

Treatment models for those with severe mental illness and comorbid personality disorder*

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Background Dual diagnosis of personality disorder and severe mental illness is an important clinical association that has been under-researched with regard to clinical management.

Aims To compare the outcomes of different treatment models.

Method The outcome of patients with this combined diagnosis was compared in a systematic review of three randomised controlled trials in which different forms of community outreach treatment or intensive case management were compared with standard care.

Results The results from the three studies showed that the outcome of comorbid diagnoses was worse than that of single diagnoses. Although assertive approaches reduced in-patient care, they sometimes did so at the expense of increasing social dysfunction and behavioural disturbance.

Conclusions For those with comorbid severe mental illness and personality disorder, the policy of assertive outreach and care in community settings may be inappropriate for both public and patients unless modified to take account of the special needs of this group.

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The comorbidity of severe mental illnesses, such as schizophrenia and bipolar disorder, with personality disorder is common and is one of the most frequent dual diagnoses found in clinical practice. Between 30 and 60% of those with psychotic disorders have a personality disorder also (Casey, 2000) and the proportion tends to be higher in in-patient populations (Cutting *et al*, 1986). The outcome of those with comorbid personality disorder is generally less good than the outcome of those with single mental state disorders, with less improvement in symptoms, poorer quality of life and greater dissatisfaction with treatment after 2 years (Tyler & Seivewright, 2000). Despite these important clinical correlates, these comorbid conditions are not often recognised in ordinary practice, mainly because the identification of personality disorder is often difficult in patients who have widespread abnormalities. In the case of schizophrenia, these may overflow into the personality domain and lead to poor reliability of assessment (Tyler *et al*, 1983).

There is now a general belief that most patients with severe mental illness can be treated largely in the community, with only brief periods of admission. However, for those with gross personality disorder who are treated at special hospitals a very much longer period of treatment is common. We

felt that it might be valuable to examine the outcome of those with comorbid severe mental illness and personality disorder, to determine whether there were important differences between the effects of different service intervention policies.

METHOD

The relevant data from three studies of different models of care, carried out in west London (Paddington and Brent), are summarised in Table 1. In each of the studies (all randomised controlled trials) a community-focused service was compared with a more hospital-focused or standard service, which had fewer community resources. The time span of the three studies was 8 years and during this period the standard service steadily improved in its community orientation, so there was an expectation that differences would become fewer over time. The overall findings supported this view, with the early study showing the strongest differences in favour of the community service (Merson *et al*, 1992).

In this current set of investigations, however, all effects were examined between those with and without personality disorder; and the influence of personality status on response to each service intervention (i.e. the interaction between personality and service type) was recorded. This was part of a Cochrane systematic review first established in 1997 (Tyler *et al*, 1999). The only specific hypothesis tested was that those with comorbid personality disorder and severe mental illness would have a better response to focused community treatment, as they are generally considered to be ill-placed in hospital.

Table 1 Three randomised controlled studies of models of community management in severe mental illness

Authors	Main comparisons	Variables
Merson <i>et al</i> , 1992; Tyler <i>et al</i> , 1994	Community team focused on early intervention v. hospital treatment	Clinical symptoms, social functioning, personality status, duration of in-patient care
Tyler <i>et al</i> , 1998; Gandhi <i>et al</i> , 2001	Community-focused care programmes v. standard care programmes	Clinical symptoms, social functioning, personality status, duration of in-patient care, contacts with police over 1 year
Burns <i>et al</i> , 1999; Tyler <i>et al</i> , 2000	Intensive v. standard case management	Personality status, duration of in-patient care

Patients, assessments and procedures

All patients in two of the studies had a psychotic illness with frequent hospital admissions, and in the third (Merson *et al*, 1992) the patients were emergency presentations to the psychiatric services; 70% of these had schizophrenia or affective disorders. Assessments of clinical symptoms in all studies was with the Comprehensive Psychopathological Rating Scale (CPRS) (Åsberg *et al*, 1978). Social function was recorded with the Social Functioning Questionnaire (SFQ) (Tyrer, 1990) in two of the three studies reported here.

The procedures for randomisation and assessment intervals differed. In one study, randomisation took place at the point of presentation as an emergency (Merson *et al*, 1992), with assessments at baseline and after 2, 4 and 12 weeks. In the second study, randomisation took place at the time when in-patients were assessed as fit for discharge (Tyrer *et al*, 1998). In the UK700 study, randomisation took place at the point of discharge and at follow-up (Creed *et al*, 1999).

In all three studies personality was assessed using the Personality Assessment

Schedule (PAS) (Tyrer & Alexander, 1979) although in the UK700 study a shorter version, the Rapid Personality Assessment Schedule (PAS-R) (Van Horn *et al*, 2000) was used. In all analyses a simple distinction was made between personality disorder and no personality disorder. The threshold for the diagnosis of personality disorder using the PAS is a little higher than that for ICD-10 personality disorders (Tyrer *et al*, 1994), which equates to the level of personality difficulty in a dimensional scale (Tyrer & Johnson, 1996).

RESULTS

The findings from the first two studies are summarised in Tables 2 and 3. In the first study, the admission of all patients was reduced markedly in the community service, but this was achieved at the expense of a poorer outcome in those with personality disorder. This was most marked for social function and depressive symptoms. In the second study, there were no important differences in symptomatic outcome, but those with personality disorder were not kept out of hospital to a significantly greater extent. However, in this

study there was greater improvement in those with personality disorder treated in the community-oriented service. Meta-analysis of the proportion of patients making a significant improvement (to a CPRS score of 10 or less) showed 54% of personality disorders improving in the community group compared with 19% in the hospital group ($P < 0.02$) (Table 4).

In the second study there was a major shortage of beds in the Brent area, and for much of the period of the study a significant proportion of admissions were extra-contractual referrals to different hospitals (Tyrer *et al*, 1998). This probably accounted for the greater length of admission of Brent patients; those with personality disorder, in particular, had very long periods of in-patient treatment in the year after recruitment to the study. The interaction between personality status and site of service was significant.

In a separate part of the study, the number of contacts with police were recorded in the year of the study. Of 26 incidents involving 16 patients with the police, most were found in those with personality disorder within the flamboyant (cluster B) grouping. These were significantly more common in patients allocated

Table 2 Comparison of outcomes of comorbid and single diagnoses in community- and hospital-based teams (Merson *et al*, 1992): trial of patients presenting as emergencies ($n=100$)

Variable ¹	Community service		Standard service		Superiority of community service	Significance of interactions between service, personality and time
	Baseline	End of trial	Baseline	End of trial		
CPRS, no personality disorder	34	20	26	22	10	$P=0.13$
CPRS, personality disorder	33	24	32	25	2	
MADRS, no personality disorder	25	13	20	17	9	$P < 0.02$
MADRS, personality disorder	23	18	23	18	0	
BAS, no personality disorder	18	12	16	12	2	NS
BAS, personality disorder	22	17	17	16	4	
SFQ, no personality disorder	10.4	7.7	11.1	8.8	0.4	$P=0.08^2$
SFQ, personality disorder	12.9	12.8	12.4	9.3	-3.0	
Patients admitted, % (n/N)						
No personality disorder		17 (5/29)		25 (9/36)	8	$\chi^2=0.21,^3 P=0.65$
Personality disorder		12 (2/19)		44 (7/16)	32	$\chi^2=3.4,^3 P=0.06$
Mean duration of admission, days during 12 weeks ⁴						
No personality disorder		1.2 ($n=29$)		8.4 ($n=36$)		$P < 0.05$
Personality disorder		1.1 ($n=19$)		11.3 ($n=16$)		

CPRS, Comprehensive Psychopathological Rating Scale; MADRS, Montgomery-Åsberg Depression Rating Scale (Montgomery & Åsberg, 1979); BAS, Brief Scale for Anxiety (Tyrer *et al*, 1984; reproduced with permission of *BMJ*); SFQ, Social Functioning Questionnaire.

1. The presence or absence of personality disorder was assessed using the Personality Assessment Schedule.

2. This interaction was significant ($P < 0.001$) for this variable in the population separated by ICD-10 personality diagnosis, which has a lower threshold than the PAS equivalent.

3. After Yates' correction.

4. These variables, and all clinical variables apart from SFQ, were transformed before analysis (mainly by analysis of variance).

Table 3 Summary of results of trial of community-orientated and hospital-orientated care programmes separated by comorbid personality disorder with assessments at baseline and after 1 year (Tyrer *et al.*, 1998; Gandhi *et al.*, 2001) ($n=138$)

Variable	Community service		Standard service (hospital)		Relative difference (community minus hospital)	Significance of differences
	Baseline	End of trial	Baseline	End of trial		
CPRS, no personality disorder	15.1	16.3	15.6	15.6	-1.2	NS
CPRS, personality disorder	17.7	13.9	14.8	18.2	7.2	
SFQ, no personality disorder	7.7	7.9	9.8	9.0	-1.0	NS
SFQ, personality disorder	12.6	10.4	10.5	9.2	0.9	
Patients admitted, % (n/N)						
No personality disorder		59 (24/41)		74 (34/46)		$\chi^2=2.3, P=0.13$
Personality disorder		73 (22/30)		62 (13/21)		$\chi^2=0.75, P=0.39$
Mean duration of admission, days in 1 year ¹						
No personality disorder						
Paddington		10.1 ($n=27$)		22.0 ($n=29$)		$P < 0.02$ (site difference only)
Brent		34.5 ($n=14$)		34.8 ($n=17$)		
Personality disorder						
Paddington		24.0 ($n=23$)		20 ($n=17$)		
Brent		81.1 ($n=7$)		65.8 ($n=4$)		

CPRS, Comprehensive Psychopathological Rating Scale; SFQ, Social Functioning Questionnaire.
1. Variables transformed before analysis.

Table 4 Meta-analysis of studies 1 and 2 showing greater improvement in those with personality disorder in community-oriented service, measured by proportion of patients whose symptoms had been significantly relieved

Variable	Community service (n/N)	Hospital service (n/N)	Combined effect
Patients admitted			
No personality disorder	29/70	43/82	$Z=1.66; P=0.10$
Personality disorder	24/49	20/37	$Z=0.68; P=0.5$
Drop in CPRS score to < 10			
No personality disorder	13/28	21/26	$Z=2.3; P=0.02$
Personality disorder	15/28	5/26	

CPRS, Comprehensive Psychopathological Rating Scale.

to community-oriented management (Gandhi *et al.*, 2001). All but two of these incidents were in the Paddington component of the project, significantly more than one would expect by chance ($\chi^2=4.7$ (after Yates' correction), d.f. 1, $P=0.03$) and this is unlikely to be explained by demographic differences alone. It seems likely that the long period of in-patient treatment of those with the comorbid diagnosis in the Brent area reduced problems in the community and could be perceived as giving some protection to the public.

In the third study, there was an imbalance between the allocation of patients with personality disorder to intensive or standard case management, so that

approximately only 1 in 4 of those with personality disorder were allocated to intensive case management. The small numbers made the interpretation of data difficult and there were no clear differences in any of the main outcome variables, with the exception of duration of in-patient care, the main outcome measure of the study. Those with comorbid personality disorder and psychosis had a shorter duration of in-patient treatment in the 2 years of the study (Fig. 1).

DISCUSSION

The evidence base for interventions in comorbid personality disorder and severe

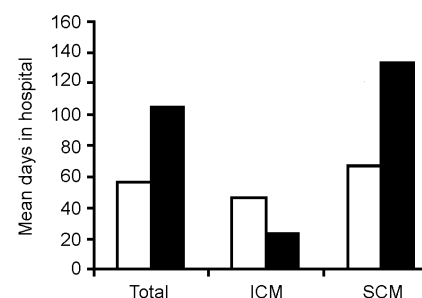


Fig. 1 Mean days in hospital over 2 years for 145 patients (114 with no personality disorder (□) and 31 with personality disorder (■)). Shorter duration of hospital care for those with personality disorder treated by intensive case management (ICM) ($n=8$) compared with those treated with standard case management (SCM) ($n=23, P=0.06$ (for interaction)). Of those with no personality disorder, 59 and 55 were treated with ICM and SCM, respectively. (Data from Tyrer *et al.*, 2000.)

mental illness is limited, and in a recent Cochrane review of the subject the only randomised controlled trials were those reported here. The three studies demonstrate four features:

- Aggressive community care may be successful in keeping these patients with dual diagnoses out of hospital.

- (b) The price of this success is often more impaired social function in those who remain in community care.
- (c) There may be greater risks to the public if community treatment for this group is pursued.
- (d) When a community-oriented approach is pursued with less emphasis placed on keeping patients out of hospital, there are better outcomes, both for patients and in protecting the public.

The findings go some way in supporting the notion that personality disturbance is more important than mental illness state in determining disturbed and antisocial behaviour, and perhaps should be assessed more commonly in ordinary practice. Whereas violence in severe mental illness is the same for those treated by intensive and by standard case management (Walsh *et al*, 2001) the additional measurement of personality status adds an extra dimension. In the UK700 study, violent episodes were found to be more frequent in those with personality disorder (P. Moran, personal communication, 2002). What is abundantly clear is that treatment policies of those with comorbid personality disorder and severe mental illness should not be assumed to be the same as for those with severe mental illness alone, and that further work is needed on specific interventions for this group.

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CLINICAL IMPLICATIONS

- Patients with comorbid personality disorder and severe mental illness have worse outcomes if an aggressive community treatment policy is adopted that reduces admission to hospital to a minimum.
- The assessment of personality status in those with severe mental illness would help clinical management.
- The nuisance and distress created for the public by patients with comorbid diagnoses needs greater attention to reduce the stigma of mental illness.

LIMITATIONS

- The studies described, although using randomised controlled designs, were not hypothesis-driven and most analyses were *post hoc*.
- The studies were carried out in London at a time when bed pressures were very great, and this may have distorted generalisation of the findings.
- No acknowledgement was made of the implications of comorbid personality disorder in treatment policies, and the results might have been different if treatment had been adjusted accordingly.

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