

A randomized controlled trial of a brief intervention for families of patients with a first episode of psychosis

GERARD LEAVEY*, SALEENA GULAMHUSSEIN, CHRIS PAPADOPOULOS,
ERIC JOHNSON-SABINE, BOB BLIZARD AND MICHAEL KING

Department of Psychiatry and Behavioural Sciences, Royal Free & University College London Medical School, University College London; Research Department, St Ann's Hospital, Barnet, Enfield & Haringey Mental Health NHS Trust

ABSTRACT

Background. Carers' satisfaction with psychiatric services related to information and advice is generally poor. This may be particularly true for services trying to meet the needs of ethnically diverse communities. It is important that services attempt to ameliorate carers' concerns as early as possible. The authors aimed to assess the impact of a brief educational and advice support service on carers of patients with a first episode of psychotic illness.

Method. Carers of all patients identified with a first episode of psychosis in a defined psychiatric catchment area of North London were invited to participate. Following consent from patients and relatives, relatives were randomly allocated to receive (in addition to usual services) a brief intervention comprising education and advice about the disorder from a support team or to usual care from community psychiatric services.

Results. One hundred and six carers were recruited to the study. Take-up of the intervention was less than expected and the intervention had little impact. The authors found no differences over time between the randomized arms for relatives' satisfaction ($F=2.3$, $p=0.14$, $df=1$) or number of days spent by patients in hospital over nine months from entry to the trial ($F=1.7$, $p=0.18$, $df=1$).

Conclusions. It was found that the support and advice intervention for families had little impact on their satisfaction or on patients' outcomes. However, failure to take up the intervention threatens the conclusions as the power to show an effect was reduced. Although family interventions, in general, are considered an important adjunct to the treatment of patients with chronic psychosis, there may be difficulties in providing an educational and support intervention shortly after first onset. How and when psychiatric services provide information and advice to carers of people newly diagnosed with a psychosis requires further study.

INTRODUCTION

A greater appreciation of the contribution of family environment to lower clinical and social outcomes for people with severe mental illness has produced the concept of expressed emotion

and the introduction of family interventions (Brown *et al.* 1962; Brown & Rutter, 1966; Leff *et al.* 1982). The growth of family intervention in psychiatric treatment has heralded positive advances in acknowledging the potential therapeutic value of families and their need for support from services (Pilling *et al.* 2002). Despite a wide heterogeneity, family interventions tend to incorporate a mixture of characteristics that may be described as psycho-educational, behavioural

* Address for correspondence: Dr Gerard Leavey, Research Department, Barnet, Enfield & Haringey NHS Mental Health Trust, and Haringey NHS Teaching Primary Care Trust, St Ann's Hospital, St Ann's Road, London N15 3TH, UK.
(Email: gerard.Leavey@beh-mht.nhs.uk)

problem-solving, family support and crisis management. Interventions may include or exclude the patient and may vary in duration (Dixon & Leman, 1995).

Since their introduction family interventions in schizophrenia have been shown to be effective in reducing relapse and hospital admissions. They also improve medication compliance, social functioning and social adjustment (Mari & Streiner, 1996). However, it has been argued that their use has been largely confined to families of patients with high expressed emotion (EE) and settings outside of routine clinical services (Lam, 1991; Anderson & Adams, 1996). This is likely to have important implications for service providers in terms of the effectiveness of family interventions in real-life settings. The family intervention trials analysed by Mari & Streiner (1996) were mostly influenced by the concept of EE, whereby high EE families are seen as overinvolved with and highly critical of the patient (Lefl & Vaughan, 1995).

Providing a family intervention within an inner city area containing an ethnically diverse and migrant (including refugee) population poses difficulties to services with regard to language, culture and family structure. Although EE has been measured in non-Western cultures and successful application of family interventions undertaken, the cross-cultural validity of this concept has been questioned (Jenkins & Karno, 1992; Cheng, 2002). It is important that cultural differences should be taken into account in the development and provision of psychiatric services (Lefley, 1992; Dixon & Lehman, 1995).

Providing services to patients as soon as possible after the onset of illness has been considered to have an important beneficial impact on the patient's clinical and social outcomes (Birchwood, 2000). In previous research on pathways into care and satisfaction with services, we found few differences between ethnic groups in the early stages of service contact, but found that Black patients and their families experienced more negative outcomes and a lowering of satisfaction over time, relative to other patients (Cole *et al.* 1995; Leavey *et al.* 1997; Goater *et al.* 1999). We hypothesized that carers who received a brief intervention package of education, problem-solving advice and support at the time of their relative's first contact with

psychiatric services would be more satisfied with the psychiatric care provided for their relative and that patients would have improved clinical outcomes.

MATERIALS AND METHOD

Setting

Patients were recruited from two large psychiatric services in North London. The area of the study is socially and economically diverse, with large minority ethnic and refugee populations. At the time of the 1991 UK census, 29% of the population were from minority ethnic groups (excluding 'White' minority ethnic groups such as Greeks, Turks and the Irish). Since then, the number of refugees and asylum-seekers in this area of North London has greatly increased. We previously reported that in the same area the incidence of psychotic illness was higher for all ethnic groups and included a large proportion of refugees (King *et al.* 1994).

Selection and allocation of patients and carers

Over 24 months from 1998 to 2000 we aimed to recruit all patients with a new (ICD-9) diagnosis of psychotic illness making contact with a large psychiatric service in North London. Owing to a lower than anticipated recruitment rate, we sought additional patients over 12 months from 1999 to 2000 from the further psychiatric service, also in North London. We also contacted all general practitioners in both areas asking them to identify patients eligible for this study. Patients were eligible if they had developed a first episode of psychotic illness within the last six months. We excluded people with an organic disorder or learning difficulties. We approached patients and asked them to nominate at least one close person, usually a family member, for us to contact. If this was agreed we approached the family member to gain informed consent for their participation. Once this was given carers were allocated to the intervention and control arms of the study. We assigned carers to the trial arms using a block randomization design. Eight cards indicating control or intervention (four each) were individually placed in envelopes at the administration centre by someone who was neither a researcher nor support worker. A second person with no connection to the study randomly selected an envelope to assign

allocation. To assist with blindness, the researchers were instructed to avoid any discussion with carers about the support they received. Carers were also asked not to discuss care issues with the researchers.

The intervention

Patients and carers allocated to this group received the new intervention as well as usual psychiatric care. The design and content of the intervention was based on our earlier research which indicated that the greatest dissatisfaction was the lack of information provided by psychiatric services to carers on issues such as available services, treatment and prognosis. Moreover, although the core issues of carers' needs may be similar within an ethnically diverse population, there also exist quite distinct contextual issues such as religious beliefs, family composition and finance. The intervention was designed to take into account how carers conceptualized the illness, cultural issues, personal and family difficulties in providing care, and problems faced in obtaining help from statutory services. The intervention began within six months of first contact with services and was provided over seven sessions, each one lasting approximately an hour in a place and time convenient to the carer, usually their own home. The sessions were designed to be interactive rather than didactic and covered (a) information-gathering from the relative; (b) an educational component on psychotic illness, symptoms and early warning signs, treatment, and help-seeking; and (c) coping strategies, problem-solving and communication with the patient. The approach taken was essentially psycho-educational, incorporating a problem-solving component as described by Falloon in his work in the community of Buckinghamshire (Falloon, 1984). Carers were also provided with an information pack about psychotic illness and addresses and telephone numbers for local and national services and support groups. The support team was recruited from a local Health Services Link-Workers' Team. We recruited link-workers who were bilingual, came from a range of ethnic backgrounds and who held at least a certificate in counselling. An experienced Community Mental Health Nurse and qualified Family Support trainer gave them training to provide the intervention. The trainer

provided background and theoretical underpinning of each of the components of the project. The support team were provided with supervision throughout. We strove to match the worker with the carer on ethnicity.

Control group

Carers randomized to this group received usual support from the psychiatric service. Carers receive support from the community mental health teams as part of their services to patients. This is largely informal and *ad hoc*, however, in that it follows no set protocol and professionals in the team are provided with no specific training for support of families.

Assessment procedures and instruments

The primary outcome for relatives was satisfaction with psychiatric services as measured by the Verona Service Satisfaction Questionnaire. The primary outcome for patients was number of days in hospital during the intervention period. We also examined a number of secondary patient and carer outcomes, which are detailed below.

Verona Service Satisfaction Questionnaire (Relatives) (VSSS-32) (Ruggeri & Dall'Agnola, 1993)

This is a well validated, multi-dimensional instrument for measuring satisfaction with community mental health services. Seven dimensions of satisfaction are measured: overall satisfaction, satisfaction with professionals' skill and behaviour, information, access to the service, efficacy, types of intervention and relatives' involvement. The questionnaire was given to carers at 4 months and 9 months.

Perceived severity of illness

Carers were asked to rate the severity of the patient's illness at baseline, 4 months and 9 months (0 = not at all serious; 1 = mildly serious; 2 = quite serious; 3 = very serious).

Caregiver Strain Index (CSI) (Robinson, 1983)

The CSI measures the strain caused by caring for an ill relative in terms of sleep loss, demands on time, family and emotional adjustments, and distressing behaviour. Overall strain is measured by dichotomous scores (yes/no) on

13 items. The instrument was used at baseline, 4 months and 9 months.

The assessments were conducted by research assistants (S.G., C.P.) who remained masked to the randomization groups during the data collection and the analysis. They reminded carers at the beginning of each assessment not to disclose the details of any support provided.

Patient data

We gathered sociodemographic information, including self-assigned ethnicity (according to the former Office of Population Censuses and Surveys in the UK 1991 census) and place of birth, for all patients identified with a first episode of psychosis during screening. In addition, for randomized patients only, we obtained data from the hospitals' information systems on admissions to hospital on length of stay and status under the Mental Health Act.

Analysis

The data were analysed using SPSS for Windows, Version 10.1. Cross-sectional group comparisons were carried out using Student's *t* test for parametric data, the Mann–Whitney *U* test for non-normal data and χ^2 /Fisher's exact tests for proportions as appropriate. The repeated-measures analysis was carried out using the general linear model (GLM) repeated-measures algorithm where the distributional assumptions were met. The design allowed for one between-subjects factor (intervention *v.* control) and a within-subjects factor, Time, was entered with two or three levels according to the variable under examination. Where the assumption of sphericity was violated, the Greenhouse–Geisser correction was used to evaluate the results. The main comparisons were carried out on an intention-to-treat basis, patients being analysed according to their randomization status whether or not they actually received the intervention. The power calculation in our original proposal was a tentative one, as we did not have data on how the Verona Satisfaction Scale functioned in a multi-ethnic group of patients recruited in London. Conservatively, we calculated that we would need between 60 and 70 carers in each group to enable us to detect a difference of 0.7 standard deviations between groups on Verona Scale scores measuring satisfaction at 80% power and the 5% level of

significance. Our data, however, indicate that the standard deviation of the scale is small (the instrument has a low variance): 0.7 s.d. is 0.56 points on the scale. To detect this difference between our intervention and control groups at 80% power and the 5% level of significance requires 42 carers in each group (or 56 carers in each group at 90% power).

RESULTS

Participation

Of the 198 patients identified with a first episode of psychosis, we were able to obtain patient and carer consent for 106 (53.5%) (Fig. 1). The sociodemographic details of participants and non-participants are presented in Table 1. Patient sociodemographic details at baseline following allocation to the intervention and control arms of the study are presented in Table 2. The groups are comparable in most respects. Sixty-one per cent of carers were parents of the patients. At baseline, 26 (53%) patients in the control arm and 31 (54%) in the intervention arm lived with their carers.

Eighty-seven carers (82%) completed follow-up interviews at 4 months and 84/106 (79%) at 9 months. The intervention was fully completed by 24 carers (42%) and partially completed by 10 others. Loss to follow-up is detailed as follows: in the intervention group, one (sole) carer died; two families moved; four we were unable to contact, and three refused. In the control group, one carer moved abroad; four carers were no longer in contact with patient; three were unable to contact and four refused.

Primary outcomes

Satisfaction with services

We found no statistically significant differences in satisfaction with services between carers in the intervention and control groups at the follow-up points on the seven dimensions of care and overall satisfaction on the Verona Service Satisfaction Scale. Using GLM analysis for repeated measures we found no differences over time between the groups ($F=2.3$, $df=1$, $p=0.14$).

Hospital admissions

At the time of first assessment, 40 patients in the intervention group and 29 in the control group

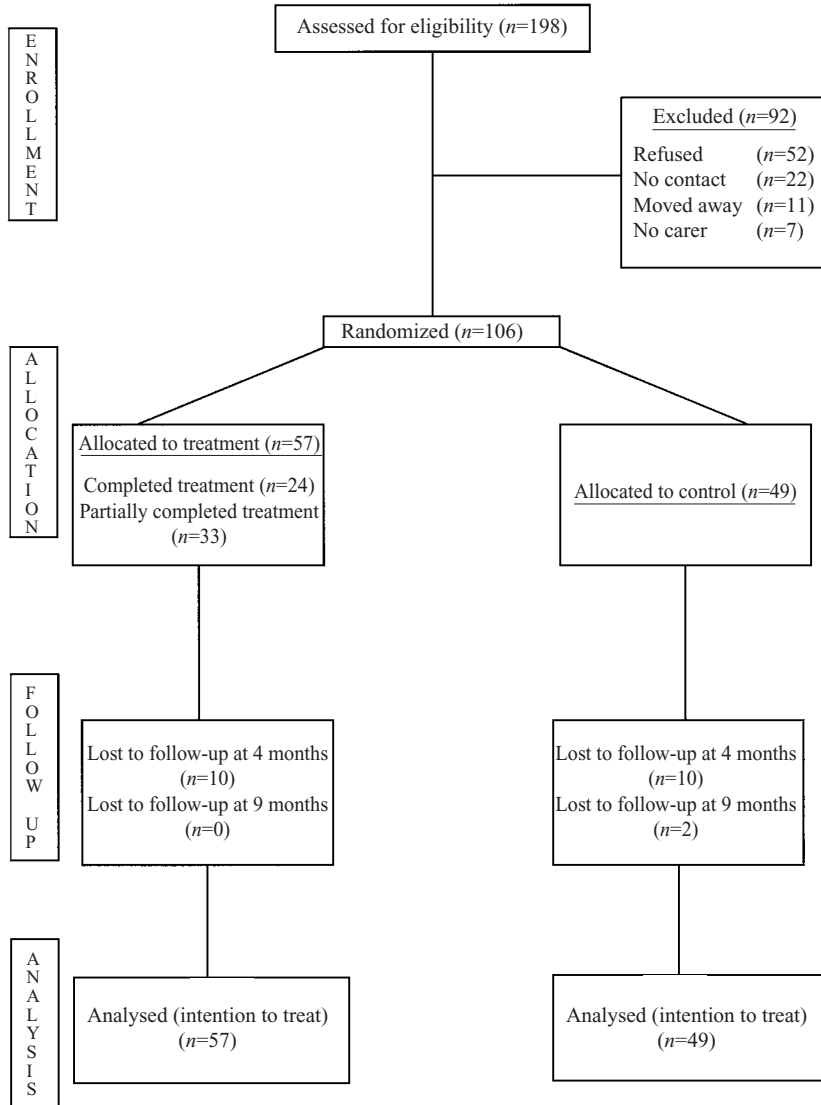


FIG. 1. Flow of participants.

had been admitted to hospital. Between baseline and four months, six of the 49 patients (12%) in the control group were readmitted to hospital compared with four of the 57 patients (7%) in the intervention group. Between 4 and 9 months only two patients in the intervention group had been admitted to hospital. Using GLM analysis we found no differences between groups for the number of days in hospital for the duration of the study ($F=1.7$, $df=1$, $p=0.18$).

Secondary outcomes

Perceived severity of illness

At baseline, the illness was perceived to be very serious by 20 carers (41%) in the control group and 24 (42%) carers in the intervention group. Compared to baseline, at 4 months and 9 months all carers were less likely to regard the illness as severe ($F=18.2$, $df=1$, $p<0.000$). Although there was a trend for carers in the

Table 1. *Sociodemographic details of participants and non-participants*

Sociodemographic variable	Participants (n=106)	Non-participants (n=98)
Sex		
Male	68 (64.2%)	52 (56.5%)
Female	38 (35.8%)	40 (43.5%)
Ethnicity		
White UK	45 (42.5%)	53 (57.6%)
Other	61 (57.5%)	39 (42.4%)
Age		
Younger (16–25 years)	55 (51.9%)	33 (35.9%)
Older (25+ years)	51 (48.1%)	59 (64.1%)
Refugee		
Refugee	16 (15.1%)	13 (14.1%)
Non-refugee	90 (84.9%)	79 (85.9%)
Section		
Section	43 (40.6%)	39 (42.4%)
Non-section	63 (55.4%)	53 (57.6%)
Marital status		
Single	89 (84.0%)	75 (81.5%)
Married/cohabiting	17 (16.0%)	17 (18.5%)
Lives with		
Lives alone	19 (17.9%)	24 (26.1%)
Lives with others	87 (82.1%)	68 (73.9%)

Table 2. *Sociodemographic details of intervention and control groups*

Sociodemographic variable	Treatment (n=57)	Control (n=49)
Sex		
Male	38 (66.7%)	30 (61.2%)
Female	19 (33.3%)	19 (38.8%)
Ethnicity		
White UK	27 (47.4%)	18 (36.7%)
Other	30 (52.6%)	31 (63.3%)
Place of birth		
Born UK	37 (64.9%)	30 (61.2%)
Born abroad	20 (35.1%)	19 (38.8%)
Age		
Younger (16–25 years)	31 (54.4%)	24 (49.0%)
Older (25+ years)	26 (45.6%)	25 (51.0%)
Refugee		
Refugee	12 (21.1%)	4 (8.2%)
Non-refugee	45 (78.9%)	45 (91.8%)
Section		
Section	22 (38.6%)	21 (42.9%)
Non-section	35 (61.4%)	28 (57.1%)
Marital status		
Single	48 (84.2%)	41 (83.7%)
Married/cohabiting	9 (15.8%)	8 (16.3%)
Patient lives with		
Lives alone	8 (14.0%)	11 (22.4%)
Lives with others	49 (86.0%)	38 (77.6%)

intervention group at first follow-up to regard the illness as less severe than those in the control group ($U=755.5$, $Z=-1.46$, $df=1$, $p=0.144$) there were no significant differences between groups over time ($F=0.7$, $df=1$, $p=0.486$) (Fig. 2).

Burden of carer and caregiver strain index

The median time spent by carers looking after patients at baseline was 24 hours per week in the intervention and control groups. Although statistically non-significant, at 4 months a greater proportion of patients in the intervention group remained living with their parents [31/47 (66%) v. 22/39 (54%)]. Overall, where patients were living at home with parents there was a greater likelihood of carers remaining in the study ($n=43$, 68% v. $n=20$, 32%, OR 3.07, CI 1.03–8.91, $df=1$, $p=0.023$).

At 4 months the carers in the intervention group were spending significantly more time with patients than carers in the control group ($U=670.5$, $Z=2.33$, $df=1$, $p=0.020$). At 9 months this difference was no longer apparent, with both groups spending more time with patients (GLM repeated measures, $df=1$, $p=0.74$).

The strain experienced by carers at baseline was the same for those in the intervention and control groups (mean 6.86, s.d. = 3.43). However, there was a significant downward trend for all carers between baseline and 9 months ($F=24.2$, $df=1$, $p<0.000$). At 4 months the downward change was greater for carers in the intervention group after which it rose to meet that of the control group at 9 months (GLM; $F=1.4$, $df=1$, $p=0.25$).

DISCUSSION

Our main finding is that the family intervention had no effect on relatives' satisfaction with services or clinical outcomes for patients. However, the fact that a significant number of families did not take up, or dropped out of, the family intervention threatened the internal validity of the trial and raises the possibility of a type II error. In other words, our intervention may have been shown to be ineffective simply because of a reduction in power.

Relatives' dissatisfaction with services and the need to establish a therapeutic alliance with them as early as possible in the care of patients

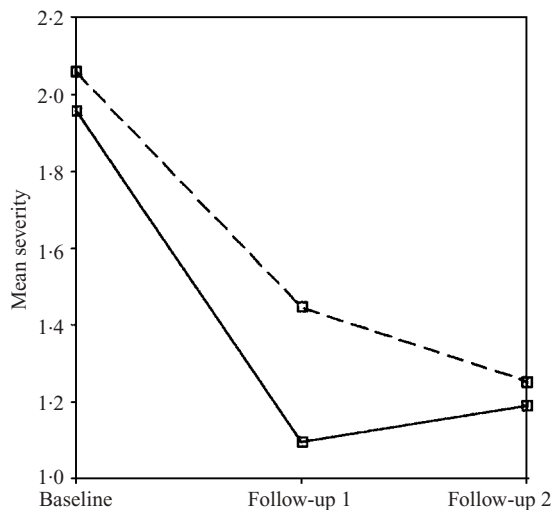


FIG. 2. Perceived severity of illness between treatment (—□—, $n=57$) and control (- -□- -, $n=49$) groups.

prompted us to evaluate this intervention. Our previous research had indicated that patients experiencing a first episode of psychotic illness who had the involvement of a carer were less likely to experience adverse pathways into psychiatric care than those who had no such support (Cole *et al.* 1995). We also observed that patients and their relatives expressed the lowest levels of satisfaction with the information and advice provided by psychiatric professionals (Leavey *et al.* 1997). Given these findings, we were surprised to find that patients and relatives were often reluctant to accept the offer of support. Furthermore, a considerable number of relatives in the intervention group who initially agreed to participate subsequently refused involvement or withdrew after a few sessions. However, the high level of non-participation and non-adherence in family interventions has been noted before (Smith & Birchwood, 1990; McCreadie *et al.* 1991; Tarrier, 1991). Commonly, only 50% of carers will take up the offer of support (Barrowclough *et al.* 1999). A number of factors may be relevant here.

Timing and duration of the treatment

After a first episode of brief duration, where symptoms have diminished, the relatives may conclude that no further support or intervention from services is needed (McCreadie *et al.*

1991). Carers often informed the support workers that continued association with psychiatric services was perceived as both a painful reminder and unnecessary. Thus, the intervention could be regarded as interference. Much published work on family interventions in the management of psychosis has concerned relatives of patients with chronic disorders (Lam, 1991). In this case, families' needs are longer-term and ongoing and thus they may be more prepared to participate. The evidence from family intervention studies points to the need for interventions of greater length than ours. However, the aims of this intervention were less ambitious than other family interventions. Secondly, the data presented here and elsewhere indicate that carers as consumers know exactly 'how much' they need rather than how much we think is good for them.

Carer expectations

Although the type of service to be provided was explained in advance to carers, a number in the intervention group complained to the support team that they would have preferred more practical help, such as assistance with obtaining welfare benefits or hospital appointments.

Carer contact

It may be argued that because fewer than half of our patients lived with their carers at baseline this indicated minimal contact and obviated the need for family support (Pilling *et al.* 2002). However, family structures and arrangements in the UK and other Western societies have altered greatly in recent years and family contact is never uniform, regardless of proximity. Where patients and carers live separately, the level and quality of contact fluctuates according to need.

Given the caveat that our power was threatened by a lower than expected participation in the experimental intervention, we were unable to confirm the better outcomes reported in previous studies of family interventions. In a previous study the authors concluded that family intervention programmes aimed at educating carers and helping them to cope more effectively indicated positive effects on the course of schizophrenia, but that treatment gains appeared to be modest and of uncertain durability (Bellack & Mueser, 1993). Pharoah *et al.* (2000), in a recent meta-analysis undertaken to estimate the effects

of family psychosocial interventions in community settings for the care of those with schizophrenia or schizophrenia-like conditions compared with standard care, deflated some of the optimism created by previous reviews in this area. Their findings suggest that 'clinicians, researchers, policy makers and recipients of care cannot be confident of the effects of family intervention' and that other trials are justified as long as their participants, interventions and outcomes are generalizable to routine care. The pattern emerging from our own data suggests that the intervention group may benefit from this additional support through a reduction in strain, but only in the short term while the treatment is available. We found few differences between carers in the intervention or control groups on the primary outcome measure of carers' satisfaction with services at each assessment but, surprisingly, satisfaction declined more sharply for the intervention group after 4 months. At 4 months the carers receiving the intervention were more likely to maintain contact with patients who were living at home and in receipt of inpatient care. Notwithstanding the higher level of contact with patients, carers in the intervention group were less concerned about the illness and reported less strain in caring for the patient. We suspect that the support provided in the early months of the first episode of psychosis raised expectations among carers regarding prognosis and the level of support available in the long term. When support is no longer available and the illness persists, a decline in morale and satisfaction may follow. Recent guidelines from the National Institute of Clinical Excellence (NICE, 2002) suggest that family interventions may need to consider a long-term, flexible approach in providing service contact as carer needs arise.

CONCLUSIONS

The difficulties faced by service providers offering family interventions are considerable, particularly when wrestling with the complexities of prioritizing need and the level of contact, content and timing of the intervention. Family interventions appear to be effective but perhaps within restricted parameters. In this 'real life' setting we attempted a more flexible approach that tried to take account of the ethnic, cultural

and situational differences of patients and carers that obtain in diverse inner-city areas. Issues of culture and language are additional complications in the provision of care to minority ethnic families. To provide family interventions relevant to minority ethnic patients and carers, psychiatric services must develop an understanding of the structures and cultural dynamics within families and communities. Resources to recruit and train sufficient numbers of qualified support workers with the range of languages needed may be unavailable within mainstream services.

ACKNOWLEDGEMENTS

We thank all the patients and relatives who participated in this study and also the staff at Chase Farm Hospital, Enfield and St Ann's Hospital, Haringey. Thanks are also due to Mr Geoff Brennan for his help in designing the intervention and for training the support staff. This work was funded by the NHS Executive, London Research & Development Programme. The views expressed in the publication are those of the authors and not necessarily those of the NHS Executive or the Department of Health. The study would not have been possible without the support of the former Haringey Health Care NHS Trust and the former Enfield Community Care NHS Trust.

REFERENCES

- Anderson, J. & Adams, C. (1996). Family interventions in schizophrenia. *British Medical Journal* **313**, 505.
- Bellack, A. S. & Mueser, K. T. (1993). Psychosocial treatment for schizophrenia. *Schizophrenia Bulletin* **19**, 317–336.
- Barrowclough, C., Tarrier, N., Lewis, S., Sellwood, W., Mainwaring, J., Quinn, J. & Hamlin, C. (1999). Randomized controlled trial of a needs-based psychosocial intervention service for carers of people with schizophrenia. *British Journal of Psychiatry* **174**, 505–511.
- Birchwood, M. (2000). Early intervention and sustaining the management of vulnerability. *Australian & New Zealand Journal of Psychiatry* **34** (Suppl.), 181–184.
- Brown, G., Monck, E. M., Carstairs, G. M. & Wing, J. K. (1962). Influence of family life on the course of schizophrenic disorders. *British Journal of Preventative Medicine* **16**, 55–68.
- Brown, G. & Rutter, M. (1966). The measurement of family activities and relationships: a methodological study. *Human Relations* **19**, 241–263.
- Cheng, A. T. (2002). Expressed emotion: a cross-culturally valid concept? *British Journal of Psychiatry* **181**, 466–467.
- Cole, E., Leavey, G., King, M., Johnson-Sabine, E. & Hoar, A. (1995). Pathways to care for patients with a first episode of psychotic illness: a comparison of ethnic groups. *British Journal of Psychiatry* **167**, 770–776.

- Dixon, L. B. & Lehman, A. F. (1995). Family interventions for schizophrenia. *Schizophrenia Bulletin* **21**, 4.
- Falloon, I. R. H. (1984). *Family Management of Mental Illness: a Study of Clinical, Social and Family Benefits*. Johns Hopkins University Press: Baltimore, MD.
- Goater, N., King, M., Cole, E., Leavey, G., et al. (1999). Ethnicity and outcome of psychosis. *British Journal of Psychiatry* **175**, 34–42.
- Jenkins, J. H. & Karno, M. (1992). The meaning of expressed emotion: theoretical issues raised by cross-cultural research. *American Journal of Psychiatry* **149**, 9–21.
- King, M., Cole, E., Leavey, G., Hoar, A. & Johnson-Sabine, E. (1994). Incidence of psychotic illness in London: a comparison of ethnic groups. *British Medical Journal* **309**, 1115–1119.
- Lam, D. H. (1991). Psychosocial family intervention in schizophrenia: a review of empirical studies. *Psychological Medicine* **21**, 423–441.
- Leavey, G., King, M., Cole, E., Hoar, A. & Johnson-Sabine, E. (1997). First onset psychotic illness; patients' and relatives' satisfaction with services. *British Journal of Psychiatry* **170**, 53–57.
- Leff, J. P., Kuipers, L., Berkowitz, R., et al. (1982). A controlled trial of social intervention in schizophrenia families. *British Journal of Psychiatry* **146**, 594–600.
- Leff, J. P. & Vaughan, C. (1995). *Expressed Emotion in Families. Its Significance for Mental Illness*. Guilford: New York.
- Lefley, H. P. (1992). Expressed emotion: conceptual, clinical and social policy issues. *Hospital and Community Psychiatry* **43**, 591–598.
- Mari, J. J. & Streiner, D. (1996). The effects of family intervention on those with schizophrenia. In *Schizophrenia Module of the Cochrane Database of Systematic Reviews*. Issue III. (ed. C. E. Adams, J. Anderson and J. J. Mari), BMJ Publishing Group: London.
- McCreadie, R. G., Phillips, K., Harvey, J. A., Waldron, G., Stewart, M. & Baird, D. (1991). The Nithsdale schizophrenia surveys V111. Do relatives want family intervention – and does it help? *British Journal of Psychiatry* **158**, 110–113.
- NICE (2002). Schizophrenia: core interventions in the treatment and management of schizophrenia in primary and secondary care. National Collaborating Centre for Mental Health (<http://www.nice.org.uk/pdf/GC1NICEguideline.pdf>).
- Pharoah, F. M., Mari, J. J. & Streiner, D. (2000). Family intervention for schizophrenia. *Cochrane Collaboration Database of Systematic Reviews* **1**, 1–36.
- Pilling, S., Bebbington, P., Kuipers, E., Garety, P., Geddes, J., Orbach, G. & Morgan, C. (2002). Psychological treatments in schizophrenia: I. Meta-analysis of family intervention and cognitive behaviour therapy. *Psychological Medicine* **32**, 763–782.
- Robinson, B. C. (1983). Validation of caregiver strain index. *Journal of Gerontology* **38**, 344–348.
- Ruggeri, M. & Dall'Agnola, R. (1993). The development and use of the Verona Expectations for Care Scale (VECS) and the Verona Service Satisfaction Scale (VSSS) for measuring expectations and satisfaction with community-based psychiatric service in patients, relatives and professionals. *Psychological Medicine* **23**, 511–523.
- Smith, J. & Birchwood, M. (1990). Relatives and patients as partners in the management of schizophrenia: the development of a service model. *British Journal of Psychiatry* **150**, 645–652.
- Tarrier, N. (1991). Some aspects of family interventions in schizophrenia. 1. Adherence to intervention programs. *British Journal of Psychiatry* **159**, 475–480.