
**BEYOND PHARMACOTHERAPY - THE ROLE OF PSYCHIATRIC
REHABILITATION IN PATIENTS WITH SCHIZOPHRENIA**

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Abstract: The need for occupation of the mentally disabled patients was recognized by Pinel and Tuke in the late eighteenth century, when the liberalization of mental treatment began. In the second half of the 20th century, mental health care in all European and other high-income countries changed conceptually and structurally. Provision of anti-psychotic medication alone is inadequate to address the complex social, economic and health needs of those affected by a chronic and highly disabling illness such as schizophrenia. There is therefore consensus that the treatment of schizophrenia should combine anti-psychotic medication and psychosocial interventions. Drug treatments generally have most effect on positive symptoms, as well as being effective at preventing relapse. The relative inefficacy of anti-psychotic medication in improving functioning or negative symptoms means a broader supportive approach focused on rehabilitation. Early therapeutic interventions in most disorders, including schizophrenia, offer the greatest possibility for full recovery. Psychiatric rehabilitation is a field of practice that promotes recovery and the full community integration of persons who are adapting to a psychiatric disability. Also, in contrast to the traditional mental health disciplines that focus primarily on symptom reduction with these individuals, psychiatric rehabilitation places an emphasis on service helping recipients identify their strengths and preferences in order to acquire socially valued roles in living, learning, working and socializing. The goal of psychiatric rehabilitation is to help individuals with persistent and serious mental illness to develop the emotional, social and intellectual skills needed to live, learn and work in the community with the least amount of professional support. Although the majority of the chronically mentally ill who receive psychiatric rehabilitation have the diagnosis of schizophrenic disorders, other patient groups with non-psychotic disorders are also targeted. Today all patients suffering from severe mental illness (SMI) require rehabilitation. The core group is drawn from patients with persistent psychopathology, marked instability characterized by frequent relapse, and social maladaptation. It requires community-based services with an interdisciplinary team approach. Psychiatric rehabilitation includes an array of psychosocial programs such as assertive community treatment, family psycho-education, supported housing and supported employment. In the following review we have focused on the basic principles of psychiatric rehabilitation and the available services that are provided in some countries in Europe, Latin America, Asia and in the United States of America.

Keywords: severe mental illness, psychiatric rehabilitation, community-based services, principles

SCHIZOPHRENIA – SYMPTOMS, TREATMENT AND FUNCTIONAL RECOVERY

Schizophrenia is a chronic, life-long and debilitating disorder which is triggered by a complex and heterogeneous risk factors - genetic, epigenetic, developmental and environmental. It is generally diagnosed in young adults at the time of first psychotic episode of delusions and hallucinations. Psychosis corresponds to the most familiar cluster of cardinal symptoms, termed positive, which include delusions and hallucinations. These positive symptoms can be controlled in most patients by currently-available antipsychotics. Schizophrenia disturbs many aspects of the life and brings about deficits in functioning: cognitive, motor and emotional. Cognitive deficits should be understood as difficulties with thinking, and the expression of thoughts.

Patients with schizophrenia now have access to a wide variety of pharmacological agents and psychosocial therapies which increase the chances of positive therapeutic outcomes. Specific psychopharmacological treatment of schizophrenia, targeted at the elimination of psychotic symptoms, started only in the second half of the 20th century with the seminal paper on chlorpromazine by the French psychiatrists Jean Delay, Pierre Deniker, and J.M. Harl in 1952. Haloperidol, the parent substance of the butyrophenone antipsychotics, was synthesized on February 15, 1958. It had been shown that parenteral haloperidol, in single doses of 1 to 5 mg, could control motor agitation regardless of its etiology. By the end of 1959 a target profile for the drug's effect was proposed: delusional psychoses, mania, and acute and chronic paranoid psychoses, but not hebephrenic schizophrenia. Since the late 1960s, there has been a considerable interest in clozapine. Some of the researchers stated that it should be referred to as an “atypical

antipsychotic”, impressed by the low incidence of extrapyramidal signs, and others concerned about the pronounced hypotensive effects. Triggered by the shifting targets for developing new drugs for schizophrenia, a rapidly growing number of atypical antipsychotics were rendered accessible for clinical investigation and introduced into clinical use, including selective D2/3 receptor blockers. By the mid-1990s, they binded from D1 to D5 and serotonin from 5-HT1 to 5HT7 receptors alone and in different combinations. From the numerous atypical antipsychotics, the first to follow clozapine were remoxipride, risperidone, olanzapine.

Antipsychotics are poorly effective against concomitant neurocognitive dysfunction, deficits in social cognition and negative symptoms, which strongly contribute to poor functional outcome. Deficits in social cognition are essentially refractory to existing antipsychotics yet, with the exception of some preliminary trials with oxytocin, despite comparatively great efforts to treat the compromised social cognition of schizophrenia. Negative and cognitive symptoms of schizophrenia are responsible for a major proportion of the disability associated with the disorder. Negative symptoms refer to a specific pattern of commonly observed deficits such as passive or apathetic social withdrawal, communication difficulties, blunting of affect, and poor speech content and quantity. Comparatively less research has focused upon the treatment of negative symptoms than positive symptoms while fewer targeted interventions have been developed.

Functional capacity is defined as the ability to perform tasks relevant to everyday life in a structured environment guided by an examiner. Several works have shown that functional capacity is at least as strongly correlated with real-world functional outcomes as cognitive performance. Social cognition is a multidimensional construct that comprises emotional processing, social perception and knowledge, theory of mind and attributional biases. Negative symptoms seem to interfere with functional outcomes more than positive ones. Both direct and indirect relationships between negative symptoms and real-life functioning have been reported. It appears that symptoms such as amotivation and avolition have the greatest impact. Most recent works confirm these findings and also refer to additional variables more connected with the patients’ environments. A study that involved a large sample of patients with schizophrenia (n = 921) summarized variables affecting real-life functioning and pooled them into three categories: variables related to the disease (cognition, symptoms, and functional capacities), variables linked to personal resources (resilience and engagement to services), and variables related to the context in which the person lives (internalized stigma and social support). The study showed that resilience, stigma, and engagement with mental health services mediate the relationships between symptomatology, cognition, and real-world functioning. Another recent work showed that negative symptoms predict social deficits but not impairment in everyday activities and vocational outcomes contrary to cognition and functional capacity.

There is increasing interest in developing more comprehensive models focusing on functional recovery. Unlike clinical remission, which is well defined and can be measured, the concept of recovery includes multiple aspects of patient’s life. Proposed operational criteria for recovery from schizophrenia include symptom remission, improved vocational functioning, independent living, and improved peer relationships. Functional recovery has been described as deeply personal, unique process of changing one’s attitudes, values, feelings, goals, skills, and roles, even with limitations caused by the disease. It is widely accepted that functional recovery is influenced by the severity of symptoms as well as by disease-related aspects such as neurocognitive performance. Additionally, social and family circumstances, opportunities, and lifetime events contribute to extending the list of environmental factors that may influence functional recovery beyond clinical manifestations of schizophrenia.

PSYCHIATRIC REHABILITATION

In the second half of the 20th century, mental health care in all European and other high-income countries changed conceptually and structurally. Deinstitutionalisation reduced the number of psychiatric beds and transferred priority to outpatient care and community-based services, but community mental health programs developed differently across and within these countries.

By the early 21st century, the idea for recovery and the practice of psychiatric rehabilitation have matured. Psychiatric rehabilitation emphasizes on recovery by helping people to work toward and achieve personal and functional goals. For people with serious mental illness personal goals typically include decent housing, safe neighbourhoods, decent income, education, competitive employment, social opportunity and full participation as citizens in their community.

Psychiatric rehabilitation has a focus towards generalization, seeking to influence both the individuals’ strengths, challenge these strengths, and implement them in community contexts in which the persons will outgrow these strengths. The World Psychiatric Association (WPA) highlighted that the aim of psychosocial rehabilitation is to support people with serious mental illness in developing their cognitive, emotional and social skills, in order to live in the community with the slightest professional sustenance. In the last few years, several research groups in

different countries identified a wide and increasing variety of effective psychosocial rehabilitation practices. Evidence-based psychiatric rehabilitation models have been developed for numerous objectives, including employment, independent living and community living skills.

Evidence-based practices (EBPs) for serious mental illness include Assertive Community Treatment (ACT), cognitive-behavioral therapy for psychosis (CBTp), cognitive rehabilitation, family psychoeducation, illness self-management training, social skills training (SST), and supported employment. The assertive community treatment decreases the length of hospitalization and the homelessness rates. There has been reports that social skill training reduces negative symptoms and improves social functioning. Family interventions have been particularly effective for relapses reduction, increase in treatment adherence, family coping and decrease in family burden. Social functioning could be improved also by cognitive behavioral therapy, which additionally reduces positive and negative symptoms.

One fundamental difficulty in community based care has been that patients and professionals often disagree over the nature of mental disorders and the goals of treatment. Disparities encompass models of biological dysfunction on one hand and psychosocial distress on the other. Physicians often focus on multiple medications to relieve symptoms of a biological disorder, while patients emphasize the need for supports to reduce psychological distress and improve functional adjustment. Similarly, professionals highly value stability (symptom control) as a primary goal, whereas people with mental illness prioritize satisfying, meaningful lives.

PRINCIPLES OF PSYCHIATRIC REHABILITATION

Basic principles of psychiatric rehabilitation include respect for autonomy, therapeutic relationships, shared decision-making, enhancing skills, increasing opportunities, providing supports and improving the environment to minimize discrimination and stigma. The principles of psychiatric rehabilitation have been implemented with examples from Individual Placement and Support (IPS), an evidence-based model of supported employment. Various randomized controlled trials have proven their effectiveness. Approximately two-thirds of IPS participants have obtained competitive employment in European countries and other high-income countries in Asia and North America.

Table 1. Basic principles of psychiatric rehabilitation

Respect for autonomy	People with serious mental illness have a right to choose interventions (eg. independent living and employment services). Autonomy implies that coercion should be avoided to the greatest extend possible.
Engagement and relationship	Close cooperation between clients and professionals. Coercion can undermine success; good relationship improves quality of life and functional outcomes.
Shared decision-making	Most decisions are preference-sensitive, which means that several interventions have positive evidence and people could reasonably make different choices. Shared decision-making requires collaboration: the clinician provides expert information on available treatments, the client provides expert information on personal preferences and goals, and they work together to develop a plan.
Enhancing skills	Assertive community treatment teams began to emphasize helping people to learn relevant skills in the community in the 1980s. New approaches use ‘place-and-train’ models, in which people learn skills in their own environments.
Supports	Recent approaches emphasize community-based supports in real-world settings: friends, family members, landlords, managers, teachers, co-workers and others who can provide more natural supports. The involvement of users, or peers, in treatment and supports outside of treatment has become widely accepted. Various forms of user involvement include: peer-run services, mutual support and peer support.
Increasing opportunities	Psychiatric rehabilitation uses key facilitators of opportunity such as legislation and disability policies, support from advocates and champions, anti-stigma campaigns and employment campaigns for people with disabilities. Psychiatric rehabilitation teams meet with employer organizations, such as community business groups, to explain the practice and advantages of supported employment.

REHABILITATION PRACTICE IN EUROPE

The European region includes approximately 900 million inhabitants in 53 countries with a huge variance in economic and political conditions and a great diversity in the provision of mental health care. Deinstitutionalization

has taken place in most European countries since the 1950s, following different paces and different philosophies. Although the inpatient treatment has been significantly reduced, the implementation of respective outpatient services has not taken place at the same speed. Mental health reforms started early in the UK during the mid 1950s. Mental health care is mainly provided by the National Health Service (NHS), financed by national taxation and administered from the Department of Health in London. It has been estimated that around 1% of people in England with schizophrenia received inpatient rehabilitation at any one time. Studies showed that rehabilitation services are far from generally available. German-speaking countries only started their reforms during the 1960s and 1970s. Mental health care in German-speaking countries is organized as a subsidiary system, where the federal states or cantons are responsible for planning and regulating. Switzerland traditionally maintained their cantonal mental hospitals much better and felt much less pressure for change.

Jormfeldt et al have evaluated the implementation of the Boston Psychiatric Rehabilitation approach in a Swedish county. The Boston Psychiatric Rehabilitation (BPR) approach is characterized by being based entirely on the individual's unique needs and preferences in the areas of working, learning, social contacts, and living environment. Relationships of clients in mental health services influence the client's possibilities for recovery by their everyday relationship. The BPR is a model for psychiatric rehabilitation that has been developed with the aim of improving the quality of life of persons with severe mental illness through offering extensive person-centered support to strengthen the persons' ability to take responsibility for his or her life and thereby improve quality of life. Studies have shown that well-developed cooperation among the client, staff, and his or her relatives support recovery and decrease stress. The findings illustrate the importance of participation in terms of being respected as an equal. The structure of the BPR approach is described by the clients as securing the continuity in participation regarding goal setting and care planning. Taking part in decision-making processes have shown a positive impact on the individual's capability to reflect on old habits in more constructive ways as well as to improve psychosocial functioning.

PSYCHIATRIC REHABILITATION IN LATIN AMERICA

Mental disorders have significantly contributed to the non-communicable burden of disease in Latin America, accounting for an estimated 10.9% of the total disability-adjusted life years in 2013 in the region. Nevertheless, only about 1.5% of the total budget for health has been allocated to mental health in these countries. Latin American countries invested less in mental health care than countries of similar income level in other regions. The insufficiency and disparity in mental health funding in the region serves as a major barrier to improving mental health services and expanding evidence-based psychiatric rehabilitation programs.

Latin America is a heterogeneous region comprising mostly middle-income countries, with great ethnical diversity and a high level of income inequality. Health care delivery models vary widely, due to differences in health systems' organization, financing and delivery of care. For example, while competition and multiple insurers characterize health systems in Colombia and Chile, those of Brazil, Costa Rica and Cuba are single payer systems. The mental health service reform in Latin America started with the Caracas Declaration from 1990, which main goal was to restructure mental health systems by moving away from the psychiatric hospital-centered model to a community-based approach with emphasis on primary care. The Caracas Declaration set the stage for a transformation of psychiatric services in Latin America and initiated a process of revision of mental health legislation.

During the 1990s some countries (e.g., Brazil, Costa Rica, Chile and Cuba) implemented national policies that expanded primary care services. Unfortunately the majority of Latin American health systems experienced stagnant growth of primary care services. Furthermore, mental health was rarely on the political and media agenda of health sector reform, and community mental health care and psychiatric rehabilitation were neglected in national health programs. As a result, mental health care was not comprehensively included in the publicly financed benefit plans introduced by the reforms in several Latin American countries.

In 2013, the Brasilia Consensus reiterated the need to expand a human rights perspective and promote psychosocial rehabilitation programs. It emphasized again the need to evolve from a hospital-centred into a community- and primary care-based model. Many countries in Latin America have revised and updated laws and regulations to improve mental health care delivery. As an example of political achievement, in 2013 Colombia enacted a new mental health law that contains provisions to build a community-based rehabilitation model. This Law states the need to adapt the delivery of services to patient preferences, introduces a strong framework for community-based care, and obligates the Government to provide social and labor inclusion of people suffering from mental disorders. Similar dispositions can be found in the recent mental health law in Peru, which also focuses on community-based treatment, mental health networks and psychiatric rehabilitation programs, including supported residential models.

Chile's program of detection and treatment of depression in primary care is an example of successful mental health policy design and implementation.

PSYCHIATRIC REHABILITATION IN USA

Mental health services in the USA are funded through a combination of different private insurances (mostly for families covered by employer benefits and others receiving coverage through health exchanges) and public insurance through Medicaid, Medicare, benefits to military veterans and other programs. Only a minority of Americans with serious mental illness receive any mental health treatment at all. Private health insurance rarely pays for psychiatric rehabilitation services. Among Americans with serious mental illness who do receive mental health and rehabilitation services most do so as clients in public mental health clinics funded primarily through Medicaid. People with mental health needs are often unhappy with available mental health services; approximately one-third of those who have contact with the mental health service system drop out quickly. This is due largely to systemic problems, less than 5% of people with serious mental illness receive high-quality psychiatric rehabilitation services. According to reports from state mental health leaders approximately 2% of clients with serious mental illness enrolled in the public mental health system have access to evidence-based psychiatric rehabilitation services, a statistic that has remained steady in reports over the last decade. Service gaps occur at three levels: states that have not adopted practices into their state plans, limited penetration within states that have adopted a practice and limited capacity to serve clients within programs once practices are established. States began adopting evidence-based practices in the early 2000s. After this initial effort, however, the uptake of EBPs declined over the next decade.

A 2015 national survey on the prevalence of evidence-based employment services known as Individual Placement and Support (IPS) yielded greater detail. 38 states (75%) offered IPS services, reporting a total of 523 IPS programs nationwide. IPS programs vary widely in size, but two large IPS surveys suggested an average program caseload size of about 60 percent. The percentage of Americans with serious mental illness receiving IPS is approximately 0.3% – a tiny fraction of the 70% who want to work and could potentially benefit.

A 'learning community' is defined as a network of organizations with a shared goal of improving treatment for a specific medical condition, facilitated by regular communication (for example, meetings, teleconferences and newsletters), collection and dissemination of objective information about procedures and outcomes, with a long-term commitment to quality and expansion [30]. Learning communities build on and systematically integrate the individual implementation strategies (prioritising EBPs, fidelity monitoring, training and technical assistance and provision of adequate funding). Learning communities can promote dissemination of information, quality of implementation, sustainment and expansion of evidence-based programs. A 1999 US Supreme Court case – the *Olmstead* decision – has promoted expansion of evidence-based psychiatric rehabilitation services.

PSYCHIATRIC REHABILITATION IN ASIA

Most recent report of Japanese government reported that the employment rate of the people with mental illness is 17.3%. These rates are much lower compared to the employment rates of people with a physical disability (43.0%) or mental retardation (52.6%) in Japan. To improve these outcomes, Japanese government has initiated legal reforms related to vocational support offered to individuals with mental illness. One reform involves raising the statutory employment rate of people with disabilities. Because of this reform, all employers are obliged to employ people with disabilities and mental disorders at a rate equal to or above the statutory employment rate. This legal reform is implemented and enforced in 2018. In recent years, it have been attracted attention that the influence of neuro-cognition to vocational outcome of person with severe mental illness and the relevant support program. Cognitive Remediation (CR) has received increasing attention in Japan as a support program that improves vocational outcomes. CR aims to bring beneficial change to the disordered cognitive functioning, which is closely related to vocational outcomes.

The national schizophrenic epidemiological investigation of China showed that more than 83 million were living with mental disorders, 16 million suffered from severe mental disorders such as schizophrenia. Mental health services in China are mostly provided by psychiatric specialists in large hospitals. In addition, most psychiatrists and psychiatric specialist hospitals are located in cities. Very few mental health services exist in some underdeveloped province (eg. Guangxi), especially in rural areas. A study in China reported that the utilization rate of psychiatric rehabilitation services by patients with schizophrenia was only 1.4%, and most of the patients never continued with the service once they went back into the community. Another study in Shanghai reported that only 9.2% of patients with severe mental disorders received psychiatric rehabilitation. Based on this point, the national mental health work plan of China (2015–2020) explicitly states that efforts are needed to improve psychiatric rehabilitation services.

Every province must establish and develop community-based rehabilitation programs for mental disability patients. The plan demands at least one mental health service center to be built in every county.

CONCLUSION

Taking into consideration the refractory nature of negative and cognitive symptoms of schizophrenia and schizophrenia spectrum disorders more research for evidence-based practices is needed. Up to date psychiatric rehabilitation has proven its effectiveness for improving quality of life of individuals with serious mental illness. Psychiatric rehabilitation due to multiple reasons is not readily available in service of mentally disabled patients. Psychiatric rehabilitation although insufficiently implemented should complement treatment of each severe disabled psychiatric illness.

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