*e*COMMUNITY

INTERNATIONAL JOURNAL OF MENTAL HEALTH & ADDICTION

Proceedings of the Mental Health Care Practices in the Gulf (Kuwait), 2004
Copyright © 2004 by Professional Advanced Services, Inc.
ISSN 1705-4583

Rehabilitation and Long-Term Management of Schizophrenia: A Review

Ramez T. M. Shamaa
Psychological Medicine Hospital, Kuwait

Published online November 7, 2004

Objectives. The aim of this paper is to review the current state of knowledge of rehabilitation in the long-term treatment of schizophrenia. *Method*. Relevant reports were identified using a literature search. The review focuses on deficits, such as negative symptoms and cognitive impairments, and how rehabilitation interventions can contribute to improvements when combined with anti-psychotic drugs. *Conclusion*. Schizophrenia is a multi-faceted illness with a wide range of impacts on the patient and his or her family, career, and healthcare providers. It is a pervasive disorder that affects most aspects of a patient's life; hence, treatments must be broad in their coverage. The holistic approach, which involves a combination of drug therapy with rehabilitation interventions, can contribute to an improved overall outcome for individuals with schizophrenia.

Keywords: Self-esteem; Traumatic symptoms; Child abuse.

Introduction

Rehabilitation is the process of re-integrating the patient back into the community, by identifying and preventing or minimizing social and psychological disabilities, and enhancing the prospects for gainful employment, suitable accommodation, and social recreation. The programs that can help minimize psychosocial deficits include: cognitive-behavior therapy, group psychotherapy, behavioral approaches, psycho-education, counseling, family therapy, sports, and occupational therapy.

There is a growing body of research and literature which support the idea that combinations of pharmacological and rehabilitation interventions are necessary to improve clinical outcome, occupational and social functioning, quality of life, and also in reducing the risk of relapse.

Correspondence concerning this article should be addressed to Ramez T. M. Shamaa, Psychological Medicine Hospital, P.O. Box 49475, Omariya, Kuwait.

E-mail: rameztaha@hotmail.com.

Schizophrenia: Local and Global Challenge

Schizophrenia is a pervasive, multi-factorial disorder with variable courses and outcomes, which requires both a longitudinal and multi-dimensional approach to patient assessment and long-term care.

There are clinical and social domains for the course and outcome of the illness, making it a multi-dimensional issue (Strauss & Carpenter, 1978). Whereas schizophrenia was once viewed as being comprised primarily of positive and negative symptoms, it is now recognized that cognitive impairment should be a third dimension. In this regard, it is noteworthy that Kraepelin and Bleuler regarded cognitive impairment, especially attention deficit, as a central feature of schizophrenia (Breier, 1999).

Impact of Negative Symptoms

Negative symptoms of schizophrenia may be primary, i.e., inherent in the illness, or secondary to drug treatment or psychosocial factors. Negative symptoms associated with extra pyramidal symptoms (EPS) (e.g., bradykinesia) are disabling and characterized by reduced facial expression, decreased spontaneity, apathy, and loss of expressive features. Other symptoms resembling aspects of schizophrenic pathology include bradyphrenia, dullness, and a “zombie-like feeling”

with inner restlessness. These symptoms often lead the clinician to mistakenly increase the dose of the offending agent, thereby compounding the problem (Tandon, 1999).

Cognitive Impairments

Cognitive deficits are common across all subtypes of schizophrenia and include deficits in abstraction, attention, vigilance, verbal memory, language functioning, and executive functioning (Breier, 1999).

There is a significant correlation between cognitive deficits, and psychological and social functioning (Goldberg et al., 1990). Some researchers have claimed that the enduring cognitive deficits are responsible for the failure of schizophrenic patients to rehabilitate socially (Green, 1998).

Memory deficits affect every day functioning and hinder rehabilitation efforts. However, research has focused mainly on patients' past or retrospective memory, and has neglected an important memory process known as prospective memory, or the ability to remember or perform actions in the future. It has been demonstrated that patients with schizophrenia experience prospective memory impairment, which is essential for maintaining an organized daily routine and coping with social demands (Shum, Leung, Ungvari, & Tang, 2001).

Antipsychotic Treatment and Side Effects

Although antipsychotic drugs, especially atypical antipsychotics, tend to produce relief from many florid psychotic symptoms, studies have found that the medical treatment of negative and cognitive symptoms is not all that effective; many schizophrenic patients, having received this medical treatment, either feel unable to return to their previous occupation, or have lost their skills. Hence, psychosocial treatment is necessary for these patients.

Data from positron emission tomography studies suggest that an antipsychotic agent begins to work when it reaches a certain level of receptor occupancy, and that exceeding that level by increasing the dose does not necessarily improve effectiveness, but instead adversely results in side effects (Marder, 1999). Neuroleptic drugs have been associated with cognitive impairments (Spohn & Strauss, 1989), and may be correlated with depression (Tollefson, Sanger, & Thieme, 1998).

Although antipsychotic drugs form the cornerstone of schizophrenia treatment, patients on combination therapy often receive high total doses of antipsychotic medication, with doubtful clinical benefit and increased an side effect burden (Baldessarini, Cohen, & Teichner, 1988).

Non-Pharmacological and Long-Term Treatment Strategies

The pervasive impairments in social, cognitive, affective, and daily functioning, require long-term management and integration of pharmacological and psychosocial interventions (Kopelowiez & Liberman, 1995). An expert panel of European psychiatrists and psychologists have emphasized a number of basic principles such as treatment in day-to-day practice, building a positive therapeutic alliance, and long-term clinical commitment (Altamura et al., 2000).

Cultural Aspects of Schizophrenia

Kleinman and Cohen (1997) highlighted an evolving crisis in the developing world that signals the need for a better understanding of the links between culture and mental disorders. They regarded schizophrenia as not only biologically based but as also having strong cultural and environmental components that receive less attention. They suggest that, because of sweeping social changes, schizophrenia and other forms of chronic mental disorder could be on the rise in the developing countries; as such, the psychiatrist's next challenge is to formulate a perspective that better explains the interplay between the socioeconomic, cultural, and biological aspects of mental illness.

Sartorius and Jablensky and their colleagues at WHO recently confirmed these views by showing significant variations in trans-cultural prevalence of different psychiatric disorders (Kleinman & Cohen, 1997).

Rehabilitation and Psychosocial Interventions

Schizophrenia is characterized by unpredictable episodes of symptom exacerbation and persistent substantial disabilities in social and instrumental role functioning. Treatment of the symptom episodes is focused on rapidly reducing psychopathology through the use of medication. Treatment of role disabilities, in contrast, is focused on maximizing functioning through the use of a wide array of continuous, individually tailored, and flexibly delivered biopsychosocial interventions. The field of psychiatric rehabilitation has arisen specifically to develop, evaluate, and disseminate these interventions.

Bennett (1978) defined psychiatric rehabilitation as helping the psychiatrically disabled person to make the best of his or her abilities in order to function at an optimum level in as normal a social context as possible. Rehabilitation can improve the quality of life of schizophrenia patients, as it provides them physical, intellectual, and emotional skills (Anthony 1977). Rehabilitation and psychosocial interventions, when used in

combination with antipsychotic medication, especially atypical ones, relieve symptoms, improve social and occupational functioning, and reduce the risk of relapse (Altamura et al., 2000; Littrel, 2001). Several studies have found these combinations not only improve the clinical picture with symptom relief, but also that many patients show a significant degree of recovery. (Spaulding, Johnson, & Coursey, 2001).

Toone et al. (2000) found that subjects with schizophrenia were able to respond to specific neurological challenges with the activation of frontal regions. They found positive change in the regional cerebral blood flow (rCBF) in response to the Wisconsin Card Sorting Test (WCST). The frontal blood flow was measured by single photon emission tomography (SPECT).

Cognitive-Behavioural Therapy (CBT)

Beck's model of CBT (Beck et al., 1979) is the most widely-tested short-term psychotherapy for any psychological problem, and offers a robust, empirically based approach. CBT may be helpful for aspects of treatment of schizophrenia patients, such as providing individual and family education about schizophrenia, exploring attitudes towards the disorder and its treatment, facilitating adjustment, treating co-morbid emotional disorders and hopelessness, developing self-management, and enhancing negative and cognitive impairments (Scott, Byers, & Turkington, 1993).

Therapeutic techniques commonly used include directive statements, collaborative empiricism, behavioral techniques, and identification of irrational beliefs.

CBT has also been shown to enhance daily living skills (Davalos, Deana, Green, & Daniel, 2002). Several studies have suggested that CBT is effective in modifying delusions and hallucinations (Tarrier et al., 1998), and can reduce distress and degree of conviction of delusional beliefs. (Chadwick & Lowe, 1990).

Cognitive remediation therapy (CRT) can increase brain activation in regions associated with working memory, particularly the fronto-cortical areas (Wykes et al., 2002).

Social-Skills Training

Schizophrenia patients who received social skills training showed significantly greater independent living skills during a two-year follow up of everyday community functioning (Liberman et al., 1998). Roder et al. (2002) found that cognitive social skills training programs could facilitate the abilities of schizophrenic patients for integration in the community.

Relapse Prevention

Prevention and management of relapse are two of the main challenges in the effective long-term treatment of Schizophrenia (Van Os, 2000). CBT techniques can be aimed at enhancing coping strategies and identifying the unique characteristics of "relapse signature" for a particular patient. Following this, the patient and his family could be educated about prodromal symptoms, which usually occur in the following two stages: (a) dysphasia (anxiety, restlessness, blunting of drives); and (b) early psychotic symptoms (including suspiciousness, ideas of reference, misinterpretations) (Birchwood & Shepherd, 1992). An adequate relapse prevention program should be a mental health priority (Wiersma et al., 1998).

Psychoeducation

In short and long-term management, educating patients and their families about the illness, its nature, prodromes and its possible causation, and effects of drugs and the prognosis, should all be done in simple language. This should also include teaching the patient and his family to seek help from psychiatric service (Birchwood & Shepherd, 1992). Psycho-educational programs have been shown to be effective in reducing relapse rates when used in combination with antipsychotic treatment (Tarrier et al., 1998).

Family Interventions

Family interventions for schizophrenia subjects have proved to be highly effective in preventing relapse and improving the outcome (Schooler et al., 1977). Expressed emotions (EE) within the family play an important role in prognosis and outcome. There is evidence that high levels of hostility, critical comments, and over-involvement with a key relative to whom the patient is exposed for more than 35 hours a week, are associated with increased relapse rates (Vaughn & Leff, 1976).

High levels of expressed emotion should be looked out for, and relatives should be encouraged to tolerate the patient set realistic limits on his behavior. A degree of respite for caregivers, in the form of a day hospital or day center, may also be helpful (Bhugra & Potts, 1993).

Problem-Solving Skills Training

Teaching individuals with psychotic disorders social problem solving may inoculate them against stress induced relapse. Moreover, regular use of problem solving in every day life can enhance social functioning, and empower individuals to attain more of their personal goals (Liberman & Eckman, 2001).

Hansen, Lawrence, and Cristoff (1985) exemplified this approach in their study of seven schizophrenia patients. The procedure involved five stages: problem identification, goal definition, solution generation, evaluation of the alternatives, and selection of the best solution.

Occupational Therapy and Work Rehabilitation

Occupational therapy (OT) is the use of purposeful activity or interventions designed to achieve functional outcomes which promote health, prevent injury or disability, and which develop, improve, sustain or restore the highest possible level of independence and performance capacities. Occupational therapy is the health profession that uses activities ("occupations") with specific goals to help people reduce or overcome effects of psychiatric disabilities, as well as encourage better motor co-ordination and occupational functioning. The value of work as a vehicle of social stimulation was clearly demonstrated in the studies of Wing and Frendenberg (1961). There is substantial evidence that unemployment is responsible for increased morbidity, disability, and mortality in some chronic patients (Ekdawi & Connig, 1994). Hence, work rehabilitation provides an opportunity for contributing to independent living and social integration (Miles, 1971).

Religious Psychotherapy

Psychiatrists should consider their patients not only from the physical, psychological, and socio- cultural aspects, but also from the psycho-religious side. The religious and spiritual dimensions are among the most important factors which structure the human experience, and peoples beliefs, values, behavior, as well as illness patterns (Browning, Gobe, & Evison 1990; Krippner & Welch, 1992).

The guidelines for religious-sociocultural psychotherapy in the study of Razali et al. (1998) include encouragement to pray, advice on change in lifestyle, acceptance of the patients' interpretation of symptoms, avoidance of preaching or opposition to the patients' view, and modification of negative thoughts of the patient. Religious beliefs give some valuable benefits such as support, hope, and stress reduction (Mirza, 1998).

The Last Challenge

We have to develop the organization of psychiatric service components in acute and chronic phases of illness. This should include assessment systems, multidisciplinary work, epidemiological overview, and provision of combined and integrated services. The promotion of research activities should involve the evaluation of outcome for both acute florid symptoms, negative and cognitive impairments, social and occupational functioning, and the quality of the patients.

Conclusion

Schizophrenia is a pervasive, multi-factorial disorder with variable courses and outcomes, which requires a longitudinal and multidimensional approach to patient assessment and long-term care.

Negative symptoms and cognitive deficits are common across all subtypes of schizophrenia and contribute to the course, outcome, disabilities, and total social and instrumental functioning. Schizophrenia is not only biologically based but has strong cultural and environmental components.

Pharmacotherapy should not be given in isolation; it requires careful considerations of the efficacy versus the risk of side effects for each individual.

Rehabilitation and psychosocial interventions, when used in combination with antipsychotic medication, especially atypical ones in the biopsychosocial concept, provide the opportunity for optimal outcomes in social and occupational functioning, leading to a good quality of life for people with schizophrenia and their families.

References

Al-Habeeb, T. A. (2002). Knowledge, beliefs and practices of faith healers in Saudi Arabia. *The Arab Journal of Psychiatry, 13*(2), 81-91.

Altamura, A. C., Bobes, J., Cunningham Owens, D., Gerlach, J., Hellewell, J. S. E., Kasper, S., et al. (2000). Principles of practice from the European expert panel on the contemporary treatment of schizophrenia. *International Journal of Psychiatry in Clinical Practice, 4*(Suppl 1), 1-11.

Anthony, W.A. (1977). Psychological rehabilitation: A concept in need of a method. *American Psychologist, 32*(8), 658-662.

Baldessarini, R. J., Cohen, B. M., & Teicher, M. H. (1988). Significance of neuroleptic dose and plasma level in the pharmacological treatment of psychosis. *Archives of General Psychiatry, 45,* 789-796.

Beck, A. T., Rush, A. J., Show, B., & Emery, G. (1979). *Cognitive therapy of depression*. New York: Wiley.

Bennett, D. H. (1978). Social forms of psychiatric treatment. In J. K. Wing (Ed.), *Schizophrenia: Towards a new synthesis*. London: Academic Press.

Bhugra, D., & Potts, S. (1993): *Psychiatry: Case presentation*. Oxford, Butterworth-Heineman Ltd.

Birchwood, M., & Shepherd, G. (1992). Controversies and growing points in cognitive-behavioral interventions for people with schizophrenia. *Behavioural Psychotherapy, 20,* 305-342.

Breier, A. (1999). Cognitive deficit in schizophrenia and its neurochemical basis. *British Journal of Psychiatry, 174*(Suppl 37), 16-18.

Browning, D., Gobe, T., & Evison, I. (1990). *Religious and ethical factors in psychiatric practice*. Chicago: Nelson-Hall.

Chadwick, P., & Lowe, C. (1990). Measurement and modification of delusional beliefs. *Journal of Consulting and Clinical Psychology, 58,* 225-232.

Davalos, D. B., Green, M., Rial, D. (2002). Enhancement of executive functioning skills. *Community Mental Health Journal, 38*(5), 403-412.

Ekdawi, M. Y., & Conning, A. M. (1994). *Psychiatric rehabilitation: A practical guide*. London: Chapman & Hall.

Goldberg, T. E., Ragland, D., Torrey, E. F., Gold, J. M., Bigelow, L. B., & Weinberger, D. R. (1990): Neuropsychological assessment of monozygotic twins discordant for schizophrenia. *Archives of General Psychiatry, 47*(11), 1066-1072.

Green, M. F. (1998). *Schizophrenia from the neurocognitive perspective*. Boston: Allyn and Bacon.

Hansen, D. J., Lawrence, J. S., & Cristoff, K. A. (1985). Effects of interpersonal problem-solving training with chronic aftercare patients on problem-solving component, skills and effectiveness of solutions. *Journal of Consulting and Clinical Psychology, 53,* 167-174.

Van Os, J. (2000): From the first episode to long-term care: the need for sustained clinical commitment. *International Journal of Psychiatry in Clinical Practice, 4*(Suppl 1), 19-24.

Kleinman, A., & Cohen, A. (1997): Psychiatry's global challenge. *Scientific American, 13,* 74-77.

Kopelowicz, A., & Liberman, R. P. (1995). The biobehavioral treatment and rehabilitation of schizophrenia. *Harvard Review of Psychiatry, 3,* 55-64.

Krippner, S., & Welch, P. (1992). *Spiritual dimensions of healing*. New York: Irvington.

Lauriello, J., Lenroot, R, & Bustillo, J. R. (2003). Maximizing the synergy between pharmacotherapy and psychotherapies for schizophrenia. *Psychiatry Clinics of North America, 26*(1), 191-211.

Liberman, R. P., & Eckman, T. A. (2001). Training in social problem solving among persons with schizophrenia. *Psychiatric Service, 52,* 31-33.

Liberman, R. P., Wallace, C. J., Blackwell, G., Kopelowicz, A., Vaccaro, J. V., & Mintz, J. (1998). Skills training versus psychosocial occupational therapy for persons with persistent schizophrenia. *American Journal of Psychiatry, 155,* 1087-1091.

Littrell, K. H. (2001). Psychopharmacology and social reintegration. In A. Breier, P. V. Tran, J. M. Herrera, G. D. Tollefson, and F. P. Bymaster (Eds.), *Current issues in the psychopharmacology of schizophrenia* (pp. 556-574). Philadelphia, PA: Lippincott Williams & Wilkins.

Marder, S. R. (1999). An approach to treatment resistance in schizophrenia. *British Journal of Psychiatry, 174*(Supple 37), 19-22.

Miles, A. (1971). Long-stay schizophrenic patients in hospital workshops. *British Journal of Psychiatry, 119,* 611-620.

Razali, S. M, Hasanah, C. I., Aminah, K., & Subramaniam, M. (1998). Religious-sociocultural psychotherapy. *Australian and New Zealand Journal of Psychiatry, 32*(6), 867-872.

Roder, V., Brenner, H. D., Muller, D., Lachler, M., Zorn, P., Reisch, T., Bosch, J., et al. (2002). Development of specific social skills training programs for schizophrenia patients: Results of a multicentre study. *Acta Psychiatrica Scandinavica, 105*(5), 363-371.

Schooler, N. R., Keith, S. J., Severe, J. B., Matthews, S. M., Bellack, A. S., Glick, I. D., et al (1997). Relapse and rehospitalization during maintenance treatment of schizophrenia: The effects of dose reduction and family treatment. *Archives of General Psychiatry, 54,* 453-463.

Scott, J., Byers, S., & Turkington, D. (1993). The chronic patient. In A. T. Beck, J. H. Wright, C. F. Newman, and B. S. Liese (Eds.), *Cognitive therapy with inpatients*. New York: Guilford.

Sharp, H. M, Fear, C. F, Williams I. M, Healy, D., Lowe, C. F., Yeadon, H., & Holden, R. (1996). Delusional phenomenology: Dimensions of change. *Behaviour Research and Therapy, 34,* 123-142.

Shum, D., Leung, J. P., Ungvari, G. S., & Tang, W. K. (2001). Schizophrenia and prospective memory: A new direction for clinical practice and research? *Hong Kong Journal of Psychiatry, 11*(2), 23-26.

Spaulding, W. D., Johnson, D. L., & Coursey, R. D. (2001). Combined treatments and rehabilitation of schizophrenia. In M. T. Sammon and N. B. Schmidt (Eds.), *Combined treatment for mental disorders: A guide to psychological and pharmacological interventions* (pp. 161-190). Washington, DC: American Psychiatric Association.

Strauss, J. S., & Carpenter, W. T. (1978). The prognosis of schizophrenia: Rationale for a multidimensional concept. *Schizophrenia Bulletin, 4,* 56-67.

Tandon, R. (1999). Cholinergic aspects of schizophrenia. *British Journal of Psychiatry, 174*(Suppl 37), 7-11.

Tarrier, N., Yusupoff, L., Kinney, C., McCarthy, E., Gledhill, A., Haddock, G., et al. (1998). Randomized controlled trial of intensive cognitive behaviour therapy for patients with chronic schizophrenia. *British Medical Journal, 317,* 303-307.

Tollefson, G. D., Sanger, T. M., & Thieme, M. E. (1998). Depressive signs and symptoms of schizophrenia. *Archives of General Psychiatry, 55,* 250-258.

Toone, B. K., Okocha C. I., Sivakumar, K., & Syed, G. M. (2000). Changes in regional cerebral blood flow due to cognitive activation among patients with schizophrenia *British Journal of Psychiatry, 177,* 222-228.

Vaughn, C., & Leff, J. P. (1976). The influence of family and social factors on the course of schizophrenic illness. *British Journal of Psychiatry, 129,* 125 -137.

Wiersma, D., Nienhuis, F. J., Slooff, C. J., & Giel, R. (1998). Natural course of schizophrenic disorders: a 15-year followup of a Dutch incidence cohort. *Schizophrenia Bulletin, 24*(1), 75-85.

Wing, J. K., & Frendenberg, R. K. (1961). The response of severely ill chronic Schizophrenic patients to social stimulation. *American Journal of Psychiatry, 118,* 311-322.

Wykes, T., Brammer, M., Mellers, J., Bray, P., Reeder, C., Williams, C., & Corner, J. (2002). Effects on the brain of a psychological treatment: Cognitive remediation therapy: Functional magnetic resonance imaging in schizophrenia. *British Journal of Psychiatry, 181*(2), 144-152.