Reprinted from ***Current Concepts in Psychiatry***
Edited by H. Helmchen, F.A. Henn, H. Lauter,
& N. Sartorius
Heidelberg: Springer-Verlag, 2000

Schizophrenic Disorders: Rehabilitation

T.E. SMITH

R.P. LIBERMAN

A. KOPELOWICZ

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Thomas Smith, M.D. is affiliated with the Department of Psychiatry of the Cornell-Weill College of Medicine and New York Hospital in New York.

Alex Kopelowicz, M.D. and Robert Paul Liberman, M.D. are affiliated with the Department of Psychiatry and Biobehavioral Sciences, UCLA School of Medicine in Los Angeles.

1. The Importance of Rehabilitation Treatments for Schizophrenia

INTRODUCTION

Pharmacotherapy with antipsychotic, mood stabilizing and antidepressant drugs forms the basis of treatment for the major psychotic and mood disorders, which include functional disability as a diagnostic criterion. While the evidence for the efficacy of these agents for the acute and maintenance treatment of these disorders is quite robust, limitations in their impact have been noted for primary negative symptoms, cognitive deficits, psychosocial functioning, and quality of life (Liberman et al. 1995b). Side effects of maintenance pharmacotherapy diminish the value of these treatments, with examples including the sedation, autonomic and neurological side effects that can impair social and vocational functioning (Mintz et al.

Antipsychotic medications are necessary but not sufficient in the treatment of severe psychiatric disorders

1992). Also, the subjective distress caused by side effects can trigger noncompliance with the drug regimen, with high risk for relapse. While the introduction of atypical antipsychotic drugs appears to confer additional benefits, in terms of improvement in neurocognitive deficits (Green et al. 1997) and reductions in negative symptoms and side effects (Marder and Meibach 1994), the degree to which these new drugs will favorably alter the long-term course of psychotic disorders remains to be seen.

Evolution of the field of Psychiatric Rehabilitation

During the past two decades, substantial evidence has accumulated for the effectiveness of psychosocial interventions to supplement drug therapy for disabling mental disorders (Dilk and Bond 1996; Penn and Mueser

1996; Smith et al. 1996; Scott and Dixon 1995; Marder et al. 1996; Liberman and Kopelowicz 1995a). Psychosocial interventions such as behavioral family management, social skills training, assertive case management, and supported employment have been designed to: (a) reduce the stress experienced by individuals who are vulnerable to relapse--especially stressors from the family emotional climate; (b) strengthen the individual's coping capacities to improve social functioning; and (c) provide social supports that compensate for the deficits in community functioning and buffer stressors that afflict the seriously mentally ill. The advent of a combined biobehavioral approach to treatment of persons with disabling forms of mental disorders has

led to the development of the field of *psychiatric rehabilitation.*

Aims of psychiatric rehabilitation

Psychiatric rehabilitation can be defined as comprising those biobehavioral interventions that are aimed at enabling an individual with a disabling mental disorder to: (a) build skills that improve adaptive functioning; (b) achieve personally relevant goals that are consistent with as high a level of independence and quality of life as is feasible; and (c) live in a supportive environment that enables the person to enjoy a higher quality of life when symptoms or deficiencies in life skills persist despite the best efforts at rehabilitation. Interventions are considered rehabilitative if they remove obstacles or impediments to

these goals (e.g., symptoms, bizarre behavior, deficits in social functioning).

Vulnerability-Stress-Protective Factors Model: the conceptual framework for psychiatric rehabilitation

The conceptual framework underlying psychiatric rehabilitation is the *vulnerability-stress-protective factors* model of serious mental disorder. Vulnerability is presumed to be biologically and genetically mediated and to persist even during periods of symptomatic remission. Thus, the aim of psychiatric rehabilitation is to reduce stressors and provide protection against vulnerability through strengthening the individual and modifying the environment.

Several conclusions can be articulated from the research

Common characteristics of rehabilitation strategies:

- Treatment-specific
- Long-term deployment
- Emphasis on stress-reduction

literature on psychiatric rehabilitation. Psychosocial treatments are *treatment specific*; that is, to achieve favorable vocational outcomes, vocational rehabilitation has to be highly structured and well-organized (e.g., supported employment), and to achieve improvements in social competence, structured methods of social skills training must be employed (Kopelowicz and Liberman 1998). A second conclusion is the importance of *long-term deployment* of psychosocial interventions for improving community tenure of patients. This has been well demonstrated in the studies of assertive community treatment where rehospitalization rates remain low as long as the case management continues to provide interventions with outreach and mobility. Finally, schizophrenia is a

stress-related disorder; thus, interventions aimed at reducing stress (e.g., high expressed emotion within families) are likely to succeed in reducing relapse rates (Scott and Dixon 1995).

Rehabilitation should be combined with effective pharmacotherapy

Psychosocial treatment should be combined with *optimal types and doses of antipsychotic medications*, so that symptoms and side effects do not interfere with compliance and instrumental role functioning. Negative symptoms and conceptual disorganization/thought disorder in particular have been associated with poor outcomes from psychosocial treatment (Mueser et al. 1991; Kopelowicz et al. 1997). The new antipsychotic drugs may offer special promise in terms of reducing the

neurocognitive and learning disabilities that can compromise the psychosocial rehabilitation of persons with schizophrenia (Green 1996; Green et al. 1997; Mueser et al. 1991). Finally, treatment and rehabilitation should be *linked to the phase of the patient's disorder*; thus, the type of psychosocial intervention appropriate for the acute and florid phase of illness (e.g., involving the family in a therapeutic alliance as through psychoeducation) will not necessarily be the same intervention used in the stable or recovery phase of the disorder (e.g., supported employment, intensive social skills training for conversation and friendship skills).

Rehabilitation should be linded to the phase of the disorder

Remedial vs.

Psychosocial treatment and rehabilitation can be

Compensatory strategies for rehabilitation

categorized as primarily *remedial* or primarily *compensatory* in terms of the psychosocial and functional deficits of persons with schizophrenia. In remedial strategies, attempts are made to improve the individual's functional deficits as by teaching skills and broadening the individual's behavioral repertoire, coping capacities, and resilience to stress. Social skills training is an example of this strategy. In compensatory approaches, treatment aims to create environmental supports for the individual that reduce the burden, stress, and requirements for functioning, while at the same time providing for the individual's needs and quality of life. Assertive case management or training in community living, as well as supported employment and supported living techniques

reflect successful compensatory strategies of intervention (Test 1992; Burns and Santos 1995; Hromco et al. 1997; Bond et al. 1997).

A model for the factors that influence social and role functioning

Compensatory and remedial strategies for psychosocial rehabilitation can be viewed as means of overcoming obstacles to normative social and role functioning that are found in the environment, the individual, and in the roles that individuals must perform to function within the community. These various obstacles, or variables, are depicted in Figure 1. Remedial interventions aim to strengthen an individual's coping capacity by teaching skills, while compensatory interventions are primarily imbedded in environmental supports. The following 2

sections of this chapter will review these strategies in detail.

2 Rehabilitation Services

Specific rehabilitation services include social skills training, family psychoeducation, cognitive remediation, vocational rehabilitation, and self-help programs. The utility and effectiveness of these services have been recognized, and they are critical elements of rehabilitation programs around the world.

Social skills training

Social skills training is defined by behavioral techniques or learning activities that enable patients to acquire instrumental and affiliative skills in domains required to

meet the interpersonal, self-care, and coping demands of community living. Skills training can be done with individuals, patient groups, or families, and may continue for years as the person's abilities, goals, and values ascend a hierarchy of community adaptation.

Skills training uses a social problem solving approach

Skills training approaches draw upon theoretical models of social problem solving, which involve variations on a stepwise process of social perception, information processing, and behavioral response (Bellack et al. 1994). Patients with chronic psychotic disorders often have difficulty in accurately perceiving and interpreting affective and cognitive cues that are critical elements of communication. Training skills in social perception

address these deficits and provide a foundation upon which more specific social and coping skills can be developed. As a next step, skills training uses cognitive techniques to teach strategies for identifying social problems, generating and evaluating alternative solutions, and choosing a plan of action. As a final step, skills training addresses discrete verbal, paralinguistic and nonverbal skills which are used to effect a competent social response. Table 1 lists these social problem solving strategies in sequential order.

UCLA Social and Independent Living

Based on the social problem solving model of social skills training, a set of psychoeducational modules has been developed at the University of California at Los Angeles

Skills Modules

Clinical Research Center for Schizophrenia and Psychiatric Rehabilitation (Liberman et al. 1993). Specific training modules target skills for self-management of antipsychotic medication, symptom management, grooming and personal hygiene, recreation for leisure, interpersonal problem-solving, job finding, community reintegration, safe and satisfying sex, family coping, street smarts, and engaging in friendly conversations. These modules use instructional techniques including didactic lectures, videotape demonstrations, role playing, and in vivo homework assignments to help patients master specific skill areas. Each module is a self-contained package that can be adopted alone or in combination with other modules in

comprehensive rehabilitation programs.

Over 50 controlled studies have demonstrated the effectiveness of skills training for schizophrenia

Meta-analyses and reviews of the more than 50 controlled studies of social skills training have shown that individuals with schizophrenia can acquire and retain skills, and that training is associated with significant favorable effects on social adjustment, symptoms, relapse, and rehospitalization rates (Benton and Schroeder 1990; Dilk and Bond 1996; Smith et al. 1996; Hogarty et al. 1997). Skills training is especially effective if it is intensive (more than 2 sessions per week) and of sufficient duration (at least 6 months). While schizophrenic patients with even high levels of hallucinations and delusions can acquire skills through

systematic training, cognitive disorganization (e.g., severe distractibility and thought disorder) and the deficit syndrome (i.e., primary negative symptoms) are likely to interfere with the training process.

Family Psychoeducation

Many studies have replicated the finding that family stress,often reflected in high expressed emotion attitudes of criticism and emotional overinvolvement toward the mentally ill relative, is a powerful predictor of relapse in schizophrenia (De Jesus Mari and Streiner 1994). Therefore, several modes of family intervention have been designed and empirically validated for the ability to equip relatives with coping skills and thereby change the emotional climate of the family and reduce the incidence

of relapses and rehospitalizations. Patients who have contact with their family members will benefit from participating in a psychoeducational and skill building program aimed at improving communication and problem solving.

Core features of family psychoeducation interventions

Approaches to family psychoeducation share several features. First, it is essential that the treatment team develop collegial relationships with family members and other support persons. In this context of collaboration, specific psychoeducational techniques are used with the aim of teaching what is known scientifically about the patient's mental disorder and directing the family and other caregivers to locally available treatment and

rehabilitation services. Another feature involves the assumption of least pathology. The attitude is taken that family members are always doing the best they can and acting in the interests of the patient and family, given their coping capacities and biobehavioral vulnerabilities. This approach sets the stage for the development of communication and problem-solving abilities. To produce durable clinical effects, family interventions must go beyond education to train family members in necessary coping skills including basic communication and contingency management. Examples of communication skills that form the basis for effective problem solving include active listening, giving positive feedback, and making positive requests.

Participation in family psychoeducation leads to marked reductions in relapse and hospitalization rates

Over two dozen well-controlled studies in the past decade have examined the effects of family psychoeducation on patients and their families (Scott and Dixon 1995; Solomon et al. 1996; Anderson et al. 1986; McFarlane et al. 1995). Results showed that the relapse and hospitalization rates for patients who participated in family psychoeducation were significantly less than for patients who completed various comparison treatments. Studies have also shown that family psychoeducation significantly lowers family burden and improves self-efficacy and esteem.

In recent years there has been interest in cognitive

Cognitive remediation for schizophrenia

remediation treatments for schizophrenia. The cognitive and neuropsychological deficits that are core features of the disorder play a role in determining the success of rehabilitation strategies, with studies showing that enduring thought disorder, short-term memory and verbal learning deficits are more predictive of skill acquisition than psychotic symptoms (Mueser et al. 1991; Kern et al. 1992; McKee et al. 1997). In addition, deficits in vigilance, memory, and executive functioning have also repeatedly been associated with social skill and overall social adjustment (Green 1996). While many clinicians have assumed that the cognitive deficits of schizophrenia represent an irreversible and enduring form of dementia and hence can not be mitigated by rehabilitation, evidence

is accumulating to justify strategies for remediation of these basic cognitive deficits.

Laboratory-based remediation of cognitive deficits is possible, the improvements may not be generalizable

Two types of cognitive remediation strategies have been developed. The first involves direct remediation of basic cognitive deficits. Demonstrations have shown that laboratory-based measures of cognitive dysfunctions such as vigilance and card sorting can improve significantly with behavioral training (Benedict et al. 1994; Stratta et al. 1994). Remediation strategies include repeated practice, instructional modification, positive reinforcement (e.g. money), and errorless learning that teaches discrimination and problem solving in small steps where success is maximized and trial-and-error learning is

minimized. Empirical evaluation of the efficacy of these direct approaches to cognitive training suggests that striking improvements are possible in the cognitive tasks, but the links between improvements in laboratory-based molecular levels and in molar social and clinical status have yet to be satisfactorily documented (Penn and Mueser 1996). Current research aims to promote clinical generalization of direct cognitive remediation through identifying and strengthening the cognitive, behavioral, and social processes that mediate learning of adaptive skills.

Cognitive

A different remediation strategy targets amelioration of psychotic symptoms through cognitive restructuring and

restructuring and behavioral learning strategies may have more clinical utility at this time

behavioral learning principles. To date, strategies have been developed for treating delusions, hallucinations, and negative symptoms. Sometimes referred to as cognitive strategy enhancement, these approaches involve the identification of specific symptoms with subsequent training in the use of cognitive coping strategies including distraction, reframing, self-reinforcement, reality testing, and verbal challenging. Several reports have shown these strategies to be effective, at least during short-term follow-up in hospital and clinic settings (Tarrier et al. 1993).

Vocational

Vocational rehabilitation techniques for schizophrenia have improved dramatically since the era of institution-

rehabilitation bound, sheltered work programs. In the 1970s-1980s, transitional employment programs were developed largely within psychosocial rehabilitation clubs and often without input from mental health professionals. Transitional employment comprised prevocational work activities or work enclaves in industrial settings that had the philosophy of „train then place" in a real job. A job in the competitive work sector was considered stressful, requiring gradual work hardening. Evaluations of the transitional employment model have produced mixed results, and there are concerns that this approach may be less effective due to the disparity between the controlled environments of prevocational acitivities and the competetive workplace (Wallace 1993).

Supported employment approaches may be the most effective for improving vocational functioning

The supported employment model of rehabilitation evolved in an effort to improve these vocational outcomes. This approach arises from the understanding that persons with psychiatric disabilities require ongoing rehabilitation and support after they secure competitive employment. It de-emphasizes the importance of prevocational training, advocating instead a „place-then-train" approach. Clients are placed in employment settings based on their interests and abilities, and then offered the training and supports necessary to maintain their positions. In its fully applied form, persons are offered services indefinitely, with job coaches visiting workplaces to help with learning and retention of

technical, interpersonal, and problem solving skills required to sustain employment.

Supported employment programs show high rates of successful job placement

Evaluations of supported employment have revealed successful job placements in competitive, community-based work in over 50% of participants (Bond et al. 1997; Drake and Becker 1996). Placement rates are substantially higher when the rehabilitation work is part of an integrated mental health treatment plan. Supported employment requires close collaboration and communication between the client, the vocational specialist or job coach, and the interdisciplinary treatment team. This is because many of the factors that negatively influence vocational rehabilitation are those commonly

addressed by the clinical treatment team: severity of psychopathology (especially conceptual disorganization and negative symptoms), stress in the family (expressed emotion), neurocognitive deficits, and poor premorbid social and work adjustment.

3 Social and Community Support Programs

Community support programs assist in the transfer of care from institutions to

Over the past 3 decades many countries have transferred the care of the seriously mentally ill from psychiatric hospitals to less restrictive community settings. This shift in locus of care required more aggressive outreach on behalf of treatment providers, which is conceptualized in the community support/case management model. In this

less restrictive settings

approach interventions are delivered in a coordinated fashion by multidisciplinary teams of clinicians who assume long-term responsibility across the spectrum of mental health services including inpatient units, outpatient programs, and psychosocial rehabilitation centers. Several key principles guide effective case management (Ellison et al. 1995). These include the commitment to treating clients with dignity and confidentiality, and the requirement that services be adapted to the changing needs and preferences of each client on the basis of self-determined goals. Most importantly, the service delivery system must provide comprehensive, accessible services for as long as and whenever the client needs them, in settings that are the least restrictive and most normalized.

Case management approaches such as the Assertive Community Treatment model improve community tenure and functioning

Table 2 outlines the many functions provided in case management/community support models of care delivery. Case management programs have been shown to increase community tenure of previously institutionalized patients (Solomon 1992). Among the most effective adaptations of this approach is the "Training in Community Living" or Program of Assertive Community Treatment (PACT) developed in Madison, Wisconsin (Burns and Santos 1995; Test 1992). The PACT model uses broad spectrum case management organized in round-the-clock continuous treatment teams. This program is effective in both rural and urban settings, and has been replicated throughout the United States and Europe.

Case management includes several tasks

Although it is generally agreed that case management is a desired service for individuals with serious and persistent mental illness, there is little consensus as to which elements of the case management process are most clinically useful. A case manager in a psychiatric rehabilitation setting has several specific tasks to perform. These include: assisting clients in building social networks; facilitating access to housing and employment opportunities; helping clients interact with various service organizations; teaching clients skills for illness management; monitoring clinical progress; and, when necessary, undertaking timely clinical interventions. By acting as the fixed point of responsibility within a

continuum of care, case managers contribute to improved vocational functioning, less social isolation, and more independent living.

Social and fellowship clubs

Another outgrowth of the deinstitutionalization era was the development of fellowship clubs of formerly hospitalized patients. Psychosocial clubhouses now exist in many large cities in Europe and the United States, including the Fountain House in New York City and Thresholds in Chicago. Clubhouses provide basic opportunities for acceptance, friendship, advocacy, housing, destigmatization, and social and recreational activities. Although the psychosocial clubhouse movement developed separately from the medically-

oriented community mental health approach, the past few years has witnessed an increase in the number of community mental health centers that have converted heir traditional day treatment programs to the clubhouse model.

Central to the psychosocial self-help philosophy is the belief that individuals with mental disabilities have a fundamental right to work, socialization, and a home, and that those basic needs, when satisfied, generate self-esteem and a positive identity necessary for community adjustment. Thus, psychosocial clubhouses focus on developing employment opportunities, peer support, and housing programs tailored to the capabilities of their

members. The success of these programs, including those operated by patients themselves (consumer-run agencies), is reflected by reimbursement of the services by government insurance programs, by their certification by accreditation agencies, and by the vitality of the International Association of Psychosocial Rehabilitation Services, an organization spawned by the clubhouse network. Increasingly, psychosocial self-help programs are evolving toward full service enterprises with assertive community management, pharmacotherapy, and community support.

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Table 1. Framework for Social Problem Solving.

	PROBLEM SOLVING SEQUENCE	COGNITIVE-BEHAVIORAL REQUIREMENTS
STEP 1	Identifying the Problem	Social and Self Perception
STEP 2	Generating List of Potential Solutions	Information Processing Capacities
STEP 3	Reviewing Pros and Cons of Potential Solutions	Information Processing Capacities
STEP 4	Choosing a Solution	Decision Making Abilities
STEP 5	Implementing the Plan	Behavioral Skills
STEP 6	Reviewing the Outcome	Social and Self Perception

Table 2. Elements of a community support system

Outreach and Engagement

Support of Basic Needs

Mental Health Care and Treatment

Crisis/Emergency Services

Comprehensive Psychosocial Services

Range of Housing Options

Support and Education for Providers and Families

Development of Natural Supports

Advocacy and Protection

Case Management

Figure 1. Factors that influence Social and Role Functioning