Effects of training community staff in interventions for substance misuse in dual diagnosis patients with psychosis (COMO study)

Cluster randomised trial

S. JOHNSON, G. THORNICROFT, S. AFUWAPE, M. LEESE, I. R. WHITE, E. HUGHES, S. WANIGARATNE, H. MILES and T. CRAIG

Summary A cluster randomised controlled trial was used to investigate the effectiveness of training staff in 13 London community mental health teams (CMHTs) to deliver substance misuse interventions to patients with psychosis and comorbid substance misuse ('dual diagnosis'). The primary hypotheses, which were that experimental group patients would spend fewer days in hospital over 18 months of follow-up and show reduced alcohol and drug consumption, were not confirmed, although confidence intervals were wide for some outcomes. Current UK policy guidance advocates training CMHT professionals to deliver dual diagnosis interventions, but the effectiveness of this strategy has not so far been demonstrated.

Declaration of interest None.

The adverse outcomes associated with psychosis and comorbid substance misuse ('dual diagnosis') have been well documented, but treatments supported by substantial evidence are few (Jeffery *et al*, 2000; Tyrer & Weaver, 2004). Interventions that show some benefit have tended to involve relatively intensive treatment of selected populations by specialist therapists (Barrowclough *et al*, 2001; Bellack *et al*, 2006); generalisability to routine settings is unknown. However, commentaries and policy guidance on dual diagnosis in England have favoured 'mainstreaming' dual diagnosis interventions by integrating them into care provided by existing clinical teams (Johnson, 1997; Weaver *et al*, 1999; Department of Health, 2002). The effectiveness of this strategy is untested.

Our aim was to investigate whether a training and supervision intervention delivered to community mental health team (CMHT) case managers would improve patient outcomes. At the patient level, the primary hypotheses were that, compared with controls, patients on the case-loads of experimental group case managers would make less use of in-patient services and would be consuming smaller quantities of substances when assessed 18 months later.

METHOD

A cluster randomised controlled trial design was employed, each cluster consisting of the patients on a particular staff member's case-load.

All permanent case managers in 13 London CMHTs were invited to participate. Their case-loads were screened for patients who met study criteria for dual diagnosis, and all who did were included in the sample. This screening stage involved first identifying patients with clinical diagnoses of schizophrenia, another non-affective functional psychosis, or bipolar affective disorder. With guidance from researchers, case managers rated each of these patients using the Clinician Alcohol and Drug Use Scales (Drake *et al*, 1996). Patients identified as misusing or dependent on at least one substance met our study criteria for dual diagnosis. Case managers were randomised to intervention or control groups by an independent statistician. All patients identified as eligible for the trial entered the experimental or control group according to their case manager's assignment.

The experimental intervention consisted of a treatment manual, a 5-day training course in assessment and management of dual diagnosis, and subsequent monthly supervision. Motivational interviewing was a central source (Swanson *et al*, 1999), and the training also drew on cognitive–behavioural relapse prevention techniques (Irvin *et al*, 1999). The control group received CMHT management as usual with no specific dual diagnosis intervention. To reduce contamination, experimental group staff were asked to avoid sharing manuals and details of training.

At baseline, socio-demographic and clinical details of all patients were recorded. At baseline and after 18 months, data were collected on the two primary outcome measures: (a) hospital bed use over the preceding 18 months, recorded using best available information from patient interview, clinical records and local electronic patient data systems; (b) substance use over the preceding month, documented at patient interview using the Maudsley Addictions Profile (Marsden *et al*, 1998).

Secondary outcomes relating to adverse events, symptoms and social functioning and staff-level outcomes were also assessed, but are not reported here. Interviews with patients were carried out whenever possible; for patients who were not available, ethical approval was obtained to gather data from staff on their characteristics and the bed use outcome.

RESULTS

Seventy-nine case managers participated. Of the 1560 patients on their case-loads, 232 met criteria for dual diagnosis. Forty of the 79 case managers were randomised to the experimental group and 39 to the control group. This yielded 127 patients with dual diagnosis on case-loads of case managers in the experimental group and 105 on control group case-loads. Miles *et al* (2003) have described the characteristics of the sample. Experimental and control groups were similar except for an imbalance for White ethnic group (61% of the control group *v.* 43% of the intervention group). CONSORT diagrams of staff and patient flows through the study are given in data supplement 1 to the online version of this paper.

Three patients died during the 18-month follow-up period. Of the remaining 229 patients, 77 (62%) of the intervention group and 77 of the control group (74%) were interviewed at follow-up (P=0.079). Bed use data were obtained for 113 intervention and 97 control group members. We defined experimental group patients as having received the intervention as intended if their case managers had attended at least 4 days of training and if they had remained on the case-load of a trained case manager for at least 9 months: just 45 of the 127 experimental group patients met these criteria. Eighty-six of the 105 control group members fitted the study definition of

having remained in their intended treatment group, which required them to have remained on a CMHT case-load for at least 9 months and not to have been taken on by a trained case manager.

Details of outcomes are shown in data supplement 2 to the online version of this paper. For bed use, there was no evidence of a difference between experimental and control groups (mean bed use for experimental group: 74.9 days (s.d.=142.6) over 18 months follow-up; for control group 71.8 days (s.d.=128.1), P=0.30 following log transformation and adjustment for baseline). However, standard deviations were higher than anticipated when carrying out the study power calculations, resulting in wide 95% confidence intervals. There was no significant difference in proportion of patients admitted during the follow-up period (43% of the experimental group *v.* 48% of the control group, P=0.18).

Self-reported alcohol and drug use of interviewed members of each group over the 30-day period before the follow-up interview are also shown in online data supplement 2. Neither the proportion who had consumed substances (74% of the experimental group and 71% of the control group for alcohol, 32% and 36% respectively for cannabis and 16% and 18% for other drugs) nor the quantity consumed over the month differed between groups. No difference in outcomes became significant after adjusting for baseline values.

DISCUSSION

The study's strengths lie in external validity: the intervention took place in a routine National Health Service setting and was brief enough to be replicable in such settings, and all identified patients with dual diagnosis were included. Limitations include high attrition from the intended intervention, reliance on clinician substance misuse diagnosis and lack of masking. Fidelity was not measured, and we do not know to what extent case managers implemented the intervention as intended. Also, for the main outcomes, standard deviations were wider than anticipated when power was calculated: confidence intervals are thus wide and include the possibility of a substantial effect in either direction.

There was no evidence that the training intervention affected bed use or substance use. The limitations discussed above must be considered in interpreting this finding. Also, there is much evidence that influencing outcomes among people with dual diagnosis is difficult, with many reported negative findings (Tyrer & Weaver, 2004). Our intervention was of low intensity, and the limited amount of training provided might have been insufficient to influence clinical practice. Our findings thus fail to lend any clear support to the current UK policy of 'mainstreaming' dual diagnosis interventions by training staff within generic mental health services to deliver them. Other models for introduction of dual diagnosis interventions into routine clinical settings may therefore need to be tested, taking into account the few available positive findings from efficacy studies in more selected groups (Barrowclough *et al*, 2001; James *et al*, 2004). Possible options include specialist dual diagnosis teams and specialist workers within CMHTs. Providing interventions at an early stage of illness when adaptive and maladaptive ways of coping with illness are less well established has so far been evaluated only in small pilot studies (Kavanagh *et al*, 2004; Edwards *et al*, 2006). Until further evidence is available about the effectiveness of implementing these models in routine settings, evidence-based policy making in the area of dual diagnosis poses great difficulties.

SONIA JOHNSON, Health Service Research Department, Institute of Psychiatry, King's College London and Department of Mental Health Sciences, University College London; GRAHAM THORNICROFT, SARAH AFUWAPE, MORVEN LEESE, Health Service Research Department, Institute of Psychiatry, London; IAN R. WHITE, Medical Research Council Biostatistics Unit, Cambridge; ELIZABETH HUGHES, Health Service Research Department, Institute of Psychiatry, London; SHAMIL WANIGARATNE, Department of Psychology, Institute of Psychiatry, London; HELEN MILES, Department of Psychology, Institute of Psychiatry, London, and Trevor Gibbens Medium Secure Unit, West Kent National Health Service and Social Care Trust, Maidstone; TOM CRAIG, Health Service Research Department, Institute of Psychiatry, London, UK

Correspondence: Dr Sonia Johnson, Department of Mental Health Sciences, University College London, 2nd Floor, Charles Bell House, 67–73 Riding House Street, London W1W 7EJ, UK. Email: s.johnson@ucl.ac.uk

(First received 29 January 2006, final revision 12 April 2007, accepted 19 April 2007)

REFERENCES

Barrowclough, C., Haddock, G., Tarrier, N., *et al* (2001) Randomized controlled trial of motivational interviewing, cognitive behavior therapy, and family intervention for patients with comorbid schizophrenia and substance use disorders. *American Journal of Psychiatry*, **158**, 1706–1713.

Bellack, A., Bennett, M., Gearon, J., *et al* (2006) A randomized clinical trial of a new behavioural intervention for drug abuse in people with severe and persistent mental illness. *Archives of General Psychiatry*, **63**, 426–432.

Department of Health (2002) *Mental Health Policy Implementation Guide: Dual Diagnosis Good Practice Guide*. UK Department of Health.

Drake, R. E., Mueser, K. T. & McHugo, G. J. (1996) Clinician Rating Scales: Alcohol Use Scale (AUS), Drug Use Scale (DUS) and Substance Abuse Treatment Scale (SATS). In *Outcomes Assessment in Clinical Practice* (eds L. I. Sederer & B. Dickey), pp. 113–116. Williams & Wilkins.

Edwards, J., Elkins, K., Hinton, M., *et al* (2006) Randomized controlled trial of a cannabis focused intervention for young people with first episode psychosis. *Acta Psychiatrica Scandinavica*, **114**, 109–117.

Irvin, J. E., Bowers, C. A., Dunn, M. E., *et al* (1999) Efficacy of relapse prevention: a meta-analytic review. *Journal of Consulting and Clinical Psychology*, **67**, 563–570.

James, W., Preston, N. J., Koh, G., *et al* (2004) A group intervention which assists patients with dual diagnosis reduce their drug use: a randomized controlled trial. *Psychological Medicine*, **34**, 983–990.

Jeffery, D. P., Ley, A., McLaren, S., *et al* (2000) Psychosocial treatment programmes for people with both severe mental illness and substance misuse (Cochrane Review). *Cochrane Database of Systematic Reviews*, issue 2. Update Software.

Johnson, S. (1997) Dual diagnosis of severe mental illness and substance misuse: a case for specialist services? *British Journal of Psychiatry*, **171**, 205–208.

Kavanagh, D., Young, R., White, A., *et al* (2004) A brief motivational intervention for substance misuse in recent-onset psychosis. *Drug and Alcohol Review*, **23**, 151–155.

Marsden, J., Gossop, M., Stewart, D., *et al* (1998) The Maudsley Addiction Profile (MAP): a brief instrument for assessing treatment outcome. *Addiction*, **93**, 1857–1867.

Miles, H., Johnson, S., Amponsah-Afuwape, S., *et al* (2003) Characteristics of sub-groups of individuals with psychotic illness and a comorbid substance use disorder by substance of choice. *Psychiatric Services*, **54**, 554–561.

Swanson, A. J., Pantalon, M. V. & Cohen, K. R. (1999) Motivational interviewing and treatment adherence among psychiatric and dually diagnosed patients. *Journal of Nervous and Mental Disease*, **187**, 630–635.

Tyrer, P. & Weaver, T. (2004) Desperately seeking solutions: the search for appropriate treatment for comorbid substance misuse and psychosis. *Psychiatric Bulletin*, **28**, 1–2.

Weaver, T., Renton, A., Stimson, G., *et al* (1999) Severe mental illness and substance misuse. *BMJ*, **318**, 137–138.

https://doi.org/10.1192/bjp.bp.106.032367 Published online by Cambridge University Press