

ONE YEAR PREVALENCE OF PSYCHIATRIC DISORDERS IN BIRMINGHAM: THE EFFECT OF ETHNICITY AND GENDER[#]

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The hospital admission statistics show ethnic and gender variations in the presentation of mental illness. The current investigation was conducted to examine one-year prevalence of psychiatric disorders by gender and ethnicity in Birmingham, UK. Case notes for 992 admissions during January-December, 1995, inclusive to an in-patient unit were reviewed retrospectively. Admission data were broken down by gender and into three ethnic groups: Asian, White, and Black. The Black group showed the highest psychiatric morbidity rates followed by the Asian, and then White. The three groups appeared to differ in discharge diagnoses. The Black groups consisted of the largest number of patients who were given the diagnosis of schizophrenia and bipolar disorder. The incidence of depression appeared to be the highest in the White group compared to the other two groups. Men and women were significantly different from each other in discharge diagnoses. The results were discussed in the light of social and cultural factors relevant to ethnicity and gender.

Britain is frequently described as a multicultural society with several minority ethnic communities. Asian and Afro-Caribbean populations are the largest non-White minority groups in Britain. Majority of these groups came from the West Indies and the Indo-Pak subcontinent during the 1950s and 1960s to satisfy the need for unskilled labour in Britain. These populations represent a great diversity of people in terms of socioeconomic, cultural, and genetic characteristics. Extensive literature now available on mental illness among ethnic groups of the Britain has also revealed differences in hospital admission rates.

Studies investigating rates of mental illness in African as compared to Whites are highly consistent in showing a higher incidence rates in the former than the later (Bagley, 1971; Dean, Walsh, Downing, & Shelley, 1981). However, evidence about the levels of mental illness in Asians is not consistent. At times, it has been argued

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that the Asians (Pakistani and Indians) are either strongly predisposed to mental illness or they are exceptionally psychologically stable. Many studies have reported fewer hospital admissions for Indians and Pakistanis than native Whites (Cochrane, 1977; Dean, et al., 1981), but there is also some evidence that Asians have an increased rate of hospital admissions for psychiatric disorders (Carpenter & Brockington, 1980). Higher rates of mental distress in Asians have been attributed to stress related with migration and various forms of social deprivation, whereas low rates have been associated with traditional and joint family life system of Asian culture.

The findings of studies comparing different forms of psychiatric disorders in ethnic groups are more consistent. The distribution of psychiatric disorders does not appear to be same across ethnic groups. Minority ethnic groups in the UK, especially Africans, do seem to experience disproportionately high levels of severe forms of mental illness. Schizophrenia appeared to be the most common hospital diagnosis for Asians (Carpenter & Bockington, 1980; Cochrane, 1977; Dean, et al., 1981; Sheikh, 1985), and Africans (Bagley, 1971; Dean, et al., 1981; Littlewood & Lipsedge, 1982).

The present study aimed to achieve a better understanding and awareness of the levels and presentation of psychiatric disorders in ethnic minorities of Britain. Although the primary objective of the present investigation was to assess and compare hospital admission rates for different psychiatric disorders by ethnicity, it also assessed the difference in hospital presentation of mental illness by gender. Anecdotal evidence has shown that men and women differ in the prevalence of different forms of mental illness. Studies conducted in different parts of the world indicate that a higher number of men than women are diagnosed with schizophrenic disorders (Kendler & Walsh, 1995), whereas women are frequently diagnosed with depressive and anxiety disorders (Weissman & Klerman, 1977). Different explanations have been proposed regarding the predominance of women in affective illness. One hypothesis is that women respond to stress with affective distress because they acknowledge depressed mood more easily, and cope with problems by visiting doctor and by every measure of utilization of the general health care system. The alternate hypothesis considers the preponderance of women in affective illness a real phenomenon and attributes the effect to woman biological vulnerability and social causes (Kendler, et al., 1995; Mumford, Saeed, Ahmad, Latif, & Mubbashar, 1997). The current study was planned, in fact, to determine whether there are certain subgroups within the

population which are specifically vulnerable to certain psychiatric disorders.

METHOD

Sample

The study was conducted in All-Saints Hospital, which covers a large area of Birmingham. Admissions from Sandwel, Ladywood, and Handsworth were included in the current research because these areas have a high concentration of ethnic minorities. Ethnic minorities in this study refers to South Asian (Pakistani, Indian, and Bangladeshi) and Black (Afro-Caribbean) communities. Afro-Caribbeans and South-Asian constitute 4% of the total population of Birmingham. The study was a retrospective one reviewing all admissions to All-Saints Hospital during the year 1995. Rates of populations in the concerned area were obtained from the Census, 1991. Nine hundred and ninety-two case notes were reviewed. Twenty-seven files (2.72% of total admissions) could not be traced. Re-admissions were counted as admissions regardless of time since last discharge. Six hundred and seventy six patients contributed to 903 admissions. However, single and multiple admission statistics showed a surprisingly similar pattern across gender and ethnic groups. Individual case notes were screened to extract the following data: Ethnicity, age, gender, marital status, place of birth, and discharge diagnosis. Only the main diagnosis was recorded for each case.

The main categories of ethnicity used were Asian, White, and Black. Ethnicity in this study refers to what ethnic origin was recorded in case notes and is not based on subjects' own opinion. In the psychiatric notes used for this study, there was a separate sheet for socio-demographic details in which ethnic origin and place of birth were identified in most cases. In those cases where ethnicity or place of birth was not recorded on the demographic data sheets, the notes themselves were studied to extract this information. However, there were 46 cases whose ethnicity could not be traced. The Asian group consisted of people of Pakistani, Bangladeshi, or Indian origin. The mixed-race cases i.e., people from elsewhere in Asia, and those whose ethnicity was not mentioned in notes, were excluded. Black-African and

Black-Caribbean were coded as Black. The group identified as White included White-British, White-Irish, and White-other categories.

Instrument

The ICD-10 categories (World Health Organization, 1992) were adopted for the diagnostic classification. Broad diagnostic groups provided a simple coding scheme. Previous clinical research has found reasonable diagnostic reliability at this level of classification (Systema, Giel, TenHorn, Balestrieri, & Davies, 1989)

Procedure

Chi-square analysis with cross-tabulation was used on respective frequencies in order to determine whether the presentation of psychiatric disorders differ from the expected pattern by gender and ethnicity.

RESULTS

Demographic data of the samples are shown in Table 1. Statistical analysis was conducted on 903 admissions aged between 16 and 65 years. The majority of the patients were White, followed by Asians, and then Black. Most Asian patients were of Indian origin (37% Hindu and 31% Sikh). Patients of Pakistani (Muslim) origin accounted for 27% of the Asian total. There was a significant difference in the gender distribution of the three ethnic groups. Women were under represented in the Asian group. There was also a significant age difference between the three groups. The White group was the oldest and the Asian group was the youngest.

Although the majority of the Asians patients were born in their country of origin (56%), a substantial number (40%) were born in the UK. Six Asian patients were born in Kenya but they came to the UK at a young age (8 years). The majority of the Black patients were born in the UK (76%). All Whites were born in Britain and Ireland except three who were born in Hungary, Latvia, and Italy.

Table 1

Demographic data of Asian, White, and Black groups

	Asian n= 163	White n= 596	Black n= 144	Total n= 903	F/χ^2
<i>Gender</i>					
Men	115	307	79	501	
Women	48	289	65	402	$\chi^2 = 18.82^*$
<i>Mean Age</i>	31.91 (10.15)	39.01 (11.68)	33.36 (10.11)	36.83 (11.56)	$F = 34.06^*$
<i>Marital Status</i>					
Single	64	294	125	483	
Married	75	168	15	258	$\chi^2 = 98.22^*$
Divorced/Separated /Widowed	24	134	4	162	
<i>Birth Place</i>					
United Kingdom	65	593	109	767	
India	65	-	-	65	
Pakistan	21	-	-	21	
Bangladesh	6	-	-	6	
Jamaica / Africa	6	-	34	40	
Other	-	3	1	4	

* $p < 0.001$

The overall rates of psychiatric disorders appeared to be higher in Asian and Blacks according to their geographical distribution in area of the study. Mental illness appeared more frequently in Asian and Black groups. In both ethnic minority groups, the Black group showed a higher overall morbidity rate (see Table 2).

Table 2

One year prevalence rates of mental illness in Asian, Black, and White populations in Birmingham

Ethnic Group	No. of Cases	Population in Area	Prevalence per 1,000
White	596	57,930	10.30
Asian	163	12,050	13.50
Black	144	5,738	25.10

Discharge diagnoses were broken down by ethnicity and gender. Diagnostic data have been presented in Table 3 of ethnic group. Ethnic groups differed significantly ($\chi^2 = 123.05$; $df = 12$; $p < 0.001$) in the diagnosis received.

Table 3

Diagnosis of Asian, White, and Black groups

Diagnoses	Asian <i>n</i> =163	White <i>n</i> =596	Black <i>n</i> =144	Total <i>n</i> =903	χ^2
Schizophrenic/ Delusional disorders	56(34)	166(28)	88(61)	310(34)	
Bipolar disorder	23(14)	57(10)	35(25)	115(13)	
Depression	40(25)	192(32)	2(1)	234(26)	
Neurotic disorders	5(3)	17(3)	1(0.7)	23(2)	123.05*
Personality disorders	12(7)	51(8)	1(0.7)	64(7)	
Substance abuse	20(13)	72(12)	5(4)	97(11)	
Others	7(4)	41(7)	12(8)	60(7)	

* $p < .001$, the figures within parenthesis are percentages.

When discharge diagnoses were broken down by gender (see Table 4), men and women appeared to be significantly different in the diagnoses received ($\chi^2 = 98.51$; $df = 6$; $p < 0.001$). The most common diagnoses for men were schizophrenia and delusional disorders, while a greater number of women suffered from both depressive and bipolar disorder. Men outnumbered women in mental and behavioural disorders due to psychoactive substance use. The rates for other categories were similar for men and women. When the effect of gender was assessed for three main diagnoses, men and women appeared to be highly significant in their admission statistics for schizophrenia, depressive disorders, and bipolar disorder ($\chi^2 = 63.65$; $df = 12$; $p < 0.001$).

Table 4

Diagnoses by gender

Diagnoses	Men <i>n</i> =501	Women <i>n</i> =402	Total <i>n</i> =903	χ^2
Schizophrenic/Delusional disorders	217(43)	93(23)	310(34)	98.51*
Bipolar disorders	50(10)	65(16)	115(13)	
Depression	87(17)	147(37)	234(26)	
Neurotic disorders	9(2)	14(3)	23(2)	
Personality disorders	29(6)	35(9)	64(7)	
Substance abuse	79(16)	18(4)	97(11)	
Other	30(6)	30(7)	60(7)	

* $p < .001$, the figures within parenthesis are percentages.

Differences between pairs of groups were also assessed separately for three main diagnoses: Schizophrenia, depressive disorders, and bipolar disorders. A series of *chi*-square analyses showed that pairs of Asian and Black, White and Black, and Asian and White appeared to be significantly different from each other in the diagnoses of schizophrenia, depressive disorders, and bipolar disorders. A greater number of Whites were admitted for depressive disorders. Black had the lowest depression rates and the highest rates for schizophrenic and bipolar disorders (see Table 5).

Table 5

Difference between pairs of groups for main diagnoses

Groups	Schizophrenic Disorders <i>N</i> (%)	Depressive Disorders <i>N</i> (%)	Bipolar Disorders <i>N</i> (%)	χ^2
Asian-Black	56(34) 88(61)	40(25) 2(1)	23(14) 35(25)	43.85**
White-Black	166(28) 88(61)	192(32) 2(1)	57(10) 35(25)	83.69**
Asian-White	56(34) 166(28)	40(25) 192(32)	23(14) 57(10)	6.45*

* $p < .01$; ** $p < .001$, the figures within parenthesis are percentages.

DISCUSSION

The current study found higher rates of psychiatric disorders in Asian and Blacks as compared to the Whites. Many other studies have reported a higher incidence of mental illness in Blacks. However, hospital admission statistics in Asians are not consistent across studies. Some studies have reported fewer hospital admissions in Asians than in British Whites (Cochrane, 1977; Cochrane & Ball, 1987), while other reports have shown an increased number of admissions in Asians (Carpenter & Brockington, 1980). The present study found higher levels of mental distress in the two major ethnic minorities of Britain than it did in the native whites.

Migration has been hypothesized to be linked with increased rates of psychiatric pathology. The selection theory indicates that poorly adjusted people within their own community may find it easy to leave their country of origin. Moreover, different problems associated with migration and resettlement may also affect the in-comers adversely. Although 40% of Asians and 24% of blacks were born in the UK, the ethnic minorities of Britain on the whole are exposed to racial prejudice, unemployment, poor-housing, and economic deprivation. This may play an important role in contributing to mental distress. The Political and Economic Planning (PEP) study of racial discrimination in Britain (1967) has shown that discrimination is related to skin colour, and not to the degree of strangeness or foreignness in the individuals seeking jobs or house.

In the two ethnic minorities there was more mental illnesses among Blacks. Bagley (1971) hypothesized that community disintegration, status isolation, and racial discrimination might underlie the overt manifestation of to mental illness. He pointed out that compared to Indian and Pakistanis, Blacks show a lower degree of community integration, and this added to their mental disorder. Unlike Indians and Pakistanis, Blacks are not integrated on the basis of kinship, language, and shared religions beliefs. The greater frequency of psychiatric disorders in the Black group might also be because Afro-Caribbean patients are often detained in hospitals under the Mental Health Act of Britain (Raleigh, 1995).

The findings of the current study are consistent with previous reports in showing that the highest rates of schizophrenic disorders in Black patients. Others studies in this area have also reported that Black (Caribbean) patients with a diagnosis of schizophrenia are over represented in hospital admissions as compared to Whites and Asians.

Although Asian patients showed a higher number of schizophrenic admissions in comparison with the native British population, the difference was much less than it was in the case of Black patients.

Rack (1982) has drawn attention to the pitfalls of diagnosis when English is not the first language and when cultural beliefs differ. It has been pointed out that the diagnosis of schizophrenia is readily assigned to a patient, whose beliefs seem unusual or bizarre to the psychiatrist. Sub-cultural paranoid ideas involving witchcraft or poisoning are quite often found in Africans and Asians. Similarly, grandiose delusions, which occur commonly in all types of psychosis among Africans and Jamaicans, are related with their religious fervour (Littlewood & Lipsedge, 1982). Moreover, hallucinations are reported to occur more frequently in African, Caribbean and Asian patients than they do in native British patients (Ndeti & Vadher, 1984a). Many researchers believe that white psychiatrists often have a poor understanding of the cultural background of minority ethnic communities; that they hold stereotyped views about behaviour in Blacks and consequently misdiagnose patients from other cultures. Furthermore, there is no evidence of schizophrenia being elevated to this extent in Blacks anywhere else in the world.

The disproportionately high rates of schizophrenia in Blacks are sometimes explained in terms of widespread racism in British society. However, this explanation can be ruled out because a similar set of experience does not produce the same effect in other groups who face prejudices (e.g., South-Asian). Moreover, depression which can be caused by racism is no longer higher in Black patients (Raleigh, 1995). Similarly these findings do not seem to be linked to the different marital profile of the ethnic groups as there was greater number of single patients in both Black and White groups.

The current data showed a highest number of depressive episodes in the White group, meanwhile, there were hardly any patients in the Black group who were diagnosed with depression. Among Asians, depression is characterized by prominent somatic symptoms and can often be treated as a physical disorder by their general practitioners. In the case of an abnormally low incidence of depression in Blacks it is difficult to believe that certain cultures lack a given disorder. Three explanations can be entertained in this respect: First, Blacks suffer less from non-psychotic conditions; second they suffer at similar rate, but receive alternative forms of care; and third, the manifestation of depressive disorder appears in a different form in Black people which Western psychiatrists are unable to understand. Ndeti and Vadher

(1984b) noted that depression was rarely diagnosed in Africans by hospital clinicians, but a great deal of psychotic depression was found after reanalyzing the results by using the syndrome check list. Moreover, there is evidence that a considerable number of Black patients are admitted for depressive disorder in Africa (Leighton et al., 1963).

It is worth mentioning that 85% of Sikh patients contributed to the excess of Asian admissions in the substance abuse category. Sikh men have already been acknowledged as the heaviest drinkers in Britain (Cochrane & Ball, 1990).

This study confirms that women had a higher proportion of affective disorders than men. For man admissions, schizophrenia appeared to be the largest single diagnostic category. Previous research showed about the same rate of schizophrenia among men and women. However, recent studies from North America and Europe report that men are more likely to be diagnosed as schizophrenics (Iacono & Beiser, 1992; Kendler & Walsh, 1995). Although majority of these studies have reported a ratio of 2:1 for men and women. A more recent study has reported a strikingly high man to woman ratio for schizophrenic disorders (6.3:1) in the Island of Kosrae, Micronesia, in the Western Pacific Ocean (Waldo, 1999). The higher prevalence of schizophrenia among men might be due to the fact that women are more readily diagnosed with affective disorders.

The literature showing the predominance of women in affective disorders is extensive. Weissman and Klerman (1977) reviewed different studies, extended over 40 years, to make an international comparison of sex differences in the rates of depression. Although they found higher rates of depression in women both in clinical and community data in Western industrialized societies, the difference between men and women regarding the frequency of depression was not noticeable in non-Western countries. However, recent studies from Pakistan and India have shown a higher prevalence of depression in women. Mumford et al., (1977) found higher rates of depression and anxiety in women (66%) as compared to men (25%), when they employed a somatic inventory to detect affective symptoms in a rural village of Punjab, Pakistan. Also from an Indian village, a higher lifetime prevalence of affective disorders in women (36.8%) as compared to men (19.3%) has been reported (Kinzie, et al., 1992).

Many hypotheses are entertained in response to the question of why depression is more prevalent among women. One hypothesis is that women are subject to stressful life events which put them at greater

risk for depressive disorders. According to Freden (1982) women are often trapped in set routines; and are expected to satisfy the needs of others. This makes them more susceptible to depression. Research has shown a strong link between social and economic disadvantages, women are exposed to, and depressive symptomatology in women (Mumford et al., 1997).

Researchers have also addressed the question of the possible relationship between woman sex hormones and affective states. Associated areas including premenstrual dysphoria, post-partum depression and low mood following menopause have been studied in this connection. In an epidemiological study of 1030 woman-woman twin pairs, it has been pointed out that depression in women could best be explained by the interrelationship between genetic, environmental, and individual-specific environmental risk factors (Kendler & Walsh, 1995).

Kaplan (1977) presents another hypothesis by suggesting that women find it more difficult to give vent to hostile emotions. In most cultures there is a negative reaction to a woman who becomes aggressive in a situation where the same reaction is acceptable for a man. Consequently, this aggression is turned inward and the woman becomes depressed. Freden (1982) points out that alcohol and depression serve as different coping strategies to solve problems: The first mainly for men and the second mainly for women.

Several epidemiological studies have shown higher rates of substance abuse among men as compared to higher rates of affective disorders among women (Kinzie, et al., 1992). This, too, was confirmed by the current data where men outnumbered women for substance abuse. Weissman and Kleman (1977) suggest that depression and alcoholism are different but equivalent disorders; women get depressed and men, reluctant to admit being depressed, mitigate their symptoms of depression by drinking. Alcohol, in turn, may serve as a psychic relaxant and the social context of the consumption may provide support as well. It may be hypothesized that some unknown proportions of depressed men appear in the substance abuse rates and are not identified, therefore, as depressed.

It has been suggested recently that the gender differences in the prevalence of clinical depression are in fact associated with somatic symptoms. Silverstein (1999) found woman subjects exhibited a higher prevalence than man subjects of somatic depression (with symptoms of fatigue, appetite, and sleep disturbance), but not a higher prevalence of pure depression (without somatic complaints).

Another important finding of the present study was that Asian women were under-represented compared to their White and Black counterparts. Findings based on hospital admission statistics may be influenced by differences in utilization of psychiatric services. Under-representation of Asian women may be subject to the following factors: First, Asian women may avoid psychiatric service and seek help from traditional healers (Aslam, 1979); second, general practitioners might not detect disorders in women because of failure of communication (Berwin, 1980); third, Asian families might not want their women to be identified as "not normal" because of the stigma attached to mental illness and the use of mental health services.

The data of the current investigation need to be interpreted in the context of certain limitations inherent in hospital admission studies: (i) potential diagnostic bias can not be controlled for in retrospective studies using case note data; (ii) hospital statistics might not represent the true incidence of mental illness because many symptomatic patients might have not been admitted; (iii) the findings are based on people at the extreme end of the psychiatric spectrum since only very severe cases of disorder are treated as in-patients. Patients who were being treated at home (called Home Treatment in Britain) were not included in the study; (iv) the decision to admit or discharge patients might be influenced by gender and/or ethnicity; and (v) ideally, we should have information regarding prevalence of mental illness in countries of origin in the case of immigrant communities.

CONCLUSIONS

The present study provided a comparative estimate of rates of mental illness in three ethnic groups in a defined epidemiological area in Britain. The higher prevalence of mental distress in ethnic minorities in Britain may be attributed to the stress related to migration, social isolation, racial discrimination, and misdiagnosis. The under-representation of Asian women in hospital statistics and the higher prevalence of depressive disorders among women are consistent with findings of previous studies. Sociocultural factors seem to play an important role in these connections.

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