Evidence-Based Practice

An Introduction

RATIONALE FOR THE EMPIRICAL PRACTITIONER

The incorporation into social work practice of research methods and practice models based on behavioral science knowledge has increased during the past four decades. A primary reason for this move is the accumulating evidence that indicates the substantial effectiveness of empirically based interpersonal helping methods (Mullen, Bledsoe, & Bellamy, 2008; Thyer & Wodarski, 2007). Likewise, practitioners have access to tools that allow for evaluating the effectiveness of their practice, including reliable and valid measurement instruments that help obtain consistent and accurate measures of the presenting problem (Bloom, Fischer, & Orme, 2009). Another positive trend is the provision by federal agencies of adequate funding for evaluating empirical practice interventions on a broad scale. The field is ready to employ the necessary sophisticated designs to evaluate traditional services adequately and identify those interventions that need further refinement.

A concurrent positive development during this transitional period has been the profession's increasing commitment to base decisions on scientific principles and research data rather than solely on theoretical tradition and practice authority. However, we have yet to develop formal professional development opportunities to adequately train social work practitioners in evidence-based practice methods. This professional development will need to include an emphasis on setting specific, measureable goals, integrating information about current research with knowledge of client values and needs, implementing research-based practices, and evaluating the effectiveness of these practices.

Increased external pressures at the federal and state levels and from professional organizations for accountability in social work practice are providing an additional incentive for using evidence-based practice. In addition, social workers and other professionals working without empirically based practices are at risk for increased malpractice suits. Society has begun to demand proof that interventions work (Howard, Himle, Jenson, & Vaughn, 2009). Clinicians are not the only ones being held responsible for professional behavior. Universities have been challenged over their role in educating

incompetent practitioners. In Louisiana, a client successfully sued her therapist and was awarded $1.7 million. The therapist was a graduate of an education program with an emphasis in counseling in Louisiana Tech's College of Education. A lawsuit was also filed against the college for inadequately preparing this graduate (Custer, 1994). Is academia adequately preparing students to enter the field as mental health clinicians? In referring to social work master's programs, Hepler and Noble (1990) state, "The quality of social work education ultimately affects practice competence and the social welfare of citizens" (p. 126). Where, then, does responsibility end for the school and rest with the graduate who is now a practitioner?

Managed care companies are also putting pressure on social workers and other mental health professionals to produce empirical treatment with proven outcomes. Managed care is an inescapable element of mental health services in America today (Long, Homesley, & Wodarski, 2007). Thyer (1995) states,

> To the extent that a service provider can produce evidence that the services he or she will be providing to children are well-supported by sound clinical research studies, authorization for such treatments is enhanced. If managed care programs produce incentives to select demonstrable effective treatments, where these are known to exist, this will be to the benefit of the profession and our child clients. (p. 81)

As third parties make decisions regarding reimbursement to clients for treatment, practitioners will be forced to demonstrate outcomes based on treatment.

WHAT IS EVIDENCE-BASED PRACTICE?

Evidence-based practice is often described as a process in which practitioners integrate information about client needs and values with knowledge of research on effective interventions (Gambrill, 2003; Gambrill, 2006; Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). Gambrill (2006) outlines the following steps in conducting evidence-based practice, which were originally articulated by Sackett et al. (2000):

1. *Construct well-structured answerable questions that will guide practice decisions.* Creating specific questions based on information provided during the assessment process will help practitioners and clients define the primary presenting problem and choose an appropriate intervention strategy. An example of a well-structured answerable question is, "Will my client's anxiety symptoms be reduced by participation in weekly cognitive behavioral therapy sessions?"

2. *Find the best available evidence with which to answer these questions.* Clinicians have access to a number of online resources for finding information on evidence-based practices. Many federal funders of social service programs provide a list of the interventions they consider to be evidence based. Such lists are available through the National Registry of Effective Programs and Practices, the National Institute of Drug Abuse, the Office of Juvenile Justice and Delinquency Prevention, the Centers for Disease Control and Prevention, and other federal organizations. A list of web resources is provided at the

end of the chapter. University libraries typically provide online access to current research articles for students, but practitioners who are not affiliated with a university are unlikely to have access to these resources.

3. *Apply critical thinking in analyzing the evidence for its validity, impact on client outcomes, and applicability for practice settings*. Although practitioners are limited in the amount of time they can devote to reading research articles, it is important to examine studies for the size of the effect on client outcomes. Practitioners also need the skills to evaluate whether something other than the intervention evaluated may be responsible for their outcomes. This information is invaluable in determining whether the researcher's conclusions are justified and the intervention is likely to be helpful to your client.

4. *Use this critical analysis of the research to guide practice decisions*. This includes deciding whether the intervention is relevant for your client and his or her presenting problem given the existing research support and considering client values and preferences.

5. *Evaluate the effectiveness of the intervention with your unique clients within your practice settings*. Even interventions with solid research support need to be evaluated with your clients. The client populations, settings, and clinicians participating in research studies may differ from those in your setting, and the intervention may affect your clients differently. Therefore, systematically measuring your clients' progress toward achieving their desired outcomes is important even when the intervention has been shown to be effective with other clients.

THE IMPORTANCE OF CRITICAL THINKING FOR EVIDENCE-BASED PRACTICE

Because social workers must integrate multiple perspectives and sources of information, critical thinking becomes a prerequisite for engaging in evidence-based practice. Critical thinking involves weighing multiple perspectives, evaluating the evidence provided, and considering alternative explanations before making a decision. In social work practice, this includes analyzing the state of the research evidence. When evaluating the quality of research findings, practitioners can focus on eight guiding questions for invoking critical thinking in the examination of various theories of practice:

1. What is the issue or claim being made in simple and direct language?

2. Are there any ambiguities or a lack of clarity in the claim?

3. What are the underlying value and theory assumptions?

4. Is there indication of any misleading beliefs or faulty reasoning?

5. How good is the evidence presented?

6. Is any important information missing?

7. Is consideration given to alternative explanations?

8. Are the conclusions reasonable?

Taking critical thinking a step further, social workers will need to weigh their knowledge of the research evidence with knowledge of the client's values, cultural beliefs, and life experiences. For example, the research may suggest that a family intervention tends to be the most effective for preventing substance abuse among high-risk adolescents; however, the life experiences of an individual adolescent may lead a practitioner to begin with an alternative treatment approach. Perhaps the teen is afraid to begin a family intervention because the parents have highly conservative views regarding risk behavior. In this case, the practitioner can make a case for family intervention as the best practice, but if it seems as though the youth will refuse any intervention rather than engage in a family intervention, the practitioner may opt for an individual or peer-group intervention that also has some research support.

FUNCTIONS OF RESEARCH FOR EVIDENCE-BASED PRACTICE

For the purposes of this volume, *research* is defined as the systematic application of empirical methods in social work practice for describing worker interventions in scientific terminology. This all-encompassing definition includes interventions applied to individuals, groups, communities, organizations, and societies as a whole. Although few would argue the worthiness of this goal, the functions research should serve in social work practice must be put into proper perspective. The global assumption is that research will be the salvation of social work practice only if more of it is done and done well. The thesis of this volume is that certain ideas pertaining to research are dysfunctional and go beyond the scope of what is worthy of the investment. For example, the question of whether social work is effective, which has occupied the time of many researchers and practitioners for the past four decades, cannot be properly determined through evaluative research (Dean & Reinherz, 1986; Kazdin, 1981; Proctor, 1990; Wodarski, 1981). The question is too general; it is not formulated in terms that are observable and measureable, and, thus, the question is as inappropriate as asking whether the social work profession is relevant to society. The complex question for the evaluation of social work practice consists of six components: client characteristics, worker characteristics, intervention strategies, contextual variables, treatment duration, and relapse-prevention procedures. The guiding questions for evidence-based practitioners are whether these variables lead to positive, sustainable change for clients and how they contribute to change.

Historically, the social worker wants to provide a reason for service that has been questioned; thus, the focus is on applying the technology of research to the evaluation of social work services. However, in order for evaluative research to assess social work services and help provide them on a more rational basis, the global question of whether social work practice is effective has to be restated. Thus, is casework effective utilizing X, Y, and Z techniques in X, Y, and Z contexts with X, Y, and Z therapists and X, Y, and Z clients? For example, clinical research could yield the following proposition: A middle-aged, married, middle-class male with symptoms of depression who has a good work history, a college education, and two children is most effectively treated through brief therapy consisting of structure, ventilation, and clarification in a series of eight sessions provided by a middle-aged, male clinician with a master of social work degree and at least 5 years of clinical practice experience.

Thus, several crucial considerations must be dealt with before research can reasonably be expected to aid the planning and decision-making functions of practitioners, agencies, and institutions involved in the delivery of social services.

PLAUSIBLE STUDIES

Well-designed studies in social work practice specify concretely the unit of change: for example, a client, a group, a community, or an organization. In evaluating social work practice, the unit of change is the individual, group, or system that will be participating in an intervention. Empirically grounded terms also specify how change will occur on some definable continuum. For example, the goal of increasing a client's social functioning would be defined in measurable behavioral objectives—that is, securing and maintaining employment. Likewise, the investigator would also specify how social functioning will be improved: the interventions in which the client will participate. At the same time, a study should specify in what context these interventions will occur and the organizational characteristics of the context, such as agency size, number, and variety of services provided; fluidity of the agency's internal structure; its immediate social environment, administrative style, and supervisors; and so forth. Moreover, the characteristics of the change agent, or the practitioner who will facilitate the intervention, should be clearly stated. For example, the *unit of change* may be ten children between the ages of 11 and 12 in a recreational group at a community center who engage in hitting one another; damaging physical property; running away; climbing out windows; making loud noises; using aggressive verbal statements; and throwing objects, such as paper, candy, erasers, and chairs. The *intervention* in this example is the group worker's use of positive reinforcement to increase prosocial behavior and other behavior modification techniques, such as time-out, shaping, and group contingencies. The *context* in which the intervention is implemented is a community center that offers primarily recreational, leisure time, and educational services for 16,000 enrolled members. Each year, the professional staff of the agency organizes about 200 clubs and classes for children and youths ranging in age from 6 to 18 years. The *change agent* is a female practitioner enrolled in an undergraduate social work program. As the change agent, she is the practitioner who implements the positive reinforcement strategies as an intervention that aims to replace the children's aggressive behaviors with prosocial behaviors.

A well-designed study measures process, or the interventions and services provided, and client outcomes through the duration of the study. The process would allow a better estimate of how the worker's interventions affect the client's behavior. Moreover, through repeated measures of client and worker behavior, the research practitioner can monitor change at small regular intervals (daily or weekly) and, thus, can acquire a more accurate estimate of the effects of worker interventions on client behavior (Bloom et al., 2009).

A significant past error in social work practice was to focus solely on what was to be changed in the client and to proceed only to measure it (Kazdin, 1994). Very seldom did we measure the interventions employed. For example, an evaluation may aim to examine the effectiveness of a behavioral group intervention for children. In implementing this intervention, group workers may use some combination of the following strategies: praise, directions, positive attention, criticism, positive physical contacts, and time-out. Group

workers may vary in the types of strategies they use. If the evaluation does not measure which of these strategies are used by various workers, how often they are used, and under what conditions, there is little information about how the intervention is implemented. Therefore, when an evaluation demonstrates that client outcomes have improved, the practitioner has no way of knowing which intervention strategies, worker characteristics, or other factors contributed to the improved outcomes.

WHAT SHOULD BE CHANGED AND WHY

It is essential to understand that the determination of what should be changed involves constant value judgments or a series of them. This is obviously a complex and frequently difficult issue but one that must be considered if services are to be provided on a rational basis. The practitioner immediately confronts the profession's code of ethics as a major determinant in what should be changed, but a code of ethics can serve only as a guide. The answer to what should be changed is not found in quantitative methods of research design technology but, rather, must be dealt with by a complex set of values and norms held by the worker, the client, the agency, and society. The worker's decisions about the target for change must be guided by the research evidence, the client's values and preferences, and his or her own professional judgment about interventions that are a good fit for the client's needs and the context in which services are delivered (Gambrill, 2006). If this issue is not adequately dealt with, it is highly probable that the remainder of the research either will be fruitless or will answer an inappropriate or trivial question.

Most theoretical frameworks in social work show that change is usually defined by the normative structure of the society, whether the changes are in the client, a group of clients, a community, or an organization, such as a social service agency. For example, role theory constructs are used to explain why clients are not performing well in roles as defined by society, and techniques are derived from role theory to modify clients' behavior so they assume their proper societal role. For instance, when young people do not adhere to the traditional values of society, their behaviors are often labeled as dysfunctional, and specific socialization mechanisms are posited to correct these performances (Bennett & Westera, 1994; Hindin, 2007; Jacobs, Rettig, & Bovasso, 1991). A potential deficiency of this approach lies in the tendency to accept the roles formulated by society as given, rather than allowing room to question these roles using a client-centered approach.

If one examines the goals of programs for the poor, delinquent, mentally ill, or developmentally disabled, it is evident that the focus has always been toward the attainment of middle-class values and is evaluated by middle-class criteria, such as having a "good" job, being married, having a "good" income, exhibiting proper social behaviors in particular contexts, and attaining more education. These values continue to be underscored in policies that determine access to public assistance, for example (Thyer & Wodarski, 2007). Relying on these values in implementing social service programs is inconsistent with evidence-based practice, which relies on knowledge of research-supported interventions and cultural competence in making practice decisions. An evidence-based practice approach discourages the continued use of practices that fail to be grounded in client values, because clinicians must integrate knowledge of intervention research with their knowledge of their clients' values.

The majority of research executed in social work and related disciplines has continued to define the outcome criteria in such a way that the research starts with the assumption that an individual must be changed, not his or her social system (Harrison, Wodarski, & Thyer, 1992). Research studies that have well-grounded, empirically defined criteria are needed when the service being evaluated is focused on the individual. However, studies focusing on adequately defined social system variables that may need to be changed to achieve the objectives of a program are also necessary (Wodarski, Feit, Ramey, & Mann, 1995). For example, research indicates that school climate is associated with academic outcomes. Yet, most school-based interventions focus on changing the behavior of individual students or groups of students. Improving student outcomes will, ultimately, require interventions that create a more positive climate in addition to helping students develop new skills (Hopson & Lawson, 2011). Likewise, the rehabilitation of correctional offenders may involve not only programs to change the offender's behaviors but also programs that change society's attitudes or provide decent jobs and housing. Research that focuses on the reciprocal quality of individual and environmental variables will begin to capture the interdependent factors of complex behavior and will lead to the development of empirical theories of human behavior.

Thus, it is the contention of this book that the single most important consideration in the planning and design of practice research is the development, with adequate empirical assessment, of a clear and definitive statement concerning what should be changed. If this issue is not adequately dealt with, undesirable consequences may result, such as insensitivity to clients' needs and values, ineffective intervention efforts, misguided use of personnel and facilities, failure to acquire needed information for planning, and inappropriate change in theory and practice. Yet in many research investigations, this issue is often wholly ignored or given only cursory attention.

THE INTERVENTION APPROACH AND THE CHANGE AGENT

Once a practice problem has been defined and a decision is made concerning what should be changed, the question arises as to what will bring about the desired change. Accomplishing this will require that studies provide detailed information about the processes or interventions that are implemented, in addition to detailed information about outcomes. Although this information has been largely neglected in the past, many interventions now have empirically validated treatment manuals that contain step-by-step procedures, including social skills, relaxation therapy, problem-solving skills, systematic desensitization, and parenting skills (Wodarski, 2009; Wodarski, Rapp-Paglicci, Dulmus, & Jongsma, 2001). Moreover, these manuals facilitate the training of practitioners through exact specifications of directions. The question of which specific operations accounted for the change in these and other practice research studies remains. Even though certain globally defined services were better than others, the exact nature or processes responsible for their success remain unknown. In this age of increasing costs in the delivery of social services, however, it seems to be an ethical obligation to find the most effective components of any seemingly efficacious method of change (Wodarski, Smokowski, & Feit, 1996). Likewise, social workers have a professional and ethical responsibility to use

practices that have proven to be effective in helping clients achieve their goals (Gambrill, 2006; National Association of Social Workers, 2008; Wakefield & Kirk, 1996). Thus, research investigations should help isolate those programs and program components that will help clients increase their level of functioning and answer such critical questions as, What is adequate treatment? (i.e., what are the critical components?) Where should it be provided? What qualities should the change agent possess? How long should treatment be provided? What happens if there is no change in the client? Are relapse-prevention procedures necessary?

Research examining the effectiveness of interventions is guided by hypotheses, or predictions about the relationship between independent and dependent variables. Independent variables are predicted to exert some influence on the dependent variables. In social work intervention research, the independent variables are typically the services or interventions provided by the worker, and the dependent variables are the outcomes. It may be that independent variables are too globally conceptualized to be relevant to clients or to be evaluated by research methods. For example, if an evaluation is examining the effectiveness of casework services without defining the services more specifically, the findings will fail to inform social work practitioners about the characteristics of effective casework services. Similarly, if clients participating in one group within an agency demonstrate improved outcomes while clients in another group within the same agency do not, it will be important to measure the strategies used within each group to determine why one group is more effective. If there are no measures of the strategies implemented in each group, the strategies responsible for the change (i.e., structuring group contingencies, use of material reinforcers, use of praise, punishment, extinction, time-out, or shaping) would remain a mystery.

Replication is another important concern and is the cornerstone of training and research. It is difficult to replicate an experiment if the worker cannot precisely specify the nature and magnitude of the intervention; that is a principal reason for the ambiguous outcomes that occur upon replication of an experiment. Similarly, if the precise nature and magnitude of the intervention remains ambiguous, the research does not contribute to building a practice science, even though a positive outcome may be achieved. In other words, if researchers demonstrate that treatment-intervention is successful but they cannot point to the elements of treatment known to be responsible for the positive outcomes, they are not able to teach others how to improve their treatment skills on the basis of their research findings (Kazdin, 2002; Wodarski & Hilarski, in press). Moreover, clients have a right to the least restrictive and least costly methods, as do taxpayers.

All the above points are evidence of a major weakness frequently observed in evaluative research—a general failure to conduct adequate definition and measurement of the independent variable. Many researchers make careful plans and heavy investments in defining and measuring one or more dependent variables and, by comparison, ignore the independent variable altogether. This problem deserves elaboration. For example, a worker conducts an experiment to test the hypothesis—a prediction about the relationship between the independent and dependent variables—that professional casework services will effectively reduce the number of pregnancies among a group of adolescent girls in a vocational high school. To test this hypothesis, girls are randomly assigned to either a control group or an experimental group because random assignment is one of the best

known means for holding all other extraneous effects constant. Girls in the control group receive no services, while girls in the experimental group receive casework services. In this example, the term *professional casework* is not an appropriately specified independent variable but is merely a vehicle through which the independent variable will be administered. For professional casework, the terms *solution-focused therapy*, *problem-solving skills*, the *strengths perspective*, *behavioral modification*, or *medical treatment* could be substituted, and the same assertion would hold. All these are treatment modalities but tell us little about the specific strategies implemented with clients.

This example represents a case that cannot be adequately dealt with even after specifying the intervention approach or independent variable that will reduce the number of teen pregnancies. Not even the dependent variable has been adequately specified. In order to reduce teen pregnancies, should the professional casework service be directed toward promoting abstinence or use of contraception? Either choice would likely imply a different set of treatments.

In short, there are two means of reducing teen pregnancies: reducing or eliminating sexual activity or promoting the use of contraception. Regardless of the professional treatment modality, researchers must specify the independent variable. In this example, some of the variables that might be considered are training in birth-control techniques, relationships skills, communication skills, problem-solving skills, and cognitive behavioral strategies.

Much of this discussion pertains to issues relating to proper specification of the independent and dependent variables and value judgments concerning what should be changed. Once these have been dealt with, the researcher is in a much better position to select an intervention, but the choice is not then guaranteed. The crucial issue at this point is to decide, using theory and prior knowledge, which interventions can be expected to bring about the desired change. Using, for example, the problem of teen pregnancies, what is there about "casework" that can reasonably reduce teen pregnancies? The proper answer to such a question must be that no one knows. On the other hand, it might reasonably be claimed, based on prior knowledge, that training in contraception will reduce the frequency of pregnancy. No doubt, qualified caseworkers may be selected to provide this training and assist couples or single individuals in getting medical examinations, treatment, prescriptions, and medical supervision. Not all caseworkers are qualified to give such training, and practitioners should be measured or tested to determine that they have the knowledge base necessary for successful administration of the intervention method—in this case, training in use of contraceptives (Wodarski & Wodarski, 1995).

An effective intervention method cannot be specified in global, general terms. It must be specific and directly related to the problem. However, the necessary specificity of the intervention cannot be achieved until the practitioner has dealt explicitly with the evaluative issue of what should be changed and, on that basis, has specified the proper dependent variable in measurable terms. After all that is done, the worker must be certain that the intervention has been so defined and measured as to assure that the intended treatment will be successfully administered. If the worker decides that contraceptive training is the appropriate treatment, the chance of failed treatment and an erroneous research conclusion is possible unless the worker has adequate knowledge to conduct the training.

CRITERIA FOR POSITIVE ASSESSMENT: THE AMOUNT OF CHANGE

In many research studies, the traditional means of judging the adequacy of social work treatment was to compare an experimental group with a control group, or no-treatment group. A treatment is often deemed successful if the client outcomes improve, as predicted, and the changes are statistically significant. Statistical significance means that the changes observed are not likely to occur by chance. This difference from the control or no-treatment group must be considered a necessary outcome before it can be concluded that treatment has produced a "better" or positive outcome. However, the criterion by itself is neither sufficient nor adequate. Improvements among clients in an experimental group may be significantly greater than improvements among clients in a control group. Yet, the participants may not feel that the improvements have a meaningful impact on their lives. For example, Hopson and Holleran Steiker (2010) found that students receiving a substance abuse prevention program reported significant reductions in alcohol use compared with students who did not receive the prevention program. However, focus group discussions with students revealed that they did not perceive a meaningful change in their alcohol use.

Thus, the important question is, does a statistical difference on the measure employed really mean something to the client? In other words, how relevant, important, and meaningful are the criteria for change to the client? For example, many clinical research endeavors have used self-inventories as a basis for evaluating client change. Self-inventories by themselves may be inadequate criteria. For instance, in a well-designed program to change the attitudes of welfare clients toward their work, their attitudes may change but their work habits may remain the same. Likewise, children who are antisocial may perceive significant amounts of change after being involved in treatment even though their behaviors may remain relatively the same. Additionally, traditional designs and statistical techniques that examine changes in groups of individuals do not enable the researcher to assess which individual clients have changed significantly. The objective in social work practice is, often, not to change group scores but to change the behavior of individuals. Here again, the question is posed: what amount of change is necessary to be truly relevant to meeting client needs? In many instances, a statistically significant finding may not lead to the improvement of the client's life.

Statistical significance is an important criterion, for it is used to rule out the hypothesis that research findings could be attributed to chance. However, it tells us virtually nothing about whether the observed change is important. Moreover, the social scientist can nearly always ensure statistically significant outcomes merely by sufficiently increasing the size of the sample. Thus, it is claimed that statistical significance is not a proper criterion for assessing a positive outcome in clinical research. It is necessary but inadequate. Only after achieving statistically significant results can the researcher properly ask, "Was the treatment effective?" When researchers demonstrate statistically significant results, they have effectively ruled out chance (within certain error limits) as one hypothesis to account for the observed outcome, but they have not shown the treatment was effective.

What, then, is meant by "effective" in the context of practice research? That is precisely the issue that must be decided in advance of conducting the study, or at least before the results are in. An experiment, for example, might be conducted to determine

whether supportive therapy, positive reinforcement, punishment and deprivation, or intensive psychoanalysis is the preferred modality for improving the performance of underachieving children in a school system. How can positive outcome be judged in these cases? As we have said before, it is not sufficient to show that a statistically significant result was obtained. Suppose, for the sake of argument, that two of the treatments were statistically significant when compared with a control group. That finding, as stated earlier, merely shows that chance is unlikely to account for the observed gains. But how large are the gains? One of the significant treatments may have produced only a 2% gain, while the other produced a 4% gain in performance on relevant criterion variables. One treatment is twice as effective as the other. But how important is a 4% gain? Unfortunately, that is the kind of question that simply cannot be answered by statistical and scientific methods—it involves a value judgment. (This does not mean that value judgments cannot be treated scientifically; they can.) The researchers, the sponsors of the research, the users of the research, and the clients themselves may all have to decide how large a significant (real) observed gain must be before a treatment can be effective. Should an overall gain of specified score points be required, or should the mean score of the target group exceed a specified cutting point, or should every member of the target group obtain a score that exceeds a specified cutting point? A treatment or treatments in clinical research must be judged effective or not by well-defined and specific criteria set at the beginning rather than the end of the research. This is not an easy task; the investigator must determine how much of an effect must be achieved, using a set of explicit values. It can be extremely difficult to disclose the underlying real values that motivate a research study. For example, 2 successes out of 10 in child abuse may be reasonable to justify continuing intervention services. However, such success rates may not be statistically significant. Success in social work needs to be reexamined and set at realistic levels (Howing, Wodarski, Kurtz, & Gaudin, 1993).

A solution to the overreliance on statistical significance is to apply critical thinking in using multiple criteria to evaluate the impact of a social treatment. The treatment effect should be interpreted by how the client perceives the change and various other criteria. Multiple criteria evaluation allows for the measurement of multidimensional behavior. For example, in evaluating a treatment program for antisocial children, a number of criteria could be employed. Various inventories designed to measure antisocial behavior could be completed by children, parents, group therapists, and other significant adults, such as teachers or ministers. Additionally, the attainment of behavioral observational data enables comparisons between perceived behavioral change and actual behavior. Likewise, the subjective evaluation of the interventions by clients, practitioners, and significant others through interviews should be used to assess the practical importance of the intervention. Thus, securing data from various sources allows for a more accurate evaluation of the study outcomes.

Another issue in assessing positive outcome centers on different outcome sources that will be used for evaluation of treatment effects. At the end of treatment, the client may be dissatisfied with the outcome, but the worker may feel that considerable and important changes have been made. How are such potential conflicts to be managed or dealt with? More often than not, these conflicts arise when the goals of the researcher, worker, or agency are being served rather than the goals of the client.

Obviously, the cost of the various treatments must also be weighed when deciding which ones are effective—that is, which produced the largest gain and the least cost. Rarely is the treatment that meets or exceeds the established change criteria also the least expensive in dollar costs or duration, and rarely is the treatment that produces the largest gain at the cheapest cost the treatment of choice. Oftentimes, the problem of competing objectives must be faced: saving money or helping the client. In many cases, one objective can be achieved only at the expense of the other. For example, a treatment may help the client considerably, but the cost of providing it makes it unsustainable. On the other hand, the agency might survive indefinitely if treatment expenditures are not allowed to rise above a specified level, but the treatment that can be given at such costs may be ineffective according to the established change criteria. This is referred to as the minimax principle: minimize losses and maximize gains. However, this is only a principle, and even if it is achievable, it may not be adequate. Five different treatments, for example, may produce statistically significant results and may vary in cost and duration.

The above examples show that selection of the criteria to be used in assessing the outcomes of evaluative research cannot be isolated from the issues previously discussed: what should be changed, what is the properly defined and measured dependent variable, and what is the properly defined and measured independent variable? However, the criteria against which an evaluative study is to be assessed are, more often than not, multiple and require value judgments that rarely, if ever, can be dealt with by using the tools of science. If the practice values concerning what should be changed and the values undergirding the criteria for determining which treatments are effective are not dealt with, it is unlikely that research technology will be of any significance in developing a practice science. Thus, the practitioner will rely heavily on critical thinking and professional expertise to integrate many different sources of information in deciding how to proceed with a client (Gambrill, 2006).

THE EVIDENCE-BASED PRACTITIONER

The evidence-based practitioner in social work views evaluation as an essential ingredient for effective practice. Each intervention technique is offered as a tentative hypothesis awaiting verification. The concepts used to explain and predict the behavior of the client and the worker are always described in observable concrete terms so that communication is clear, open, and concise, not only between the worker and the client but also between the worker and the other professionals who may be working concurrently with the client (Fischer & Corcoran, 2007).

In order to document the effectiveness of a treatment approach, the behaviors of the social worker and the client must always have observable referents; any behavior must be described in such a manner that two or more persons can observe the behavior and agree that it has occurred. These data allow the worker to determine what effect the treatment attempts have produced. This provides the worker with the feedback necessary to assess whether a specific intervention should be continued, discontinued, or revised. Through such an approach, evaluation becomes a central aspect of social work process and a means for practitioners to contribute to the knowledge necessary for effective practice.

These behaviors become even more essential, considering that some social work practice theories have a relatively small body of research supporting their effectiveness. For the evidence-based practitioner, practice theories are ideally chosen from empirical data that support their use. Such an approach to understanding human behavior begins with research that examines formulations about the possible causes of behavior. As research progresses, empirically derived laws are developed according to the existing database. The next step in this process is to disseminate research-based interventions into community settings that serve social work clients (Franklin & Hopson, 2007).

Such a sequential process in theory development and testing, which characterizes applied social psychology and behavioral practice, differs from the manner in which many practice theories that social workers employ were developed. Early theories began with global descriptions of human behavior without experimental data to support their postulates about human behavior. Although these theories do not lack descriptive richness and explanatory potency, they fail to offer highly specific and individualized treatment techniques, and their ability to reliably predict the future behavior of individuals remains to be demonstrated empirically.

Evidence-based practice is critically important under these conditions, when the existing research base is small or nonexistent, because it is the only way to demonstrate that social work interventions are effective, from both the perspective of the worker and the client. It also means that evidence-based practice is part of our ethical responsibility in providing clients with the most effective interventions relevant to their needs.

COMPETENCIES OF THE EVIDENCE-BASED PRACTITIONER

It is necessary to specify objectives for training evidence-based practitioners if social work is to produce personnel capable of evaluating new services to clients; planning, designing, and evaluating adequate service delivery systems; systematically delineating targets for intervention; rigorously assessing methods of change; and, finally, understanding the burgeoning research base of social work and facilitating the dissemination of such knowledge.

The evidence-based practitioner's repertoire of intervention skills involves the systematic application of practice techniques derived from behavioral science theory and supported by empirical evidence to achieve behavior change in clients. The evidence-based practitioner must possess theoretical knowledge and empirical perspective regarding the nature of human behavior, the principles that influence behavioral change, and the empirical data that provide the rationale for the interventions (Dulmus & Wodarski, 1996). The worker also must be capable of translating this knowledge into concrete operations for practical use in different practice settings. In order to be an effective practitioner, therefore, the social worker must possess a solid behavioral science knowledge base and a variety of research skills. Moreover, a thorough grounding in research methodology enables the worker to evaluate therapeutic interventions, a necessary requisite of scientific practice. Because the rigorous training of social workers with scientific perspective equips them to assess and evaluate any instituted practice procedure, this continual evaluation provides corrective feedback to practitioners. For the empirical social worker, theory, practice, and

evaluation are all part of one intervention process. The arbitrary division between practice and research, which does not facilitate therapeutic effectiveness or improve practice procedures, is eliminated.

Knowledge Base

The central emphasis is on employing evidence-supported procedures aimed at the solution of the client's difficulties. The body of knowledge the practitioner must possess to be an effective change agent includes the following:

1. A thorough understanding of the scientifically derived theories of behavioral science as they relate to human behavior, personality formation, the development and maintenance of interpersonal relationships, behavior change, and practice intervention

2. The ability to translate behavioral science knowledge into practice technology

3. The skills necessary to assess a study in terms of its methodology and the implications it has for social work practice

4. The ability to objectively evaluate any practice procedure and outcome and formulate new practice strategies when those that originally had been formulated have proven ineffective

5. A working knowledge of a wide variety of research designs, experimental approaches, and statistical procedures, and the ability to use them appropriately for the critical evaluation of one's interventions, whether they take place on the micro or macro levels of society

6. The knowledge of relapse-prevention procedures

Although clients are given the knowledge and tools with which to modify their own behavior, practitioners still take full responsibility in the helping process because their contractual obligations require that they assist the client to modify those specific problems for which professional assistance originally was sought. The social workers' knowledge of the principles of human development and behavior change and their training in practice evaluation enable them to objectively evaluate the outcomes of any intervention program they have devised for a particular client. If a program has been proven ineffective in alleviating a client's distress, the social worker is ethically bound to investigate the reasons for its failure and develop other means of altering the behavior based on evidence.

Overview

The scientific approach to social work practice offers much promise for the social work profession. Based on empirical data and scientific findings, it makes available concrete tools for effective intervention and, most important, builds into the intervention process a problem-solving and evaluative component needed in social work.

Questions for Discussion

1. Explain the role of critical thinking in evidence-based practice.

2. What is the client's role in working with an evidence-based practitioner?

3. How does evidence-based practice relate to the National Association of Social Workers code of ethics?

4. Describe the steps in evidence-based practice.

Evidence-Based Practice Web Resources

SAMHSA's National Registry of Evidence-based Programs and Practices

http://www.nrepp.samhsa.gov/

Office of Juvenile Justice and Delinquency Prevention Model Programs Guide

http://www.ojjdp.gov/mpg/

The Campbell Collaboration

http://www.campbellcollaboration.org/

The Cochrane Collaboration

http://www.cochrane.org/

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