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ORIGINAL PAPER

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Ethnic Differences in Mental Health Service Use Among Patients with Psychotic Disorders

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Abstract *Background* There are concerns that ethnic minority patients are over-represented in inpatient mental health settings, but under-utilise community services. This study aims to compare the use of community mental health services between African-Caribbean and White patients with psychosis, before and after the introduction of new community services, and to investigate their impact on inpatient treatment. *Methods* The sample was drawn from epidemiologically representative patients with psychotic disorders living in two catchment areas in South London, one of which was developing intensive community treatments. Service utilisation was measured at baseline and at 2-year follow-up using the Client Service Receipt Interview (CSRI). The mean number of contacts with specific services was compared between the two groups over time. *Results* A total of 92 White and 48 African-Caribbean patients were compared. The latter were more likely to be younger ($P = 0.004$), have shorter illness duration ($P < 0.001$), and had more detentions under the Mental Health Act ($P = 0.003$). No significant differences were seen in use of community services over time. However, intensive treatment led to a significant reduction in hospital days for African Caribbean patients compared to White patients in the intensive sector and all patients in the standard sector. *Conclusions* Intensive community treatments reduced inpatient days in African Caribbean patients. Further effort is needed to improve the cultural sensitivity of community mental health services.

Key words ethnicity – African-Caribbean – psychosis – service use – intensive community treatment

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Introduction

Ethnic disparities in mental health care have been an area of concern in the UK [1]. African Caribbean patients have more complex pathways into mental health care and higher rates of compulsory treatment [2–5], more readmissions and longer hospitalisations [6] compared to White patients. African Caribbean patients are admitted at three times the rate of White patients into Medium Secure Units [7] and eight times more into High Secure Units [8].

These findings have led to concerns that community mental health services may be failing in minority ethnic patients. Commander et al. [4] showed that although the use of mental health services was comparable between ethnic groups, African

Caribbean patients had higher rates of compulsory detentions. However, they did not investigate the effect of intensive community treatment or use a standardised measure of service use. Increasing evidence that minority groups have higher rates of compulsory admission, and were more likely to be admitted with lower illness severity [9] have been echoed in debates on whether specialist services are necessary to meet the identified needs of ethnic minority patients [10]. Intensive community interventions aim to address the individual's specific needs including cultural needs and integrate these into the care package, but it has not been shown whether this approach helps to improve the uptake of community-based services and to reduce inpatient days in African Caribbean patients. To study the effect of intensive community treatments, it is necessary to compare service use, before and after the introduction of case management [11].

We aimed to compare the differences in mental health service utilisation between African Caribbean and White patients with psychotic disorders and to evaluate the impact of intensive community treatment on service use in the two groups from a secondary analysis of data from the PRiSM Psychosis Study. The hypotheses tested were that community mental health services are under-utilised by African Caribbean patients with psychotic disorders, and that more intensive community emphasis of mental health services will redress such ethnic differences.

Methods

Sample

Patients were recruited from two geographically defined catchment areas (Nunhead and Norwood) in South London. These areas were well matched on a range of socio-demographic characteristics and were both served by the Bethlem and Maudsley hospitals. The sample consisted of 140 African Caribbean and White patients with a diagnosis of psychotic disorder, who were assessed for the service use at both points in time, as part of the PRiSM Psychosis Study [12]. Diagnosis was made according to OPCRIT [13] or the SCAN [14] and included schizophrenia, schizo-affective disorders, major affective disorders and psychosis not otherwise specified. The samples were epidemiologically representative and ascertained from a detailed community level case finding exercise from the two areas. Details of the design, sampling and the data collected have been published previously [15].

These patients were initially assessed between 1992 and 1994 (baseline) when psychiatric services were predominantly hospital based and were reassessed two years later (follow up) after community services had been developed in each sector. One sector (Nunhead) offered intensive community treatment including acute home based care, continuing care and assertive outreach, non-hospital crisis and respite beds and interagency and primary care liaison, with the care plan being co-ordinated by an allocated key worker. The other sector (Norwood), delivered a more standard level of care with generic community mental health team, and use of local and other community resources [16].

Measures

Service use

Service use was measured using the Client Service Receipt Interview (CSRI, [17]). The CSRI covered services directly and indirectly related to mental health care and measured the use of these during the preceding 6 months. Both the frequency of contacts and, where relevant, the duration of the contact were recorded. The range of services included inpatient care, contacts with psychiatrists, Community Psychiatric Nurses (CPNs), psychologists, occupational therapists, day care services, primary care, general health services (including non-psychiatric inpatient care), social services, allied (employment, legal and educational) services and informal care provided by families and friends (Appendix 1). It is important to measure all the different services that are offered to the client in a comprehensive manner as the change of the treatment milieu from the hospital to the community may mean that a larger share of the treatment may be carried out by a range of different agencies.

The Brief Psychiatric Rating Scale (BPRS, [18]) was used to assess the severity of symptoms. The level of social networks was determined using the Social Network Schedule (SNS, [19]). Quality of life was measured using the Lancashire Quality of Life Profile (LQoL, [20]). The assessment of unmet needs was done using the Camberwell Assessment of Need (CAN-User Rated [21]). Overall level of functioning was indicated by the scores on Global Assessment of Functioning (GAF, [22]).

Patient characteristics

Socio-demographic data, including age, sex, marital status, and number of children were collected. Clinical variables including diagnosis, duration of illness, number of admissions, number of days in hospital and previous detentions under the Mental Health Act were recorded from the case notes for the year preceding the study. Ethnicity was ascertained from information about the place and country of birth based on self-reporting, according to the classification used by the Office of Population Census and Surveys [23]. Where information was not available, staff members who knew the patient were contacted for information [15].

Data analyses

In total of 203 patients were originally assessed using the CSRI, of which 146 patients had assessments at baseline and follow up. Of these patients 140 belonged to African Caribbean (48) or White ethnic groups (92) and constituted the final sample for this study. These patients were representative of the 203 patients initially assessed, as shown by comparing the groups on all available socio-demographic and clinical variables. The final dataset had 48 African-Caribbean and 92 patients of White ethnicity.

The two groups were compared on all the socio-demographic variables using parametric and non-parametric tests. Service use variables were grouped into clinically useful categories for comparison (Appendix 1). Differences in the use of specific services between the two ethnic groups were then compared using data from both time periods, using multiple regression analysis with the measure of service use as the dependent variable and ethnic group as the main independent variable. In order to estimate the true impact of ethnicity, we also included sector (Nunhead or Norwood), age, marital status, gender, duration of illness and number of days hospitalised during the case identification year as independent variables. The residuals that are produced following regression analyses of service use data frequently follow a non-normal distribution [24]. Therefore, in order to produce reliable confidence intervals we used bootstrapping methods [25]. Statistical significance was defined as $P = 0.05$ level and 95% confidence intervals were generated.

To determine whether the introduction of intensive community treatment reduced psychiatric inpatient days differently for the two groups of patients, we produced a bootstrapped linear regression model *just for the intensive sector*, with length of stay at follow-up as the dependent variable and ethnicity as the main independent variable, controlling for the aforementioned background characteristics and baseline length of stay. Finally, to see if African-Caribbean patients in the intensive sector had a lower use of inpatient care than all other patients, we produced a similar regression model for the whole sample but included an interaction term that scored one for African-Caribbean patients in the intensive sector and zero for all other patients.

Results

Socio-demographic variables

There were differences in the socio-demographic characteristics between the two ethnic groups (Table 1). White patients were significantly older ($P = 0.004$), but had fewer children ($P = 0.04$). A higher proportion of African-Caribbean patients had a history of detention under the Mental Health Act (77% compared to 49% in White patients, $P = 0.003$). They had also been in contact with services for a significantly shorter period. Although the mean number of admissions was similar, the African-Caribbean patients tended to have higher number of days spent in hospital during the year prior to the study (mean of 34 days compared to 16 days for White patients, $P = 0.065$). There were no differences in gender, marital status or presence of family history of mental illness between the two ethnic groups. In addition, there was no difference in the mean GAF scores indicating that these groups did not differ at baseline, with respect to global functioning. The groups did not differ on measures of psychopathology (BPRS), social networks (SNS), level of unmet needs (CAN) or their quality of life (LQOL).

Use of community services

When we compared the changes over time in the pattern of service use between the two ethnic groups, we found no significant differences in the use of different community services between the two groups. However the change in the patterns of use of the different services were not similar for both groups. Contacts with psychiatrists and community psychiatric nurses and general health care increased for African-Caribbean patients at follow up, while the use of social services increased for White patients. And there was a reduction in the use of emergency services for both groups, as well as a decrease in day care as well as informal care for both. However, these differences were not statistically significant (Table 2).

Inpatient care

The use of inpatient care for both groups, and in both sectors, is shown in Table 3. It can be seen that at baseline, African-Caribbean patients had a substantially higher use of inpatient care than White patients. In the standard sector this difference continued, whilst in the intensive sector there was a large fall in the use of inpatient care for both groups but especially for African-Caribbean patients. Within the intensive sector, African-Caribbean patients had on average 6.0 fewer days in hospital than White patients, after controlling for baseline inpatient use and background characteristics (95% CI, −13.8 to −0.4). Across the whole sample, African-Caribbean patients in the intensive sector had on average 12.5 fewer days than all other patients (i.e., White patients in both sectors and African-Caribbean patients in the standard sector). This difference was also statistically significant (95% CI, −24.4 to −0.1).

Discussion

One of the important aims of providing community based mental health care is to reduce hospitalisation of people with mental health problems, and to offer acceptable and effective care. In order to accurately assess the utilisation of the different community services, it is necessary to measure all services offered using a standardised tool and to compare appropriate samples. This study used a standardised measure

Table 1 Socio-demographic and clinical characteristics of White and African-Caribbean samples

	White ($n = 92$)	African-Caribbean ($n = 48$)	*P*
Male gender (%)	53 (57.6%)	21 (43.8%)	0.084
Mean age (SD)	44.7 (15.6)	36.4 (14.2)	0.004
Family history of mental illness; *n* (%)	35 (51.5 %)	17 (39.5%)	0.151
Married/cohabiting; *n* (%)	18 (19.6%)	5 (10.4%)	0.124
Mean number of children (SD)	0.87 (1.5)	1.48 (2.1)	0.043
Mean years since first contact (SD)	19.3 (13.7)	11.3 (7.6)	<0.001
Ever detained under MHA; *n* (%)	35 (49.3)	33 (76.7)	0.003
Mean number of admissions prior to study (SD)	4.8 (4.7)	5.9 (10.9)	0.439
Mean number of in-patient days in the last year (SD)	15.8 (43.9)	34 (71)	0.065
Mean GAF score (SD)	60.1 (14.4)	57.0 (14.7)	0.276

Table 2 Number of mental health service contacts at baseline and at follow up for White and African-Caribbean samples

Type of service	Mean service use at baseline		Mean service use at follow up		95% CI of mean difference[a]
	White (N = 92) Mean (SD)	African-Caribbean (n = 48) Mean (SD)	White (N = 92) Mean (SD)	African-Caribbean (n = 48) Mean (SD)	
Psychiatrist	3.9 (5.9)	2.9 (3.4)	2.9 (5.0)	4.1 (7.4)	−0.5 to 3.5
Emergency clinic	0.3 (1.0)	0.3 (0.9)	0.1 (0.3)	0.2 (0.6)	−0.05 to 0.32
Day care	32.1 (45.4)	34.3 (44.3)	25.2 (42.5)	27.2 (49.3)	−12.8 to 18.5
CPN	3.8 (6.7)	4.4 (9.9)	9.6 (24.3)	10.5 (19.5)	−3.3 to 10.9
Occupational therapist	0.3 (1.2)	0.3 (1.2)	1.2 (6.3)	0.6 (3.7)	−3.1 to 0.4
Psychologist	0.7 (3.7)	0.3 (1.2)	0.5 (2.9)	0.5 (3.5)	−1.6 to 0.4
General health care	6.9 (21.0)	11.1 (31.6)	5.3 (8.9)	14.5 (40.5)	−0.15 to 16.0
Social services	8.6 (35.2)	3.8 (9.0)	12.6 (46.7)	3.9 (16.8)	−12.0 to 0.35
Allied services	3.2 (10.3)	3.4 (8.9)	5.1 (27.0)	6.7 (15.9)	−11.3 to 6.7
Informal care	15.4 (70.3)	11.9 (29.0)	9.9 (32.8)	8.8 (33.3)	−16.1 to 7.7

[a] Adjusted for differences in background characteristics

(CSRI), which included all aspects of the services and informal care. The PRiSM Psychosis Study dataset, provided information on service use before intensive community treatment programmes had been implemented [15]. In the UK, intensive models of community care have not been shown to be superior to standard care for all patients [26, 27]. As these treatments are now widely available, it is necessary to study if they benefit specific sub-groups of patients with severe mental illness.

The sample characteristics

We found that there were differences between the two ethnic groups in their socio-demographic (African-Caribbean patients more likely to be younger, married and to have more children) and clinical characteristics (African-Caribbean patients having shorter duration of illness and a greater number of prior hospitalisations). However, the groups were comparable on global measures of severity. Despite this, the African-Caribbean patients spent more days in hospital in the year before the study. African-Caribbean patients were also significantly more likely to have been detained under the mental health act confirming previous findings [5, 6].

Primary care and informal contacts

The African-Caribbean patients in this study had relatively more contact with GPs in the period before intensive community treatment was introduced, contrasting with previous research findings showing that ethnic minority patients are less likely to receive specialist mental health care compared to White patients [28]. The fact that the African-Caribbean group used primary care services more did not lead to a reduction in the rates of compulsory admissions, which have been shown to be higher in this group [2, 3, 5]. Police involvement and compulsory admissions have been shown to be strongly associated with the absence of GP involvement [29]. The greater use of primary care at baseline might reflect different attitudes to health care in this group with visits to the GP being perceived as less stigmatising and more acceptable to patients and families. The decrease in the levels of informal care at follow up also is of concern, as there may be increased expectations on the services to offer the support that may have been available from these sources previously. The effect of intensive community treatments on the other components of care, especially primary and informal care, needs further study.

Mental health service use

Comparisons between the two ethnic groups at baseline and follow up controlling for differences in their socio-demographic and clinical characteristics, showed that there were few ethnic differences in the change in use of specific services over time. It is likely that the same patients may have utilised different sets of services provided at different time periods based on the stage of the illness and referrals to these services. Contacts with CPNs, occupational therapists, social services and allied services were better. It is also difficult to make assumptions from these findings because of the small numbers. Similar results were

Table 3 Change inpatient days for the two ethnic groups at follow up

	Intensive sector mean days (SD)		Standard care sector mean days (SD)	
	White	African-Caribbean	White	African-Caribbean
Baseline	12.0 (30.7)	18.4 (33.7)	6.2 (17.2)	14.5 (39.4)
Follow up	6.4 (16.3)	2.5 (6.0)	5.1 (18.3)	14.5 (37.9)
Change	−5.6	−15.9	−1.1	0.0

reported by Commander et al. [4]. There is a case to examine the specific components of the services in more detail to study the nature and quality of these service contacts.

The effect of intensive community treatment on inpatient care

Our second hypothesis that intensive community treatment may reduce inpatient treatments more for those in ethnic minority groups was confirmed in the analysis. There was a relative decrease in the number of inpatient days for African-Caribbean compared to White patients, who were managed in the intensive sector, showing that the intensive community treatment was more effective in reducing hospital days for this group. However, the reduction of hospital days was not reflected in a parallel increase in contacts with psychiatrists or psychiatric nurses in the community. It is possible that, with a more intensive approach, the needs of African-Caribbean patients may have been better recognised and supported, leading to a reduction in the need for inpatient treatment. There is evidence that minority ethnic groups may be using less of case management services [30]. Our findings indicate that intensive community treatments may be helpful in reducing the over-representation of African-Caribbean patients in inpatient settings [31], and efforts should be geared to making these services more accessible for ethnic minority populations.

Limitations of the study

This study had a modest sample size. To show differences in service use patterns for some of the individual service use variables, larger samples may need to be studied. The service use measure (CSRI) depended on the patients recall, and there could have been some inaccuracies in reporting. However, studies have shown that patient recall is as reliable as using medical records in service use measurement [32]. We did not have data on co-morbid substance misuse disorders, and it is possible that patients with dual diagnosis may have higher levels of service use as well as costs [33]. The limitations of the definition of the intervention in this study have been further discussed in Marshall et al. [34] and Thornicroft et al. [35].

The concerns about under-utilisation of health services by mentally ill patients from ethnic minorities [36] have led to debates on offering separate services for ethnic minorities [10] and initiatives to improve mental health services for minority ethnic groups, to reduce and eliminate ethnic inequalities [1]. Our results did not show that there was any evidence of reduced use of community mental health services by ethnic minority patients, as reported by Minas [36]. The finding that intensive community treatment may help in decreasing inpatient days for African-Caribbean patients may help in reducing some of the ethnic disparities in mental health care. Offering intensive community treatment in a culturally competent manner will help to ensure better service satisfaction and engagement with services for ethnic minority groups.

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Appendix 1

Service use categories

Category	Description
Psychiatrist	Appointment with psychiatrist
Emergency clinic	Contact with emergency hospital services
Day care	Day hospital and day care services
CPN	Community psychiatric nurse
Occupational therapist	Occupational therapy appointments
Psychologist	Psychology appointments
General health care	General practitioner and other general health care
Social services	Social worker and other social care services
Allied services	Educational, employment and legal services
Informal care	All informal care

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