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ORIGINAL PAPER

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Evaluation of a special rehabilitation programme for patients who are difficult to place

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Abstract *Background* Difficult-to-place patients are left at the end of programmes of psychiatric hospital closure and need specialised services, the nature of which is still under debate. The aim of this study was to evaluate a rehabilitation programme specially designed for difficult-to-place patients in a psychiatric hospital undergoing closure. *Method* Twenty-two difficult-to-place patients were identified and underwent a customised rehabilitation programme. Their outcome after 1 year was compared with that of a similar group of 64 patients from another psychiatric hospital who had not received the main components of the rehabilitation programme. *Results* Compared with the control patients, the experimental patients showed a significant reduction in severe problems of social behaviour ($p < 0.005$) and a borderline significant increase in domestic skills ($p < 0.06$). *Conclusions* The results support the value of individually planned behavioural programmes for difficult-to-place patients, combined with training programmes for the staff and rationalisation of medication regimes.

Key words long-stay – difficult to place – rehabilitation – staff training – cognitive-behavioural – novel antipsychotics

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Introduction

Almost all of the psychiatric hospitals in England and Wales have now been replaced with district-based services. Towards the end of a closure programme a group of patients is invariably identified who are difficult to place in standard staffed homes in the community by reason of disturbed and disturbing behaviour, commonly aggression and sexual disinhibition. These difficult-to-place (DTP) patients have similar characteristics whichever hospital they happen to be in (Trieman, Hughes and Leff 1998) suggesting that every catchment population generates such patients. In comparison with the rest of the long-stay population they are characterised by being young men with aggressive behaviour and a high level of psychotic symptoms. Many of them are new long-stay, indicating that they are not a product of institutional practices and will continue to pose a challenge to services in the absence of psychiatric hospitals (Trieman and Leff 1996). A small proportion have none of these problems but are highly dependent and refuse to leave the hospital.

A 5-year follow-up of long-stay patients from Friern hospital in north London found that 40% of DTP patients had been able to move into standard community homes from specialised facilities (Trieman and Leff in press). A rehabilitation programme that accelerated this process would be advantageous clinically.

Subjects and methods

Design of the study

The Team for the Assessment of Psychiatric Services (TAPS) was asked in 1997 to survey the remaining long-stay patients in Warley psychiatric hospital, on the outskirts of London, which was pursuing a closure programme. TAPS personnel, using the Special Problems Rating Scale (SPRS) (Trieman and Leff 1996), identified a large group of potential DTP patients. Negotiations were conducted with the two NHS Trusts involved to establish a highly staffed facility in the

grounds which could be the setting for an experimental rehabilitation programme. The building chosen is a freestanding villa with its own enclosed garden (Woodside). Twenty-two of the remaining long-stay patients were selected by the hospital staff for the project, 16 men and 6 women. All the men were resident on the same ward, while the women were chosen from several wards. No formal selection criteria were used, but virtually all these patients had been identified in the previous TAPS survey as presenting one or more special problems, and would be expected to resemble the last group of patients remaining in any psychiatric hospital (Trieman, Hughes and Leff 1998).

A randomised controlled trial was not feasible because the staff selected the most challenging patients for the rehabilitation programme, who would inevitably differ significantly from the other remaining long-stay patients. Furthermore, the imminent closure of the long-stay wards was soon to lead to the dispersal of potential control patients to a variety of community settings. The original intention was to find another psychiatric hospital in the London area that was near to closure and to use their DTP patients as a comparison group for the intensive rehabilitation programme at Warley. Several apparently suitable hospitals were contacted, but in each case one or more of the key components of the Warley programme were already in place or were planned for the near future.

In the absence of an appropriate contemporary control group, it was decided to use the DTP patients from Friern hospital who had been intensively studied by TAPS in the immediately preceding years from 1993 to 1998. The advantage of this group is that it had been assessed at three time points, baseline, 1-year and 5-year follow-ups, using the same batch of instruments that were to be applied to the Warley patients. The group is relatively large, comprising 64 patients, and few of the components of the Warley programme had been applied to the patients. For example, only five of the 64 patients were receiving novel antipsychotic drugs. The usual disadvantage of a historical control is here in fact an advantage, since the patients were not exposed to recent advances in the treatment of psychosis.

The aims of the Warley rehabilitation programme were to extinguish or reduce problematic behaviours that were preventing discharge into the community homes which had been provided for the rest of the long-stay population. The key components were:

1) switching the medication regimes from conventional to novel antipsychotics;
2) a training programme for the staff (Willetts and Leff 1997), most of whom came from the long-stay wards for administrative reasons;
3) individual care plans for the patients embodying a cognitive-behavioural approach.

Assessments

Patients were assessed with the Social Behaviour Schedule (SBS) (Wykes and Sturt 1986), the Behaviour and Everyday Living Skills Schedule (BELS) (O'Driscoll and Leff 1993) and the Special Problems Rating Scale (SPRS) (Trieman and Leff 1996). All three schedules are completed by interviewing staff members who know the patients well, and cover the preceding 3 months. The Environmental Index (EI) (O'Driscoll and Leff 1993) was used to assess the degree of restrictiveness of the care environment. These same schedules had been employed by TAPS researchers in the previous DTP study to assess patients while they were in Friern hospital, and then 1 year after they had moved to the special facilities established for them. In Warley hospital they were applied to the patients just prior to the beginning of the rehabilitation programme, and then repeated 1 year later. The interviewers at baseline were two members of the Resettlement Team who had been trained to a high standard of inter-rater reliability ($r > 0.8$) in the use of the SBS and BELS. The presence of two trained raters was utilised to test the inter-rater reliability of the SPRS, which had not previously been established. The interviewers were not directly involved with the care of the experimental patients at the beginning of the programme. One of the interviewers left the hospital shortly after the baseline assessment and agreed to return to conduct the follow-up interviews at the end of 1 year. Hence, she was independent of the treatment programme, although obviously not blind to the experimental status of the patients. The same two staff members, who knew the patients well, supplied the information for the interviewers to complete the ratings at baseline and 1-year follow-up.

Staffing

The budget allowed a nursing staff:patient ratio of 1.2:1. However, difficulty was experienced in recruiting sufficient nurses, possibly because of the demanding nature of the patients. The problem was tackled by advertising for graduate psychologists to fill the five vacant positions. There was a large number of applicants and it was easy to select candidates of high quality. The five psychologists brought into the project not only their expertise in behavioural techniques, but also a fresh attitude. Each psychologist was assigned to four or five of the patients, with whom they worked intensively alongside the nursing staff.

They were supervised by a half-time senior psychologist. Even with this strategy, some staff vacancies remained, so that at no time did the staff:patient ratio exceed 1:1.

Accommodation

The villa consisted of two buildings linked by a passageway. In the larger building 14 of the men occupied a dormitory with beds separated by wardrobes, while two men had a bedroom each. In the smaller building four women had single bedrooms and two of the women shared a bedroom. The men moved en bloc from the ward in the main hospital into Woodside a year prior to the start of the programme, while the women moved in a month or so beforehand. Thus, the men, but not the women, had considerable time to adjust to the new environment before the baseline assessment was conducted. The EI score was 19 initially and remained the same at follow-up.

The comparison group

Friern hospital was opened in 1851, the same year as Warley hospital, and their internal architecture was similar with large wards containing dormitories of 8–12 beds. Three health authorities were responsible for the Friern DTP patients and each implemented a different solution. One converted a Victorian house in the community into a closed ward for 20 patients. The staff:patient ratio was 1.7:1 and the EI was 27, equal to that for the Friern wards. The second built three new houses for 28 residents in the grounds of a small psychiatric hospital. These had no locked doors and an EI of 10, the same as the community homes for the non-DTP patients. The staff:patient ratio was also 1.7:1. The third authority utilised two wards in a district general hospital. One was intended for active rehabilitation with a staff:patient ratio of 1.3:1 and an EI of 30, while the other was viewed as offering continuing care with a staff:patient ratio of 1:1 and an EI of 22.

As mentioned, almost all the patients remained on conventional antipsychotic medication during the first year in the new facilities. There was also an absence of individual care plans based on cognitive-behavioural strategies. Furthermore, the staff underwent no special training to work with the DTP patients. Hence, the comparison patients were exposed to little or none of the rehabilitation package given to the experimental patients.

Progress in implementing the rehabilitation programme

Staff training

The staff training programme was based on a pilot programme run for staff in community homes for the Friern patients (Willetts and Leff 1997) and was held over the course of 10 weeks at the end of 1998. It was attended by the psychology assistants, nursing staff, and the occupational therapist, and comprised ten sessions, each of which was repeated on the morning and afternoon of the same day to accommodate the nursing staff's shifts. The impact of the training was assessed by a questionnaire given at the beginning and at the end of the programme. This showed that staff had learned a greater appreciation

of the patient's perspective and had acquired more coping strategies to deal with difficult patients (Willetts and Leff in preparation).

Care programmes

Individual care programmes focused on the problem behaviours and deficient skills of the patients were designed by the psychology assistants and were carried out in conjunction with the nursing staff. Weekly supervision was provided by a part-time clinical psychologist, and by one of the investigators (JL), who was not involved in any of the assessments. Problem behaviours were tackled one by one, and as each problem resolved, decisions were made about the next behaviour to address. JL had overall responsibility for the treatment strategy and was able to ensure that individualised programmes were maintained throughout the study.

The occupational therapist ran sessions for a number of patients to learn shopping and cooking skills.

Medication

At baseline five of the 64 Friern patients were on novel antipsychotic medication: three on clozapine and two on risperidone. Initially nine of the 22 experimental patients were receiving novel antipsychotic medication, three being on clozapine, two of whom were also prescribed risperidone. The other six patients were on risperidone, four of whom were also prescribed typical antipsychotic drugs. Many of the other regimes were examples of polypharmacy, three patients receiving three different conventional antipsychotic drugs, one of them being a depot preparation, the total being in excess of the BNF recommendations. Changing these regimes to a single atypical antipsychotic drug took considerable time, partly because of the anxieties of the nursing staff that this would release aggressive behaviour. Several patients were given responsibility for their own medication.

By the end of the year three patients were on clozapine combined with a small dose of risperidone, five patients were on risperidone alone, nine patients were on olanzepine, and one on quetiapine. One patient refused to change his medication and was still receiving conventional antipsychotic drugs, while another who was found to be suffering from progressive cortical atrophy was on no antipsychotic medication. Two patients with manic-depressive illness were on mood-stabilisers.

By contrast, there had been little change in the regimes of the Friern patients. The number of patients on clozapine had increased from three to seven, while only the two original patients remained on risperidone.

Statistical analysis

Inter-rater reliability of the SPRS data from the two raters was assessed using the intraclass correlation coefficient.

The data from the Friern and Warley DTP patients at baseline and 1-year follow-up were compared using General Linear Modelling and looking for group-by-time differences. Comparisons were made of the total number of Special Problems, the SBS total score and the subscore on positive symptoms, and the scores on the four subscales of the BELS.

Results

Reliability of the SPRS

The Kappa coefficients for individual items were mostly very high, nine of the 13 being between 0.7 and 1.0, and only two being below 0.50: fire risk 0.46, and refusal to leave hospital 0.48. The intraclass correlation for the total score was very high at 0.92 (95% CI 0.86–0.99).

Comparison of experimental and control patients

Full data were obtained on all 22 Warley patients at both time points. In terms of diagnosis 86% of both groups of patients were suffering from schizophrenia. Affective and schizoaffective diagnoses were given to 6% of Friern patients and 9% of Warley patients, while the proportions with an organic psychosis were 7% and 5%, respectively. One Friern patient but no Warley patient was diagnosed as having a personality disorder.

A significantly ($p < 0.001$) higher proportion of Warley patients than of Friern patients were receiving novel antipsychotic medication at baseline and at 1-year follow-up. This proportion increased over the follow-up period for the Warley patients ($p < 0.01$) but not for the Friern patients.

At baseline, comparison of the Warley and Friern DTP patients revealed no significant differences for the mean ages (Warley 43.8, Friern 46.9), the sex distribution (males 73%, 66%), the mean length of stay in months (147, 99), the mean number of special problems (2.8, 2.4), the mean number of social behaviour problems (5.86, 5.90) or for three of the areas of Basic Everyday Living Skills: self-care (20.8, 20.3), domestic skills (9.4, 10.3) and community skills (4.7, 5.8). Only on the fourth area, social skills, did the Warley patients score more highly than the Friern patients (9.5, 6.6; $t = 2.65$, df. 81, $p < 0.01$). The close correspondence of the experimental and control patients on diagnosis and all measures except one area of skills indicates that a comparison of changes over time is valid.

The results of the General Linear Modelling are shown in Table 1. A higher score on the SBS indicates more problem behaviours, while a higher score on the BELS represents a higher level of skill. It can be seen from Table 1 that while there is a greater reduction in special problems in the Warley patients compared to those from Friern, the difference is not significant. However, while there was no difference in the total score, important changes took place in aggressive behaviour. There was a reduction in the number of Warley patients showing verbal aggression from nine to six, destruction of property from six to two, and physical aggression from ten to three (exact $p = 0.023$).

The total number of social behaviour problems dropped dramatically for the Warley patients, while remaining the same for the Friern patients. This was the most significant change detected during the year. The other main change was a marginally significant increase in domestic skills for the Warley patients.

Discussion

Comparability of experimental and control patients

The interpretation of our findings rests on the comparability of the DTP patients from the two hospitals. Even though the baseline assessment of the Friern patients was

Table 1 Comparison of Friern and Warley patients at baseline and 1-year follow-up

	N	Baseline Mean (SD)	One-year Mean (SD)	F*	p
Special problems					
Friern	51	2.39 (1.51)	2.00 (1.82)		
Warley	22	2.27 (2.39)	1.41 (1.53)	1.93	0.17
Social Behaviour Schedule (total score)					
Friern	60	5.90 (2.96)	6.00 (3,40)		
Warley	22	5.86 (4.92)	4.18 (3.03)	8.36	< 0.005
Social Behaviour Schedule (positive symptoms)					
Friern	60	1.07 (1.01)	1.08 (1.01)		
Warley	22	1.58 (1.47)	1.18 (1.05)	0.48	0.48
BELS self-care					
Friern	59	20.31 (8.73)	20.73 (7.89)		
Warley	22	20.77 (6.52)	23.36 (6.00)	2.34	0.13
BELS domestic skills					
Friern	59	10.34 (7.40)	10.66 (6.00)		
Warley	22	9.41 (4.66)	12.50 (5.57)	3.64	< 0.06
BELS community skills					
Friern	58	5.77 (3.94)	6.14 (4.24)		
Warley	22	4.73 (3.45)	5.36 (3.22)	0.001	0.98
BELS social skills					
Friern	59	6.59 (4.63)	7.44 (4.60)		
Warley	22	9.50 (3.76)	10.41 (3.62)	1.82	0.18

* df = 1

5 years earlier than that for the Warley patients, they were remarkably similar on the demographic and clinical measures used. Only in the area of social skills did the Warley patients rate significantly higher than their Friern counterparts. In the absence of randomisation, there can be no certainty that the two groups of patients were comparable on characteristics that were not measured. However, there is no reason to suppose that the DTP populations remaining at the end of a hospital closure programme differ substantially from one hospital to another, and indeed there is evidence of their similarity from a previous study (Trieman, Hughes and Leff 1998).

Gains from the rehabilitation programme

No data were obtained from direct observation of the patients, but were derived from interviews with staff members. It is possible that they had a vested interest in presenting a picture of improvement. However, the same would be true of the staff in the Friern facilities, and it is a comparison between the accounts of staff in the two services that has revealed significant differences. Furthermore, the improvements noted were not global but affected specific behaviours. Given these considerations and the similarity of the Friern and Warley DTP patients at baseline, it is reasonable to infer that the differential improvement of the latter over the year of follow-up can be ascribed to the rehabilitation programme, which incorporated specific interventions not received by the Friern patients.

Both groups moved from similar psychiatric wards to improved living conditions, although these varied considerably for the Friern patients by health authority. In our opinion, the best environment was provided by the three newly built houses, in which patients had single bedrooms and enjoyed as much freedom as existed in the community homes. However, even these patients did not have individualised care programmes or rationalisation of their medication regimes. The Warley patients were living in a relatively unrestricted environment with an EI score midway between that in the wards and that in the community homes. It is notable that the staffing level did not exceed the lowest of that pertaining in the four facilities provided for the Friern patients.

This study shares the problem common to the evaluation of psychosocial interventions, namely the difficulty of identifying the therapeutic elements in a complex programme. One of the most striking differences in the therapeutic regime was the much greater use of novel antipsychotic medication for the experimental patients both initially and at follow-up. The principal gain for the Warley patients was a highly significant reduction in social behaviour problems. It is unlikely that this was due to the introduction of novel antipsychotics since the subscore on problems due to positive symptoms did not improve. Furthermore, there is currently no convincing evidence that novel antipsychotics improve negative symptoms. However, the discontinuation of high doses of multiple conventional antipsychotics may well have released some of the patients from their chemical strait-jackets and enabled them to participate more actively in the behavioural programmes.

It is not possible to tease out the contributions of the staff training programme, which had a positive impact on staff attitudes and skills, the individualised care programmes, or the enthusiasm of the young psychologists. However, the overall effect of the programme was to improve many of the behaviours, including aggression, which constitute a barrier to resettlement in the community. As a result, at the end of the year, four patients were considered suitable for discharge to sheltered homes in the local community. Unfortunately, this rate of progress was a surprise to the administrators who had no plans to resettle the DTP patients so quickly. Eventually, eight patients were discharged to community homes by the end of the second year, while the patient with progressive cerebral atrophy was moved to an appropriate care facility. The community placement of 36 % of the experimental patients over 2 years compares favourably with the discharge of 40 % of the Friern DTP patients over 5 years.

Comparison with previous studies

There have been few controlled trials of training in life skills for psychiatric patients (Dilk and Bond 1996) and

only a handful that have focused on DTP patients. Three controlled trials compared such patients cared for in hospital hostels with those looked after in more traditional settings. Wykes (1982) compared eight patients in a hospital hostel on the Maudsley hospital site who received individual care plans, with six in standard long-stay wards. The number of social behaviour problems declined significantly for the hostel patients during the first 6 months, but remained static thereafter, while there was no change in the problems of the hospital patients.

Gibbons (1986) compared 14 patients who had moved into a hospital hostel in Southampton with 12 patients who were still on the wards. Only some of the patients in the hospital hostel had a specific programme with defined problems, goals and tasks to be undertaken. In contrast to the ward patients, the hospital hostel patients showed a significant reduction in social behaviour problems, in particular hostility and occupation.

Hyde et al. (1987) identified 22 patients in a Manchester DGH unit who had been admitted for at least 6 months and who were in need of 24-h nursing care. Half were randomly assigned to a hospital hostel where they received individualised behavioural programmes, while the other half remained in the unit. At a 2-year follow-up the experimental patients showed significantly greater improvement than the control patients in two areas, domestic skills and use of community amenities.

It seems that the Warley DTP patients were similar in their disabilities to the subjects in the hospital hostel studies, although a higher proportion showed violent or threatening behaviour (50 %) than in Wykes study (30 %), and patients constituting a serious hazard to the public were excluded from the Manchester hostel. The experimental patients in the Maudsley and Southampton studies showed significant improvements in social behaviour, as did the Warley patients. This was not an outcome of the Manchester study. However, the Manchester hostel patients acquired domestic skills and the ability to use public amenities. The Warley patients also showed a near significant increase in domestic skills, but no change in community skills. This difference in the acquisition of community skills may be attributable to the fact that the Manchester hostel was the only one that was at a distance from a hospital site. In fact, it would be more accurately termed a ward in the community than a hospital hostel.

Conclusions

This controlled study has demonstrated the value of an intensive rehabilitation programme in enabling a high proportion of DTP patients at the end of a hospital closure process to be discharged to staffed community homes within 2 years. Previous work has shown that patients with similar disabilities remain in psychiatric hospitals destined to close. However, since a high proportion of these patients are new long-stay, they are currently to be found on admission wards in general hospitals. Consequently, slow-stream rehabilitation units are needed in every district, but at present are patchily distributed. The essential components of the rehabilitation they should be offering remain to be determined, but our experience at Warley hospital indicates that training of staff, rationalisation of medication regimes and individualised cognitive-behavioural programmes should be included.

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