

Training Hospitalized Patients With Schizophrenia in Community Reintegration Skills

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Objective: The study examined the effectiveness of the Community Re-Entry Program, a brief, time-limited skills training module designed to help acutely ill inpatients become engaged in community-based treatment programs. **Methods:** Of 84 consecutive admissions to a chronic psychotic disorders unit, 44 completed assessments and attended the Community Re-Entry Program. The program consists of 16 daily small-group therapy sessions that engage the patient in efforts to define discharge readiness, identify symptoms and medication effects, and assist with discharge planning. Skill levels and positive and negative symptoms were assessed on admission and on completion of training, and a subsample of patients received two-week postdischarge follow-up assessments. **Results:** From admission to discharge, positive symptoms diminished substantially, negative symptoms diminished to a lesser but statistically significant degree, and skill levels increased significantly. Posttraining skill level was predicted by pretraining skill level and level of participation in the skills training module. Patients' symptom levels did not predict participation in the program or skill acquisition. Skill level at discharge was also more predictive of two-week postdischarge community adjustment than were symptom levels. **Conclusions:** Although further controlled studies are required to fully establish the efficacy of the Community Re-Entry Program, these data suggest that brief, focused skills training may play an important role in augmenting optimal pharmacotherapy for hospitalized patients with chronic psychotic disorders. (*Psychiatric Services* 47:1099-1103, 1996)

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A variety of factors have led to dramatic reductions in inpatient hospitalization and an increased emphasis on community-based treatment of persons with schizophrenia (1). Those factors include more effective treatments, increased awareness of individual patients' needs, managed care, and cutbacks in Medicare and Medicaid programs. Although inpatient treatment of schizophrenia is still necessary, there is now a strong emphasis on minimizing inpatient stays and using hospitalization to manage the most severe symptom exacerbations or behavioral disturbances. Shorter inpatient stays allow for less disruption in patients' rehabilitation programs, which are most effective when community based (2,3).

To be most cost-efficient, the inpatient treatment team should focus not only on treating acute exacerbations but also on dealing with the underlying causes of relapse and rehospitalization. For example, a substantial number of patients become psychotic because of poor adherence to medication regimens rather than medication refractoriness (4-7). In addition, many patients are admitted to hospitals not because of psychotic symptoms per se, but because of an inability to obtain or use the resources nec-

Table 1

Demographic characteristics of subjects who gave initial consent to participate in the Community Re-Entry Program (N=84)

Characteristic	N
Gender	
Male	43
Female	41
Race	
Caucasian	60
African American	16
Hispanic	8
Marital status	
Never married	76
Married, divorced	8
Age (mean±SD years)	33.9±9.3
Education (mean±SD years)	12.5±2.6
Age at illness onset (mean±SD years)	19.2±3.3
Lifetime hospitalizations (mean±SD)	7.9±12.4
Length of current hospitalization (mean±SD days)	69.9±47.4

essary to maintain quality of life and effective community functioning (7–10). A combined psychosocial-pharmacotherapeutic approach to hospital care that emphasizes medication adherence and engagement in community services should minimize relapse and rehospitalization.

Intensive behavioral training, that is, social skills training, is one approach that has been shown to be effective in addressing the treatment adherence and resource management problems of chronically ill patients (11–17). Skills training fosters the development of autonomous functioning by teaching self-awareness and interpersonal skills. Although studies suggest that acutely symptomatic patients can learn and apply trained skills such as assertion and affect management (16,18–20), further data are required to clarify the degree to which skills training strategies are effective adjuncts to pharmacological interventions for acutely ill patients.

In this report we present preliminary data on a new skills training program for patients with schizophrenia or recurring affective disorders. The Community Re-Entry Program, which is targeted to hospitalized or recently discharged patients, teaches skills necessary for engagement with aftercare services (21). The goals of the program, which is standardized

through use of a manual, are to facilitate rapid discharge from the hospital and to minimize the risk of relapse.

This skills training program is the newest module developed by clinical researchers at the University of California, Los Angeles (UCLA), Center for Schizophrenia and Psychiatric Rehabilitation and the University of North Carolina at Wilmington. As a prelude to a controlled study of the effectiveness of the Community Re-Entry Program, we used a naturalistic design to obtain preliminary data on degree of participation in the program, skill acquisition, and postdischarge adjustment among a cohort of acutely ill patients.

Methods

Patients

The study was conducted on a 25-bed inpatient unit for patients with refractory chronic psychotic disorders. Subjects were recruited from consecutive admissions over a ten-month period in 1994–1995. Table 1 summarizes the demographic characteristics of the 84 subjects who gave initial consent. Diagnoses were obtained from the clinical record. Fifty-five percent of the subjects had *DSM-IV* diagnoses of chronic schizophrenia, 25 percent had schizoaffective disorder, 15 percent had affective disorder with psychotic features, and 5 percent had psychotic disorders not otherwise specified.

The Community Re-Entry Program

Subjects were asked to participate in the Community Re-Entry Program (21), which was described as a small group therapy program that aimed at helping patients become more active in their discharge and aftercare planning. The training program teaches skills necessary for symptom identification, medication management, and collaborative treatment planning. Program materials include a trainer's manual, videotapes, and workbooks for patients. The manual outlines strategies for instruction, modeling, role play, and homework techniques that are used in 16 instruction sessions. Table 2 lists the topics covered in each of the 16 sessions.

Before beginning the project, eight staff members participated in an

Table 2

Topics covered in the 16 sessions of the Community Re-Entry Program

Session	Topic
1	Introduction
2	Symptoms of disabling mental disorders
3	Determining discharge readiness
4	Community re-entry planning
5	Connecting with the community
6	Coping with stress in the community
7	Planning a daily schedule
8	Making and keeping appointments
9	How medications work to prevent relapse
10	Evaluating the effects of medication
11	Solving medication problems
12	Solving medication side effect problems
13	Identifying warning signs of relapse
14	Keeping track of warning signs
15	Developing an emergency plan
16	Bringing your emergency plan to the community

eight-hour seminar using training tapes produced by the UCLA group to illustrate the learning activities and treatment techniques in the module. After the seminar, each trainer observed at least four groups led by an experienced trainer and was then observed leading at least two groups before being included as a trainer in the project.

For the project, groups of four or five patients were led by one or two trainers, with 60-minute sessions offered each weekday. Patients were asked to begin attending the group as soon as they had completed the pre-training skill assessment, which is described below, and regardless of their symptom or medication status. After each session, trainers recorded attendance and rated each patient for level of participation on a 3-point scale (0=none, 1=minimal, 2=adequate). Although all patients were strongly encouraged to attend, there were no specific rewards for attendance. All trainers followed the manual during each session, and intermittent group observation by senior staff and weekly trainers' meetings were used to maintain trainer fidelity to the program.

Assessments

The assessment battery included measures of positive and negative symptoms as well as ratings of the community reintegration skills taught in the Community Re-Entry Program. The battery was administered on the patient's admission to the inpatient unit and again at discharge.

Symptom ratings were made by the patients' psychiatrists using the Scale for the Assessment of Positive Symptoms (SAPS) (22) and Scale for the Assessment of Negative Symptoms (SANS) (23). The clinicians participated in a training program in which they rated patients shown in videotapes produced by the developers of the SAPS and SANS. Interrater reliability for the instruments' global subscales was documented using intraclass correlation coefficients. The coefficients for each of the subscales were as follows: affective flattening, .78; alogia, .68; avolition-apathy, .65; anhedonia-asociality, .67; attention, .94; hallucinations, .87; delusions, .46; bizarre behavior, .52; and formal thought disorder, .77.

Ratings of patients for the skills taught in the training module were made using a structured interview developed specifically for the program that includes 29 questions and role plays addressing each of the 16 competency areas. Interviewers asked questions and initiated role plays and then recorded the patients' responses verbatim. Scores were based on the presence and absence of specific behavioral or informational responses, with item scores summed to create a total knowledge score that was used in analyses. Interrater reliability was tested by having a second rater score the first ten tests; the intraclass correlation coefficient was .92. Similar tests have been validated and used in clinical studies by the UCLA group (16,17).

To assess generalization of learned skills, a subgroup of patients were rated for quality of postdischarge community adjustment. These data were gathered by social workers during a routine telephone follow-up done for all patients two weeks after discharge. During these phone contacts family members, outpatient treatment providers, and community residence

staff were asked specific questions about the patient's community adjustment and compliance with aftercare recommendations, and responses were recorded in a narrative fashion. Members of the research team rated these narratives, categorizing patients as either community "adjusters" or "nonadjusters" based on attendance at aftercare programs and medication compliance.

When three raters independently rated 62 narratives about patients who were not included in this study, interrater agreement was good, as ev-

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identified by kappa values between .77 and .81. For this study, raters blindly rated 33 postdischarge follow-up narratives.

Results

Program attendance

Over the ten-month study period, 84 patients gave initial consent to participate in the study and completed the pretraining assessments. Of this group, 21 patients, or 25 percent, subsequently failed to attend any of the group sessions. These patients were variously described by the clinical staff as psychotically disorganized, oppositional, extremely withdrawn, or uninterested. Analyses comparing results of the pretraining assessment for attenders and nonattenders showed that the two groups had equal

levels of negative symptoms but that nonattenders had a tendency toward greater positive symptoms ($t=1.77$, $df=66$, $p<.09$). The two groups showed no differences in age, gender, marital status, ethnicity, education, or level of skill before training.

Of the 63 subjects who began the program, 19 failed to complete the posttraining assessments for a variety of reasons, including precipitous discharge or the clinical factors noted above. Thus a total of 44 subjects, or 52 percent of the original sample, attended groups and completed the pre- and posttraining assessments. The total number of training sessions attended by each of these subjects varied. They attended a mean \pm SD of 11.6 ± 3.9 session, and 36 subjects attended at least eight of the 16 sessions.

Skill acquisition

The 44 subjects showed a statistically significant increase in total skill level from admission to discharge (paired t test, $t=-6.64$, $df=43$, $p<.001$). Because of missing data, only 31 of these subjects were included in analyses of symptom changes, with paired t tests showing decreases in positive symptoms ($t=6.13$, $df=30$, $p<.001$) and negative symptoms ($t=2.25$, $df=30$, $p<.04$) from admission to discharge.

To determine the influence of symptoms on changes in skill level, a stepwise regression analysis was done with posttraining skill level as the dependent variable; predictors were pretraining skill level, average positive and negative symptom ratings at discharge, number of sessions attended, and average participation rating. The final model was significant ($F=6.45$, $df=5,36$, $p<.001$) and accounted for 40 percent of the variance. The only factors that made significant unique contributions to posttraining skill level were pretraining skill level ($\beta=.48$, $p<.001$) and average level of participation during the sessions ($\beta=.28$, $p<.05$).

Skill generalization

Two-week follow-up data on subjects' adherence to aftercare treatment recommendations were obtained for 33 of the 44 subjects; 11 of the follow-up narratives were considered inadequate for rating. Of the 33 rated sub-

jects, 23, or 70 percent, were classified as "adjusters," and ten, or 30 percent, were rated as "nonadjusters."

A logistic regression analysis was used to test whether outcome status was related to positive symptoms, negative symptoms, or skill level at discharge. By varying the order of entry, it was possible to determine the significance of each predictor, above and beyond the significance of the other two. The overall model was significant (likelihood ratio $\chi^2=5.24$, $df=1$, $p<.03$) and correctly classified 70 percent of the patients at the point of follow-up. Among individual predictors, posttraining skill level made a unique contribution to the prediction of outcome status (Wald test=4.41, $df=1$, $p<.04$), with higher skill levels predicting better community adjustment. Neither symptom variable contributed significantly above and beyond skill level.

Discussion

The data provide useful information about the potential role of the Community Re-Entry Program on an acute psychotic disorders inpatient unit. Twenty-five percent of the initial cohort failed to attend any of the skills training sessions, suggesting that there are prerequisites for adequate patient participation. The prerequisites would likely address some combination of patient-related factors, such as psychotic disorganization or cognitive deficits, and program-related factors, such as lack of relevance of trained skills. Identification of these factors will require further exploration. We could find no other comparable studies that documented attendance rates in inpatient psychosocial treatment programs.

Of the group of patients that began the training program, 30 percent dropped out. Again, it is unclear what determined dropout status, although in addition to the patient- and program-related factors noted above, we must also consider factors related to the trainers, including failure to provide sufficient positive reinforcement for attendance. Although other studies of skills training for patients with schizophrenia have not reported dropout rates (16,17), the dropout rate of 30 percent that we found is

comparable to those noted in the psychotherapy research literature (24).

It is noteworthy that more than 50 percent of the targeted cohort completed assessments and training. The inpatient population was severely ill, and a majority of the patients had a history of treatment noncompliance. There were no additional reinforcers for group attendance, although attendance was encouraged and groups were led by familiar unit staff members in open rooms on the unit. Anecdotal reports from patients and staff from aftercare programs indicated that the patients felt the program directly addressed their greatest con-

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cern, which was how to get out and stay out of the hospital. This opinion was echoed by the staff trainers, who felt they were helping patients in areas that were most crucial to their short-term and long-term well-being.

The data also suggest that the Community Re-Entry Program was effective. Skill acquisition, as measured by improved test performance, was related to level of participation in the program and was independent of symptom levels. These findings are consistent with the literature on skills training in outpatient programs, which shows learning effects that are only minimally influenced by positive and negative symptoms (11-17, 25,26). In three other studies of inpatient skills training programs (18-20), patients were taught skills including

politeness, initiating conversations, and managing negative affects. Each study demonstrated that acutely ill inpatients could participate in training groups and learn social skills. However, little attention was paid to documenting generalization effects in these studies.

The Community Re-Entry Program represents a significant advance in this area in that it identifies skill areas most relevant to patients' circumstances and then details training strategies for each area. This type of "task analysis" has been recommended by leading skills training theorists as a means of addressing the major criticism that previous studies of skills training failed to identify the target skills for training that were most likely to have a favorable effect on the individual's overall adjustment (27,28).

It is crucial to include measures of generalization in any study of skills training (14,29). In this study, posttraining skill levels were more predictive of short-term postdischarge adjustment than were positive or negative symptoms. Other studies have shown that relapse and rehospitalization in this population are commonly preceded by treatment noncompliance (4-7), and a major focus of the Community Re-Entry Program is to engage the patient in an aftercare treatment plan in a manner that encourages follow-up and adherence to medication regimens.

If the Community Re-Entry Program proves to be effective in these areas, it will be one of the first psychosocial treatments to have a clear role in modern-day inpatient psychiatric settings. For example, the module may be used to guide clinicians' judgments about discharge readiness. Often these decisions are made based solely on the patient's symptom levels and medication response. The Community Re-Entry Program outlines specific skill areas that can be added to the list of criteria for discharge readiness.

This preliminary study had several weaknesses, the greatest being the lack of a control group and the use of assessment strategies—the skill test and the postdischarge adjustment assessments—for which we have no data on test-retest reliability, internal

consistency, or construct validity. We are also aware that the observed changes in skill level may be influenced by regression artifacts, and we have attempted to compensate for this possibility by including pretest scores as predictors in our model. In addition, follow-up assessment for longer than two weeks would be necessary for thorough documentation of generalization effects in such a study.

Finally, further analyses are planned to document the role of specific antipsychotic medications and neuropsychological deficits in determining skill acquisition in this cohort. Several studies suggest that neuropsychological deficits, especially in the areas in short-term memory and attention, have a greater effect than symptoms on skill acquisition in training programs (30–32).

Conclusions

The main goal of this study was to generate preliminary data on the effectiveness of a new skills training program for acutely symptomatic patients. The data reported here suggest that the Community Re-Entry Program merits further testing, and we are planning a randomized controlled study. The data also suggest that this skills training module has the potential to play an important role in augmenting optimal pharmacotherapy for hospitalized patients with chronic psychotic disorders, in helping to further diminish inpatient stays, and in increasing patients' engagement with community-based rehabilitation programs. ♦

Acknowledgments

The authors thank Robert P. Liberman, M.D., and Jim Mintz, Ph.D., of the UCLA Clinical Research Center for Schizophrenia and Psychiatric Rehabilitation for consultation on the use of the skills training module and manuscript review. This research was supported by a Young Investigator Award from the National Alliance for Research on Schizophrenia and Depression to the first author and by a fund established in the New York Community Trust by DeWitt Wallace.

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