Directions in Psychiatry

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REHABILITATION OF THE SERIOUSLY MENTALLY ILL

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EDITOR'S NOTE

One of the most telling pieces of research to appear in the last few years is a study that reported that the outcome for seriously ill psychiatric patients, including schizophrenics, did not depend on psychopathological symptoms or diagnostic categories, but rather on the ability of the patient to resume life outside a hospital, with family and friends, studying, holding a job, and regaining a sense of purpose and dignity.

Understandably physicians, including psychiatrists, are primarily oriented around making a diagnosis, understanding as much as possible etiological factors, carrying out psychotherapeutic and psychopharmacologic treatment procedures, and thereby restoring the patient to a state of relative well being. We have not, by nature or training, been conditioned to attend adequately to the details of what happens to our patients or what skills they require to successfully survive in the world to which we have enabled them to return. This is no less true for those patients whom we treat who may never be hospitalized.

This is one reason why the treatment of psychiatric patients has more and more become a multidisciplinary effort. Recreational and occupational therapy involve patients in learning how to relate to others, engage in competition, think and perform creatively, and build new self-images. The rehabilitation counsellor in particular has developed a number of strategies to help patients learn how to communicate, define occupational strengths, engage in job interviews, learn the tools required to live alone—from cooking to paying the rent to getting a telephone installed—without which sustained recovery is often an impossibility. The rapidly growing field of rehabilitation can offer those of us involved in the care of patients a unique new way to insure that the patients we have labored so long to help stay well and, in fact, flourish.

The rehabilitation concept should not be restricted to the severely ill. Making vocational choices, sharpening social skills, improving family communications, and cultivating friendships through better interpersonal relations are invaluable and necessary additions to practically every patient with whom we deal.

Introduction

Following the initiation of deinstitutionalization two decades ago, treatment of chronic and seriously mentally ill patients consisted primarily of brief hospitalization, crisis intervention, and medication to relieve acute symptoms, followed by inconsistent and inadequate psychosocial support services. The same two decades have seen the emergence of the revolving door syndrome—that **pattern of admission, discharge, and readmission to psychiatric facilities that is so demoralizing for patients, their families, and the health professionals who serve them.** For example, studies indicate approximately 75% of chronic mentally ill patients fail to remain in the community for more than three years.[1]

Recently, treatment development, research, and clinical applications have yielded new modalities that offer substantial benefits to the long-underserved seriously mentally ill. Those innovations in treatment and rehabilitation arise from procedures that protect against and filter the noxious effects of biological vulnerability and socioenvironmental stress. In combination with judicious doses of antipsychotic medication, **coping and competence, generated by behavioral therapies, can minimize long-term symptom impairments, social and occupational disabilities, and handicaps associated with serious mental disorders such as schizophrenia.**

Thus, appropriate dosing of neuroleptic drugs can delay and abort relapses and **social skills can be strengthened through training** and protect a vulnerable individual from succumbing to stressful life events. Family intervention and participation in a psychosocial self-help club can bolster social support and buffer the noxious effects of tension and stressors from the environment.

What is Psychiatric Rehabilitation?

Comprehensive psychiatric rehabilitation encompasses assessment, training in personal skills, and modification of living environments in those areas relevant to community life. They cover self-care, including medication and symptom self-management; family relations; peer and friendship relations; avocational and employment pursuits; money management and consumerism; residential living; recreational activities; transportation; food preparation; and choice and use of public agencies.[2] Because comprehensive rehabilitation involves so many areas of the patient's life, the responsible psychiatrist, primary therapist, or case manager must galvanize the active involvement of the patient and his or her own family as well as the full spectrum of community support services. Thus, **rehabilitation encompasses two major strategies:**

- **Helping the patient to develop or reacquire social and instrumental skills**
- **Modifying the patient's social environment to become more supportive, to compensate for continuing impairments, disabilities, and handicaps.**

Social-Skills Training for Chronic Mental Patients

Social-skills training has proved to be effective in increasing the social competence of chronic mental patients. Social-skills training is designed to teach specific interpersonal skills and to promote the generalization and maintenance of those skills.[3] Skills training procedures, which are based on principles of human learning, have been empirically tested and packaged for ready use by practitioners.

While many psychosocial programs include self-styled social-skills training, **it is important to distinguish between nonspecific group activities that engage patients in socialization and methods that deliberately and systematically use behavioral learning techniques in a structured approach to skill-building.** Although socialization activities can lead to acquisition of skills through incidental learning during spontaneous social interactions,[4] we shall limit our definition of social-skills training to methods that incorporate principles of human learning designed to promote the acquisition, generalization, and durability of skills needed in interpersonal situations.[5]

The learning disabilities of many chronic psychiatric patients require the use of highly directive behavioral techniques for training social skills. For example, most chronic patients have attentional and information-processing deficits. They show hyperarousal or underarousal in psychophysiologic testing, and they experience overstimulation from emotional stressors or even from therapy sessions that are not carefully structured and modulated. Chronic patients often fail to be motivated by the customary forms of rewards available in traditional therapy. In addition, **they generally lack conversation skills,** a basic building block for social competence. **Schizophrenic patients in particular are deficient in social perception and have difficulty finding alternative ways of coping with everyday problems, such as missing a bus, making an appointment, or getting help with bothersome drug side effects. Schizophrenic patients tend to make less eye contact, are less fluent verbally, and use less vocal intonation,** all of which may impair social learning.

It is important to design social-skills training procedures to fit the needs of the individual patient, since all patients present different constellations of social abilities and deficiencies. Several training models are currently available to the clinician. Longest in use is a basic treatment package that calls for the tailoring of individuals goals, demonstration of appropriate skills to the patient, the role-playing of interpersonal situations, and the provision of reinforcement and corrective feedback.

The Basic Model of Social-Skills Training

In the basic model, social-skills training is generally conducted in a clinic or hospital training room with either an individual patient or a group of patients. To increase the generalization of treatment effects, **additional training takes place in settings such as the pa-**

tient's home, hospital ward, or community facility. The therapeutic process is designed to gradually shape the patient's behavior by reinforcing successive approximations of the appropriate skill.

Researchers and clinicians have succeeded in training patients in a full range of verbal and nonverbal social skills. They include assertive responses,[6,7] nonverbal behaviors like eye contact and smiles,[8,9] paralinguistic behaviors like voice volume or speech duration,[10,11] **conversational skills such as asking questions and giving compliments,[12,13] community-based interactions with agencies or shops,[14] and job interview skills.[15,16]**

The Problem-Solving Model for Training Social Skills

Deficits in cognitive problem-solving abilities, which may lead to ineffective performances in social situations, have been found in many chronic psychiatric patients.[17,18] **The problem-solving method of teaching social skills views interpersonal communication as a three-stage process requiring:**

1. **Receiving skills—accurately perceiving cues and contextual elements of interpersonal situations**
2. **Processing skills—generating response options, assessing the consequences of each alternative, and selecting the most feasible option**
3. **Sending skills—integrating both verbal and nonverbal skills in implementing the chosen option for an appropriate social response.**

In the problem-solving training model, an interpersonal scene is role-played and videotaped. After role-play, the therapist asks questions to assess the patient's receiving skills. The next step in the training process is the assessment and training of processing skills. During that stage the patient is taught to generate response options and to identify the consequences, both positive and negative, of those options. Role-play conversations are conducted. Specific questions are asked to gauge the patient's ability to process information, and the therapist prompts alternative responses that are appropriate for the patient's skill level.

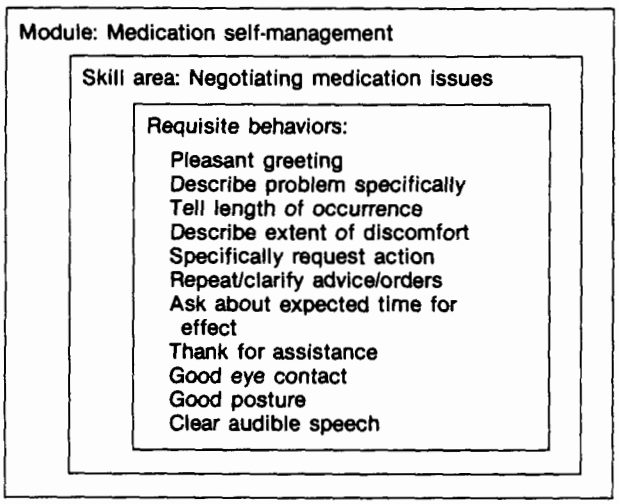
The third stage of training involves sending skills. During role-play interactions, patients are coached to improve their performance and are asked to assess and reinforce their accomplishments. (In all three stages of this model, the therapist may prompt or model correct responses or ask that the scene be role-played again.) When sending skills are performed at an acceptable level, assessment and training continue with a new interpersonal situation.

The scope of the problem-solving model has been expanded to include areas of social and independent living other than conversational skills.[19] **Training "modules" have been developed in the areas of leisure and recreation, medication management, symptom self-management, and grooming skills, among others.** The modules are designed to teach specific functional skills, to train the patient to solve problems which may be encountered while attempting to employ those new skills, and to practice the skills in vivo.

The structure of a module, which focuses on the domain of medication self-management, is depicted in Figure 1. It contains skill areas in (a) obtaining information and learning about the benefits of maintenance antipsychotic medication, (b) acquiring the skills of self-administration and self-assessment of medication, (c) identifying and coping with the side effects of medication, and (d) negotiating medication issues with physicians and health-care providers. Patients can enroll in one or more modules, depending on the extensiveness of their deficits and the nature of the goals established for their treatment.

FIGURE 1

Each module is divided into separate skill areas, with each area having specific behaviors, or educational objectives, that are taught for personal effectiveness. In this example of the Medication Management Module, patients learn a variety of verbal and nonverbal skills in negotiating their medication issues with their health care provider.



This model of social-skills training offers considerable promise for those who have the cognitive capacity for learning social skills in small groups that meet for one hour at a time. Each module is divided into separate skill areas, and each area has specific behaviors taught to achieve personal effectiveness and competence. **Patients proceed through each skill area in sequence, starting with an introduction that highlights the values and advantages of the skills, which, in turn, motivates subsequent participation.** After acquiring the skills in the training phase, patients learn how to gather the tangible and social resources required to put the skills to use. **For example, in order to negotiate medication side-effects or dosage issues with the prescribing physician, a patient must be able to use a telephone to make an appointment to see the doctor and to find transportation to the doctor's office.** After solving resource management problems, patients anticipate obstacles and problems that might interfere with the successful implementation of their skills in the natural environment. **Thus, patients learn how to deal with disappointing events such as the lateness or unexpected absence of the physician.** The learning activities in the

modular approach to training problem-solving skills are shown in Figure 2.

FIGURE 2

Learning activities in each skill area of modules designed to teach chronic mental patients a range of social and independent living skills.

Learning Activities in Each Skill Area	
1. Introduction to skill area	Introducing the topic and component skills with a rationale; and motivating the patients to participate.
2. Videotape and questions/answers	Viewing the skills being modeled in the videotape scene, which demonstrates skill usage with question/answer review
3. Role play	Practicing the skills
4. Resource management	Discussing the resources needed to perform the skills
5. Outcome problems	Solving problems associated with using the skill
6. In vivo exercises	Performing exercises in real-life situations with healthcare providers, in settings outside the training class
7. Homework assignments	Completing assignments autonomously

The Attention-Focusing Model for Training Social Skills

The problem-solving training model, as well as the basic approach, relies on the patients' ability to attend to relatively complex training situations that last 30 to 90 minutes. A sizable number of chronic psychiatric patients have such severe impairments in the cognitive and attentional realms, however, that they are unable to benefit from those training models. A method that minimizes demands on cognitive abilities when such patients are undergoing social-skills training has been developed recently.[3] The attention-focusing procedure is characterized by multiple, controlled training trials, the sequential presentation of training material, and graduated and systematic prompting following incorrect responses. That procedure has been used to teach conversational skills to highly distractable, institutionalized, chronic schizophrenics.[20]

A trainer initiates a training trial with a patient by making a statement. If the patient responds appropriately, he or she is praised and the response is sometimes reinforced with something to eat or drink. If an incorrect response is made, the trainer implements a sequence of prompts. The patient is praised if he or she responds appropriately following the prompts. The same statement is presented by the trainer until the patient responds correctly several times in succession without prompting. The technique is then repeated using other conversational statements.

The first goal of training is to teach the patient to ask relevant questions. For example, if someone were to make a statement such as, "I went to a movie last night," the patient is trained to make a response such as, "What movie did you see?" If patients are unable to deliver an acceptable response on a trial, the trainer models a response; however, any appropriate response made by the patient is accepted as correct. Typically, patients are trained on 8 to 12 alternative exemplars in each of three domains of conversational skills.

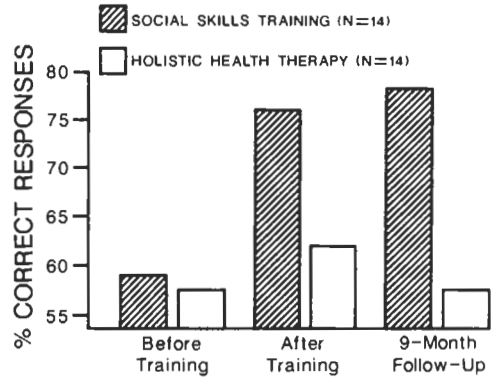
Effectiveness of Social-Skills Training

Given the considerable effort necessary to implement a social-skills training program, it is reasonable to question its effectiveness, durability, and generalizability. **Well-controlled studies have shown that patients with chronic schizophrenia can learn a variety of functional social skills and maintain those skills over time.[21]** When skills training is intensive and extensive, skills do not weaken substantially with the passage of time; however, booster sessions are desirable, as any knowledge or skill can erode when infrequently used or reinforced.

In a study conducted at Camarillo State Hospital, **patients were randomly assigned to receive either social-skills training or a holistic therapy program that included art therapy, jogging, and meditation.[22] The holistic therapy was credible to the patients and actually resulted in significant symptom improvement during the inpatient period.** Patients' skill levels were measured through a role-playing test that was conducted before therapy, immediately at the end of the three-month program, and at a nine-month follow-up. As shown in Figure 3, **patients who received social-skills training showed a large increase in appropriate skills displayed during the role-playing test, even though the tests were conducted using situations novel to the patient. Furthermore, this increase was as apparent at the nine-month follow-up as it had been immediately after training. Patients who received the holistic therapy demonstrated little change in social skills at either the three-month or the nine-month test.**

FIGURE 3

Percentage of correct responses on role-play test of social skills.

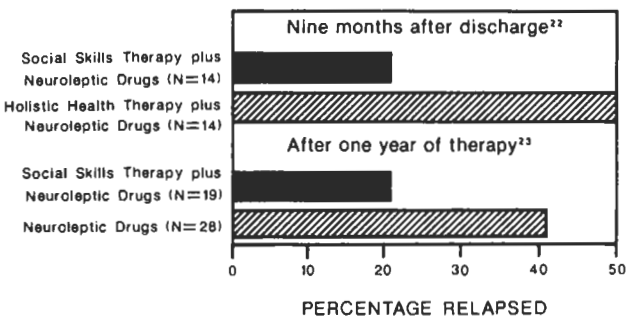


To enable patients to generalize their newly learned skills and apply them to novel situations, it is necessary to program for generalization during the training. One has to anticipate the environments that the patient will encounter after the training is over. When such antici-

pation and planning is built into the training program, there is good evidence that patients are able to transfer the newly learned skills to the natural environment. Patients in the study just described were asked to participate in a naturalistic conversation test outside the hospital and clinic with a person they had never met. **Patients who had received the social-skills training were significantly less hostile, less distracted, less submissive and inhibited, and more appropriate to their conversational partner than were those who had received the holistic therapy.** Relatives of the patients who had received the social-skills training also rated them (using the Katz Social Adjustment Scale) as much improved in areas related to the training.

Skills training, coupled with pharmacotherapy, may actually reduce the risk of relapse of schizophrenia patients. In Figure 4 is illustrated the relapse rates from two studies that compared the combination of skills training and maintenance pharmacotherapy.[22,23] In both studies, relapse after 9 to 12 months occurred in approximately 20% of patients receiving the combination of skills training plus drug treatment but was found in more than 40% of patients not receiving the skills training.

FIGURE 4



Relapse rates in two controlled studies of maintenance antipsychotic drug therapy with or without social skills training.[22,23]

Behavioral Family Management

Behavioral family management is a family-based skills-training effort that also works to reduce stress and make the family a more supportive environment for the schizophrenic patient. Behavioral family management is characterized by three elements: (1) **education about the nature and management of schizophrenia,** (2) **training in verbal and nonverbal communication skills,** and (3) **training and practice in effective problem-solving skills.** Although its methods are similar to those used for training in other skills, only behavioral family management requires that both patient and relatives participate in the systematic process of alleviating the considerable problems and stress associated with living with a serious mental disorder.

Based on intensive interviews with 80 relatives of schizophrenics, Creer identified three categories of problems: (1) **distress caused by the patient's symptomatic and socially impaired behavior,** (2) **anxiety and "burnout" experienced by the relatives,** and (3) **disturbances in the relatives' own social networks.**[24]

From the families' perspective, schizophrenic members living at home display two major types of behavior that are distressing: social withdrawal and solitary patterns on the one hand and aggressive, bizarre, and disruptive behavior on the other. Social isolation, to the point of rarely engaging in conversation, is the more common pattern; it generates helpless frustration in relatives whose sustained social support for the patient requires a modicum of responsiveness. Also posing challenges to family coping are the apathy and indolence of the chronic schizophrenic, which galls relatives who view the patient as physically able and yet do not understand the absence of constructive activity.

Relatives speak of being "constantly on a knife edge," "living on your nerves," or "feeling in constant dread of relapse and flare-ups of symptoms." **Guilt, exhaustion, depression, anxiety, and anger are frequent emotions experienced by relatives that, in combination with the patients' deviance, do much to explain the high "expressed emotion" attitudes in families —a stressful emotional climate that has been found to predict relapse.**[25-27] Expressed emotion that consists of criticism, hostility, and emotional overinvolvement is an understandable reaction of concerned family members who are at a loss to know how to help their schizophrenic relative. Overinvolvement can lead a family to give up attachments to the outside community and to spend inordinate amounts of time at home with the patient. Criticism and hostility can lead to rejection of the patient and, ultimately, to alienation and a breach in the family relationship.

Behavioral family management comprises 16 to 20 weekly 90-minute sessions designed for individual families or multiple-family groups and can be adapted for use with families of patients with other major mental disorders. Alternatively, it has consisted of a two-year period of more-definitive skill-building, with weekly sessions for three months and bi-weekly sessions for six months, followed by monthly maintenance sessions. **In three empirical evaluations and controlled studies, behavioral family management has been shown to reduce family tensions, conflicts, and expressed emotion; markedly reduce relapse rates and rehospitalization; enhance problem-solving and coping; improve social adjustment of patients; and lessen the family burden.**[28,29] An analysis of cost-effectiveness indicates a home-based version of behavioral family management is more effective and less costly than comparable clinic-based treatment of individuals.

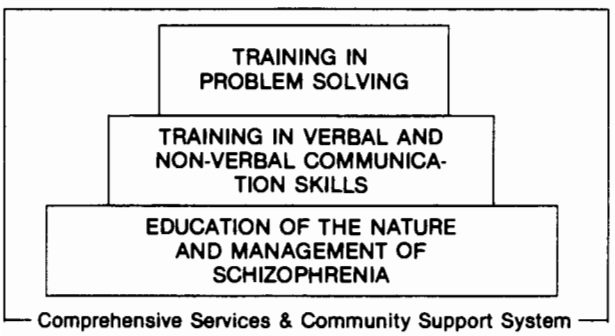
Elements of Behavioral Family Management

Behavioral family management includes in-depth behavioral analysis of each family member and of the family as a functioning, interdependent unit; education

about schizophrenia and its treatment; training in communication skills; and training in a stepwise and systematic problem-solving process. As depicted in Figure 5, those program elements are imbedded in a comprehensive treatment service, including crisis intervention, medication, vocational rehabilitation, and case management.

FIGURE 5

The elements of behavioral family management are optimized when embedded in a comprehensive array of psychiatric and social services.



The educational sessions are used to inform relatives and patients about schizophrenia—its causes, course, and management. Detailed information is presented, and patients and families are invited to discuss their own experiences and to express their own feelings and concerns. The sessions function to relieve guilt, confusion, and helplessness experienced by family members as well as foster realistic expectations about treatment outcome and emphasize the importance of continued maintenance medication. The impact of schizophrenia on each family member and problems of management are discussed. Educational sessions are presented in a graphic, semididactic style, with visual aids, videotapes, and written materials. The patient is encouraged to take the role of "expert"and to describe his or her experiences to the family.

Following the information-giving sessions, the objective is to teach communication and problem-solving skills. First, the current communication pattern of the entire family is assessed to identify areas of communication skills deficits. That is followed by training and guided practice with feedback to teach four types of communication:

1. Using **active listening skills** to learn the needs and emotions of others.
2. **Expressing positive feelings and giving positive feedback.**
3. **Making requests of others, expressing expectations, and setting rules.**
4. **Expressing negative emotions directly**, such as feelings of anger and disapproval.

Research indicates families can learn problem solving. **In a study by Falloon and colleagues, families exposed to behavioral family management were significantly better able to solve their real-life problems three months after the program began than were families who received only individual therapy.** Improvements in problem-solving capacity were highly predictive of a full spectrum of positive clinical outcomes, including symptom remission, reduced likelihood of relapse, higher levels of social functioning, and reduced family burden.[30]

Job-Finding Club

The job club represents an integrated package of training, support, and management modules designed to help patients learn the skills to conduct an effective job search. Key elements of the program include the use of an environment conducive to motivating patients in their job search; the use of reinforcement strategies to make the search less demanding; an analysis of tasks involved in finding a job (to make the search more manageable); and the training skills required in a job search.

To meet the needs of the psychiatrically disabled, the structure of the job-club program is marked by daily goal-setting activities, remedial training in job-seeking skills, and staff support and counseling to help patients manage personal stressors that could affect their employment potential. Figure 6 depicts the methods used in each of the program segments.

FIGURE 6

Job Club Methods

Teaching Job-Seeking Skills

Finding job leads
Contacting employers
Using the telephone
Completing applications
Writing resumes
Interviewing for a job
Using public transportation
Grooming

Sustaining the Job Search

Daily goal setting
Frequent counselor-patient contact
Incentives
Prompting
Generous praise for effort
Peer support
Liaison with other treatment personnel

Training in Job-Seeking Skills

During the first week of the program, patients participate in an intensive, 20-hour workshop designed to assess and train basic job-finding skills. The curriculum includes identifying sources of job leads, contacting employers, completing employment applications, developing resumes, participating in job interviews, and learning how to set both long-term and daily goals and how to use public transportation. Instruction is competency based, with trainers using programmed materials, didactic instruction, role playing, and in vivo

training exercises. Wherever possible, the program uses materials and situations the patient will face during the job search. For example, patients practice completing bona fide job applications and contacting actual sources for job leads. In situations where real life assessments are not possible, such as job-interview training, role playing is substituted. Patients' progress is continually monitored, and additional instruction is provided to those who fall behind or present special training needs.

Job Search

After completing the workshop, patients begin their actual job search. The program provides work areas, access to telephones, secretarial support, and job listings. Job leads are gleaned from newspaper ads, telephone directories, employment notices, civil service announcements, and weekly visits by job-placement counselors from state agencies. The patients, in turn, are expected to attend the program daily and approach the job search with the same effort and responsibility as a full-time job.

A daily, individualized goal-setting session helps patients plan and organize their job-search activities. Every morning, before beginning the day's search, each patient meets with the program staff: to identify the most advantageous options for the day's search, to develop outcome expectations for each activity and a time line for completion, and to propose solutions in advance for any stumbling blocks that may be encountered during the day. Patients are expected to keep a daily log of their job-seeking activities and account for their time. In addition to helping patients develop realistic expectations and daily goals, supportive and goal-directed counseling is also provided as needed. That encompasses not only issues directly related to the job search but other areas that could impede job-finding success, such as finding reliable housing in the community, adjusting to work hours, and learning how to interact with others.

After six years of operation at the Brentwood VA Hospital, the Job Club has served more than 500 patients. A consistent pattern has emerged. **Approximately 65% of participants not on disability pensions have secured jobs or full-time on-the-job training positions through the program. Of those, 65% have been employed at least six months.[20] Approximately 45% of persons receiving Social Security disability insurance find jobs, and 25% of those eligible for Social Security insurance obtain jobs.**

Can Rehabilitation Promote Recovery from Psychosis?

The promising results of behavioral modalities such as social-skills training, behavioral family management, and the job-finding club raise the intriguing question of whether those modalities, delivered early in the course of chronic psychoses, can accelerate the normalization of functioning and remissions in symptoms reported in 20- to 30-year follow-ups of schizophrenics.[31] In the study of behavioral family management described above, more than 60% of young adult chronic patients were in full remission of their psychotic symptoms at the two-year follow-up assessment. Moreover, their remissions were obtained with less antipsychotic drug overall than their counterparts who had received individual, reality-oriented, supportive therapy.

In the last decade, major inroads have been made in developing rehabilitative techniques that improve the ability of schizophrenic patients to function in society. Evidence is mounting that those techniques, combined with judicious doses of antipsychotic medication, reduce the likelihood of relapse as well. By adopting the comprehensive approach to the treatment of schizophrenia that combines pharmacotherapy, community support systems, and behavior therapy, we should be able to normalize more of our patients and assist them in achieving a good quality of life.

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THESE QUESTIONS ARE FOR SELF-ASSESSMENT ONLY. ANSWERS APPEAR BELOW.
QUESTIONS FOR CME CREDIT WILL BE SENT AT THE MIDDLE AND END OF THE VOLUME.

QUESTIONS BASED ON THIS LESSON:

1. In the Camarillo State Hospital study, it was shown that:
   A. Holistic therapy, consisting of art therapy, jogging, and meditation, had no positive effect whatsoever
   B. Social skills training produced a significant improvement in the ability to deal with novel and different life experiences nine months after training, whereas holistic therapy only produced symptom improvement during the period of hospitalization
   C. Holistic therapy was more effective than social skills training in teaching patients how to deal with real life situational problems after discharge
   D. Both holistic and social skills training were shown to be worthless as rehabilitation procedures
   E. None of the above
2. In the Camarillo State Hospital study, patients who received social skills training became:
   A. More hostile
   B. More distractable
   C. More submissive and inhibited
   D. More appropriate in their conversational responses to others
   E. More susceptible to relapse after discharge

QUESTION BASED ON PREVIOUS LESSONS:

3. Which of the following statements is correct about nicotine?
   A. It stimulates appetite
   B. Its appetite suppressant effect is due to its role in symbolic oral activity
   C. Weight gain after nicotine cessation is less in patients who receive nicotine substitution treatment with nicotine gum
   D. Paradoxically, nicotine alters metabolic activity so as to increase the amount of weight gained from any given amount of food
   E. None of the above

QUESTION BASED ON FUTURE LESSONS:

4. According to the author, for most patients the first choice of a neuroleptic should probably be from the high-potency group of drugs because:
   A. These are less likely to cause extrapyramidal side effects
   B. The need to use antiparkinson agents in combination is eliminated
   C. There is less risk of sedation, anticholinergic side effects, and postural hypertension
   D. They are clearly superior in attacking target symptoms in schizophrenic patients
   E. None of the above

As an organization accredited for continuing medical education, St. Vincent's Hospital and Medical Center of New York certifies that when these continuing medical education materials (Directions in Psychiatry) are used as directed, they meet the criteria for 30 hours of credit in Category I for the Physician's Recognition Award of the American Medical Association.

Answers: 1-B; 2-D; 3-C; 4-C

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