EARLY ONSET SCHIZOPHRENIA

J.A. MEILAK

B.Pharm., M.D., M.R.C.Psych., D.P. M.(Eng.)

Abstract

This communication consists of a study of a series of adolescents who were referred to the psychiatric hospital on account of a schizophrenic illness. In every case the illness started before the age of eighteen.

Method

All patients under the age of eighteen, who were admitted for the first time to Mount Carmel Hospital between 1965 and 1974, and who were given a diagnosis of schizophrenia by their respective consultant psychiatrists, were included in the study. Variants like schizo-affective psychosis were included.

Data were extracted from admission registers and clinical notes and were based on information by relatives and remitting doctors, and on entries by staff doctors on mental state, treatment and outcome.

Findings

44 patients under 18 years (20 males and 24 females) who had their first admission in the 10 year period under review were diagnosised as schizophrenia. The age distribution is shown in Table I. The youngest patient was a girl of 12. During the same period of time, the hospital received 535 new cases of schizophrenia. Thus only a small proportion of patients suffering from this disease come to hospital for the first time before 18 (8 per cent of the males and 9 per cent of the females).

However, schizophrenia is the commonest diagnosis in this age group, accounting for 30 per cent of all first admissions under 18 (Table 2), and is only slightly surpassed by mental subnormality among the males. The serious affective disorders (depression and mania), which later on in life are about as common as schizophrenia, here amount to only 8 per cent of the admissions.

Family Structure

The great majority of the subjects came from stable family groups. Both

TABLE 1

First admission cases of Schizophrenia under 18.

Age Distribution.

Age	*Cases*			*Age*	*Cases*		
	M	F	T		M	F	T
12	—	1	1	15	4	9	13
13	2	1	3	16	3	3	6
14	3	1	4	17	8	9	17

N = 44 cases
(20 males, 24 females)

TABLE 2

Diagnostic classification of first-admission cases under 18 years.

1965 — 1974

Diagnosis	*No. of Cases*		
	M	F	T
Schizophrenia	20	24	44
Mental Subnormality	23	13	36
Epilepsy with Mental Disorder	13	5	18
Adolescent Instability	10	6	16
Affective Psychosis	9	3	12
Paranoid Psychosis	2	1	3
Acute Toxic – Organic Psychosis	1	2	3
Obsessive-Compulsive Neurosis	2	1	3
Anxiety Neurosis	1	1	2
Hysterical Neurosis	—	2	2
Anorexia Nervosa	—	1	1
Unclassified	2	4	6
No Mental Disorder	1	—	1
Total	84	63	147

parents were alive in 39 cases. 4 patients had only one living parent. One girl came from a broken home.

Family History of Schizophrenia

9 subjects (20 per cent of the series) had a first-degree relative who suffered from schizophrenia, while 11 subjects (25 per cent) had schizophrenics as second or third-degree relatives.

Socio-Economic Status

Table 3 shows the socio-economic distribution of the 44 patients. This classification was based on the father's last occupation. Status was assessed on the method currently used by the Central Office of Statistics. The social class distribution of the subjects under review, does not appear to deviate markedly from the distribution of the general population.

TABLE 3

Socio-economic Distribution — based on father's occupation.

Socio-Economic Group	*Number*		
Non-manual	M	F	T
1. Higher Administrative, Professional and Managerial	—	—	—
2. Intermediate Administrative, Professional and Managerial	4	1	5
3. Shopkeepers, Shop-assistants, Clerical Workers, and related occupations.	2	5	7
4. Personal Service (non-manual)	1	2	3
Manual			
5. Personal Service (manual)	1	2	3
6. Foremen, supervisors	1	—	1
7. Skilled Workers	4	5	9
8. Semi-skilled Workers	2	2	4
9. Unskilled Workers	2	5	7
10. Farmers, Agricultural Labourers and Fishermen	—	—	—
	17	22	39
Not known	3	2	5
Total	20	24	44

Scholastic Achievement

Only 7 boys and 5 girls had reached an educational level higher than primary, corresponding to 27 per cent of the total series. 3 patients had attained a G.C.E. level.

Work

17 patients had had a job for a brief period of time. Of these, only 3 had had a non-manual occupation. However this may be explained by the age-composition of the sample.

The Premorbid Personality

It was not possible to derive a satisfactory analysis of the previous personality from available material. The notes however contained enough data to separate two broad groups — the "schizoid" and "non-schizoid" subjects. The schizoid type of

TABLE 4

Precipitating Stresses.

Type of Stress	*Cases*	*Type of Stress*	*Cases*
Influenza	3	Police arrest	1
Mild head injury	1	Accused of theft	1
Blindness	1	Unhappy love affair	1
Emigration	1		

personality is characterized by seclusiveness excessive shyness, suspiciousness, apathy and obstinacy. Patients exhibiting two or more of these traits in their previous personality were included in the "schizoid" group. 15 boys and 5 girls fell into this category (83 per cent of the boys and 23 per cent of the girls). In 4 cases (2 boys and 2 girls), it was not possible to assess previous personality on account of insufficient information.

Previous Physical Illness

15 patients (34 per cent) had a history of physical illness or injury of a fairly serious nature. In 12 cases such disorders were incurred in infancy or early childhood. 4 patients had a history of febrile convulsions.

Precipitating Stresses

Usually when relatives call at the hospital to give a history, they tend to emphasize any events which in their opinion may have provoked the mental disorder. Laymen can more easily understand a sequence of events where mental symptoms follow physical illness or misfortune, than an obscure endogenous aetiology. A history of stress was given in 9 cases (20 per cent of the series). (Table 4).

Duration of symptoms before admission

Table 5, shows the time-interval between onset and admission for the 44 patients; 61 per cent had a history of less than 3 months, while 33 per cent presented with a very acute onset. The majority of

TABLE 5

Duration of symptoms before admission.

	M	F	T	
less than 15 days	1	9	10	61%
15 days — 3 months	11	6	17	
3 months — 1 year	4	6	10	39%
more than 1 year	4	3	7	

TABLE 6

Types of behaviour leading to admission

Behaviour	*Cases*			*Behaviour*	*Cases*		
	M	F	T		M	F	T
Withdrawal	11	13	24	Somatic complaints	3	5	8
Excitement	13	11	24	Suicidal attempts	3	3	6
Sleep-disturbance	8	16	24	Eroticism	1	4	5
Food-refusal	8	15	23	Regressed habits	3	2	5
Aggression	9	5	14	Delinquency	3	—	3
Suicidal threats	5	5	10				

N = 44 cases
(20 males, 24 females)

those with a very acute onset were females, 9 out of 10.

Behaviour leading to Admission

Table 6 shows the main types of behaviour which led to hospitalization. Withdrawal, or the severe loss of emotional rapport, was one of the commonest changes. The youth becomes self-absorbed and loses all interest in his environment. More than half of the series had periods of excitement with severe restlessness, panic and impulsive behaviour. The psychological disruption often caused food refusal and sleep disturbance. Suicidal ruminations and actual attempts at self-destruction are fairly often encountered in the initial phases of the disease; approximately one quarter of the series expressed suicidal wishes, and 6 patients made suicidal attempts. Somatic complaints were prominent in 6 cases, and consisted mostly of headache and abdominal discomfort. Actual delinquency was not a common feature, (3 cases); however the sudden onset of anti-social behaviour, may reveal the beginning of the illness.

Main Symptoms during Admission

These symptoms were elicited from the initial mental-state interview and from follow-up assessments. (Table 7). Overactivity, with restlessness, panic and impulsive and sometimes uncontrollable behaviour, was seen in 58 per cent of the patients. The same patient may drift from a state of overactivity into one of retardation, or vice-versa. 8 patients showed a combination of severe retardation, mutism and negativism — the state which is described as catatonic stupor.

Formal thought-disorder was exhibited by nearly half of the series. The various manifestations included thought-blocking, derailment, over-inclusion, condensation and neologisms, and ranged from gross dissociation to vagueness or "woolliness".

59 per cent of the patients were suffering from auditory hallucinations, while 25 per cent admitted to having visual hallucinations and illusions. Visual hallucinations are not frequent in schizophrenia, being more indicative of the acute toxic-organic psychoses, but they may be encountered in the very acute types of the disorder. 36

TABLE 7

Main symptoms during admission.

Symptom	*Cases*			*Symptom*	*Cases*		
	M	F	T		M	F	T
Auditory hallucinations	14	12	26	Visual hallucinations	7	4	11
Overactivity	11	13	24	Negativism	5	6	11
Formal thought-disorder	12	9	21	Mutism	1	7	8
Emotional incongruity	8	12	20	Other delusions	4	4	8
Persecutory delusions	9	7	16	Ideas of reference	2	5	7
Feelings of misery	6	8	14	Postural disorders	2	4	6
Retardation	2	10	12	Passivity feelings	—	3	3

N = 44 cases
(20 males, 24 females)

per cent of the series believed that they were being persecuted, but though these ideas were prominent, they were relatively unstructured, and only one boy showed evident systematization.

Another common symptom, emotional incongruity, was shown by 45 per cent of the patients. The affect was capricious, and was expressed by meaningless giggling, unprovoked laughter, or mirth inappropriate to the thought-content of the moment.

Passivity feelings, that is when the patient feels he is being influenced by an outside agency, were relatively uncommon.

Treatment

Trifluoperazine and chlorpromazine were the most commonly used phenothiazine drugs. The majority of the patients had more than one phenothiazine during their stay. Haloperidol was given to three patients. Ten patients were treated with a tricyclic antidepressant together with a phenothiazine drug.

Electro-convulsive therapy was administered to 37 patients (84 per cent of the series), and the average number of sessions given was 13.

Outcome

This was assessed from the mental state of the patients at the time of discharge, with reference to target symptoms. 57 per cent of the series were much improved or completely relieved of symptoms; 32 per cent showed improvement ranging from slight to moderate, while 11 per cent did not show any improvement.

An attempt was made to establish the presence or absence of personality defect resulting from the disease process. This was based on the existence of negative symptoms like apathy, poor motivation, and blunting or shallowness of affect. Such defects were more or less present in 25 patients (57 per cent). All the patients who had a history of onset of more than one year showed this scarring. However, it was evident in only 48 per cent of those with a history of less than 3 months. Of those with a premorbid schizoid personality, 70 per cent showed this type of deterioration,

which was seen in only 45 per cent of the non-schizoid group.

Duration of Stay in Hospital

80 per cent of the series spent less than 3 months in hospital (Table 8). All the patients, except for one who is still in hospial, were out before 6 months. A noticeable tendency towards shorter stay can be seen in the table. For the first quinquennium, the average duration of stay was 78 days, which dropped to 53 days in the second quinquennium.

Re-admission to Hospital

As the period under review stretches to 1974, one cannot obtain a fair estimate of re-admission rate. For this reason, only the patients admitted between 1965 and 1969, were examined for this factor. This gives a follow-up time of 5 to 10 years. Of the 20 patients, 9 (45 per cent) did not have a further admission. 10 patients were re-admitted, the number of re-admissions ranging from one to six. One patient has been in hospital continuously since his first admission.

Types of Schizophrenia

The International Classification of Diseases specifies the sub-categories of schizophrenia, and guides to classification are given in the appropriate Glossary. An attempt has been made to classify the schizophrenic disorders shown by this series along these lines. (Table 9).

In the hebephrenic type, the "affective change is prominent. The affect is capricious and inadequate, often expressed by meaningless giggling, . . . thought disorder is prominent". The catatonic type" is characterized mainly by psychomotor manifestations which tend to show extreme alternations of behaviour, e.g. hyperkinesis-stupor, and automatic obedience-negativism. Excitement, often severe, may be prominent". In the paranoid type, "delusions and hallucinations dominate the clinical picture. The delusions are often of persecution". The acute schizophrenic episode excludes acute schizophrenia of the other types, and is characterized "by acute onset, often presenting a dream-like state with slight clouding of consciousness and perplexity". In the schizo-affective type, there are "typical manic or depressive and schizophrenic features. This diagnosis should be made only when both the affective and schizophrenic features are prominent".

Discussion

In 1896, Kraepelin introduced the term "Dementia Praecox", thus isolating from the many private classifications then

TABLE 8

Duration of first admission.

Duration of stay in hospital	1965-69	1970-74	1965-70
less than 1 month	1	6	7
1 month — 3 months	14	16	29
3 months — 6 months	4	3	7
not discharged	1	—	1
	20	24	44

TABLE 9

Classification of cases according to type of Schzophrenia.

I.C.D. No.	*Type*	M	F	T
295.1	Hebephrenic	5	8	13
295.2	Catatonic	6	11	17
295.3	Paranoid	6	2	8
295.4	Acute Scizophrenic Episode	1	2	3
295.7	Schizo-Affective	2	1	3
		20	24	44

in use, a common process characterized by early onset and grave prognosis, leading to severe personality deterioration. The term "dementia" is a misnomer, because even though the disease may lead to a marked disruption of the funtions of the personality, the resulting defect is quite dissimilar from the deterioration produced by an organic process.

Bleuler, in 1911, coined the term "schizophrenia" to denote a splitting, or loosening of the association of the various mental processes. He rejected the gloomy prognostic implications specified by Kraepelin, and stated that the disorder "may come to a standstill at any stage, and some of its symptoms may clear up to a large extent or altogether, but if it does progress, it leads to a dementia of a specific type".

In the recent past, the concept of "childhood schizophrenia" has been much abused. Great efforts have now been made to clear the confusion produced by inappropriate terminology. Rutter. (1967) suggested that the psychoses of childhood may be segregated into three main groups. This differentiation depends not only on age of onset. but also on clinical characteristics. The disorder known as "infantile autism" or Kanner's Syndrome, starts in early infancy, definitely not later than three, and shows a clear distinction from schizophrenia in heredity, symptomatology and progress. The middle group, with onset between three and five, includes a variety of disorders — Heller's Disease, Mahler's Symbiotic Psychosis, and the Dementia Praecocissima of de Sanctis. The aetiology of this middle group is probably organic. The third group resembles the adult form of schizophrenia both in course and outcome.

These late-onset childhood psychoses, or early onset schiozophrenic disorders are extremely rare bofere the age of eight. Lutz (1937) reviewed the literature and found only thirty published cases of schizophrenia beginning in the first ten years of life. He found that the diagnosis could be confirmed with confidence in only fourteen cases. Kanner warns against "vague retrospective hints that some schizophrenic symptoms of adults made their first appearance before puberty".

New cases of the illness. which often is a chronic relapsing disorder and which may have an insidious onset. are not easily identified. This leads to the question whether hospital first-admission statistics can give a fair estimate of the incidence of the disorder in the community. Odegaard (1952) said that schizophrenia is such a serious illness. that at some stage the great majority of those affected are admitted to hospital. Between 1965 and 1974, the Mal-

tese first-admission rate for this illness averages 58 per annum, giving a rate of 18 per 100,000 (which is quite close to the 15 per 100,000 obtained in England and Wales). However, due allowance must be made for the time elapsing between onset and first-admission to have a good estimate of incidence in a particular age-period.

Admission to hospital is mostly determined by the amount of social and domestic upheaval produced by a sick person. The process may start quietly and insidiously in adolescence, and progress unremittingly without evoking a social crisis till many years later, necessitating admission only in the twenties or thirties. Thus, this study will have missed these cases. If one includes out-patients, the series becomes somewhat more comprehensive. A review of all patients under 18 referred to the out-patient clinic between 1970 and 1974, revealed that only 6 patients with schizophrenia were not admitted to hospital. This gives a ratio of 1:4.

The question whether schizophrenia is a homogeneous disease-entity or a heterogeneous collection of allied disorders remains unanswered. Kraepelinian and Bleulerian criteria can lead to widely differing results. Cooper *et al.* (1971) and Kendall (1971) in studies of diagnostic practices in London and New York, discovered that in the latter city, schizophrenia was diagnosed twice as frequently as in London. It may well be that there is a "nuclear" or "process" type of the disorder with an unfavourable prognosis, as described by Kraepelin and later by Langfeldt (1937). The latter in his classic follow-up study of 100 Oslo patients, found that 17 per cent were completely cured; of these 14 per cent had shown an atypical clinical picture in the early part of their illness, with manic-depressive, psychogenic and organic features. He said that these patients were suffering from a "schizophreniform" psychosis, as distinct from true or "process" schizophrenia; the differentiation included both aetiology and prognosis. Langfeldt laid down several criteria for diagnosing "typical process schizophrenias". However his concepts are rather abstruse and difficult to apply. Holmboe and Astrup (1957) could not replicate his findings. They found that nearly half the cases diagnosed as schizophreniform presented deterioration on follow up.

Several studies suggest that acuteness of onset, the presence of stress and a good previous personality are associated with a more favourable prognosis. Level of intelligence is a more doubtful factor. Onset in early adolescence is usually associated with a poor outlook; this may be due to the fact that a personality which has not had time enough to mature, is more easily disintegrated, as well as to the fact that an individual who becomes ill at an early age will lose valuable training and education, thus becoming a social misfit.

References

BLEULER, E. (1911) Dementia Praecox or the Group of Schizophrenias. Vienna. (Trans. J. Zinkin, 1950) New York: Int. Univ. Press.

COOPER, J.E., *et alia* (1971) Psychiatric Diagnosis in New York and London. Maudsley Monograph No. 20. Oxford University Press.

Glossary of Mental Disorders (1968) Studies in Medical and Population Subjects No. 22: Her Majesty's Stationery Office, London.

HOLMBOE, R., and ASTRUP, A. (1957). "A follow-up study of 255 patients with acute schizophrenia and schizophreniform psychosis". Acta psychiat. scand. Suppl. 115.

KANNER L., (1972) Child Psychiatry. 4th Edit., C. Thomas. Springfield, Illinois.

KENDELL, R.E. (1971) Psychiatric Diagnosis in Britain and the United States. British Journal of Hospital Medicine. Aug. 1971.

LANGFELDT, G., (1937) "The prognosis in schizophrenia and the factors influencing the course of the disease". Acta psychiat. scand. Suppl. 13.

LUTZ, J., (1937) Uber die Schisophrenie im Kindesalter. Zurich, Fussli.

Report on Economic Activities. Malta Census 1967, Vol. 1. Malta. Central Office of Statistics.

DEGAARD, O., (1952). The incidence of mental disease as measured by census investigation versus admission statistics. Pschiat. Quarterly, 26, 212.

RUTTER, M., (1967) Psychotic disorders in early childhood. Recent Developments in Schizophrenia. Ed. Coppen and Wolk. Royal Medico-Psychological Association.