (PI) listened to audio recordings of every session and coded adherence to protocol using a standardized rating form – students were expected to achieve scores of 80% compliance with the protocol. Thus these students received clinical supervision and assessment of their work that was more rigorous than is typical in practicum training settings.

Because the intervention involved a working relationship with the activities staff at each facility, graduate students were required to learn approaches to interacting, educating, and securing cooperation with other healthcare workers. Students were encouraged to develop empathy towards staff in order to understand other professionals' perspectives and address staff-related barriers tactfully. Students also developed behavior management skills to positively reinforce staff members for their cooperation and assistance in facilitating residents' engagement in pleasant activities discussed in sessions.

In addition to providing the BE-ACTIV intervention, graduate students collected questionnaire data from all participants (including those in the control condition), nursing assistants, and activities staff members. Graduate students also extracted medical chart information on medications and illnesses, and coded information concerning management of antidepressant medications. These activities introduced students to a large number of patients and taught them how to review and accurately code medical charts. The students were required to become familiar with medical comorbidities, psychotropic medications, and other medications commonly prescribed to nursing home patients. They were also involved in discussions about confidentiality and HIPAA protections, and of the critical importance of positive inter-professional relationships in the everyday conduct of business in medical settings.

Undergraduate Outcomes and Competencies: Entering the Professional Pipeline

Undergraduates who participated in the project were diverse in terms of their career aspirations and year in school. Most were drawn to the project because of an interest in older adults, or prior experiences with relatives in nursing homes. Although they were kept blind to treatment condition, they had the opportunity to observe the daily life of nursing home

residents, and learned to identify emotional responses of the residents. They learned about the difficulties of conducting behavioral observation in a real-world setting, and about the importance of inter-observer reliability. They also learned how to conduct themselves in a professional medical environment, and how to interact appropriately with nurses and other professionals found in the setting. In terms of the geropsychology competencies identified in the Pikes Peak model, these students were building attitude competencies: increased awareness of their beliefs related to aging and the diversity of older people. To the extent that they developed positive and balanced attitudes, their future careers are more likely to benefit older adults.

The majority of the undergraduate research assistants have gone on to mental health careers. Three pursued doctorates in clinical (2) or counseling psychology; two are specializing in gerontology. Several entered M.SW. or M.A. programs in clinical psychology. One entered an art therapy program. The three who did not pursue mental health careers, went on to other professional graduate programs. Involvement in this research project supported the development of important professional skills that helped the students pursue these advanced degrees. In our experience, based on our observations and discussions with our undergraduate research assistants, introducing undergraduates to research with older adults increases the likelihood of their interest in gerontology at the graduate level, and thus improves the pipeline for careers in mental health serving older adults.

Graduate Student Competencies

For this paper, each graduate student co-author contributed his or her qualitative assessment of the skills learned from their participation in the clinical trial, while their supervisor reflected on growth experiences of each of her supervisees. We organize these reflections below into the three categories of the Pikes Peak Model (Knight et al., 2009), also making reference to the association between the acquired competencies and those outlined in the APA guidelines for clinical practice with older adults (APA, 2014).

Attitude competencies

Attitude competencies encompass limiting practice to areas of one's skills and knowledge, awareness of personal and professional biases and beliefs related to aging and diversity within the older population, and awareness of how history and context affect patient presentation and clinical service delivery (Knight et al., 2009). The doctoral students in the BE-ACTIV project had all selected clinical geropsychology as a career path, so they came to the project with positive attitudes about aging in general. However, experiences with diverse clients challenged their positive stereotypes about older adults when, for example, they encountered overt prejudice, sexually inappropriate behavior, and uncooperativeness in their clients. They also had to confront multiple "differences" of age, ethnicity, and disability in treating their clients and gathering data from other nursing home residents. These experiences broadened and differentiated students' perceptions of "older adults," giving them more nuanced understanding of the diverse needs of nursing home residents.

Because clinical work was embedded in a rigorous research protocol, students noted that they developed a scientific attitude toward clinical work, an attitude that is emphasized in

the scientist-practitioner model of clinical psychology training more broadly. As one student wrote in her reflection, “My involvement in BE-ACTIV truly brought the scientist-practitioner model of training alive . . . I was able to develop a critical eye [for] . . . evidence-based practice in clinical geropsychology, in addition to a great appreciation for the challenges associated with implementation and/or translating research into everyday practice.”

Knowledge competencies

These encompass student learning about normative and pathological aspects of aging, health changes in late life, settings where older adults seek or receive mental health care, and other factors related to individual differences among older adults. They also encompass how assessment and treatment approaches are adapted to the needs of diverse older adults (Knight et al., 2009). Among the APA (2014) guidelines related to knowledge competencies are the need for psychologists to learn about psychopathology in late life, and the relevance of health problems, functioning, and cognitive impairment to the expression and treatment of mental health issues in late life. One student noted how the chart review process taught her about psychotropic and other medications and the many medical problems that nursing home residents have, knowledge that she found valuable in dealing with a rehabilitation population on her internship. In order to participate in this project, students had to learn about the manifestations of depression in nursing home residents, and also how to adapt their intervention styles to meet the needs of clients with memory deficits, sensory impairment, or major mobility restrictions. Students also noted how the practical application of their knowledge as a part of the research project helped to crystalize important research and clinical concepts. For example, they voiced improved understanding of inter-rater reliability because of the need to achieve reliability standards as a part of their training for the project. They connected academic knowledge about long-term care staffing roles with real-world observation of staff in action, and they connected theoretical information about aging and disease with the realities observed while spending time with nursing home patients. Students also voiced increased appreciation for the complexities of community-based research, and about the importance of this research for developing evidence-based interventions that will be accepted by patients and other providers.

Skills Competencies

Important skills competencies identified in the Pikes Peak model include the ability to deliver evidence-based interventions in the special settings where older adults with mental health issues are found, the ability to adapt interventions to accommodate functional, cognitive, and sensory impairments, and to work effectively with other disciplines in the delivery of care (Knight et al., 2009). Student reflections emphasized skill competencies related to the use of research-based interventions, adaptation, assessment, and especially inter-professional relationships, all congruent with specific guidelines for geropsychological practice (APA, 2014). One student who had just completed a post-doctoral fellowship noted that specific behavioral therapy skills she learned as a part of the research continue to be “an essential tool” for her work in nursing homes, and also in primary care. Another who has been practicing for 5 years post-graduation continues to use the Pleasant Events Schedule (Meeks, Shah, & Ramsey, 2009), an assessment instrument that is integral to the BE-ACTIV

protocol, with his older clients. Students consistently noted that they were taking their skills acquired for delivering the intervention in nursing homes to other health care settings. One student wrote: "Learning the culture of the long term care community has been extremely valuable in working in long term care Just being socialized in that area made a big difference for me in working in palliative care and hospice." A current student noted that he has integrated the skills learned for BE-ACTIV in a variety of settings, for example using the model to guide assessment of mood and activity with dementia patients in primary care, and also providing recommendations to families and patients based in the model of BE-ACTIV. Another, commenting on her work with staff as a psychologist in a VA community living center, wrote "... developing the skill of discussing depression in older adults has translated to the capacity to communicate and educate about psychopathology in general and the effect various mental health disorders may have on participation in structured activities."

Conducting a manualized treatment with patients with a wide variety of impairments, and in multiple nursing homes with different staff members, taught students skills related to flexibility and adaptation that are critical to effective geropsychology practice (see APA, 2014, Guidelines 14 and 15). Although the research protocol required students to adhere carefully to the treatment manual, they also had to adapt in-session behavior to the current needs of the clients. Graduate students also had to learn how to respond when the interests of the client conflicted with the interests of the research protocol. One student commented, "The treatment is manualized but I learned how to make it applicable to every patient. . ." Another wrote: "I quickly realized the importance of flexibility when conducting research/ providing clinical interventions with this population. [Nursing home residents] take the concept of 'meeting your clients where they're at' to a new level in terms of remaining flexible, both within and between sessions." Operating within a research protocol also taught students to "wear their scientist hats" when solving client problems, bringing the scientist-practitioner attitude to bear in clinical decision-making.

Possibly the most important skill set emphasized in student reflections related to inter-professional relationships. They observed the importance of laying groundwork for both research and clinical activities in nursing homes by informing all levels of staff about the purpose and nature of the activities. They recognized how their communication skills facilitated effective collaborations with staff, insuring that pleasant events were carried out, and that needed research data were collected on time. One student noted: "I learned the power of subtle nuances in language to either enlist trust or cause confusion/distrust within staff." Another said, "We [developed working relationships] by building trust, remaining professional and accessible, and educating, empathizing, and empowering staff (especially when working with challenging patients).... I use these skills every day in my current work." A related skill that is critical for effective community-based research is communicating to non-researchers about the importance of research in general, and research activities specifically. Students learned that non-research professionals may not necessarily view research as inherently worthwhile and may need convincing on the benefits of research. Finally, delivering an intervention in complex medical settings taught students to navigate ethical issues related to confidentiality, advocacy, and client rights while recognizing the sometimes conflicting interests of the healthcare setting, the staff in that

setting, and the research protocol. In concluding her reflections, one student wrote “It was by far the most real-world training opportunity I received in graduate school.”

Graduate Student Career Trajectories: An Avenue for Disseminating Evidence-Based Practice

The six doctoral students were part of the BE-ACTIV trial during various stages of their training. At the time that this manuscript was drafted, four had graduated, one was starting her clinical internship, and one was applying to internships. The four who had graduated all completed internships and post-doctoral fellowships in the VA healthcare system and were employed in that system. The graduate student starting an internship was also in the VA system. Their internships and subsequent positions were geographically dispersed: they have held appointments in San Antonio and Central Texas, Oklahoma City, OK, Palo Alto, CA, Tacoma, WA, Nashville and Memphis, TN, Chicago, IL Milwaukee, WI and Pittsburgh, PA. As described in the previous section, these early career professionals possess a portfolio of skills relevant to clinical work and research in long term care and related health care settings. They are competent in delivery of an evidence-based, manualized treatment that can be adapted to varied healthcare settings, and the ability to teach this intervention to others. By involving these psychologists-in-training in the clinical trial rather than the common practice of using paid community therapists, we have created a natural avenue for disseminating the specific intervention and its manual, as well as the conceptual model and principles underlying it that might lead to modifications or new applications in the future.

Limitations

In this paper, we report a “story” about how a clinical trial served as a teaching laboratory for both graduate and undergraduate students in geropsychology. The evidence that we present is anecdotal rather than the result of a systematically-designed, prospective, research study. Thus our conclusions about specific student benefits or the influence of these research experiences on student career trajectories must be understood as exemplars of potential benefits rather than as research results supporting a causal connection between students’ research experiences and outcomes.

Conclusions

In this paper, we have demonstrated how a rigorous clinical trial can be designed and conducted to benefit more than the scientific findings of the trial itself, integrating research, education, and practice. The BE-ACTIV clinical trial served as a comprehensive teaching laboratory for undergraduate and graduate students by providing (1) an opportunity for observing the culture of older adults in nursing homes and larger systems, (2) close clinical supervision for developing and adapting clinical skills to a challenging patient population and environment, (3) refinement of communication skills for collaborating in multidisciplinary teams, and (4) the opportunity to appreciate the relationship between science and practice. The goal of disseminating the intervention to non-research settings was also served by training students, who have taken their skills to the professional settings where they have begun and will continue their careers. This benefit extends beyond applying

the specific BE-ACTIV module that they learned in the clinical trial, which is targeted specifically to nursing home residents. Students reported extending their skills and adapting the intervention principles to other populations encountered in their clinical practice. Involvement of trainees in clinical trials has the potential to expand and enrich the capacity of the healthcare workforce in both evidence-based practice and practice-informed research.

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