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Senile Dementia—Some Aetiological Factors

By DONALD P. OAKLEY

It has been accepted that the major factor in the aetiology of senile dementia is the organic brain disease which can be demonstrated histologically (Corsellis, 1962). The work of Rothschild (1936) suggested that psychological differences between individuals might be contributory, and Sands and Rothschild (1952) claimed evidence that senile psychotics have similar pre-morbid personality traits to those found in involutional melancholics and that hypochondriasis, dependency and rigidity were prominent features in both. A similar opinion is given by Noyes and Kolb (1958), who believe that, "the person who develops senile dementia has often been characterized by rigid and static habits".

The present investigation is designed to discover whether patients admitted to a mental hospital suffering from senile dementia have had a tendency, before the onset of their illness, to be of the rigid, obsessional type of personality. The starting point of the survey was a group of 71 female patients admitted to Whittingham Hospital, Preston, during the period from January, 1958 to April, 1961 and suffering from senile dementia.

In all cases the disease was already far advanced by the time of admission to hospital. Had this not been so, they would have been dealt with by the domiciliary psychiatric services or would have been admitted to one of the acute psychiatric units attached to general hospitals in the same catchment area. All the patients were admitted primarily because of their mental state and regardless of any physical disease.

Care was taken in the selection of patients for the investigation to exclude those who showed evidence of cerebro-vascular disease. Thus any patient who had at any time experienced syncopal attacks, convulsions, paralyses or symptoms of cardiac decompensation, or whose mental condition had shown signs of remission with intervals of lucidity, was excluded.

A note was made of the name and address of the next of kin of each patient, and a letter was sent explaining briefly the nature of the investigation and inviting the relative to be interviewed. A questionnaire was put verbally to the relative, the answers being recorded as the interview proceeded. Where the relative had no first-hand knowledge of the patient before the onset of symptoms, the case was excluded from the results. In addition, information obtained was limited to the period running back ten years from the onset of symptoms, as it was felt that to go further back in the patient's history might produce unreliable data.

The questionnaire contained essentially three parts, viz. social, medical, psychological. In the first section the questions were designed to elicit the basic family particulars and the backgrounds from which the patients had come. From this information it was possible to assess the degree of social integration, using the criteria defined by Silverman (1953). In the medical section, attention was paid to obtaining confirmatory evidence that the patient had not suffered from any symptoms suggesting cerebro-vascular disease. Precipitating factors for the illness were sought and enquiries made concerning the reason for the patient being admitted to hospital.

In the final section, an assessment was made of one aspect of the patient's premorbid personality. On the basis of the description of the obsessional personality given by Lewis (1936, 1950) and Curran and Partridge (1955), a list of 20 questions was compiled to indicate the presence of the following "obsessional" characteristics:

Bigoted; obstinate; reliable; punctual; conscientious; fussy over cleanliness; fond of order; scrupulous over morals; mean with money;

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fond of collecting or hoarding; strict as parents; keen on discipline; persistent; uncertain in making decisions; energetic; having feelings of insecurity; having difficulty in adjusting to change; quick to seek medical advice for minor ailments; dwelling unduly on physical symptoms; habits, rigid and unchanging.

The relative of each proband was asked in terms of everyday language whether each of these features had been present in the premorbid personality. Where the answer was "yes", one point was scored. An example of the questions would be, "was she extremely fixed in the opinions which she held and unwilling to listen to arguments contradicting her own ideas?". Several of the questions required no elaboration (e.g. punctual, mean with money), but where it was necessary the question was explained in simple terms.

As a check on the validity of the "obsessional scale" the questions were put to a small group of psychiatric out-patients suffering from obsessional neurosis, and the scores all fell within the range 12 to 16.

For the control group it was necessary to find a population of old people who had suitable relatives available for interview. A group of old people who were in hospital primarily for a physical illness could be compared with a group of similar age and sex who were in hospital primarily for a mental illness. Permission was obtained to be present on the geriatric wards of two hospitals during normal visiting hours and to request interviews with the patients' relatives. In consultation with the ward sister, patients were selected who had been admitted for reasons of physical illness, and who were not considered to present psychiatric problems. If one of these patients received a visit, a personal approach was made to the patient and the visitor, and the nature of the request explained briefly and simply to them. It was necessary to ensure that the visitor interviewed was a close relative of the patient and had been in touch with her before her admission. Those who were willing were then interviewed in the same manner as the relatives of the probands. A total of 62 questionnaires were completed in two periods—during February and March, 1961 at Sharoe Green Hospital, Preston; during January and February, 1962 at St. Mary's Hospital, York (Group B).

A further control group was obtained by arranging to attend the meetings of a number of Old People's Clubs in York and interviewing their lady members. Following a short talk, the members were invited to be interviewed individually and privately and in each case the questionnaire was completed, a total of 43 being obtained (Group C).

Both of the control groups were asked to reply to questionnaires essentially identical with that given to the relatives of the proband group, some inapplicable items being omitted.

The Results

A total of 71 female patients suffering from senile dementia were examined, but as it proved impossible to contact suitable relatives in eight cases and one relative interviewed was clearly an unreliable witness, there remained 62 probands (Group Z).

Table I shows the age distribution of the probands and controls. The youngest patient to be included in the senile dementia group was admitted to hospital at the age of 62 and had been gradually developing symptoms during the previous four years.

Table I

Age Distribution of Patients and Controls

Age Group	Senile Dementia Cases	Controls Group B	Controls Group C
60–64 ..	1	5	5
65–69 ..	6	7	10
70–74 ..	21	10	13
75–79 ..	20	15	10
80–84 ..	10	11	4
85 and over ..	4	14	1
Totals ..	62	62	43
Mean age ..	75·3	77·4	71·6
Standard deviation ..	5·6	7·9	6·3

Table II summarizes the marital status, and it can be shown that there is no significant difference between the senile dementia group and the control groups. The proportion of

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TABLE II

Marital Status of Patients and Control Groups

	Senile Dementia Patients (Group Z)	Controls (Group B)	Controls (Group C)	Combined Controls
Married	10 (16%)	13 (21%)	6 (14%)	19 (18%)
Single	11 (18%)	12 (19%)	3 (7%)	15 (14%)
Widowed	41 (66%)	37 (60%)	34 (79%)	71 (68%)
	62	62	43	105

married women is unexpectedly low in all the groups investigated as compared with the population of England and Wales of the same age range obtained from the Registrar General's Statistics. This is the result of a measure of selection, in that women with husbands are more likely to be cared for at home during an illness, and they are less likely to seek the company of their peers by attending Old People's Clubs.

Table III shows which relatives were interviewed when the questionnaires were completed. In both groups more than half of the relatives were sons or daughters.

TABLE III

Relatives Interviewed

	Senile Dementia Cases (Group Z)	Geriatric Hospital Cases (Group B)
Husband	4	5
Sibling	13	6
Sibling-in-law	3	0
Child	33	36
Child-in-law	1	1
Grandchild	0	1
Cousin	0	1
Nephew or niece ..	5	10
Friend	3	2
	62	62

In Table IV some of the clinical findings in the cases of senile dementia are analysed. In agreement with textbook opinions, the onset was usually insidious, and informants frequently had some difficulty in dating the earliest symptoms. There was said to be an acute onset in 6 of the 62 cases, and in spite of careful enquiry this could not be disproved. Among these 6 cases, no precipitating factors could be discovered in 3; street accidents preceded the first symptom in 2, and the death of a daughter in one case. There were 10 cases in which there appeared to be a precipitating factor (3 followed by the sudden onset of symptoms, and 7 by a gradual development of the illness). In 6 cases

TABLE IV

Clinical Findings in Cases of Senile Dementia

A. Onset of illness:	
Acute onset	6
Insidious onset	56
	62
B. Precipitating factors:	
Physical	6
Psychological	4
None	52
	62
C. Duration of illness prior to hospital admission:	
Less than 1 year	11
1 to 3 years	22
More than 3 years	29
	62
D. Reasons for admission to hospital:	
No one to care for patient	22
Relatives unable to manage ..	36
Wandering from home	47
Confusion	45
Violence	16
Suicidal attempt	2

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the precipitating factor was given as "accident", but all these proved to be of a trivial nature and none resulted in loss of consciousness or evidence of significant head injury. In the remaining 4 cases the onset followed the death of a close relative; son (1), daughter (1), husband (1), husband and sister (1).

The duration of the illness before hospitalization was less than one year in 11 cases and more than three years in 29 cases. The result of the insidious onset of the disease was that relatives were able to care for the patient in their own homes for a considerable time. Table IVd indicates the symptoms which caused the relatives to seek additional assistance because the illness had reached a point at which they were no longer able to look after the patient at home.

In 14 of the probands there could be found one relative or more with a history of senile dementia (17·7 per cent.). No family history of senile dementia was discovered in the control cases from geriatric hospitals.

Analysis of the family unit in respect of "living alone" versus "living with others" showed no significant difference between the patient group and the combined control groups. A high proportion of Group C (65 per cent.) were living alone, but this could be accounted for by the fact that loneliness would encourage attendance at a social centre or club.

The higher proportion of married women in the geriatric hospital group is reflected in the greater degree of social integration of this group. The smaller proportion of socially integrated in Control Group C is the result of the selection of this group already discussed. However, if the control groups are combined, the proportion of socially integrated (46 per cent.) is almost identical with that found in the mental hospital group (47 per cent.). In deciding to obtain a control group from the population of a geriatric hospital it was felt that this would be comparable with the experimental group obtained from the mental hospital population. When Group Z is compared with Group B by means of a "fourfold" table for social integration versus "incomplete integration" (i.e. limited integration together with no social integration) it is found again that the difference is not significant.

The scores of the "obsessional" scale are shown in the form of a histogram (Fig. 1) and are grouped into four divisions in Table VI. The proband group is situated in the middle and upper parts of the range, whilst those for both of the control groups are to be found in the lower sections. There is no significant difference in the distribution of the scores between the two control groups, but a highly significant difference ($P<0·01$) between the distribution of scores of the senile dementia patients and the geriatric hospital patients. This clear indication of the positive relationship between senile dementia and a high score on the "obsessional" scale used may be explained in two ways. Either the obsessional features in the personality predispose an individual to senile dementia, or these personality traits are among the prodromal symptoms of the disease. The latter hypothesis is not supported, as the relatives who were interviewed indicated that the obsessional traits had been present for many years before the onset of the illness.

TABLE V

Social Integration

	Patients (Group Z)	Controls (Group B)	Controls (Group C)	Combined Controls
Socially integrated	29 (47%)	35 (56%)	13 (30%)	48 (46%)
Limited integration	26 (42%)	27 (44%)	26 (60%)	53 (50%)
No social integration	7 (11%)	0 (0%)	4 (10%)	4 (4%)
	62	62	43	105

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TABLE VI

Scores Obtained on "Obsessional" Scale

Score	Patients (Group Z)	Controls (Group B)	Controls (Group C)
0– 4 ..	2 (3%)	39 (63%)	22 (51%)
5– 9 ..	16 (26%)	20 (32%)	17 (40%)
10–14 ..	40 (65%)	3 (5%)	4 (9%)
15–20 ..	4 (6%)	0	0
	62	62	43

SUMMARY AND CONCLUSION

The investigation concerns 62 female patients admitted to Whittingham Hospital, Preston, diagnosed as suffering from senile dementia, and having relatives available for answering a series of questions. They were matched with 62 female patients admitted to geriatric hospitals on account of physical disorders, and with 43 ladies from Old People's Clubs. The mean ages of the three groups were 75, 77 and 72 years respectively.

In the proband group it was found that in the great majority of cases the onset was insidious and there was an absence of physical or psychological precipitating causes. There was a family history of senile dementia in the relatives of 18 per cent. of the proband group, but in none of the control groups. Marital status, social isolation and sensory deprivation through loss of sight or hearing did not seem to play a part in the aetiology.

Of greatest significance is the score on the obsessional scale. It is shown that there is a positive relationship between senile dementia and a high score on the obsessional scale used, and it is suggested that the possession of those qualities in the personality which contribute to the high score is a predisposing factor in the aetiology.

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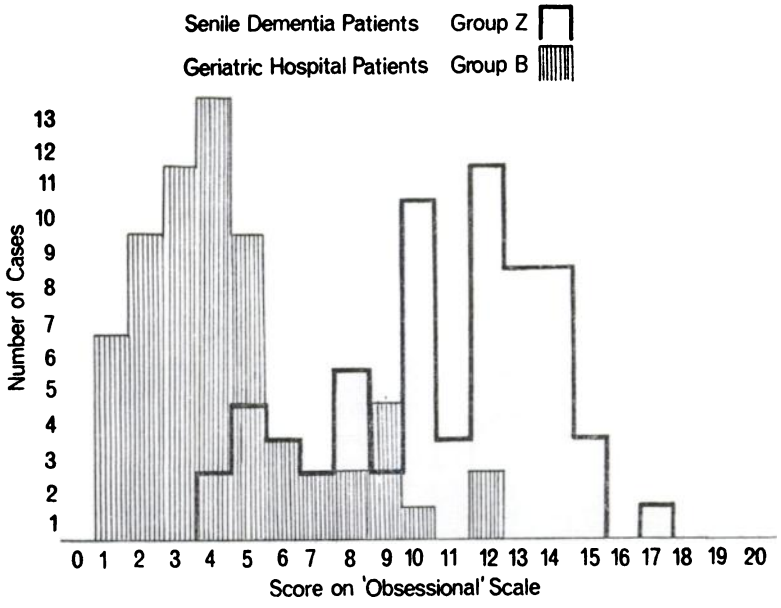


FIG. 1.

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Dr. O. K. G. Guyer, Consultant Geriatrician at Sharoe Green Hospital, Preston, and Dr. E. G. Wilkins, Consultant Geriatrician at St. Mary's Hospital, York, both gave me free access to their patients.

Bibliography

Corsellis, J. A. N. (1962). *Mental Illness and the Ageing Brain*. Maudsley Monographs No. 9. London: Oxford University Press.

Curran, D., and Partridge, M. (1955). *Psychological Medicine*. 4th edition. Edinburgh and London: E. & S. Livingstone Ltd.

Lewis, A. J. (1936). *Proc. Roy. Soc. Med.*, **29**, 325.

—— (1950). In *A Textbook of the Practice of Medicine* (ed. Price, F. W.). 8th edition. London: O.U.P.

Noyes, A. P., and Kolb, L. C. (1958). *Modern Clinical Psychiatry*. London: W. B. Saunders.

Registrar General (1962). *Statistical Review for England and Wales for 1960*. Part 2. London: H.M.S.O.

Rothschild, D. (1936). *Amer. J. Psychiat.*, **93**, 757.

Sands, S. L., and Rothschild, D. (1952). *J. Nerv. Ment. Dis.*, **116**, 3, 233.

Silverman, M. (1953). *J. Ment. Sci.*, **99**, 415, 257.

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