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Clinical activity within a specialist mental health service for deaf people: comparison with a general psychiatric service

AIMS AND METHOD

This paper compares the case mix and clinical activity in a specialist mental health service for deaf people within a general psychiatric population, using ICD–10 diagnostic criteria.

RESULTS

Out-patient and in-patient case-loads differ between the two services: 27% of the deaf out-patient caseload have schizophrenia, schizotypal and delusional disorders

(compared with 19% of hearing patients) and 19% have neurotic, stress-related and somatoform disorders (compared with 8% of hearing patients). The general psychiatric service out-patient case-load had rates of 8% and 43% for bipolar affective disorder and unipolar depression, respectively, compared with 3% and 17% in the deaf group. Deaf patients have a mean length of stay of 59 days, compared with

30 days for the hearing group. In-patient treatment accounts for 89% of the annual treatment cost for the deaf patient population.

CLINICAL IMPLICATIONS

Expansion of community services for deaf people as recommended by a recent Health Advisory Service report could reduce admission rates for deaf patients, delivering treatment benefits and cost savings.

Denmark House is one of three specialist units offering mental health services to deaf people in England and Wales. The clinical team consists of deaf and hearing people. There is a consultant psychiatrist, a specialist registrar, a Senior House Officer (SHO), four community psychiatric nurses, two psychology staff, two social workers and two occupational therapists. There are 12 in-patient beds in Birmingham and an active community service providing clinics and home assessments throughout the Midlands, the South-West and East Anglia. There is an estimated population of 20 million within the geographical area covered by this service.

Deaf patients should receive the same quality of service as their hearing counterparts. Services should be culturally sensitive and linguistically accessible. Staff are trained in deaf awareness and British Sign Language. The core patient group consists of prelingually profoundly deaf people, whose preferred communication strategies include British Sign Language, sign-supported English, speech and lip-reading, Makaton and various methods of deaf–blind communication.

Patients are referred by general practitioners, general psychiatrists and other mental health workers. Many are referred by social workers and other professionals providing input to deaf people.

After assessment, most patients are offered treatment within the service. In some cases, advice and/or supervision may be offered to a generic team or primary care worker. Patients who are not found to be experiencing mental health difficulties, or who have improved to the point where they could be maintained without specialist input, are discharged but can be re-referred as necessary.

Method

This paper is based upon a review of clinical activity over a one-year period between 1 April 1997 and 31 March 1998. The author reviewed the medical notes to enable classification according to ICD–10 criteria (World Health Organization, 1992). For the purpose of analysis, diagnostic categories are grouped according to those listed in ICD–10. The majority of cases are known to the author, who has worked with both clinical teams. Diagnoses were clarified with the relevant consultant in cases of uncertainty.

Out-patient activity and admission details were obtained from the hospital computer system. For patients who had admissions that began or ended outside the cut-off dates for this study, the length of stay is reduced to include only those in-patient days that have occurred within the relevant time period.

The clinical work of the deaf service is compared with the activity in a general psychiatric service within the same time period. The comparison group consists of all patients under the care of a general adult psychiatrist based at the same hospital. This team includes a consultant, a clinical assistant, a SHO, three community psychiatric nurses and psychology, social work and occupational therapy staff. The catchment area population at the time of this study was 45 000. Clinics are provided locally and there are in-patient beds three miles away. A previous internal audit had confirmed the activity in the general psychiatrist's community mental health team to be representative of the activity within the directorate as a whole.

Previous research indicates that most categories of mental disorder occur with equal frequency among deaf



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and hearing people. The deaf service does receive referrals for adolescents and children but only patients aged 18 years or over are included to enable comparison with general psychiatric services.

In-patient and out-patient case-load composition is analysed using the test of proportions. Durations of admissions are compared using the Mann–Whitney *U* test.

Results

The deaf out-patient case-load contains more patients with schizophrenia and related disorders ($P < 0.015$) and neurotic, stress-related and somatoform disorders ($P < 0.001$) and fewer patients with bipolar affective disorder ($P < 0.022$) and unipolar depression ($P < 0.001$) than the hearing control group. Among the deaf in-patient group there are more patients with schizophrenia and related disorders ($P < 0.001$) and personality disorder ($P < 0.01$) and fewer patients with unipolar depression ($P < 0.001$) than the hearing group. Overall, deaf patients have longer admissions ($P < 0.001$), differences apparent for those with bipolar affective disorder ($P < 0.05$), unipolar depression ($P < 0.05$) and neurotic, stress-related and somatoform disorders ($P < 0.05$). This is shown in Table 1.

At the time of data collection, the deaf service was funded through a local block contract and through the extra-contractual referral mechanism prevalent at that time. Purchasers were charged, on average, as follows: medical out-patient appointment or home visit, £144; community psychiatric nurse appointment, £121; in-patient bed day, £366. Occasionally an in-patient has required one-to-one nursing, incurring additional costs. No other costs, such as travelling expenses, drug costs, etc. were passed on to purchasers.

On this basis, the total annual cost of assessment and treatment for the deaf patient population (238 patients) is £2 020 150. In-patient treatment accounts for 89% of the total and community treatment accounts for 11%. For those patients who receive in-patient treatment, the cost of admission accounts for 96% of the annual total. This figure is consistent among all diagnostic categories. Overall, the annual cost of treating deaf patients who require admission to hospital is 40 times higher than for patients who are not admitted.

Discussion

Previous research suggests that major mental illness occurs with similar frequency in deaf and hearing people. Differences in this study may reflect referral patterns. The Birmingham service covers a population of approximately 20 million. The Social Services Inspectorate (1997) reports that 0.1% of the population use British Sign Language as the preferred means of communication, predicting that 20 000 sign language users live within the service catchment area. If 2% of the population are referred to a mental health specialist annually (Goldberg & Gater, 1991; Goldberg & Huxley, 1991), then 400 deaf sign-language users should be referred. Actual rates are much lower. The filters preventing referral may be difficult for deaf patients to pass through. Checinski (1994) calls this the 'funnel' effect.

Several studies have estimated the rates of mental disorders in deaf patients attending specialist mental health services. An overview is included in the Health Advisory Service (1998) thematic review and is given by Vernon & Daigle-King (1999). The case mix in this study is unremarkable.

Admission patterns to the two units will reflect the out-patient case mix and the differences in clinical practice. For deaf patients, admission seems to be reserved

Table 1. Out-patient case-load composition and acute admissions to psychiatric services for deaf and hearing people

| Diagnostic category | Out-patient case-load (number, %) | | Acute admissions (number, %) | | Length of stay in days (mean, s.d.) | |
|---|--------------------------------------|-----------|---------------------------------|----------|--|---------|
| | Deaf | Hearing | Deaf | Hearing | Deaf | Hearing |
| Organic disorders | 9 (4) | 1 (0) | 4 (6) | 2 (3) | 44 (47) | 51 (57) |
| Disorders related to psychoactive substance use | 12 (5) | 34 (6) | 1 (2) | 10 (13) | 21 (0) | 11 (12) |
| Schizophrenia, schizotypal and delusional disorders | 65 (27) | 104 (19) | 33 (49) | 17 (22) | 60 (71) | 40 (62) |
| Bipolar affective disorder | 8 (3) | 42 (8) | 7 (10) | 8 (10) | 80 (67) | 28 (16) |
| Unipolar depression | 41 (17) | 233 (43) | 6 (9) | 31 (40) | 60 (46) | 32 (42) |
| Neurotic, stress-related and somatoform disorders | 45 (19) | 45 (8) | 7 (10) | 7 (9) | 66 (71) | 22 (25) |
| Personality disorder | 15 (6) | 23 (4) | 7 (10) | 2 (3) | 31 (42) | 11 (7) |
| Mental retardation | 10 (4) | 1 (0) | 2 (3) | 0 | 141 (66) | – |
| Other disorders | 4 (2) | 2 (0) | 0 | 0 | – | – |
| Adverse life event, no other disorder | 8 (3) | 13 (2) | 0 | 0 | – | – |
| No problem | 4 (2) | 8 (2) | 0 | 0 | – | – |
| Not known | 17 (7) | 38 (7) | 0 | 0 | – | – |
| Total | 238 (100) | 544 (100) | 67 (100) | 77 (100) | 59 (63) | 30 (42) |

Percentages are rounded to the nearest whole number.

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for complex cases and for patients whose treatment cannot be delivered from a distance.

Previous studies have found that deaf patients spend longer in hospital than their hearing counterparts (Timmermans, 1989). This has been attributed to treatment in general psychiatric hospitals by staff inexperienced in working with deaf people (Denmark, 1985). Deaf patients in this study have longer admissions despite receiving treatment in a specialist setting. Delayed presentation (Checinski, 1994) might delay recovery (Birchwood, 1999). Deaf patients in some categories (see Table 1) have fewer, but longer, admissions. These may constitute a subgroup with complex problems requiring longer treatment. Discharge arrangements may take longer to organise because of additional needs and liaison with other services. Lack of suitable residential placements may be important – Iqbal & Hall (1991) suggested that deaf patients were ten times more likely to be resident on long-stay wards than hearing patients.

The cost of service provision to deaf patients is mostly accounted for by in-patient treatment, especially for patients with schizophrenia (44% of the total cost: 28 patients, 43 admissions). Reducing admissions or length of stay could have a significant impact.

The Health Advisory Service (1998) proposes a four-tier model of service provision for deaf patients. Specialist services would develop a role in assessment, education and supervision. There would be a treatment role in complex cases and where deaf patients require admission. The report advocates the expansion of local provision, which could lead to earlier detection, reduced admissions and earlier discharges. Increased residential

services for deaf people may support community-based approaches.

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