PSYCHOSES IN GENERAL PRACTICE

AN EPIDEMIOLOGICAL SURVEY

By

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Two main difficulties are met with in epidemiological studies of mental disorders. Firstly, the problem of finding all the cases occurring in a population, or a representative sample of them; and secondly, the problem of classification.

As regards methods of case-finding, surveys based upon patients presenting in hospital or private psychiatric practice are bound to be a selected group, representing an unknown proportion of all cases occurring, a proportion determined in part by severity, but also by various immeasurable social, cultural and medical influences. This selective ascertainment greatly reduces the value of comparative studies made in different communities, or at different times.

As regards the problem of classification, Stengel (8) has recently reviewed the unsatisfactory state of affairs which exists at present. Even if the present classification is held to be reasonably useful for the purpose of the clinical management of patients, it is far from satisfactory from the point of view of genetic and epidemiological studies, where the methods used in the classification of mild, mixed, atypical and borderline cases may critically alter the results obtained. The object of the present paper is to present some indication of the likely importance of these two factors in epidemiological studies of the psychoses, on the basis of a study of cases encountered in a general practice.

General practice experience of psychiatric illness is itself selective. In the first place, the composition of a G.P.'s list is to some extent determined by his attitudes and interests, and to a large extent by his geographical position. In the second place, patients of unsettled domicile and occupation, and patients permanently hospitalized, are likely to be under-represented on the registered list of a G.P., and these groups are likely to include a high proportion of psychotics. On the other hand, under the N.H.S. the great majority of the G.P.'s registered population who fall ill are likely to pass through his hands at some stage, and he is therefore in a good position to give a relatively complete and long-term account of the serious morbidity of this population. In so far as there is some bias present in the G.P.'s experience of the psychoses, it is complementary to the bias which exists in hospital practice.

An account of the epidemiology of the neuroses in my own practice has already been published (Ryle, 5), in a paper which also describes the age, sex and social composition of the practice population. While the present study cannot offer reliable estimates of the prevalence of psychoses because of their relatively low incidence, qualitative information of clinical and epidemiological interest is provided.

The relation between hospital-based estimates of prevalence and actual prevalence in the community has been studied by Fremming (1) who carried out a biographical survey of an age group of the population of Bornholm. He found, for example, that 42 per cent. of manic-depressive psychoses were treated without reference to hospital, and that, at a given time, only one in 35 of affected patients was in hospital. Watts (9), over a ten-year period, diagnosed

endogenous depression in 387 of 8,000 patients at risk, a rate of 48 per 1,000, and recorded an annual first-attack rate of 5 per 1,000. Two-thirds of these cases were classified as mild, and under half were referred to hospital. Sjögren (7). carried out a study of a rural community in Sweden, and found that nearly all patients with schizophrenia were admitted at some stage of their illness and that 60 per cent. were in hospital at any given time; a figure which is confirmed by Norris (4). Her monograph provides extensive figures from British and foreign studies, in addition to her own investigation of all mental hospital admissions from an area of London over a three-year period. General practice studies, apart from that of Watts, have paid little detailed attention to psychoses—owing, no doubt, to their relative rarity. Logan (3), in a study of eight practices, records the one-year prevalence rate for the psychoses combined (I.C.D. 300–309), as 13 per 1,000 for males, and 41 per 1,000 for females. Kessel (2) in a practice-based survey, found only three psychotics during a year's observation of 911 adults at risk.

Method

A list of all patients on whom a psychiatric diagnosis had been made was recorded systematically in 1958 and has been added to since. The population studied amounts to about 2,000 born before 1950, and the patients selected for study were those suffering from (1) endogenous depression, (2) schizophrenia and (3) mixed psychotic or possibly psychotic conditions. Organic psychoses and senile dementia were excluded, as these conditions carry a high death rate and the study is based upon a register of live persons only. More or less complete records have been obtained for the years 1956–1960, during which period particular attention has been paid to the epidemiology of psychological disorders. An account is given of all ascertained cases, but estimates of prevalence (which are only made for the most numerous group, the endogenous depressions), are based upon this five-year period. The age and sex distribution of the population in December, 1959 (Table I), is used for the calculations of prevalence, as these figures were already available, and as annual changes are known to be small.

Table I

Sex and Age Distribution of the Population and of All Ascertained Psychoses

Date of Birth	Population 1960		Endogenous Depression		Schizophrenia		Mixed Group	
	M	F	M	F	M	F	M	F
1940–49	89	171	0	0	0	0	0	0
1930–39	135	179	0	3	1	1	2	1
1920–29	169	244	3	5	2	1	3	2
1910–19	159	148	0	5	1	1	1	2
1900–09	99	116	1	6	0	0	0	1
1890–99	77	104	1	3	0	0	0	0
Before 1889 ..	73	136	1	4	0	0	0	2
All ages to 1949 ..	801	1,098	6	26	4	3	6	8

1. *Endogenous Depression*

The features considered to give evidence of endogenous as opposed to neurotic depressions, arranged in order of significance, were as follows: manic or hypomanic phases; sleep disturbance characterized by early waking; a

diurnal mood-swing; multiple unprovoked attacks; self-accusation; loss of interest and concentration; constipation, anorexia and weight-loss; a pyknic body-build; a family history of depressive psychosis.

No patient was classified in this group who did not exhibit either early waking, diurnal mood-swing, or a history of hypomanic phases, except for one for whom few details were available, but for whom a hospital diagnosis of depressive psychosis had been made. Cases of involutional depression were not separately classified. Thirty-two patients diagnosed as examples of endogenous depression according to these criteria were identified. Of these thirty-two, ten (30 per cent.) had been admitted to hospital, and a further four (12 per cent.) had attended out-patients, leaving eighteen (58 per cent.) treated solely in general practice. Nine patients (28 per cent.) had received E.C.T., eight (25 per cent.) had received imipramine or one of the mono-amine oxidase inhibitors. The remainder had mostly received amphetamine. Only four patients (12 per cent.) had presented manic or hypomanic phases; twenty-two (70 per cent.) had experienced early waking and the same proportion had a marked diurnal mood-swing. Seventeen patients (53 per cent.), have had only one attack, seven (22 per cent.) have had two, and eight (25 per cent.) have had three or more attacks. Five patients (15 per cent.) had paranoid symptoms; four of these were women between the ages of 50 and 60. A family history of manic-depressive disease was recorded in six cases (19 per cent.). Thirteen patients (40 per cent.) were of pyknic body-build. Cases in which endogenous features may have been present, but the criteria adopted for this study were not fulfilled, were of three groups. One group consisted of mild or transient depressions, arising and disappearing spontaneously, producing only slight or brief physical or psychological disturbance. A second group were those on whom the records were insufficient to permit a confident retrospective diagnosis, and a third small group were those classified as neurotic depressions, in whom some "endogenous" features appeared. One aspect of endogenous depression which distinguished it from neurotic depression was the ease with which the beginning and end of the attacks could be identified from the records. Apart from depressions reactive to particular events, neurotic depression as seen in general practice tends to wax and wane in intensity rather than to present in episodes—a difference less apparent in hospital practice, where referral, admission and discharge may make illnesses appear artificially episodic.

The 32 patients classified as endogenous depression can be divided into the following groups:

A. Classical Manic-Depressive Psychoses (♀1 ♂2)

B. Recurrent Depressions (♀5 ♂1)

C. Single Depressive Illnesses without known provocation (♀10 ♂1)

D. Single Depressive Illness with apparent psychological provocation (♀3 ♂–)

E. Single Depressive Illness with physical and psychological provocation (♀2 ♂1)

F. Manic Depressive Illness provoked by an infection (♀– ♂1)

G. Puerperal Depression (5)
(Some of these have been previously reported (Ryle, 6).

Two epidemiological tables are presented; the prevalence rate, Table II, and the inception (first attack) rate, Table III. Because of the small numbers

involved, these have been calculated for the five-year period 1956 to 1960. These tables demonstrate a marked female preponderance and record an age prevalence pattern in line with hospital experience of manic-depressive disease.

TABLE II

Five-Year Prevalence Rate (Persons) (1956-60) for Endogenous Depression, Classified by Age and Sex

(For population figures, see Table I)

Date of Birth	Males No. Affected	Males Rate per 1,000	Females No. Affected	Females Rate per 1,000
1940–49	0	0	0	0
1930–39	0	0	3	16
1920–39	3	18	4	16
1910–19	0	0	3	20
1900–09	1	10	6	52
1890–99	1	12	2	20
Before 1889 ..	0	0	4	28
All ages to 1949 ..	5	6	22	21

TABLE III

Five-Year Inception Rate (1956–60) for Manic Depressive Psychoses, Classified by Age and Sex

(For population figures, see Table I)

Date of Birth	Males No. Affected	Males Rate per 1,000	Females No. Affected	Females Rate per 1,000
1940–49	0	0	0	0
1930–39	0	0	2	10
1920–29	1	6	1	4
1910–19	0	0	2	12
1900–09	0	0	4	33
1890–99	1	12	0	0
Before 1889 ..	0	0	2	14
All ages to 1949 ..	2	2·5	11	10

If it is assumed that the 32 ascertained cases represent all the cases which have occurred, the disease expectancy rate calculated by Weinberg's method (10), assuming that those born between 1890 and 1940 are at risk, is 6·6 per cent. for women, and 1·5 per cent. for men. This is probably an underestimate for if the average inception rates are calculated for each decade from the figures in Table III and summated, the total rate for endogenous depression is 12 per cent. for women. The adoption of different criteria would radically alter this figure, however. If evidence of both manic and depressive phases were required, only one-eighth of the cases reported here would qualify, and if single attacks of depression were excluded, the rate would be reduced by two-thirds. If all women experiencing their first attack between the ages of 50 and 70 were excluded, and separately classified, the rate would be reduced by a quarter, and if puerperal attacks were excluded the rate would be reduced by a sixth. On the other hand, if less restricted criteria were adopted for the diagnoses of endogenous depression, the rate would be higher.

2. *Schizophrenia*

The criteria used for the diagnosis of schizophrenia were the presence of a characteristic disturbance of thinking (vagueness, inconsequence, blocking), of feeling (blunting, incongruity) or of activity and will (inertia, negativism, catatonic symptoms) often associated with delusions and hallucinations. While recovery may occur from the acute attack, all the patients classified as schizophrenics have some persistent symptomatology.

Seven patients were considered to meet these criteria. Two of these have never attended hospital (Appendix Case 1). Over the past year, three of these patients have been incapacitated for work for long periods and four have presented obvious clinical evidence of their illness.

3. *Mixed Psychotic and Possibly Psychotic Group*

From the point of view of epidemiology this group is of particular interest; some illustrative case histories are provided in the Appendix.

Fourteen patients in all are included under this heading. All but two (Cases 19 and 20) have attended or been admitted to psychiatric hospitals. The following groups are recognized:

A Toxic psychosis, diagnosed as schizophrenia (♂1) well for seven years since.

B. Schizo-affective disorders (♀1 ♂2)

1. Paranoid and obsessional personality, diagnosed as schizophrenia in adolescence, presenting later with a mixed schizophrenic and manic-depressive picture (Appendix, Case 2).
2. Depressive illness in a schizoid personality.
3. Depressive illness in an obsessional personality with some features of schizophrenia.

C. Episodic paranoid illness in the involutional period (♀1). Hospital diagnosis schizophrenia (Appendix Case 3).

D. Personality disorder, possibly schizophrenic (♀2, ♂1). Hospital diagnosis: (1) schizoid personality, (2) anxiety state (Appendix, Case 4), (3) paranoid personality.

E. Depressive and paranoid symptoms in patients with prolonged neurotic illness two of whom have severe rheumatoid arthritis (♀3) (Appendix, Case 5).

F. Depression, hallucinations and compulsive symptoms with a history of mild neurosis and a brain stem lesion (♂1) (Appendix, Case 6).

G. Paranoid symptoms in patients with cerebro-vascular disease, living alone (♀2) (Appendix, Cases 7 and 8).

Discussion

Endogenous Depression

The inception rate recorded for endogenous depression in this study (equivalent to about 1 per 1,000 per year), while much higher than hospital-based figures, and higher than figures reported by Fremming and Sjögren, is about one-fifth the rate given in the general practice study of Watts. This difference can probably be attributed to Watts' use of less stringent criteria for the diagnosis of endogenous depression. His only non-endogenous group of

depressions (classified as exogenous or reactive) is said to be provoked by environmental psychic factors, superficial in character and responsive to psychotherapy. In my experience, however, a larger proportion of neurotic depressions reflect long-term personality problems and disturbed personal relationships, and some of this group in Watts' practice might be classified as endogenous. It is also quite possible that there is a difference in the actual prevalence in the two populations studied. The lower rate recorded by Fremming, on the other hand, may reflect more stringent diagnostic criteria on his part, but is more likely due to his use of other doctors' records.

Comparing average annual inception rates in my practice with the first admission rates recorded by Norris (4) the practice inception rate of males is about four times the first admission figure, while that of females is eight times the first admission figure. This high female-male ratio in general practice is also recorded in Logan's 8-practice study (3), the ratio for all psychoses being 41 to 13—a sex difference which is probably largely due to the depressive psychoses. These figures, if typical, imply that, of the males who present in practice, twice as many are referred to hospital as are females, a fact which could be explained by the greater readiness on the part of women to consult doctors for mild depression.

Inception rates by age for women (males are too few to calculate), show age trends very similar to first admission rates by age presented by Norris. This suggests that the cases treated in practice are milder forms of the same disorder, rather than earlier manifestations of severe disease, or a separate or ill-defined group of conditions.

Future genetic and epidemiological studies of depressive psychoses must take into account the large proportion of cases treated without referral to hospital (a proportion which is likely to increase with the use of anti-depressant drugs). The diagnostic habits of general practitioners and the readiness of their patients to come to consultation varies, however, and classification presents big problems, even if well-standardized criteria are used.

2. *Schizophrenia and Mixed Psychoses*

Hospital figures probably do reflect prevalence here. It is likely that at least one of the only two cases of schizophrenia in the present series who have not attended hospital so far will eventually need to do so. Diagnostic criteria, however, are of extreme importance; for while 77 patients were classified as schizophrenic, there are 8 further patients in the mixed group who either have been diagnosed as schizophrenic at some stage or who might, with some justification, be so classified. Paranoid conditions other than in endogenous depression and schizophrenia, too, are relatively numerous (5 cases in this series including Appendix, Cases 7 and 8). In fact, of the 21 possibly psychotic patients, excluding those with endogenous depression, a major doubt as to diagnostic classification exists in more than half. While the absence from my series of long-stay hospital cases may inflate the degree of uncertainty, this study would seem to confirm that sounder methods of classification are urgently needed.

Summary

The problems of ascertaining and classifying psychoses are discussed in the light of a study of all the psychotic patients in a general practice. The prevalence of manic-depressive psychosis reported is lower than the rate

reported in the general practice study, but higher than hospital and community studies. Differences in approach which may account for these discrepancies are indicated. Amongst other psychoses, doubt as to classification exists in over half the cases encountered.

Appendix: Case Histories

Case 1

Schizophrenia. Never attended hospital.

Female, born 1913. This patient first gave evidence of disorder aged 38, soon after having an illegitimate child, and a radical mastectomy for a breast carcinoma. The schizophrenia is manifested in florid paranoid delusions, usually communicated in writing on odd scraps of paper, concerned with violence to children, storing weapons, tape recorders, etc. She neglects her appearance and her home, but has managed to hold down a clerical job throughout. The school has recently reported, for the first time, that the child, now aged 11 and of exceptional intelligence, is showing some signs of psychological disturbance.

Case 2

Paranoid and obsessional personality, diagnosed as schizophrenic in adolescence, presenting with a mixed manic depressive and schizophrenic picture.

Male, born 1930. This man had a four-month admission at the age of 18, with a diagnosis of catatonic schizophrenia. Twelve years later he consulted for insomnia, and at that time was suffering from intense ideas of persecution, which he was unable to disregard, although he realized that they were unreasonable. He at no time had any primary delusions. Over the years since his admission he had had three or four phases of depression, accompanied by a feeling of persecution, and some phases of unusual activity and productiveness. He developed severe insomnia, characterized by early waking. After consultation with a psychiatrist, it was considered that he was probably an example of manic-depressive illness occurring in a paranoid personality. He was put on anti-depressants but subsequently needed admission to hospital, his symptoms becoming more schizophrenic in type.

From the point of view of classification this case could be regarded either as schizophrenia, or as manic-depressive disease, or as a personality disorder which in turn might be regarded as consequent upon earlier schizophrenic illness.

Case 3

Episodic paranoid illness in the involutional period classified as schizophrenia.

Female, born 1902. This patient presented in October 1959, with depression and a feeling that people at work talked about her. In December that year, she became agitated, and self-accusatory. She said she had a cancer, but that God spared her the pain. She was admitted to hospital, and depression improved on Imipramine, but her paranoia became more marked for a time. She returned to work but was re-admitted with florid delusions, in March, 1960. She had a brief return of symptoms in August, 1960, January, 1961, May, 1961 and August, 1961, responding to treatment with Stelazine (trifluoperazine). This patient is of pyknic build. Her mother spent a great part of her life in a mental hospital. The age, build, and episodic course of the illness are in favour of a basically depressive diagnosis, but she was classified in hospital as schizophrenic on the basis of the primary delusions and marked paranoid trends. She could, under the I.C.D., be classified as schizophrenia, paranoid type (300.3), as paranoia and paranoid states (303), as schizo-affective psychosis (300.6), or as involutional melancholia (302).

Case 4

Personality disorder, possibly schizophrenic.

Male, born 1923. This patient consulted for impotence in 1957; early in 1960 he complained that people at work had accused him of working too hard. He became agitated and sleepless for two days, and complained that the downstairs neighbour was accusing him of being too noisy. This neighbour was in fact deaf. He quoted remarks passed about him from 50 to 100 yards away, and said there were rumours up and down the street that he was an undercover policeman. He had no insight into his delusions. He was referred to hospital, where a diagnosis of anxiety state with depressive and paranoid features was made. He improved on Niamid (nialamide) and Stelazine (trifluoperazine), and after a few weeks was able to return to work. The hospital classification is of anxiety state (I.C.D. 310) but I would think that schizophrenia, paranoid type (300.3) is a distinct possibility.

Case 5

Depressive and paranoid symptoms in prolonged neurotic illness.

Female, born 1915. This is the case of a woman with rheumatoid arthritis with severe deformities. She developed thyroid deficiency between 1957 and 1959, due to Hashimoto's disease. She was not treated for this until May, 1960. In 1956 she made a suicidal attempt with barbiturates, stated subsequently by the patient to have been a means of making her husband

take more notice of her. Over the ensuing years she became increasingly suspicious of her husband's fidelity, almost certainly with no foundation. Finally in August, 1960, she consulted saying she was troubled in her mind. She gave a long account of her suspicions, and of how she had followed her husband and watched him, seeing cars go by with a woman in it, etc. She accepted psychiatric referral, but was not willing to have her husband interviewed. This would seem to represent a paranoid reaction, based on a long-standing depression, occurring on the context of severe physical disability and deformity, possible exacerbated by hypothyroidism. Possible classifications are paranoid state (303) or neurotic depressive reaction (314).

Case 6

Depression, hallucinations, and compulsive symptoms in a patient with a history of mild neurosis and a brain-stem lesion.

Male, born 1910. This patient presented with nervous dyspepsia and vasovagal symptoms between 1947 and 1953. In 1953 he developed occipital headaches, deafness, more marked on the left, and numbness over the left trigeminal distribution, with nystagmus and a slight left facial weakness. A neurologist diagnosed a brain-stem lesion, probably vascular or demyelinizing. These symptoms slowly left him and have not recurred. In 1954 he became depressed, tearful and irritable, had vivid "deja vu" sensations, hallucinations of his dead mother's voice saying "It will be all right", and he felt compulsions to carry out mathematical calculations in his head. His symptoms abated after a few weeks and have not recurred. The time interval (9 months) between the onset of neurological and psychiatric symptoms, and the lack of evidence of any subsequent progression over 7 years, make it hard to correlate the somatic and psychiatric disorder. On the other hand, the unprovoked appearance of depression, hallucinations, and compulsive symptoms in a man otherwise showing only minor neurotic traits, is hard to explain, and defies classification.

Case 7

Paranoid symptoms in a patient with cerebro-vascular disease living alone.

Female, born 1870. This patient has a hemiparesis following a cerebral thrombosis in 1955, and also suffers from defective vision due to cataracts. In 1956 she complained that her neighbours were abusive. In 1958 she accused them of having unlocked her door and of having eight keys to her flat. She shouts defiant messages to them up the stairs, but takes no other action.

Case 8

Paranoid symptoms in a patient with cerebro-vascular disease living alone.

Female, born 1888. A hypertensive old lady, suffering from angina, and borderline congestive cardiac failure, living alone. She asked for a letter to the Housing Department for a transfer in 1960, as her neighbours were noisy. Three months later she alleged that her neighbours were entering her flat and robbing her, but was unable to produce any evidence of this.

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