CASE IDENTIFICATION OF SEVERE MENTAL ILLNESS IN MAIDSTONE - A SEMI-RURAL SETTING

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SUMMARY

Background: *The prevalence of severe mental illness is known to be greater in urban than in rural areas. Less studied are differences between the patients themselves and, more specifically, their use of psychiatric services.*

Methods: *The prevalence of severe mental illness was determined in semi-rural Maidstone in Kent by case identification register. Patients who met the OPCRIT diagnosis criteria were interviewed with the Multi-Site Collaboration Study (Case ID Schedule for Maidstone) which consists of five sections.*

Results: *140 patients were identified with severe mental illness in the Maidstone area; their mean age was (42.85 years SD + 12.11). Most of the sample were born in England (94%), 34.5% were married or living with partners, 87.9% were living with no supervision, 37.1% had no qualification, 48.9% were unemployed. 45.7% suffer from schizophrenia, 21.4% suffer from depression, 13.6% suffer from schizoaffective psychosis and 20% suffer from other forms of psychosis. 99.3% were in touch with the services during the index period, 30.7% needed in-patient treatment, 82.12% attended out-patient clinic, 82.12% had community psychiatric nurse input, 17.1% have ever been charged with a crime and 15.7% have been ever convicted with a crime. 52.9% were receiving depot injection.*

Conclusion: *The prevalence of severe mental illness in Maidstone (3.8/1000) is less than inner city areas (7.7/1000). Maidstone patients were at a higher level of functioning and made more use of available psychiatric services.*

Key words: *severe mental illness - case identification - semi-rural areas*

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INTRODUCTION

A strong correlation between the socio-demographic characteristics of a population and psychiatric admission has been demonstrated by a number of studies. The working party of the Royal College of Psychiatrists (Hirsch et al. 1988) reported a strong positive correlation between admission rates for each of the health districts in the North West Thames region and the Jarman Underprivileged Area Score (UPA), a composite measure of deprivation derived from census variables (Jarman 1984). Subsequent analyses for all districts within the South East Thames Region (Thornicroft 1991) and all districts in England, have confirmed the strong correlation between measures of deprivation and psychiatric admission rates. Jarman et al recommended using models of this kind to compare observed and expected admission rates as a basis for rational service planning and suggested appropriate formulae.

Kammerling & O'Conner (1993) reported similar analysis, comparing more recent episode-based admission rates with rates of unemployment for electoral wards in the Bristol area. The correlation between admission rates and unemployment (r=0.94) was higher than that reported by other authors for other composite deprivation measures. Like the Thornicroft and Jarman analyses, Kammerling & O'Conner's UPA scores were derived from 1981 census data and would therefore have been somewhat out of date. However, their use for episode based admission rates, presumably derived from the Korner Episode based information system (Korner 1982) or its successor, the contract Minimum Data Set;

suggest that earlier findings based on data from Mental Health Enquiry can be replicated with more recent admissions data. The use of admissions data as a measure of need can be criticised for reflecting only the 'met' need for in-patient care, ignoring the extent to which needs are met by other mental health services or not met at all. It might be predicted that services with better community facilities and day hospital provision will use fewer beds, but existing research does not support this hypothesis. In their detailed analysis of 20 District General Hospital Psychiatric Units (Hirsch 1988), the Royal College Working Group found no evidence for an inverse relationship between the provision of in-patient beds and other aspects of service delivery, including day hospital places, number of community nurses or social workers, and social services hostels. Jarman et al. (1992) also examined the relationship between admission rates and other aspects of service provision in their analysis of health districts in England. Variables relating to the provision of community psychiatric nurses, day hospitals and other community facilities were entered into the model in an attempt to predict psychiatric admission rates. Overall, community-oriented aspects of service provision were poor predictors of admission rates: the only variable adding significantly to the final model was the proportion of psychiatric nurses working in the community, which was associated with reduced admission rates, but this explained only a small degree of variance. More detailed analysis of the relationship between socio-demographic measures and other aspects of service provision is hampered by the lack of reliable

aggregated data for even simple indicators such as out-patient attendances.

It is perhaps surprising that those authors who have examined the association between measures of social deprivation and admission rates in the UK appear to have considered all diagnoses together, suggesting that the demand for beds will be the same for all forms of mental illness. In fact, patients with more serious mental disorders, particularly psychosis and schizophrenia, are more likely to be in contact with mental health services than those with less severe disorders (Goldberg 1980) and it is the more serious illnesses which are likely to result in hospital admission. Using data from the psychiatric case register for South Verona; Tansella et al (Tansella 1993) have shown that the relationship between deprivation and use of services varies according to the diagnostic group. Significant positive correlations were demonstrated for schizophrenia and related disorders of a similar order to those found for the UK (Thornicroft 1993) while for neurotic disorders, Tansella et al concluded that no consistent relationship between deprivation and use of services could be demonstrated. Harrison et al. (1995) repeated earlier analyses of the relationship between deprivation measures and admission rates using data from the 1991 census and admission data from a similar time period and examined these relationships further, using broad diagnostic categories. They concluded that the association between psychiatric admission rates and measures of deprivations varies considerably with diagnosis, in that measures of social deprivation may indicate need for services for patients with psychotic disorders, whilst admission rates for non-psychotic illnesses may simply reflect the availability of beds.

In order to develop a relevant community service, it must be accessible and be needs led (i.e. be developed according to the specific areas of need of the population). In order to ascertain the case load and to plan for the future of the service, a survey should be made to estimate the number of patients using the service, their diagnoses, and the frequency of their use of the service and their dependency on the service.

This study has described patients with psychosis. All cases with a diagnosis of psychotic disorder were extracted from the case register through case identification. Socio-demographic characteristics of psychotic patients were identified and their correlation with service utilisation was examined. It compared Maidstone with other areas of the United Kingdom.

No similar study has been done in Maidstone or in other semi-rural areas in England before. It is, therefore, worthwhile trying to examine the patients' characteristics in this area and compare them with urban city areas and rural areas in different parts of the country.

The Study was designed to test the hypothesis stating that severe mental illnesses are less prevalent; patients are functioning at a higher level and are less damaged in rural and semi-rural areas compared to inner city.

METHODS

Maidstone Priority Care serves a population of around 200,000 semi-rural area with a Jarman index of a range of (-30.0 to 27.96) and a mean of (-10.99).

This is a community-orientated service which consists of a purpose built, 32 bedded, modern psychiatric admission unit. There are also two community mental health centres with a staff of around 36. This study is based on patients served by Woodside Community Mental Health centre which is served by two consultant psychiatrists and has a catchment area of around 100,000 population. Most contact with patients by community psychiatric nurses take place in the patients own homes or other facilities in the community (78%). Woodside CMHC caters for patients with a day centre sheltered workshop and group activities.

In the United Kingdom each consultant psychiatrist covers a defined geographical area with a defined population known as a sector. Sectorisation is determined either by geographical area or by General Practitioner (GP) clusters.

Sectorisation is based on G.P. practices which are allocated to four consultants serving the adult population aged 16-65.

All patients aged 16-65 in contact with mental health problems, for a year, were identified, using the Maidstone Resource Management database. 1065 cases were obtained.

Each patient was categorised as suffering from mental illness by GP and key workers (usually a community psychiatric nurse but sometimes a social worker).

Both G.P.s and key workers were sent the list with the names of patients and were asked to add any patient they knew whom they regarded as suffering from psychosis. Letters were sent to voluntary groups such as MIND, NSF and other self help groups in order to identify patients who may be regarded as suffering from psychiatric illness but were not otherwise known to the psychiatric services.

All patients on CPN or Social Worker case loads were cross referenced to ensure that there was double counting. Through screening of discharge summaries or initial correspondence of referral from primary care, out-patients notes and CPN notes, cases with severe mental illness were identified. 192 cases were identified. Further screening of case notes identified 140 cases that met operational criteria for inclusion which is the classificatory system used by the PRiSM group (Diagnosis of Schizophrenia, Manic Depressive Disorder, Schizo-affective Disorder, Paranoid Psychosis and other Psychosis). The classification was made by the researcher regardless of the diagnosis made in the case notes as some patients who were diagnosed as suffering from severe mental illness in the medical notes did not meet the strict diagnostic criteria used by PRiSM group and the diagnosis was loose when scrutinised. Then OPCRIT diagnosis was generated using the McGuffin et al. Data

base. There was high correlation between clinical diagnosis and OPCRIT diagnosis (r=0.84). Of these patients, 140 had their medical notes were reviewed using the Multi-Site Collaboration Study (Case ID Schedule for Maidstone) which consists of five sections i.e. Study details, Demographic details, Psychiatric History, Service use and Others which include the following-GAF score, Physical History, and Family History.

Data was input on the Statistical Package for Social Sciences programme (SPSS), and the Chi- square test was applied to calculate statistical significance between male and female values on all measures collected.

RESULTS

Demographic Characteristics

The total number of patients who were suitable for inclusion in the study and later were analysed for this population were (140) mean age (42.85 SD+12.11). Males were (77) mean age (40.85+SD 12.22), females were (63) mean age (45.41 SD+11.57), males were younger than females statistically significant difference (p<0.03). Most of the sample were white (94.3%) so

there are no ethnic minorities. Looking at their marital status (45%) were single, after adding married (30.2%) and cohabiting (4.3%) it formed (34.5%) married or cohabiting, adding divorced (12.2%) to separated (6.5%) it formed 18.7% divorced and separated. Looking at their marital status all over their life it was found that (56.3%) have ever been married. According to their living arrangements during the index period (17.6%) were living alone, (36.7%) living with a spouse or cohabiting, (29%) living with other relatives and (16.8%) living with others. (48.6%) have no children. (45.0%) live in unassisted accommodation. (87.9%) live with no supervision, (2.9%) have never lived independently and (7.1%) supervised in hostels. (37.1%) have no qualifications (48.6%) unemployed and (12.9%) in full time employment. Looking at qualifications it was found that (48.6%) of the sample had no qualification, (30.85%) had GCSE or equivalents, (9.3%) had A level and (11.2%) had diploma or higher qualification. It is obvious that the number of people without qualification is high in this sample and it can be due to the early onset of illness in patients especially with schizophrenia as indicated by their early years of contact which started as early as 1956 (please see Table 1).

Table 1. Demographic characteristics

	Male		Female		Total		Statistical Significance
	N	%	N	%	N	%	
Mean Age	77	52.8	63	47.2	140	100	
	40.85±12.22		45.41±11.57		42.85±12.11		
Marital Status							
Single	43	68.3	21	31.7	64	45.3	P<0.0005
Married	18	31.0	30	69.0	48	34.5	
Divorced	16	57.6	12	43.4	28	20.1	
Ever Married							
Yes	34	44.6	44	70.5	78	56.3	P<0.003
No	43	55.4	19	29.5	62	43.7	
Accommodation							
Assisted	32	41.6	20	58.4	52	37.2	N.S.
Non-assisted	45	58.4	43	68.3	88	62.8	
Employment							
Employed	11	14.2	14	22.2	25	17.9	
Sheltered	13	16.8	2	3.1	15	11.0	P<0.01
Unemployed	36	46.7	38	60.1	74	52.3	
Unknown	17	22.1	9	14.3	26	18.6	
No. of Children							
No Children	45	58.4	23	36.5	68	48.6	
1 child or more	25	32.5	36	57.1	61	43.4	
No information	7	9.1	4	6.3	11	7.8	
Living Arrangement							
Lives alone	12	15.6	11	17.5	23	16.4	
Lives with a spouse or cohabits	18	23.4	30	47.6	48	34.2	
Lives with other relatives	26	33.8	11	17.5	38	27.1	
Lives with other people	14	18.2	7	11.1	22	15.7	
Unknown	7	9.1	4	6.4	11	7.8	
Educational Attainment							
No qualifications	29	55.8	23	44.8	52	48.6	
Qualifications							
GCSE	20	60.6	13	39.4	33	30.8	
'A' Level	8	80.0	2	20.0	10	9.3	
Higher Qualifications	9	75.0	3	25.0	12	11.2	
Unknown	11	33.3	22	66.7	33	30.8	

Diagnosis

64(45%) (m=41, f=23) were diagnosed as suffering from schizophrenia, 30 (21.4) (m=12, f=18) as suffering from manic depressive disorder, 19 (13.6) (m=6, f=13) as suffering from schizoaffective disorder, 15(10.7) (m=8, f=7) as suffering from paranoid psychosis and other psychosis 11 (7.9) (m=9, f=20) (please see Table 2). Only 32.9% of the cases had secondary diagnosis on statistical analysis it was difficult to keep all the diagnostic categories as there were empty cells so the diagnostic categories were merged into schizophrenia, manic-depressive categories and all other groups into one category as other Psychosis. Their contact with the service started in 1956. Only (30.7%) had been admitted during the index period. Only 11.4% have ever been admitted for more than a year. Reviewing their history of violence and risk to self and other it was found that only (1.4%) have ever been admitted to a special hospital and (4.3%) have ever been admitted to a regional secure unit. (29.3%) have ever been admitted to psychiatric intensive care. According to risk inflicted on self it was found that nearly one third of the sample had attempted suicide in the past (32.9%) and (54.1%) have ever been admitted under the mental health act. Only 2.1% had ever been admitted under section 136 of the Mental Health act which indicates that this section has not been over used in this area which is an indication of good psychiatric practice. Only (34.3%) had history of violence and in only (21.4%) of cases the staff have ever been concerned about violence which indicates a positive correlation between potential violence as predicted by staff and actual violent incidents committed by patients. Only (17.1%) have ever been charged with any crime. (15.7%) have ever been convicted of any crime (please see Table 3). Only (9.3%) have ever been imprisoned. Looking at the family history of mental illness it was found that (12.9%) have family history of schizophrenia which is consistent with the family study of schizophrenia as first degree relatives are more at risk of having the illness and the prevalence in them is 12% (Gottesman 1982) which is higher than in the general population (1-1.5%). Again (14.3%) have a family history of major depression which is much higher in this sample than the general population which is consistent with first degree relatives of depressed patients. Similar findings were found with family history of manic depressive psychosis (15.7%) which is consistent with first degree relatives of manic depressive psychosis according to family studies (McGuffin 1986) and (15.7%) have a family history of other Psychosis. Only 10% had concomitant physical illness.

Utilisation of Service during Index Period

Table 4 describes service utilisation in the index period. During the index period only (30.7%) needed admission to the hospital. (82.12%) attended outpatient clinic while (17.9%) had no contact with the psychiatric services. Only (7.1%) attended day hospital which is complimentary to the community facilities. Consultant's domiciliary visits were rarely used, they amounted to (6.4%) of the sample. Non consultant domiciliary visits were used in (4.3%) of the sample. All of the sample who were in touch with the psychiatric services during the index period had a community psychiatric nurse input (82.1%) which is consistent with the figure of out patient attendance. (28.6%) had community contact for active mental health problems. (29.3%) had day centre attendance. (40.0%) had any contact for active mental health problems. At the beginning of the index period (88.6%) were in contact with mental health services and that was because of the build up of case load through referral of cases from different sources in the community especially primary care. Most of the sample were in touch with the service through the index period (99.3%).

Table 2. Diagnostic Categories

	Male		Female		Total		Statistical
	N	%	N	%	N	%	Significance
Diagnosis							
No Diagnosis	1	1.3	0	0.0	1	0.7	
Schizophrenia	41	64.1	23	35.4	64	45.7	
Manic Depression	12	40.0	18	60.0	30	21.4	
Schizo-Affective	6	31.6	13	68.4	19	13.6	
Paranoid-Psychosis	8	53.3	7	46.7	15	10.7	
Other Psychosis	9	81.8	2	18.2	11	7.9	

Table 3. Forensic History

	Male		Female		Total		Statistical
	N	%	N	%	N	%	Significance
Ever Charged	17	81.0	4	19.0	21	15.3	P<0.007
Ever Convicted	14	82.4	3	17.6	17	12.6	P<0.012
Ever Imprisoned	10	83.3	2	16.7	12	8.6	P<0.036
Secure Unit	5	83.3	1	16.7	6	4.3	N.S.
Sectioned	39	54.2	33	45.8	72	54.1	N.S.
Section 136	1		0	0	1	100.0	

Table 4. Service Utilisation in Index Period

	Male		Female		Total		Statistical Significance
	N	%	N	%	N	%	
Admission to Hospital	25	58.1	18	41.9	43	30.7	
Outpatient	65	56.5	50	43.5	115	82.1	
Day Patient	5	50.0	5	50.0	10	7.1	
Day Centre	26	63.4	15	36.6	41	29.3	
Consultant DV	7	70.0	3	30.0	10	7.1	
Non-Consultant DV	6	4.3	0	0.0	6	4.3	
CPN Contact	58	50.4	57	49.6	115	82.1	
Contact for Active Mental Health	21	53.8	18	46.2	39	28.1	P<0.019
Prev. Contact for Active Mental Health	22	59.5	15	40.5	37	27.0	
Any contact for Active Mental Health	30	56.6	23	43.4	53	38.7	
In contact with Mental Health at the beginning of Index Period	69	55.6	55	44.4	124	88.6	
In contact with Mental Health during the Index Period	77	55.4	62	44.6	139	99.3	
In contact with Mental Health at the end of index period	65	54.2	55	45.8	120	85.7	

Counselling was used in (15.7%) of patients in the index period and it is obvious that it was not used in the majority of the sample as it is not that effective for severe mental illness. Admission under the Mental Health Act during the index period was lower than the average nationwide (15.9%) which is an indicator of effective community management of patients while it was as average for ever sectioned under the Mental Health Act which may be an indicator that psychiatric services had improved during the index period. Depot injections were used in (52.9%) of the cases which include most of the schizophrenic and few of the schizoaffective disorder patients had depot injection which is consistent with psychiatric practice nationally. One patient only had ECT during the index period. This indicates that ECT is not over used in Maidstone and again it is good management strategy. Community care is mainly about sharing in management between primary and secondary care and it is revealed in this study that 90.6% of the sample had their repeat prescriptions from their GPs and 3.4% did not have any prescribed medication (please see Table 4).

Global Assessment of Functioning

Patients were rated from case note information using the Global Assessment of Functioning (GAF) scale (American Psychiatric Association, 1987), according to which a higher score indicates less impairment. There was a no statistically significant difference between male and female in our sample but figures were higher for females (mean 55.11 SD + 15.99) compared to male (mean 48.93 +18.04) male figures were lower than Nithsdale (mean 64) and Norwood (mean 58) and similar to Nunhead (mean 51).

DISCUSSION

Demographic Data

Our sample was similar to the white population in Nithsdale, Nunhead and Norwood Mean age 42.82 + SD compared to a range of 45-46 years in those three districts (Thornicroft 1998) but older than the non-white population of Nunhead and Norwood 32-35 years which is consistent with McCreadie et al. (1997) findings.

Men in our population were significantly statistically younger than women (mean 40,85 SD+12.22) compared to (mean 45.41 SD+11.57) with a p value 0.003.

There were fewer patients who had never been married in our population (45.7%) compared to Nithsdale, Nunhead and Norwood (62-77%) which may be explained by the late onset of illness and milder severity compared to inner city areas, it may be also explained by a less stressful life style and less demand on the individuals to achieve his or her potentials.

The Maidstone sample has higher percentage of people who are married or live together (34.5%) compared to Nithsdale, Nunhead and Norwood, and again it can be explained on the basis of less damaged patients compared to the other areas.

The Maidstone population were also more qualified as 37.1 of the patients did not have any qualification compared to 56-70% in Nithsdale Nunhead and Norwood.

Prevalence Rate

The prevalence of severe mental illness as a whole in our study is 3.8 per 1000 population which is nearly half of the rate in Camberwell 7.7 per 1000 in the

Camberwell area (Thornicroft 1998) this is consistent with previous findings including those of the Office of Population Censuses and Surveys National Psychiatric Morbidity Survey (Wilkinson 1985, Meltzer 1995) where rates in England vary between 0.2% and 0.9%, and with comparable North American studies (Blazer 1985, Regier 1988). The higher prevalence in Nunhead and Norwood may be partly due to the mixed population in those areas compared to the predominantly white population in Maidstone which is consistent with the McCreadie et al. (1997) finding.

Use of Services

Patients in Semi-rural Maidstone made greater use of available psychiatric services at the beginning, during and at the end of the index period 88.3%, 99.3%, 85.7% respectively. This again is a replication of the finding of McCreadie et al (McCREADIE 1997) which does not reflect their morbidity due to their high GAF score and it might have been because of greater service availability in Maidstone. (30.7%) of them were admitted during the index period and (82%) attended outpatient clinic compared to 61%, 76% and 72% white population of Nithsdale, Nunhead and Norwood respectively compared to 86% and 77% non-white population in Nunhead and Norwood respectively.

82% were in contact with a CPN in Maidstone compared to 63%, 19%, and 33% for white population of Nithsdale, Nunhead and Norwood and to 24% and 35% of non-whites in Nunhead and Norwood respectively. It has been explained by McCreadie et al 1998 that availability of CPNs was greater in Nithsdale about 0.2 per 1000 population compared to 0.02 per 1000 in Nunhead and Norwood the same applies for Maidstone.

Again with respect of ever imprisoned and forensic history Maidstone figures were similar to Nithsdale 8.6%, 8.0% respectively and much lower than white and non-white (25%, 27%, 17% & 24%) in Nunhead and Norwood respectively. This is different to admission under the Mental Health Act of 1983 as the white population had the same percentage more or less in different areas 54%, 51%, 57% & 57% in Maidstone, Nithsdale, Nunhead and Norwood respectively compared to the higher percentage of non-white population 82% and 77% in Nunhead and Norwood respectively. These forensic differences between whites and non-whites have been described previously (Regier 1990, Lloyd 1992).

ECT was rarely used in Maidstone as only one patient had ECT during the index period out of 140, compared to 0-3% in Nithsdale, Nunhead and Norwood which indicates that ECT use is confined to patients who suffer from resistant depression and practice of psychiatry is more or less similar in different parts of the United Kingdom with regards to use of ECT.

CONCLUSION

This study has revealed that patients in Maidstone were more stable in their social, psychological and physical wellbeing as there were more married and cohabiting patients in Maidstone, the prevalence of psychosis was less, patients were more able to utilise mental health services and reported less trouble with the police compared to South London population and scored higher on GAF scores which more or less supports our hypothesis.

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