USING PSYCHOLOGICAL APPROACHES TO IMPROVE REHABILITATION RESULTS

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Rehabilitation is dynamic, rapidly changing and growing. The term "traditional" in rehabilitation sometimes refers to time-honored procedures that bear little relationship to more recent research. More often, it refers to concepts and practices that were considered revolutionary just a short time ago. The purpose of this article is to look at how psychology can contribute to this changing, cost-conscious field.

Changes and growth come as we continually question ourselves about a myriad of critical issues: What should be done? What works? How do we know an intervention works (that is, what evidence do we have beyond our clinical judgments/hypotheses)? What parts of an intervention are necessary to get the desired outcome? How can we most simply solve a problem, or enable a patient to solve a problem? How can the most recent research be applied to the day-to-day process of rehabilitation?

The need to curtail costs is another powerful motivator for change. Costs can only be decreased a comparatively small amount within existing ("traditional") models of service delivery. Major savings in the price of producing outcomes require major innovations in the systems which deliver rehabilitation services. These modifications must be coupled with funding for what may at times seem to be radical mutations. At the same time, however, new approaches and programs must be carefully evaluated: we must be sure that genuine improvements, not just the latest fads, are being supported.

Psychologists' training fits well with these pressing needs in rehabilitation. The most rehabilitation-relevant areas of training are:

(1) scientific method;
(2) principles of learning/behavior modification;
(3) neuro-psychological factors in behavior;
(4) neural bases of behavior;
(5) psychodynamics of the patient the family;
(6) group dynamics;
(7) adjustment to disability;
(8) clinical research and program evaluation.

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Scientific Method

The perspective of scientific method emphasizes systematic, objective, theory-based approaches. Theories are usually based on clinical hunches, or hypotheses. Theories help us come to a more comprehensive view of a problem within its systemic context.

Theories and hunches must be rigorously evaluated on the basis of objective data. For example, it is not enough to believe that computer-assisted cognitive retraining is better than cognitive retraining without computers: We must make systematic, factual comparisons whenever possible. In fact, we are duty bound to evaluate total rehabilitation regimens and to alter them if the outcomes do not fit our hypotheses.

We are also trained to look for the most "parsimonious" set of events that can explain or produce an outcome. "Parsimonious" is a word which, in psychology and other sciences, is roughly synonymous with frugal/simplest/most straightforward/most direct. In rehabilitation, for example, we might apply 30 carefully structured sessions of cognitive retraining to a group of 18 patients for 10 weeks, resulting in a statistically significant improvement on an objective scale. The next step would be to apply the notion of parsimony by investigating, objectively, Which of these treatments are really necessary to produce the result? and, How long do they need to go on?

Behavior Modification

Fundamentally, rehabilitation is the attempt to change behaviors. It is only logical, then, that the extensively researched principles of behavior modification should be applied to rehabilitation. Behavior modification in this context may be conceptualized as discovering what approach to a particular patient produces the most effective results, and then applying that approach throughout their program.

Behavioral principles have been successfully applied, for example, with traumatic brain injury (TBI) patients whose severe, long-lasting behavior problems had prevented them from benefiting from traditional rehabilitation. Most of them were able to engage in therapy within a specialized, highly structured behavioral program. TBI patients whose agitation was more short-lived have been successfully managed in more traditional acute hospital settings when behavioral management techniques were used.
Some patients have behavioral "deficits" rather than behavior problems: "Many of the difficulties encountered by therapists are due to behavior deficits rather than behavior problems. It is what the patient will not do that causes difficulty and prevents progress in rehabilitation. Apathy, lethargy, and a lack of cooperation are as much of an obstacle to the achievement of rehabilitation goals as are behaviors that therapists perceive as socially unacceptable or inappropriate" (ref. 7, p. 54). Many patients with these deficits have been successfully treated with behavioral techniques in day treatment settings.  

Behavior management strategies have also been taught to families who have a TBI survivor living in the home who has behavior problems or deficits. This approach may in turn prevent patients from re-entering the rehabilitation system in more restrictive and expensive programs. Some combination of behaviorally oriented day care and home care might be extremely helpful to patients and families, as well as changing the ways we currently treat some patients. That is a good example of a hunch, or hypothesis, that needs to be systematically evaluated.

Behavior management principles have been used in many other areas that are relevant to rehabilitation. One of the key areas is in helping patients to continue their programs after they are discharged from formal rehabilitation, or go on to less intensive programming. Patients usually need to follow a fairly extensive list of tasks if they are to avoid having increased problems which land them back in the hospital. Prevention of pressure sores is a good example of this crucial kind of patient compliance.

Neuropsychology

Neuropsychological assessment has burgeoned in this century. The most prominent early approaches used fixed batteries of tests to identify impaired brain function, and to try to isolate specific lesions. At roughly the same time, a small movement in the United States and a larger one in Europe and the Soviet Union was focussing on a more flexible approach. The work of Alexander Luria, brought to widespread attention by Christensen and Majovski, provided a theoretical, data-based model of brain functioning on which "process"-oriented investigations could be based.

In rehabilitation, the neuropsychological assessment must focus on impaired functional abilities. Complex functional activities must be broken down into their cognitive components.

The hypothesis-testing, or "process" approach is often used: "The method consists of the identification of the patient's cognitive strengths and deficits by successively formulating, testing, and rejecting (or accepting) hypotheses about the patient's cognitive functioning" (ref. 11, p. 13).

The purpose of all this is to figure out which components of a process are impaired—and which are spared—as the basis for designing treatment. After all, if we try to rehabilitate a functional activity without knowing which elements are causing the problem, we are likely to have a much less focused—and therefore longer—treatment course, with less certain outcome.

Based on the neuropsychological assessment—and on assessment data gathered by the other disciplines—specific treatment recommendations are made. Sometimes these treatments form part of the assessment process, to help us be sure we are on the right track; or can be tried out by the neuropsychologist. Other treatment recommendations need to be integrated into other disciplines' regimens. In any case, we must follow up and evaluate the usefulness of the recommended techniques.

Knowledge about brain-behavior relationships, a thorough neuropsychological assessment, and a hypothesis-testing approach are particularly important in cognitive rehabilitation.

Cognitive retraining may best be defined as "the amelioration of deficits in problem-solving abilities in order to improve functional competence in everyday life situations" (ref. 12, p. 395). "Cognitive retraining" has come under increasing criticism because the term has become something of a fad, being used to describe treatment procedures which are rote, not well grounded in brain-behavior research, and applied indiscriminately.

Many authoritative clinician-researchers and professional groups have decried the indiscriminate use of various "cognitive" practices. The Head Injury Task Force of the American Congress of Rehabilitation Medicine responded to this crisis of confidence as early as 1987, by defining cognitive retraining as "a systematic, goal-oriented program of therapeutic cognitive activities, based on an assessment and understanding of the patient's brain-behavioral deficits..." The problem, it would seem, is not with the notion of cognitive rehabilitation, but rather with the loose application of that term to cover a multitude of poorly devised activities.

Psychodynamics of the Patient and Family

Psychotherapeutic interventions in a rehabilitation setting would not come under the heading of traditional mental health services. Rather, the emphasis is on short-term, specific interventions with explicit admission and outcome/termination criteria.

Patients and family members have come to rehabilitation not for treatment of a mental health problem, but rather because they have experienced a personal and medical catastrophe. Catastrophe may be defined as an illness or injury which, because of its potential to create disabling residual conditions, calls into question virtually every plan the patient has made for next week, next month, next year... and, indeed, their lifetimes.

We all have guideposts in our minds which allow us to "know" what to expect from our future. These guideposts include occasionally small but always crucial areas such as: How long will it take to get dressed in the morning and be ready for the day? How may we expect people to behave toward us when we meet them for the first time? How may we expect friends and family to relate to us now?

For our patients and their families, these expectations have been seriously and shockingly altered. And sometimes these catastrophes happen at a time which, as one patient expressed it, "caught me not at my best" in terms of his ability to marshal his personal adaptive resources.

It is helpful to look at these and related issues within an explicit psycho-dynamic framework. This enables us to bring an orderly, systematic assessment and treatment process to an oth-
erwise chaotic scene. It also helps to identify the specific responses of individual patients and loved ones and to tailor treatment to meet their needs.

Family systems theory is an example of an explicit framework which has been adapted to rehabilitation. Against this background, specific interventions can be used and evaluated. For example, the "PLISSIT" model helps us discern the amount of help a particular patient and/or family needs.

Beginning with the least amount of intervention, the acronym stands for the following: Permission to express hopes and fears and seek answers to their questions from staff. Limited information about the particular injury/illness from classes, brochures, and so on. Specific suggestions, that is, information and advice aimed at improving interactions in the rehabilitation program, on a therapeutic home visit, or when the patient returns permanently to the family. Intensive therapy for those families and patients who need more help in order to provide a viable home situation.

Recent research indicates that many families may be able to provide a significant amount of therapeutic assistance to the patient. Family members as behavior managers has been mentioned above. Another study has tentatively concluded that some family members can be effective cotherapists in programs to reduce anger outbursts and to improve everyday, functional memory.

Clinical Research and Program Evaluation

Evaluation of the outcomes of therapeutic interventions is another burgeoning field that promises to reward our continuing involvement. Outcome research ranges from large-scale studies of whole programs to in vivo studies of individuals, or small groups of individuals, within a regular rehabilitation program. Single-subject and small-group research designs are increasingly providing important information about what works with different kinds of patients and problems. "When correctly posed, single-subject designs can answer a number of clinical questions such as, 'Does a treatment work?' 'Are there elements of a treatment that make it work?' or 'What level of treatment is optimal?' And, further, With which patients does a particular treatment work best?

Single-subject designs have been successfully applied, for example, with a dysarthric patient who was making only modest gains in his enunciation; a patient whose verbal output was primarily scatological; and so on.

Relatively larger—but still manageable—clinical studies are also beginning to point the way to more effective use of resources. Fryer and Haffey in a study mentioned above, found that their patients could be separated into two groups. Those who scored at certain levels on a disability rating scale and a psychosocial rating scale made gains during treatment that enabled them to live more independently. Those patients who scored lower on the pre-test scales did not make adequate gains, even though they received the same treatment regimen.

In summary, there is ample evidence that psychological approaches can often improve rehabilitation outcomes and decrease costs. The steadily increasing need to improve effectiveness and efficiency provides useful pressure towards utilizing more innovative, less traditional methods of rehabilitation. Systematic application of the principles of behavior modification, neuropsychological assessment, and analysis of the family system, coupled with evaluative clinical research, may help us improve rehabilitation programs and their outcomes.

REFERENCES