Original Article

Roozbeh Home Care Program for Severe Mental Disorders: A Preliminary Report

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Objective: To describe a home care service developed in Roozbeh Hospital for patients with bipolar disorder and schizophrenia and report baseline and 6-month follow-up data.
Method: Roozbeh Home Care Program consists of home visits by multidisciplinary home care teams, including general practitioners, nurses, and social workers who are supervised by psychiatrists. Home visits are scheduled as biweekly for the first three months following discharge and then on a monthly basis and the care includes biopsychosocial assessments and interventions. Baseline and 6-month data were extracted using a chart review.
Results: After 10 months of the Program development, 53 patients were enrolled and a total of 349 home visits were made. Of these, 29 were followed for at least 6 months. More than 86% of the patients remained in the community throughout the follow-up period, most in full remission and a small minority (4 patients) with a mild to moderate relapse that was overcome with interventions made by the home care teams.
Conclusion: A home care service is a feasible mode of community-based aftercare for patients discharged from the hospital. Its effectiveness should be assessed by a randomized controlled trial.
Keywords:
Bipolar disorder, Community psychiatry, Home Care services, Schizophrenia.

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Psychiatric home care is a relatively new type of community-based service to those with mental health problems that has been expanded tremendously around the world, especially in the developed countries. It is an alternative to inpatient and residential services; offering care in a continuous and comprehensive fashion to patients outside the hospitals, assisting them to remain functional in the comfort of their own homes (1).
Home care teams provide the patient and the family with knowledge about the illness, and ensure their adequate use of medications. Because of the regular contact with the patient, teams can monitor his/her condition and take measures if needed. The target of home care services usually includes the group of patients with severe and chronic mental disorders. Most of them do not keep their regular appointments; and treatment nonadherence is a common phenomenon, leading to the "revolving door" cycle of hospital to home to hospital to home.These patients frequently require inpatient and emergency room services, are homebound and receive depot medications, have co-morbid substance abuse as well as psychiatric diagnoses, or include those with self-care neglect who are in need of linkage to community resources.
Home-based ambulatory treatment has been shown to increase compliance, reduce relapse and readmission rate, improve clinical status of patients, bring more service satisfaction, and to reduce the families' burden of care compared with conventional individual outpatient treatment (2-6). Other studies have shown the cost-effectiveness of home care services (7, 8).
Roozbeh Home Care Program was established in December 2004 in the Continuity of Care Unit (CCU) of Roozbeh Hospital (Tehran, Iran) with support of Mental Health Unit, Ministry of Health and Medical Education. It is a comprehensive program designed to serve as a "bridge" between hospital and home and uses a multidisciplinary approach to care for patients with severe mental disorders following discharge from the hospital in a continuous fashion. The goals of the Program are preventing relapse and rehospitalization; decreasing medication adverse effects, increasing treatment compliance, improving quality of life, and increasing patient and family satisfaction of the services. This preliminary report describes the service as well as baseline and 6-month data.

Material and Methods

Subjects

The clients are those having a DSM-IV diagnosis of schizophrenia or bipolar disorder, the age range of 15-65 year, having a previous history of psychiatric hospitalization, residing in the catchment area around Roozbeh Hospital in Tehran, giving written informed consent, and living with at least one family member.

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They enter the service after discharge from Roozbeh Hospital.

Intervention

The Program consists of home visits by home care teams. Each team comprises a general practitioner, a nurse, and a social worker, who provide the services under a plan of care established and reviewed by a faculty member psychiatrist. Team members have special training and/or experience in psychiatric home health care. The visits are scheduled as biweekly for the first three months and then on a monthly basis. The patients are told that there is no need to come to the hospital for follow-up, unless they feel dissatisfied with home care and would like to revert to being outpatients. In addition, weekly meetings are held for teams with psychiatrists where home visits and any posed problems are discussed to reach individualized decisions for each patient. The care provided by these teams include bio-psychosocial assessment of the patient, development and coordination of plan of care, symptom/medication management and prescription of drugs and dosing adjustments, ensuring the correct use of psychotropic drugs by the patient, injection of depot antipsychotics, educating both the patient and the family on the nature of the illness and the appropriate use of the medications as well as the warning signs for a relapse, recognition of early phases of a relapse and conducting necessary procedures that may include raising the dosage and/or referral for a hospital admission, and doing social work and guiding the family on how to access the support and community resources. These services are provided free of charge to those who meet the eligibility criteria. However, the cost of the service is being recorded for future economic evaluations.

Data Collection

For each patient a chart was created at the start of the follow-up that included major demographic and clinical information. At each home visit, all members of the team recorded their own assessments and interventions in standard formats. For this report, patients' outcome data were extracted from the charts for the first 6 months of follow-up after discharge. The major outcomes described in this report are: readmission rate, relapse rate, rate of medication adverse effects, change in medications (dosage changes and switches), inadequate medication adherences, and other unwanted outcomes including suicide, homelessness and criminal incarceration. Relapse was defined here as any significant deterioration in the status of the patient that required an increase in the dosage of medications, or adding new drugs, or referral for hospitalization.

Results

Fifty-three patients were enrolled in the Program from December 2004 to October 2005 and a total of 349 home visits were made. Of these, 29 had been followed for 6 months or more. Baseline demographic and clinical data of both groups are shown in Table 1. Their baseline data are represented in Table 1. For this latter group, the outcomes recorded in the charts were reviewed for the first six months after discharge from the hospital (Table 2). None of the subject attempted suicide, was incarcerated or became homeless.

Table1. Baseline demographic and clinical characteristics of patients enrolled into the Roozbeh Home Care Program for Severe Mental Disorders

	All patients (n=53)	Patients with 6-month follow-up (n=29)
	n (%)	***n (%)***
Male sex	31 (58.5)	15 (51.7)
Living with parents	43 (81.1)	20 (69)
Education;(High school or more)	22 (41.5)	13 (44.7)
Employed or studying	10 (18.9)	3 (10.2)
Married	13 (24.5)	10 (34.5)
Diagnosis		
Schizophrenia	19 (35.8)	8 (27.6)
Bipolar I disorder	34 (64.2)	21 (72.4)
With complete resolution of illness at discharge	22 (41.5)	13 (44.8)
With comorbid substance abuse or dependence	16 (31.2)	7 (24.1)
With comorbid axis 1 disorder(s)	5 (9.4)	3 (10.3)
With comorbid axis 2 disorder(s)	7 (13.2)	4 (13.8)
With comorbid organic condition (s)	9 (17)	5 (17.2)
Medication at discharge		
Antipsychotic(s)	51 (96.2)	28 (96.6)
Mood-stabilizer(s)	38 (71.7)	20 (69)
Anticholinergic(s)	36 (67.9)	21 (72.4)
	Mean (SD)	***Mean (SD)***
Age (yrs)	31.2 (11.6)	31.8 (13.3)
Duration of illness (yrs)	7.4 (6.6)	7.7 (7.1)
Number of previous hospitalizations	2.6 (2.1)	2.4 (2)
Duration of the last episode of illness prior to hospitalization (months)	1.5 (0.9)	1.5 (0.8)
Duration of index hospitalization (weeks)	6.4 (2.4)	5.83 (2.2)

Discussion

Since the advent of community mental health principles, there have been claims that treatments within patients' own home may be the preferred mode of management because it is more conducive to the maintenance of better health and functioning in patients and it is more economical (2-8). In the last decades, several community-based programs including home care services have been developed around the world.

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Table 2. Six-month follow-up data of patients enrolled into the Roozbeh Home Care Program for Severe Mental Disorders (n=29)

Event	*n (%)*
Any switch in antipsychotic drug	6 (20.7)
Any switch in mood-stabilizer drug	6 (20.7)
Any change in antipsychotic dosage	19 (65.5)
Any change in mood-stabilizer dosage	14 (48.3)
Any change in anticholinergic dosage	16 (55.2)
Any medication noncompliance	9 (31)
Any medication adverse effects	
Parkinsonism	15 (51.7)
Dystonia	0 (0)
Akathisia	5 (17.2)
Any relapse	8 (27.5)
Rehospitalized	4 (13.8)

However, despite a well-developed rural community mental health program in Iran, until recently, community care was almost nonexistent in urban areas in our country. Mental health services are disorganized; there is no active aftercare program for patients with severe mental disorders discharged from psychiatric wards or hospitals, and the revolving door phenomenon is a quite common event.

This is the preliminary report of a home-based service for patients with severe mental disorders discharged from Roozbeh Hospital. Most of our patients remained in the community throughout a 6-month follow-up period, either in full remission or experiencing a mild to moderate relapse that was overcome with interventions made by the home care teams. The Program was well accepted by patients and their families and was a feasible mode of community-based aftercare service delivery. Meanwhile, it provided the authors and the staff with learning opportunities and new experiences in the process of a service development. Now, the Program continues enrolling more patients and following them up for longer periods.

Comparing the rate of readmission and relapse in this Program (about 13%) with other services is difficult, because of different samples and the small number of the patients in our 6-month follow-up study. Overall, it has been estimated that in usual services approximately 30-40% of patients with severe mental disorders will be hospitalized within 6 months post discharge, rising to 35-50% after one year (9-12).

In a study by Yamada (13) on 163 patients with severe mental disorders discharged from hospital, 31% were readmitted within 6 months. In another study (14) on 1481 patients with schizophrenia or a mood disorder admitted to a state hospital in the US, 13% were readmitted to the same service in the 6-month follow-up period after discharge. In bipolar disorder it seems that around 25% of patients stabilized on a mood stabilizer plus an antipsychotic will be hospitalized within 1 year of discharge (15).

The rates are lower when patients receive specialized and outreach services. In a comprehensive program for relapse prevention in schizophrenia that included education, close monitoring of symptoms, rapid interventions and home visits if needed, 22% of patients in the experimental group were rehospitalized within 18 months of discharge compared with 39% in the treatment as usual group (16). In a home care program for patients with first episode schizophrenia in India, 28.6% sought readmission in a 2-year period, in comparison with the rate of 50% in a hospital control group (4).

There is some experience of aftercare services in Iran by Malakouti et al. and Fadai et al., that included some types of home care, which show the benefits of these services in reducing hospitalizations (up to 90% reduction) and increasing patient quality of life (17, 18).

In the present study, less than 14% (4 patients) were rehospitalized in the follow-up period, two of them being patients with juvenile onset bipolar disorder which is known to have a high relapse rate despite aggressive prophylactic treatment (19).

It should be emphasized that rehospitalization is not the most important outcome to be avoided. In fact, it is an indirect indicator of ill health. A patient could be completely dysfunctional, and yet not hospitalized because of several factors, such as absence of the risk of violence or suicide, long waiting list for hospitalization into inpatient facilities (such as those existing in Roozbeh Hospital), or just because the family cannot afford the costs of a hospitalization. This may end in disastrous outcomes such as suicide, incarceration, homelessness, etc. Assessment of these as well as other outcome indicators such as quality of life and service satisfaction could address the issue more properly.

Our home care teams have offered interventions that have possibly averted rehospitalization or referral to the psychiatrist. In the follow-up period, four patients experienced signs of a relapse that were completely resolved by medication management. In addition, more than half of all subjects experienced adverse drug reactions (mostly parkinsonism) especially at the first few weeks following discharge, which were successfully treated at home.

Home care is different in several aspects from the services delivered in clinical settings, such as hospitals. Within the hospital, the service provider has greater authority and control, whereas in the homes, he or she is a guest (1).

In addition, undertaking assessment at home settings has special distinguishing features, for example valuable information could be obtained from the living environment of the patient, which would not be available in clinical settings. Family milieu could also be assessed, especially when considering the pivotal role of

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families in developing countries such as Iran and the role of expressed emotion in relapse (20).
This article reports merely service characteristics and short-term outcomes of a small number of patients in the early months of the development of a program, and it cannot provide an accurate account of the efficacy of such service. This should be addressed by a randomized controlled trial.

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