OBSESSIONAL ILLNESS IN MENTAL HOSPITAL PATIENTS

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INTRODUCTION

THE descriptive study reported here has three main objects: to describe in detail the natural history of a group of obsessional patients; to compare the findings in this group with those in comparable groups of hysterics and anxiety neurotics; and to find in what ways a sample composed of in-patients of a mental hospital differs from other groups of obsessional patients previously described.

Comprehensive studies of large numbers of obsessionals are few. The only ones which deal in any detail with the natural history of the illness are by Lewis (15), Müller (17), Rüdin (25) and Pollitt (21), although many other writers deal with details of the subject. As it will be necessary to refer to the work of these authors frequently, the types of case they studied and the length of follow-up will be stated briefly. Lewis followed up 50 cases of obsessional illness, both out- and in-patients, over five years, discussing course, outcome and family history. Müller was able to contact 57 out of 84 patients after as long as 20–30 years in most cases. As the average age at follow-up was 55, this is the longest follow-up and the best guide to the effect of ageing on the obsessional state. Rüdin's series is the most detailed and comprehensive, comprising 130 patients, the majority in-patients. They were cases of obsessional illness in a broad sense, and included 25 doubtfully psychotic cases and 13 cases first diagnosed as obsessional who became psychotic. Genetic factors are emphasized but the natural history is also considered in detail. Pollitt followed up 150 cases, 69 of whom were in-patients and 81 out-patients seen in private practice. Only obsessional neurotics were included and all doubtful or borderline cases were excluded. The natural history was investigated and the average duration of follow-up was 3·4 years.

There is general agreement among the quoted authors on the definition of obsession. That usually accepted is by Schneider (27) who stated that an obsession exists whenever a person cannot exclude thoughts from consciousness, distinguishes them as unreasonable or without basis, but is mastered by them. Lewis (15) lays more stress on the subjective feeling of resistance than on the recognition of senselessness, but both are implicit in Schneider's definition which is used in this work. There is less agreement on the use of such terms as "obsessional illness", "obsessional neurosis" and "obsessional state". Throughout this paper "obsessional illness" will be used to designate the wide range of patients whose symptoms are predominantly obsessional. The term "obsessional neurosis" will be used to describe the most typical cases of obsessional illness, excluding any cases in which schizophrenia, depressive illness, or organic illness is suspected.

Diagnostically these studies can be divided into those which deal with obsessional neurosis and those which deal with obsessional illness. Lewis and

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Pollitt are concerned with "pure" cases of obsessional neurosis and exclude doubtful and atypical cases, while those of Rüdin and Müller cast a wider net and deal with obsessional illness. These differences in diagnostic criteria add to the difficulties in comparison but all these authors make their methods of diagnosis explicit. In many other sources no clear statements on diagnosis are made.

There are other differences in selection. When groups contain different proportions of out-patients and in-patients the severity of the cases may differ. It would be expected that different proportions of paying and non-paying patients would also have an effect on results. Only when these differences are made explicit can comparisons be profitable.

Control groups are necessary. Data on precipitants, childhood symptoms, and many other matters cannot be evaluated unless results collected in a similar way are available for normal subjects or other neurotics. Many authors do not provide such information.

It is hardly surprising that many simple problems are unsolved and that major contradictions can be found in comparing results. The most obvious and urgent problems concern the course and prognosis of obsessional states. When opinions on natural history diverge the evaluation of treatment, particularly leucotomy, is inordinately difficult. The present investigation was planned to investigate these problems and avoid some of the criticisms. It differs from previous work in considering mental hospital in-patients only, and in providing comparative data for other neurotic groups.

Admission to hospital ensures that the cases are of some severity and that a reliable picture of the natural course of severe cases will emerge. In hospital a detailed record of the individual's day-to-day behaviour can be made and more detailed case-taking is possible than in most out-patient clinics. Many in-patients have been ill for years prior to admission and the course of the illness can be studied retrospectively as well as by follow-up. In hospital cases the possible relations with and development of psychotic states is more obvious. Against these advantages there is the objection that an in-patient sample is likely to contain more chronic and severe cases and will give a biased view of prognosis and of the results of therapy. For prognosis, the objection is valid; but it does not apply to therapy, for the results in severe cases provide a useful basis for assessing the results of treatment in severe cases. In particular, the results of leucotomy can be compared with the results in patients who were'not offered or refused the operation. It can be said that severe obsessional neurotics may differ in other ways as yet unknown from a sample of both out-patients and in-patients. This objection can be turned to good account by comparing the results with those obtained in "mixed" populations and considering in what way the present group is similar and in what way dissimilar. The advantages to be gained from studying a homogeneous sample compensate for the few disadvantages.

The gathering of similar data for groups of hysterics and anxiety neurotics makes it possible to compare the obsessional patients with other hospitalized neurotics. In psychological research Eysenck has aligned the obsessional and the anxiety neurotic in his dysthymia concept (4, 5). Other psychological research casts doubt on the validity of this grouping (9, 10) but there is a dearth of clinical information on the subject.

Method and Classification

The group comprised 89 patients admitted to Crichton Royal, Dumfries, in the years 1946–1956 who were classified as suffering from obsessional states.

Since mild obsessional illness rarely merits admission to hospital, since no out-patients were considered, and since phobic anxiety cases were classified under anxiety reactions, the group was presumed initially to be a sample of serious cases with predominantly obsessional symptoms. Detailed case records were available for these patients and all admitted during the last three years of the period had been examined personally, while many of the earlier cases were examined during the follow-up. All cases which presented diagnostic difficulty had been discussed at staff meetings and conclusions noted. It was possible to obtain information for all cases on a wide variety of details. The only order imposed on the material as a whole was the division of the cases into the five categories named and defined below. These diagnostic subdivisions were in all cases expressed by the original psychiatrists, implicit in their comments and formulations, or elucidated in discussion with them.

The categories used were:

1. *Obsessive-compulsive Neurosis*

A classical or nuclear group, justifying the description of typical obsessional neurosis: obsessional and compulsive symptoms giving rise to a sustained symptom complex with no question of psychotic disturbance of thought or mood, organic nervous illness or other neurotic symptoms. Any cases in any way atypical were automatically and strictly excluded from this group.

2. *Phobic-ruminative States*

This category was used for those cases with predominantly phobic and ruminative symptoms, with minimal or absent motor symptoms and no psychotic or organic signs.

3. *Doubtfully Schizophrenic*

It was anticipated that this would be a useful category in an in-patient group and its use had a precedent in Rüdin's work. It consists of those cases in which symptoms suggestive of schizophrenia were found and in which there was a measure of disagreement regarding the differential diagnosis among the medical staff although the final classification was as an obsessional state. The most common difficulties were doubt about the resistance to his symptoms felt by the patient or about recognition of their absurdity. It was presumed that this group would contain any patients found to be schizophrenic at follow-up.

4. *With Depressive Features*

This group contained those patients showing sustained depressive symptoms. The category was designed to explore the borderland between obsessional neurosis with depressive features and endogenous depression with obsessional symptoms—the "endogenous obsessional neurosis" of Mayer-Gross *et al.* (16). In addition to mood, such factors as early waking, diurnal variations in symptoms, and obsessions with a depressive content were considered in selecting patients for this group.

5. *Miscellaneous*

Those patients who, while having predominantly obsessional symptoms, could not be included in the other groups because of other atypical features.

These clinical divisions were made on the basis of the total impression of the patient and before the detailed descriptive data were transferred to cards for analysis.

For most findings data for patients suffering from anxiety neurosis and hysteria are also presented. One hundred consecutive discharges classified as hysteria and another hundred classified as anxiety neurosis were taken and their case records examined. Both series commenced in 1951; the date was selected as the mid-point of the period covered by the obsessional cases. Because anxiety neurosis and hysteria are of high incidence a consecutive series was considered the best way of obtaining an unbiased sample. The same technique was used for collecting and assessing data in both the obsessional and control groups.

General Findings

Diagnosis

The division of patients among the diagnostic categories defined above was as follows:

	Number	*Percentage*
1. Obsessive-compulsive	37	42
2. Phobic-ruminative	16	18
3. Doubtfully schizophrenic	14	15·5
4. With depressive features	10	11
5. Miscellaneous	12	13·5
	89	100

Difficulty in allotting a patient to one of the above categories was rare. Had it not been for the question-begging nature of the doubtfully schizophrenic category many more problems would have arisen as the most common one was the differential diagnosis between obsessional illness and schizophrenia. The provision of a miscellaneous category was also helpful in dealing with atypical cases.

In the phobic-ruminative group it was possible to distinguish clearly between ruminative and phobic anxiety states. Of the 16 cases, six showed severe phobic anxiety states distinguished by their recent onset, marked anxiety, minimal ruminations and rapid recovery. Six cases showed a ruminative state with few other obsessional symptoms and an absence of overt anxiety which together with their longer course distinguished them from the phobic states. Only in four cases was there diagnostic difficulty. Two of these showed a mixed phobic and ruminative picture with moderate anxiety, and could not be allotted easily to one or other category although they were nearer to obsessional illness than to anxiety neurosis. In the other two cases ruminations predominated but some motor symptoms with related phobias were present and they were felt to be on the dividing line between this and the obsessive-compulsive group. As ruminations predominated they were placed in this group.

No quantitative value relative to the other groups is placed on Group 2 as a whole; a few of the cases might properly be classified as anxiety states. This consideration does not apply to the purely ruminative states which are unlikely to be misclassified. Their number in the group probably gives a good estimate of their incidence relative to obsessional compulsive neurosis in the hospital population, i.e., 7 : 37.

In the miscellaneous group the 12 patients comprised three cases associated with organic nervous disease; three cases considered to be severe obsessional personalities (one with an anxiety state, one with reactive depression and the third with a mild drug addiction); five cases showed definite hysterical symptoms and hysterical personality traits; and one patient showed aggressive psychopathic symptoms.

Incidence

The 89 patients represent 0·88 per cent. of all admissions to the hospital during the period and 0·99 per cent. of voluntary admissions. Table I shows other figures that have been traced.

TABLE I

Incidence of Obsessional Illness in Hospital and Out-Patient Clinics

Series	Out-Patients		In-Patients	
	Number	Incidence (Per cent.)	Number	Incidence (Per cent).
Blacker and Gore (2) ..	226	2·9	99	3·1
Pollitt (21)	81	<2	69	<4
Registrar General (22) ..	—	—	375	0·7
Ross and Rice (24)	5	0·25	7	0·2
Slater (28)	—	—	20	1·0
Eysenck (4)	—	—	146	2·0
Present series	—	—	89	0·9

Obsessional patients are rare in both out- and in-patient practice, the number of out-patients never exceeding 3 per cent. and the number of in-patients usually being less and varying with the type of hospital. The Registrar General's low figure for mental hospitals in England (0·7 per cent.) when expressed as a percentage of neurotics admitted is still only 4·6 per cent. Those of Ross and Rice (24), relating to a naval hospital in wartime, are low although their figure for officers, both in-patient and out-patient, is higher (1·6 per cent.).

The incidence of 0·9 per cent. in this mental hospital population approximates to the Registrar General's 0·7 per cent. for all mental hospitals in England and Slater's 1 per cent. for a largely neurotic in-patient group in wartime. The higher figures of 3·1 per cent. at the Maudsley Hospital (2) and 4 per cent. at St. George's Hospital (21) are probably due to differences in selection of patients for admission (for example, for teaching purposes or leucotomy) but a higher incidence in urban districts is another possible explanation.

From the evidence available obsessional states are rare in psychiatric practice, whether in war or in peace, in hospital or in clinic. This does not mean that the true incidence in the population is necessarily low. Stengel (31) has stressed the secrecy of the obsessional patient and it will be shown that these patients are slower than other neurotics to seek help. It is likely that many obsessional neurotics deal with their symptoms as best they can without psychiatric help.

Sex Incidence

The group contained 34 men and 55 women (female=62 per cent.). The obsessive-compulsive group comprised 10 men and 27 women (female=73 per

cent.). The other subgroupings followed the general trend with the exception of the doubtfully schizophrenic patients, 10 of whom were men and only four women.

In the control groups there was also an excess of women: 66 per cent. in the anxiety neurosis group, 80 per cent. in the hysteria group.

The number of women suffering from hysteria is significantly higher than the number in the obsessional group ($\chi^2=17\cdot1$, $P=<0\cdot01$) but the obsessionals do not differ significantly from the anxiety neurotics, nor do the two control series differ significantly.

This excess of women in each of the groups is due largely to a higher number of female beds allowing a quicker turn-over.

Table II contrasts the above findings with those in previous series.

TABLE II

Sex Incidence in Groups of Obsessional Patients

	Pollitt (21)	Registrar General (22)	Rüdin (25)	Müller (17)	Blacker and Gore (2)	Present Series
Male	63	181	55	37	129	34
Female	87	194	75	20	119	55
Female (per cent.)	58	52	58	35	48	62

The average of these series is 52 per cent. female. The larger the group the nearer does the sex ratio approach unity. Pollitt's figures and the present ones are biased by the fact that more female beds were available for in-patients. On the available evidence there is no reason to suppose that women are more disposed to obsessional disorders than men.

Marital Status

Of the 34 men 23 were single (68 per cent.), and of the 55 women 22 were single (40 per cent.), giving figures for the whole group of 44 married and 45 single—a celibacy rate of 51 per cent. Of the 100 hysterics 48 were single and of the 100 anxiety neurotics 27 were single.

More of the obsessional patients than the anxiety neurotics are single ($\chi^2=19\cdot7$, $P=<0\cdot01$) but the celibacy rate does not differ significantly between the obsessional and hysterical groups.

Only two other figures are available for celibacy but they are both from relatively large series—47·7 per cent. of Rüdin's 130 and 52·7 per cent. of the men, 37 per cent. of the women in the Maudsley Statistical Report for 1949–51. In the latter series more men are single than in other neurotic disorders but the celibacy rates are lower than those found in schizophrenia (75 per cent. males, 58 per cent. females).

The high rate of celibacy accords with these previous observations. The figure for men is especially high. That nine of the 10 men in the nuclear group were single reflects the social incapacity caused by severe obsessional illness. The anxiety neurotics are less celibate than the hysterics and the obsessionals, probably because their illness shows less tendency to chronicity.

Fertility

Expressed as number of children per marriage, the fertility rate for the men was 1·1, for the women 1·1. The total fertility rate of 1·1 compares with

1·5 for the 100 anxiety neurotics and 1·5 for the 100 hysterics, calculated in the same way. No correction for duration of marriage having been made, the figures cannot be compared with the general population statistics of the Registrar General.

Fertility rates expressed as children born alive per marriage are available for two previous series: Rüdin 1·7, Blacker and Gore, males 1·6, females 1·3. Again the rates cannot be compared with those available for the general population but they are surprisingly low compared with Kalman's figure of 1·9 for institutionalized schizophrenics (13).

In the Maudsley Statistical Report there is no difference in fertility between obsessionals, anxiety states, hysterics and schizophrenics: here the obsessional patients are less fertile.

The figures for fertility are low in comparison with the previous series and the control groups. Unlike celibacy this cannot be attributed to social incapacity and it does not seem unduly speculative to connect this finding with a dislike or rejection of sexual matters in these patients, which would apply equally to men and women and to all the diagnostic subgroups, no differences between them being apparent.

Social Class

It was impossible to measure social status accurately by the conventional method of using occupation or husband's occupation. In the case of the female patients the data on the husband's occupation was often too imprecise to be a useful indicator of social status. The method finally adopted was comparison of the proportions of amenity bed patients (Sections 4 and 5) and non-paying patients (Section 3). This division probably correlates with social class fairly highly but does not permit direct comparison with other work.

TABLE III

Proportions of Paying and Non-Paying Patients in Different Diagnostic Categories—Expressed as Percentages

	All Patients	Obsessionals	Anxiety Neurosis	Hysteria
Non-paying	42	17	28	38
Paying	58	83	72	62
No. of patients	5,500	89	100	100

The obsessional group does not differ from the anxiety neurotics, but contains more paying patients than the hysteric group ($\chi^2=17·9$, $P=<0·01$).

Janet (12) found that his psychasthenic patients were more common in private than in hospital practice and suggested that a certain degree of "culture intellectuelle" plays a role in the development of the illness. Subsequent work confirms this observation, although it is difficult to separate the effects of social class from those of intelligence. Rüdin investigated social class and found it to be significantly above average in obsessionals and in their parents, siblings and children. Ross and Rice report a higher incidence in naval officers compared with ratings, and Slater found a higher number of non-commissioned officers among obsessional patients than among other neurotics.

The indirect method of class assessment used here shows that the obsessional patients are of higher social class than other hospital admissions.

Intelligence

Scores on Raven's Matrices and the Mill Hill Vocabulary Test were available for 76 of the obsessional group, 97 anxiety neurotics and 95 hysterics. The results of both tests are expressed as percentile grades: Grade 1=95th percentile and over, Grade 2=75th to 95th percentile, Grade 3=25th to 75th, Grade 4=5th to 25th, and Grade 5 the 5th percentile and under.

The results of the tests are shown in Tables IV and V.

Table IV

Percentile Matrices Grade for Obsessional and Control Groups

	Grade					
	1	2	3	4	5	Total
Anxiety neurosis ..	11	26	34	17	9	97
Hysteria	9	23	32	18	13	95
Obsessionals	14	25	26	6	5	76

Table V

Percentile Grades for Mill Hill Vocabulary for Obsessional and Control Groups

	Grade					
	1	2	3	4	5	Total
Anxiety neurosis ..	9	18	52	17	1	97
Hysteria	5	20	46	24	0	95
Obsessionals	10	24	37	5	0	76

For statistical calculation the results were condensed into those above average (1 and 2), average (3) and below average (4 and 5). The results were then expressed as percentages, χ^2 tests done, and the χ^2 in each case corrected both by Yates' method and for size of sample.

The results are as follows:

Matrices

1. Anxiety Group and Obsessional Group — $\chi^2 = 6{\cdot}7$, df=2, P=<0·05
2. Hysteric Group and Obsessional Group — $\chi^2 = 14{\cdot}6$, df=2, P=<0·01
3. Anxiety Group and Hysteric Group — $\chi^2 = 1{\cdot}32$, df=2, P=not significant

Vocabulary

1. Anxiety Group and Obsessional Group — $\chi^2 = 15{\cdot}6$, df=2, P=<0·01
2. Hysteric Group and Obsessional Group — $\chi^2 = 18{\cdot}7$, df=2, P=<0·01
3. Anxiety Group and Hysteric Group — $\chi^2 = 1{\cdot}75$, df=2, P=not significant

These results show that on both verbal and non-verbal tests of intelligence the obsessional patients score more highly than the other neurotics at a high level of significance.

The clinical observation that obsessionals tend to be of high intelligence was made by Kraepelin (14) and subsequently repeated by many authors. In Rüdin's 130 patients both intelligence and school record were higher than in a control group and Greenacre (8) noted that between a quarter and a third of her 86 patients were of college or professional educational status while only five patients could be considered dull.

The problem of intelligence in neurosis was fully investigated and reviewed by Eysenck (3, 4). He found neurotics to score slightly below normals in Raven's

Matrices but mentioned that in civilian populations neurotics have often been found to be more intelligent than normals. Analysing his results in terms of the hysteric-dysthymic dichotomy he found that in terms of intelligence hysterics are more frequent among the lowest 10 per cent. of the population while dysthymics are more frequent in the highest 10 per cent. He suggested that although the difference was significant it merely indicated a trend. He found that on vocabulary tests dysthymics have a good vocabulary relative to their intelligence whereas hysterics are markedly inferior on vocabulary (see also Himmelweit, 11).

For the present purpose Eysenck's dysthymic group is an unhelpful one, obsessionals in small numbers being grouped with large numbers of anxiety states and reactive depressions. In a study comparing equal numbers of obsessional neurotics, anxiety states and hysterics on Raven's Matrices, Cattell 2A and 2B and the Shipley Vocabulary, Slater (29) found that the obsessionals had significantly higher Matrices and Cattell scores than any of the other groups and significantly higher vocabulary scores. In addition, the other groups did not differ among themselves. These findings are in exact agreement with the present results and confirm in one respect the over-simplification of the dysthymia-hysteria concept.

It is difficult to explain this consistent finding in obsessional patients and to separate social class and intelligence, although the latter seems the most important. Whether the link is a genetic one, or whether leisure or training and practice in abstract thinking predispose to rumination and obsession is uncertain. In those patients of very low intelligence the symptoms tended to be less structured and less abstract and typically complicated rituals were less often seen. The total picture in these cases was fragmented, with isolated unconnected and unsystematized obsessional symptoms which the patient found difficult to describe.

Course of the Illness

Onset

(a) *Childhood Symptoms*

Neurotic symptoms in childhood were common enough to warrant separate analysis. Childhood was defined as under 14 years, and since almost all children show ritual behaviour and mild phobic symptoms at some period of development care was taken to exclude cases in which they could be considered within the normal range. The classification used for other childhood symptoms is evident in Table VI.

Table VI

Neurotic Symptoms in Childhood

Symptoms	Obsessionals (89)	Anxiety Neurotics (100)	Hysterics (100)
Phobias	8	2	2
Phobias and rituals	14*	–	–
Stammer	4	2	1
Psychosomatic illness	3	1	1
Conversion symptoms	–	2	5
Enuresis	1	3	5
Nightmares, terrors	1	5	3
Others	1	3	2
Total	32 (36%)	18	19

* Nine showed rituals alone, four phobias and rituals and one phobias, rituals and ruminations.

Thus 22 (25 per cent.) of the obsessional group showed obsessional symptoms in childhood compared with 2 per cent. of the other neurotics, while 36 per cent. showed neurotic symptoms before 14, twice as many as in the control groups.

The frequency of childhood symptoms has been noted by others. Those of Pollitt's patients with a history of previous attacks showed a peak incidence at age 11 to 15, while 35 per cent. of Rüdin's patients had symptoms before 15 years. Of the 86 patients of Greenacre, 64 had a history of ritual behaviour before puberty but only one of 30 normal controls denied similar symptoms in childhood. It is probable that in these cases ritual activity without subjective resistance, and therefore not truly obsessional, is being described. That this is so is suggested by the work of Berman (1) who found 62 children showing obsessional phenomena in the broadest sense (including "impulsions" or unresisted symptoms) but considered only four of them to be suffering from a true obsessional neurosis. The same author, following six cases of childhood obsessional neurosis to late adolescence, found two to be probably schizophrenic, two to be developing a severe chronic obsessional state and two to be well, having suffered only a short benign episode. Unfortunately no prospective studies over a longer period are available for children.

In the present group the findings, that childhood symptoms are twice as common as in other neurotics and more closely resemble adult symptoms, suggest that the obsessional tendency as distinct from neuroticism is of early onset and must either be genetically determined or stem from early experiences.

(b) *Precipitants*

Precipitants were defined as events occurring within one year of the onset of the illness which were considered both by the patient and the doctor to be related to the onset of symptoms. For example, "adolescence" as a precipitant implies both that the physical phenomena of adolescence coincided with the onset and that these phenomena concerned the patient or were evident in the symptom content.

TABLE VII

Precipitants of Illness

	Obsessionals (89)	Anxiety Neurosis (100)	Hysterics (90)
Physiological:			
Pregnancy	15	6	3
Physical illness	11	9	11
Adolescence	5	0	2
Menopause	2	2	2
Total	33	17	18
Psychological:			
Sexual and marital difficulties	12	15	6
Illness or death of near relative	11	14	9
Total	23	29	15
Others	6	4	9
None obvious	27	50	58

Precipitants are significant in 62 (69 per cent.) of the obsessional group, compared with 50 of the anxiety neurotics and 42 of the hysterics. The total of precipitants in Table VII does not correspond with the number of cases because of the presence of more than one kind of precipitant in several individuals.

In the obsessive-compulsive group precipitants were important in 29 cases—78 per cent. of the group. Physiological precipitants numbered 17, psychological 8 and others 4. Of the physiological precipitants pregnancy made up nine cases, that is, one-third of the 27 women in the group.

In the cases following childbirth (27 per cent. of all the women) a similar pattern of symptoms was seen: fears of harming the child, and washing and avoidance rituals involving both child and mother being almost always present. There is no previous record of such findings. It may be that these cases are more readily admitted to hospital because of the effect of the illness on the child but this does not explain the difference in incidence from the control groups.

The importance of precipitating factors was considered by Rüdin and Pollitt. Rüdin found them to be important in 75 of 130 cases, 24 occurring in childhood, 22 in adult life and 29 in both periods. Pollitt classified the precipitating factors in 93 cases and, comparing them with those in a series of non-obsessional admissions, found a preponderance of sexual precipitating factors in the obsessional patients. "Death of a near relative" was also a more frequent precipitant in the obsessional cases. It is of interest that Rüdin who proposes a genetic theory of aetiology stresses the importance of precipitants.

Precipitants are more common in this than in Rüdin's series, despite a more rigid time criterion for their definition. The results do not confirm Pollitt's finding that sexual factors and illness or deaths among relatives were more frequent in an obsessional group than in other admissions. With neurotics alone as controls there is little difference in respect of these items.

The positive findings are that precipitants are more commonly present than in the control groups; that they are more common in the compulsive group; that both physiological and psychological precipitants are found more often; and that the most common precipitants are pregnancy and childbirth. The highest incidence was among 19 married women in the compulsive group in whom the illness was precipitated by pregnancy or childbirth in nine cases. This high incidence is not found in the control groups.

(c) *Age of Onset*

TABLE VIII

Age of Onset

Age Group	0–14	15–24	25–34	35–44	45–54	55–64	65+	Total
Obsessionals ..	13	43	21	5	4	3	0	89
Anxiety states ..	2	36	30	22	9	1	0	100
Hysterics	0	24	44	20	10	2	0	100

Obsessional group: Mean=24·7 SD 11·5 (obsessive-compulsive group mean =22·9 years)
Anxiety group: Mean=32·2 SD 9·8
Hysteric group: Mean=30·3 SD 10·5
Obsessionals and Anxiety Neurotics: t=4·8 P<0·01
Obsessional and Hysterics: t=3·5 P<0·01
Anxiety Neurotics and Hysterics: t=1·3 Not significant

The age of onset in the obsessional group is earlier than in the controls by some 5 years.

Fifteen per cent. of the obsessional patients have symptoms before the age of 15, 63 per cent. before 25, 87 per cent. before 35 and 92 per cent. before 45. Of those in the pure obsessive-compulsive group 11 per cent. have symptoms before 15, 70 per cent. before 25 and 94 per cent. before 35.

Obsessional symptoms begin at an early age. Of Rüdin's patients, symptoms began before the age of 20 in 47 per cent., before 30 in 81 per cent. and before 40 in 88 per cent. Pollitt found the average onset of symptoms to be 20 years for men and 22 for women, with 68 per cent. having symptoms before 25 years and 97 per cent. before 45. Greenacre found that acute symptoms begin most frequently between 21 and 25 years but that two-thirds of patients give a history of earlier milder disturbances.

The present results are very similar. The younger age of onset compared with other neurotics is in accord with the higher incidence of childhood symptoms.

Age of Admission

Table IX

Age on First Admission to Hospital

Age in Years	15–24	25–34	35–44	45–54	55–64	65+	Total
Obsessionals ..	15	36	14	14	8	2	89
Anxiety neurosis	5	30	29	17	14	5	100
Hysteria	18	25	25	21	7	4	100

Obsessional group:	Mean=36·1 years	SD=11·6 (nuclear group mean=34·8)
Anxiety Neurosis group:	Mean=41·0 years	SD=11·3
Hysteria group:	Mean=38·6 years	SD=13·4
Obsessionals and Anxiety Neurosis:	t=2·9	P<0·01
Obsessionals and Hysteria:	t=1·4	Not significant
Anxiety Neurosis and Hysteria:	t=1·3	Not significant

The obsessionals are admitted to hospital at a younger age than the anxiety neurotics but do not differ from hysterics in this respect.

Onset-Admission

Forty-eight (54 per cent.) of the obsessional group are not admitted until five years after the onset of the illness compared with 37 per cent. of the anxiety neurotics and 32 per cent. of the hysterics. Twenty-seven (33 per cent.) are not admitted until 15 years after the onset compared with 10 per cent. of the anxiety neurotics and 12 per cent. of the hysterics.

Despite the early onset the obsessional patient is neither admitted to hospital early nor seen earlier as an out-patient. In post-war figures for the Maudsley Hospital (2) the average age on admission was 33·2 years for men and 34·7 for women. Rüdin noted that 48 per cent. were admitted before 30 and 65 per cent. before 40. In the latter's patients the average duration from onset of illness to incapacity was 4·7 years, but there were wide variations. The long period intervening between onset and seeking advice reflects the secrecy and self-blame of the obsessional patient.

Type of Course

Four types of course were distinguished:

1. Constant, worsening: in which the illness had run an unremitting course with definite worsening—35 cases (39 per cent.).

2. Constant, static: in which the illness had run an unremitting course but had been static with no worsening or improvement for some time prior to admission—13 cases (15 per cent.).

3. Fluctuating: in which there had been periods of worsening and of relative improvement, but the patient at no time since the onset had been entirely free of symptoms—29 cases (33 per cent.).

4. Phasic: in which there had been a period, or periods, of remission of symptoms since their first onset—12 cases (13 per cent.).

The 13 per cent. of all patients showing a phasic course compares with only three of 37 patients (8 per cent.) in the obsessive-compulsive group. In four of the 12 phasic cases there was a definite affective element, all of them responding well to electroplexy.

Pollitt found that half of his patients showed an episodic course with an average of two previous attacks before the one bringing the patient under observation. While most writers stress fluctuations in course, usually coinciding with environmental stress, few others have found a truly phasic or episodic course common. Müller mentions the occurrence, and associated it with good prognosis; Rüdin states explicitly that less than 15 per cent. of his series ran a definitely phasic course, although of the 83 per cent. running a continuous course some had good and bad periods. The present finding that less than one in seven patients show a phasic course agrees with this exactly.

The discrepancy between the results may be verbal, for what one calls a good period of the illness another may consider to be normal if severe obsessional personality traits intervene between two attacks. It is more likely that the difference is real and due to different material. The greater number of Pollitt's non-leucotomized patients were out-patients seen in private practice and, indeed the outcome in those patients was rather better than in those in-patients leucotomized, strongly suggesting that cases differing widely in severity were contained in the series. His study indirectly supports Müller's observation that a phasic course is associated with a good prognosis.

No series is representative of the whole obsessional population and the truth probably lies between these results. The small number of severe classical obsessionals (three of 37) showing a phasic course and the fact that four of the total of 12 phasic cases responded to E.C.T. suggests that the more typical and severe the symptoms the less phasic the course and, as will be seen, the poorer the prognosis. It suggests too that affective features should be carefully searched for in phasic cases.

Prognosis

Method

An attempt was made to contact and assess all the patients but because of the wide geographical distribution of the sample only local cases were seen personally and replies to letters embodying an informal questionnaire were used in many cases. At least two attempts were made to reach each patient and letters were sent to the patient's next-of-kin and general practitioner who gave their own reports and were often able to help in tracing cases and persuading reluctant patients to write. In 64 (72 per cent.) of the 89 cases replies were received from both the patient and another informant, or personal examination was made. Of the remaining 25, one had died, 11 were untraced, and in 13 either the patient or another informant did not reply. Of the 78 patients traced adequate information was available for 64, or 82 per cent.

The minimum follow-up period was one year, the maximum 11. The mean follow-up period was 5·9 years, S.D. 3·47. Twenty-four cases were followed up for less than five years and 40 for more than five years.

The letters of enquiry asked for information about the patient's work record, social life, and course, symptoms and further treatment since leaving hospital. From the replies the following grading was made:

Grade A Symptom-free, able to lead a normal and full working and social life.

Grade B Symptoms much improved but not entirely free of them. Leading a full working life and making a reasonable social adjustment.

Grade C Symptoms unchanged or only minimally improved, but working in a job or at home, although with difficulty. Socially handicapped by illness.

Grade D Symptoms unchanged or worse, unable to hold employment or carry out household tasks. Socially isolated by illness or in hospital.

Grades A and B together form an "improved" category, Grades C and D an "unimproved" one. Similarly Grades A, B and C together comprise patients able to work or at least making some adjustment to their illness.

In considering the results the assumption is made that leucotomy was the only treatment given of lasting effect and these patients were considered separately from the remainder (18 cases). The mean follow-up for the leucotomized patients was 6·1 years. For these patients the period of follow-up dated from the date of operation; for the remainder from the date of discharge.

It is possible that the duration of follow-up may have an effect on outcome. To test this the results were compared for those patients assessed before and after a five-year period.

Under five years there were 12 improved and 12 unimproved; over five years there were 16 improved and 24 unimproved. Although the results after five years seem slightly worse the difference is not significant ($\chi^2=0·27$, P not significant) and it can be assumed that the follow-up was of sufficient length to give a true account of prognosis.

Results

TABLE X

Result of Follow-up: Non-leucotomized Cases

Results		Clinical Groups: Classical Nuclear	Phobic	Ruminative	Doubtfully Schizophrenic	Affective	Miscellaneous	Total
Improved	(A)	0	1	0	1	2(1P)*	0	4
	(B)	1	5	1	3	2 P*	2	14
Unimproved	(C)	9	0	2	0	1 P*	0	12
	(D)	6	0	3	2	1	4	16
Total	..	16	6	6	6	6	6	46

* P=those patients whose illness had run a phasic course since discharge.

Of the patients not leucotomized (Table X) 18, (39 per cent.) are improved and 28 (61 per cent.) unimproved, yet 30 (66 per cent.) are able to hold some kind of employment and only 16 (34 per cent.) are totally handicapped by their

symptoms. All the phobic patients are improved and the worst results are found in the compulsive and ruminative groups where only two out of 22 patients show significant improvement. Three of the patients were in mental hospitals at the time of follow-up.

TABLE XI

Result of Follow-up: Leucotomized Cases

Results		Clinical Groups: Nuclear	Ruminative	Doubtfully Schizophrenic	Affective	Miscellaneous	Total
Improved	(A)	2	0	1	0	1	4
	(B)	5	1	0	0	0	6
Unimproved	(C)	3	0	0	0	0	3
	(D)	3	0	1	1	0	5
Total	..	13	1	2	1	1	18

Ten of the 18 leucotomized patients are improved (Table XI). Most of those so treated were classical compulsive cases. The operation used in all cases was standard prefrontal leucotomy, but undesirable personality change was infrequent. Many doctors and relatives mentioned slight changes in the improved cases but almost invariably made a comment to the effect that the good effects of the operation far outweighed any personality changes. In those unimproved the continuing symptoms were complained of and not side-effects of the operation, except in one patient who remains in hospital after a second leucotomy with persistent symptoms and marked deterioration in personality and habits. Two patients were still in hospital at the time of the follow-up.

The differences between those leucotomized and those not are more easily seen if they are compared as improved (A and B) and unimproved (C and D). Ten of the 18 leucotomized are improved (56 per cent.) and only 18 of the 46 who did not have the operation (39 per cent.) ($\chi^2=14{\cdot}5$, $P=<0{\cdot}01$). In the obsessive-compulsive cases the results are striking. Only one of the 16 not leucotomized was improved compared with seven of the 13 leucotomized.

These differences are in symptomatic improvement. If ability to work is used as a criterion of improvement the differences are less marked and do not reach statistical significance. Thirteen of the 18 leucotomized were working at follow-up (72 per cent.), compared with 30 of the 46 untreated (65 per cent.). In the nuclear group 10 of 13 leucotomized and 10 of 16 untreated are working.

The prognosis in obsessional illness has always been debatable. Farr and Stewart (6) in a lengthy follow-up of in-patient neurotics conclude that compulsive patients have a grave prognosis, partly because of the number of psychotic developments. The studies exclusively concerned with obsessional patients draw a more optimistic picture. Lewis examined 50 patients at least five years after treatment and found one-third symptom free, one-third improved and one-third unimproved. Rüdin found the outcome less satisfactory, with one-third running a long progressive course to end states of severe inhibition and inability to work, one-third unimproved and stationary and the remaining third notably improved, with 14 per cent. of the latter apparently cured. Despite these figures only 42 per cent. were unable to work at the time of follow-up.

Müller's follow-up extended over 25 years, the average age of the patients reaching 55 years at the end of that time. Sixteen of the 57 were symptom free and over half were improved. In a much shorter follow-up Pollitt found 70 per cent. symptom free or able to carry on a normal life, the figure dropping to 64 per cent. when the follow-up exceeded 4 years.

Judged by symptoms the present results are poor, especially in the classical cases, yet two-thirds were able to continue in employment. In course and prognosis the phobic states carry a uniformly good prognosis. As would be expected the depressive cases do well although relapses occur, but it is an unexpected finding that the doubtfully schizophrenic group did better than most although the numbers in this group are too small to be reliable.

The results as a whole are similar to Rüdin's who found one-third improvement and 5 per cent. apparent cure. The comparable figures here are 39 per cent. and 9 per cent. There is nothing in these findings comparable to the 70 per cent. found to be symptom free in Pollitt's shorter follow-up and the discrepancies suggest serious differences in sampling. The follow-up in the present series is not long enough to compare with Müller's finding of improvement in over half in later life.

Development of Schizophrenia

Four patients developed schizophrenia. All had been placed in the doubtfully schizophrenic group initially. Two of these cases showed an insidious progression to schizophrenia over many years. Their obsessional rituals became increasingly secretive and stereotyped and secondary symptoms of schizophrenia appeared. A third patient had a similar history and was leucotomized. Three years later he remained in hospital unimproved. The last patient was admitted in late adolescence with obsessional symptoms which developed into florid schizophrenia in four months. He did not respond to insulin coma therapy and prefrontal leucotomy was carried out six years ago. He is now teaching, having married and taken a university degree since operation; he is symptom free.

The incidence in the group is 6 per cent. In the two other mental hospital series the figures were 12 per cent. (Müller) and 10 per cent. (Rüdin), but in Pollitt's series, containing many out-patients, schizophrenia was found in less than 1 per cent.

Rosen (23), who investigated obsessional symptoms in a series of schizophrenic patients, found that the obsessional features persisted after schizophrenia was diagnosed and this was confirmed in all four cases. He found paranoid symptoms to be almost always present; here only one case showed paranoid features.

The outstanding feature here is the relatively low incidence of schizophrenia, considering the severity of the cases and the initial suspicion of schizophrenia in 15 cases. Some cases, doubtfully schizophrenic on admission, may well have shown definite schizophrenic symptoms quickly leading to classification under schizophrenia and exclusion from the present series as a result. Even if this occurred it was probably a rare happening, as Rosen found that only 3·5 per cent. of schizophrenic admissions showed obsessional symptoms.

Prognostic Indicators

Findings in the previous history were analysed to assess their relation to prognosis. Seven factors are shown in Table XII which deals with those cases

not leucotomized. Four reach acceptable levels of significance, the remaining three indicate trends. Other factors investigated which showed no significant relation to outcome were sex, marital status, positive family history, markedly

TABLE XII

Prognostic Indicators (*Cases not Leucotomized*)

		Improved (18)	Unimproved (28)	P Value
1. Diagnosis ..	Nuclear group ..	1	17	$\chi^2 = 13{\cdot}3$
	Other	15	13	$P = <0{\cdot}01$
2. Motor symptoms	Present	8	21	$\chi^2 = 5{\cdot}80$
	Absent	10	7	$P = <0{\cdot}02$
3. Childhood symptoms	Present	2	11	$\chi^2 = 5{\cdot}79$
	Absent	16	17	$P = <0{\cdot}02$
4. Onset-admission*	Under 5 years ..	11	10	$\chi^2 = 3{\cdot}96$
	Over 5 years ..	7	18	$P = <0{\cdot}05$
5. Anxiety and depression ..	Prominent	8	4	$\chi^2 = 3{\cdot}72$
	Minimal	10	24	$P = <0{\cdot}1$
6. Age of onset ..	Under 25	9	19	$\chi^2 = 2{\cdot}31$
	Over 25	9	9	$P = <0{\cdot}2$
7. Raven's matrices ..	Average and above	13	24	$\chi^2 = 2{\cdot}27$
	Below average ..	5	4	$P = <0{\cdot}2$

* The mean duration of symptoms in those improved was 3·7 years: in those unimproved 12·4 years.

obsessional pre-morbid personality, type of course, presence of precipitants and age on admission.

For the 18 leucotomized patients a similar analysis shows no significant differences; the number is too few to reveal trends at a statistically acceptable level. Nevertheless the results are of clinical interest.

TABLE XIII

Prognostic Indicators (*Leucotomized Cases*)

	Improved (10)	Unimproved (8)
Negative family history	8	4
Fluctuating or phasic course	6	3
Anxiety/depression prominent	4	1
Childhood symptoms absent	5	2
Precipitants	5	3
Above average intelligence	5	3
Previous personality not severely obsessional	8	6
Onset over 35	3	1

In Table XIII the items have been placed in rank order, those differing most being at the top of the list. The items provide a list of favourable prognostic indicators. The other factors investigated were the same as those considered for the cases not leucotomized: none showed any trend. In particular, there was

no difference in outcome of operation between those with and those without motor symptoms.

There is little information in previous work on the effect of different facets of the illness on outcome. Pollitt showed that the longer the duration the worse was the prognosis and the same holds in this series (Table XII).

More investigation has been carried out on the factors influencing the results with leucotomy. Partridge (18) on the basis of his follow-up of 24 patients thought that the decisive factor was "the entrenchment and standardization of the rituals". If symptoms were still variable improvement resulted; if not the prognosis was poor. Sargant and Slater (26) stress the good prognostic value of a well-adjusted pre-morbid personality, of late onset and of the presence of anxiety and tensions. Pippard (19) also stresses the importance of an "adequate" personality and late onset. He found no significant difference between patients with mainly "sensory" and patients with mainly "motor" symptoms but was impressed with the "intractability of long-ingrained habits of behaviour".

Their opinions are based on small numbers. It is worth comparing these impressions of leucotomized patients with the findings in those not leucotomized in this series. Many of the factors said to favour the outcome of operation are seen to be the same as those favouring spontaneous improvement. The prominence of affective symptoms, the absence of motor symptoms and late onset are all held to favour a good leucotomy result; here they are associated with spontaneous improvement. The nuclear group of obsessive-compulsive states corresponds closely to the cases with entrenched, standardized rituals which Partridge and Pippard considered to give poor operative results. In the 18 leucotomized cases in this series the difference in outcome between those with and without motor symptoms is negligible but comparisons with the obsessive-compulsive patients not subjected to operation shows a significant gain from the operation in these severe states with motor symptoms.

The results show that leucotomy is an effective treatment but cast doubt on the previously suggested indications for it. The present findings for those leucotomized indicate that the family history, the type of course and the presence of childhood symptoms are worth consideration and Sargant and Slater's attention to affective symptoms is supported.

Conclusions

In all large series of obsessional patients, including the present one, there is agreement on a number of findings. The incidence is always low and constant, the celibacy rate high, and social class and intelligence are above average. Childhood symptoms and precipitants are common and most show obsessional personality traits. A youthful onset and delay before admission are other repeated observations.

Most of these findings imply severity of the illness: its early commencement, its effect on marriage, the close ties with personality and the fact that social class and intelligence provide no protection against hospital admission. Severity was to be expected in the patients studied but when the variations in sampling between different series are taken into account the measure of agreement with previous series is surprising.

It has sometimes been suggested that there may be a qualitative difference between mild and severe obsessional states and even that there may be neurotic and psychotic varieties of obsessional illness. In the extreme represented by the patients in this series links with psychosis could be anticipated were these

suggested differences true. Schizophrenia was considered as a possible diagnosis in many but in fact the transition to schizophrenia seldom took place. It is possible to suggest other parallels with schizophrenia in the frequency of childbirth and adolescence as precipitants and the generally youthful onset. Yet it would be unwise to suggest that obsessional illness and schizophrenia are closely linked. As well as the association with schizophrenia, associations with depressive illness, anxiety and hysterical symptoms, and even with organic disease, are well known and have been found in these patients. There is nothing to suggest that associations with psychosis are more common than those with neurosis and there is no evidence from other findings to suggest any qualitative difference between these severe cases and the milder ones previously reported. All groups of obsessionals, whether they be out-patients or in-patients, show more similarities than differences.

The points of agreement with previous series of obsessional patients are in many cases points of difference from the control groups. The obsessional patients differ from both control groups more often than they resemble one or other of them. They are more intelligent and less fertile. Physical precipitants are commoner. They have more childhood symptoms, their illness starts earlier in life and the period between onset and admission is longer. They resemble the group of anxiety neurotics in two ways: high social class and a greater number of women; but they also resemble the hysterics in two ways; relative youth on admission and a high celibacy rate.

Symptomatically obsessional patients are obviously different from other neurotics. They also differ in these less direct measures. While the clinical psychiatrist would expect this, it is emphasized in view of the tendency among psychologists to align obsessional illness with anxiety neurosis under the dimension of dysthymia to the neglect of the special problems of obsessional personality and illness (5). Hamilton (9, 10), using a battery of performance tests, has been able to distinguish obsessional states from both hysteria and anxiety neurosis which is much more in keeping with both the direct and indirect clinical findings. Not only can the present group be distinguished from the other neurotics; in the few resemblances to their neurotic controls there is no tendency for the obsessionals to resemble the anxiety neurotics more than the hysterics.

The differences found are again indirect measures of severity, as were the similarities to previous obsessional groups. It follows that the severity of the obsessional cases in this group cannot be attributed entirely to selection by admission to hospital, for this factor applies equally to the control groups. The differences suggest the conclusion that obsessional states are more severe than other neurotic disorders.

The most controversial area investigated was the course and prognosis of the illness. A constant course was found in over half and a truly phasic course in less than one in seven. This agrees with other mental hospital findings but differes from Pollitt's observations on a sample containing more out-patients. Although the type of course was not significantly related to prognosis in this series, differences in outcome parallel the types of course found in different series. Pollitt's results after four years are much more encouraging than those of Lewis, Rüdin and those presented here and differ from them in finding a phasic course to be common.

The patients in this group would be expected to have a poor prognosis; all were in-patients, many could be called chronic on admission. Recovery is certainly rare, but improvement is found in over a third, and incapacity is

found in only a third. If such findings obtain in the most severe cases it can be assumed with confidence that the prognosis of obsessional illness in the total population is not at all poor.

Knowing the outcome in hospitalized obsessionals, the results of leucotomy in comparable cases can be re-appraised. The operation leads to symptomatic improvement, especially in typical cases with rituals, but makes little difference to working capacity. While the operation is clearly helpful, the existing indications for it are open to doubt as they have been shown to be indications that improvement is likely without recourse to surgery. Chronic cases with motor symptoms have always been considered poor prospects for leucotomy. It has been shown that, although the results may not compare with those obtained in less chronic cases with rituals absent or not established, the outcome is far better than in those not leucotomized.

In summary, this study which set out to examine the peculiarities of chronic severe obsessional states has shown that they differ little from other obsessional groups reported. The differences between the patients and the neurotic control groups are great and suggest that obsessional states are more serious conditions. Yet the outcome in the obsessional group is not disappointing; the method of selection ensures that the prognosis of obsessional illness can be no worse than the prognosis of these particular patients and among them symptomatic improvement was not rare and incapacity was the exception. Apart from spontaneous improvement it has been shown that treatment by leucotomy can give worthwhile results in patients previously thought unlikely to benefit from the operation.

Summary

The natural history of obsessional illness has been studied in 89 mental hospital in-patients. Diagnostically 37 were classified as obsessive-compulsive neurosis, 16 as phobic-ruminative, 14 were doubtfully schizophrenic, 10 showed depressive features and 12 were otherwise atypical.

The incidence was 0·9 per cent. of all admissions. The celibacy rate was 51 per cent., the fertility rate 1·1 per cent. Social class and intelligence were higher than in control groups of hysterics and anxiety states.

Childhood symptoms were seen in 36 per cent., precipitants of the illness were important in 69 per cent. Pregnancy was a common precipitant. The illness began early (mean 24·7 years) but admission was delayed (mean age 36·1 years). The majority (54 per cent.) showed a constant course; only 13 per cent. a definitely phasic one.

Sixty-four cases, 18 of whom were leucotomized, were followed up for an average of 5·9 years. Of those not leucotomized 39 per cent. were improved; and 66 per cent. were working. Of those leucotomized, 55 per cent. were improved and 72 per cent. working. In the typical obsessive-compulsive cases only one of the 16 not leucotomized was improved, compared with seven of the 13 leucotomized.

Spontaneous improvement was significantly associated with atypicality, absence of motor symptoms, absence of childhood symptoms, and a short duration prior to admission. It was concluded that chronicity and presence of motor symptoms were not contra-indications for leucotomy and that many of the current recommendations for leucotomy are indicators of spontaneous remission.

Spontaneous recovery in severe obsessional illness is rare, improvement common, and disablement only occurs in a minority.

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