

Adding Evidence-Based Interventions to Assertive Community Treatment: A Feasibility Study

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Objective: This 24-month study, conducted in The Netherlands, examined the feasibility of enhancing the effectiveness of assertive community treatment (ACT) by adding evidence-based interventions.

Methods: A total of 159 patients were randomly assigned to two ACT teams, one providing standard ACT (N=85) and an ACT Plus team that also provided evidence-based interventions (N=74): psychoeducation, family interventions, individual placement and support, and cognitive-behavioral therapy. The interventions were conducted by psychologists and nurse practitioners working independently from the ACT team.

Results: Although most patients were judged eligible for each of the four interventions (range 65% to 89%), only 12 of the 74 patients (16%) successfully completed an intervention. Outcomes, such as use of inpatient care, for ACT Plus and standard ACT patients did not differ significantly. **Conclusions:** Guidelines for the treatment of schizophrenia should consider the feasibility of delivering evidence-based interventions to difficult-to-engage patients. (*Psychiatric Services* 65:

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Our previously published randomized controlled trial of assertive community treatment (ACT) compared the effectiveness of ACT with standard community treatment (1). We concluded that ACT is significantly better at maintaining contact with patients with severe mental illness who are difficult to engage. However, for important outcomes, we found no advantages for ACT—no symptomatic or functional gains and no significant reduction of inpatient days.

These findings are in agreement with those of all relevant recent studies conducted in the United Kingdom, including the most recent study, the Randomized Evaluation of Assertive Community Treatment, which was conducted at about the same time as our trial (2,3). These recent outcomes contradict the significantly better clinical and functional outcomes documented in earlier trials in the United States (4). We and other observers have explained the discrepancy by assuming that the control condition in the more recent trials, which is standard care, probably incorporated important elements of ACT. Components of ACT, such as outreach and increased assertiveness when patients are difficult to engage, have become characteristics of regular care (5).

Therefore, instead of comparing the effectiveness of ACT and of standard care, the next step should be to

improve the effectiveness of ACT. In the study reported here, we tested the feasibility and effectiveness of adding certain psychosocial interventions to ACT. The Dutch guidelines for the treatment of schizophrenia, as well as guidelines from the United Kingdom and the United States, recommend the following evidence-based psychosocial interventions: psychoeducation, family interventions (for example, restoring relationships with family members or discussing with family members how to deal with symptoms and behaviors), individual placement and support, and cognitive-behavioral therapy (CBT) (6–9). These interventions, although considered evidence based, have never been tested among patients who are difficult to engage. ACT workers generally are not fully trained to provide these interventions. In addition, they often spend their time solving the daily problems of patients. Therefore, we decided that in order to ensure delivery of high-quality care, psychologists and nurse practitioners with special training in these therapies would deliver the interventions independently from the ACT teams. In addition, we wished to create independence between daily ACT practice and the psychosocial interventions. We assumed that this division would improve clarity for both the patient and the therapist delivering the intervention. Psychologists and nurses were asked to provide each therapy according to available treatment manuals and guidelines (such as the number of sessions required) to the extent feasible.

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Our goal was to provide each patient with all four interventions during a one-year follow-up period. The study reported here tested the feasibility of this goal by addressing three questions. How many patients were judged eligible for each intervention? How many of the eligible patients were willing to participate? How many patients engaged successfully in the interventions?

Methods

Because we wanted to study effectiveness as well as test feasibility, the study was designed as a pragmatic, open, randomized clinical trial. Pragmatic means that it was conducted in regular mental health care practice, which is the appropriate setting for testing feasibility. The trial was carried out in Leeuwarden, a medium-sized town (approximately 93,000 inhabitants) and the capital of the province of Friesland, The Netherlands. As part of treatment evaluation, Friesland Mental Health Services, a mental health institution, has implemented standardized routine outcome monitoring of patients with severe mental illness. The Health of the Nation Outcomes Scales (HoNOS) is the core instrument. The Medical Ethical Committee of the University Medical Center Groningen determined that the trial did not need ethical approval: treatments conformed to usual care standards and evidence-based practice in both the experimental and control conditions, and data were gathered by routine outcome monitoring, and randomization to one of two study arms did not influence regular care.

The institution decided to create two identical ACT teams to provide mental health care for patients with severe mental illness. The teams accepted only patients with a total HoNOS score >14 . Patients with scores >14 in the caseloads of the institution's treatment teams were identified, and the HoNOS was readministered. Patients whose score remained >14 were accepted for ACT treatment and considered eligible for the study. New patients could be referred for ACT treatment according to the same procedure. All patients were randomly assigned to either team. After six months (November 2008 to June 2009), when 159

patients were included and baseline assessments took place, enrollment into the study was stopped. By toss of a coin, one of the teams was selected as the experimental ACT condition (ACT Plus) ($N=74$) in which the evidence-based psychosocial therapies were implemented. The other team was the control condition and delivered standard ACT ($N=85$). The follow-up period was 24 months, after which the second assessment took place. Feasibility data were collected during follow-up. Data collection was completed in November 2012.

The teams worked according to the shared-workload principle. The working day started with a whiteboard meeting of the team members available that day to discuss the patients who needed to be contacted urgently. All team members attended a weekly multidisciplinary patient review to discuss all patients in the caseload. Most contacts with patients took place outside the office.

Fidelity to the ACT model was assessed with the Dartmouth Assertive Community Treatment Scale (DACTS) (10). The maximum score on the DACTS is 5, representing a perfect implementation of all ACT principles. An independent DACTS assessment of the ACT Plus team resulted in a score of 4.0 for team structure and a score of 3.3 for team organization. For the standard ACT team, these scores were 3.6 and 3.3, respectively. The scores indicate that model fidelity was adequate and comparable for both teams.

The four therapists were formally trained and qualified in the interventions they offered. They received no specific training for this trial. They adhered as closely as possible to treatment manuals and guidelines available for these therapies, but they adapted them to the problems and goals of the individual patient. All interventions were provided in individual therapy. The therapists informed the ACT Plus team about the content of the interventions and the eligibility criteria for patients. The therapists regularly attended the daily ACT whiteboard meetings to discuss patients' eligibility. Also, during the weekly patient review meetings, the

ACT Plus team screened patients to determine their eligibility for any of the four interventions. These screenings were conducted under the supervision of one of the authors (either FJ or RN). When patients were deemed eligible, team members asked them whether they were willing to participate in the intervention. Team members contacted the therapist delivering the intervention and briefly discussed the patient. Therapists contacted the patients who were eligible and willing to participate, set up an appointment, and started the intervention. When patients did not attend three consecutive appointments, it was considered a failed intervention. Every six weeks, the four therapists and selected ACT team members met and reviewed all patients in the trial who were receiving one or more of the interventions and decided whether to offer new interventions to eligible patients.

Results

Table 1 shows the feasibility results of implementing the four interventions for the 74 ACT Plus patients. The mean \pm SD age of the patients was 36.9 ± 10.8 years, and 50 (68%) of them were male. Before the start of the trial, we intended to deliver all four interventions to the 74 patients during the 24-month follow-up period. The data show that the ACT Plus team members and the therapists judged most of the patients eligible for each intervention—from 65% for the family intervention to 89% for individual placement and support. For various clinical and practical reasons not all treatments could be offered to the eligible patients. In some cases, a patient's clinical condition at that time was considered too critical by the team to allow the treatment, and in other cases, the patient was not available, although in general, jail or homelessness were not reasons to withhold treatment. However, in most cases, the reason for nondelivery of the intervention was the patient's refusal to accept it.

As shown in Table 1, treatment was accepted and begun for 11% to 27% of patients to whom an intervention was offered. A total of 30 interventions were delivered to 27 patients—or 36%

of the patients of the ACT Plus team. Ten patients successfully completed all sessions of their respective interventions; another two patients successfully completed their respective interventions, as judged by both the therapist and the patient, even though not all formal sessions were delivered. Thus only 12 of the team's 74 patients (16%) derived the additional benefit of an intervention. For the other 18 patients who accepted and started an intervention, it was stopped prematurely because the patient dropped out of treatment.

In the trial, the two treatment groups—ACT Plus and standard ACT—were compared on several outcome measures. The primary outcome was the use of inpatient care. No significant differences over the 24-month course of the trial were found, which may partly be explained by the fact that so few patients engaged in treatment. [A flowchart of study recruitment along with tables presenting data on baseline patient characteristics and on outcomes are available in an online data supplement to this report.]

Discussion

Guidelines for the treatment of schizophrenia recommend the delivery of evidence-based interventions such as psychoeducation, family interventions, individual placement and support, and CBT. However, to our knowledge, the feasibility of delivering these interventions and their effectiveness had not been tested among patients of ACT teams, a difficult-to-engage group. Our study found that even though most of the ACT Plus team's 74 patients were judged by the therapists and the team members to be eligible for the interventions, only 41% of patients were interested in or capable of starting at least one of the interventions. The low proportion is not necessarily bad. More problematic was the high drop-out rate—about 60%. Therefore, the number of patients who completed interventions was too low for us to detect any significant improvement of the ACT Plus patients compared with the patients receiving standard ACT.

These results may reflect the specific model we adopted. In our model, the therapists worked independently from the ACT team. They regularly

Table 1

Delivery of evidence-based interventions to 74 patients receiving enhanced assertive community treatment

Intervention	Eligible for the intervention		Offered the intervention		Intervention accepted and started		Intervention completed		Sessions completed in successful intervention	
	N	% ^a	N	% ^b	N	% ^c	N	% ^d	M	SD
Family intervention	48	65	30	63	8	27	3	38	24.3	4.0
Psychoeducation	59	80	47	80	10	21	4	40	4.5	2.4
Individual placement and support	66	89	46	70	5	11	2	40	7.0	4.2
Cognitive-behavioral therapy	63	85	40	63	7	17	3	43	8.3	1.5

^a Percentage of 74

^b Percentage of eligible patients

^c Percentage of patients offered the intervention

^d Percentage of patients starting the intervention

attended the daily team meetings to identify eligible patients. Every six weeks they held patient reviews with ACT team members during which they discussed patients who were eligible and patients already engaged in treatment. However, because therapists were not part of the team, both the therapists and the ACT team members had to work hard to establish some form of cooperation. Although the ACT team members acknowledged that they lacked the time and expertise to deliver these interventions themselves, they appeared somewhat reluctant to share part of their caseload with therapists outside their own team. It is not clear whether inclusion of specialized psychologists and other therapists on an ACT team would have yielded better results in terms of engaging patients in psychosocial interventions.

However, we continue to believe that psychotherapy and family and occupational interventions should be clearly distinguished from crisis interventions. When an ACT team member struggles to prevent an imminent home eviction in the morning, it would be nearly impossible for the team member to quietly deliver a CBT session that afternoon. However, a therapist who was not involved in the hectic circumstances might be able to establish the right atmosphere to have

a successful therapeutic intervention with the patient.

There is also a question about whether the therapists were capable of engaging patients in psychotherapy. Each of them was formally trained in the interventions they offered, and they generally treat patients experiencing a first episode of schizophrenia. Two large-scale trials, the OPUS trial (11) and the Lambeth Early Onset trial (12), showed that these interventions are feasible and effective for that patient population. However, the therapists did not have much experience treating patients with long-term serious mental illness, many of whom are difficult to engage in treatment. Special training in how to engage these patients may have increased the feasibility of enhanced ACT. Another option might be to adapt the content of the evidence-based interventions or the mode of delivery for patients reluctant to receive any treatment. These points should be considered when the aim is to deliver such interventions to patients of ACT teams or similar patients of community mental health teams.

Conclusions

Psychoeducation, family interventions, individual placement and support, and CBT are evidence-based interventions recommended in guidelines for the treatment of schizophrenia and related

disorders. However, in this study only 41% of patients eligible for these interventions accepted one of them when it was offered, and most of those who accepted dropped out before completing the intervention. The feasibility of delivering these interventions to this patient population appears to be limited, which should be considered in the guidelines. Other models of improving ACT should be developed and tested.

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The authors report no competing interests.

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