The natural history of schizophrenia in the long term.

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Three Lectures on Schizophrenia

The Natural History of Schizophrenia in the Long Term


By LUC CIOMPI

It is well known that in some small European countries there exist especially favourable conditions for certain types of research which elsewhere meet enormous difficulties. This is exemplified in Denmark and other Scandinavian countries by the famous studies on the influence of genetic and environmental factors in schizophrenia, which were made possible by the exceptional availability of well organized national registers on twins, adoptees and psychotics.

Some time ago we realized that similar favourable conditions exist in Switzerland for long-term follow-up research. It possesses the advantages of being a small and well ordered country without wars and major troubles during the last 100 years, leading to intact and meticulously well kept records of population movements, combined with an exceedingly low social mobility within a very limited geographic area. These features made it possible to trace and find within a short period over 96 per cent of all former patients, even after many changes of address through several decades. Another advantage is the division of the country into 23 political districts or ‘cantons’, each one with its own hospitals and health care organizations, which have provided for many decades clearly delimited catchment areas, forming an ideal basis for epidemiological research.

These favourable conditions led at the beginning of the sixties to the mounting in one of these districts of the so-called ‘Enquête de Lausanne’, an extended follow-up research programme on the long-term evolution of mental illnesses of all kinds. The programme was initiated by C. Müller and carried out by L. Ciompi and collaborators over more than ten years. About 50 papers dealing with the long-term evolution of various psychiatric conditions have been published within the framework of this project; a final synthesis is currently in elaboration. The findings concerning schizophrenia have been published in the form of a monograph (Ciompi and Müller, 1976). In the following, some of the most important findings of this study are briefly summarized, with particular reference to the problems of treatment.

The General Framework of the Schizophrenia Study

The 5,661 former patients of the Psychiatric University Hospital of Lausanne, included in the ‘Enquête de Lausanne’, represent all the psychiatric patients born between 1873 and 1897, hospitalized from the beginning of the century until 1962 in a catchment area with about 500,000 inhabitants today. Age criteria were chosen in order to obtain from all the survivors virtually life-long follow-ups until at least the age of 65 years. Systematic additional
cause-of-death and mortality studies provided precise information about the most important selection factors operating in the samples that were finally examined, since attrition was mainly due to death.

One thousand, six hundred and forty-two patients (29 per cent) were diagnosed as schizophrenic at first admission, according to strict Bleulerian criteria, which do not include a bad outcome as obligatory. Heavy mortality during the follow-up period and some other minor factors, probably introducing a slightly favourable bias in the course of the illness, reduced the initial sample to 289 patients. These were personally re-examined by an experienced psychiatrist in their homes, using a semi-structured interview of about two hours duration. Additional information was systematically collected from hospital files, family members, authorities etc.

The average duration of follow-up from first admission to re-examination was 36.9 years. The longest catamnesis was 65 years and about 50 per cent of the cases had a catamnesis of more than 40 years (Fig 1). To our knowledge, based on a synopsis of papers published in 1970 by Stephens and augmented by ourselves, these are the longest known follow-ups of such a large number of schizophrenics in world literature. The follow-up observations were classified under 6 main headings (which could be viewed, according to a concept recently introduced by Strauss and Carpenter (1977), as 'linked-open systems') namely:—

- the end-states at follow-up
- the development of schizophrenic symp-
toms and syndromes
the development of additional, not specifically schizophrenic symptoms (for instance depression, anxiety, etc.)
the development of organic brain syndromes
the development of social adaptation
the overall course (combined measure of the preceding evolving aspects).

average follow up 36.9 years, n = 228

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Fig 3.—Long-term evolution of schizophrenia (dotted lines represent variations of the same type of course).

* Only one single attack in 10% of all cases.
In order to identify some of the main factors influencing the long-term course, every aspect of outcome was statistically related to a set of more than 20 general, anamnestic, psychopathological and situational variables.

Overall Outcome

From the many aspects of outcome studied, we will briefly report here the following four: admission to hospital, types of course, global outcome of schizophrenia, social outcome.

Regarding admission to hospital, it is interesting to note that the total duration was less than one year for about half of the probands. On the other hand, about one quarter spent more than 20 years in hospitals (Fig 2). A very similar picture is obtained when the duration of admission to hospital is related to the total follow-up period. Most patients spent less than ten per cent of the whole follow-up period in hospital, but about one quarter of the probands remained there nearly all of the time.

By combining the type of onset, the form of development and the end-state reached (in the sense of M. Bleuler), a great variety of types of course were observed, which can be summarized schematically in the eight types of Fig 3. The first four types are commonest and result from combinations of a phasic or continuous course with a favourable or unfavourable outcome; the following four less frequent types are alternative combinations. It is noteworthy that an acute onset combined with a phasic course and a favourable outcome was exhibited by 25 per cent of the sample and was the most frequent and also the most favourable type. The most unfavourable one (Bleuler’s so-called ‘catastrophic schizophrenia’), beginning with an acute onset and leading directly to a severe end-state, affected six per cent of the sample and was sixth in order of frequency.

The global outcome of schizophrenia, as measured by the end-states reached was favourable in 49 per cent of the cases, 27 per cent complete remissions and 22 per cent minor residuals, compared to 42 per cent with unfavourable outcomes of intermediate or severe degree (Fig 4). In comparison with the situation at first admission, mental health was completely or partially improved in about two thirds of the cases (Fig 5).

Concerning social outcome at follow-up, we found about two fifths of the patients living with their family or by themselves, one fifth in community institutions, and the rest in hospitals (Fig 6). Although the mean age of our probands
was 74 years at follow-up, more than half (51 per cent) were still working; about two thirds of them in part-time and one-third in a full-time occupation. The final social adaptation was assessed from a combination of social dependency and from quality and quantity of social contacts. Combined in a global score, the overall social adaptation appeared as good or fair in only about one third of the cases, whereas it was intermediate or bad in two thirds. This showed that the main residuals or consequences of the illness were not in the field of persisting schizophrenic psychopathology, but of impaired social functioning.

**Relations between Outcome, Treatment and Other Variables**

Concerning the relations of outcome with treatment, as well as with some other important variables, the study provides the probably unique opportunity to compare the course and outcome of first admissions from the beginning
of the century until the sixties. In order to examine the possible influence of the introduction of new treatment methods, we divided our sample into six decades according to first admission, and also into three main groups: first the patients admitted before the beginning of the active shock treatment era in 1933 (61 per cent), second the patients first admitted between 1933 and the introduction of neuroleptics in 1953 (35 per cent), and third the patients first admitted after 1953. The last group with only 4 per cent was, however, too small for valid statistical comparisons. The surprising and disappointing finding was that no statistically significant difference could be found between the outcomes of first admissions during this whole, very extended period of observation. In other words, the schizophrenic patients first admitted in the forties or fifties had no better long-term course than those first admitted at the beginning and during the three first decades of the century!

This seems to show that the apparent improvements in treatment methods, hospital conditions, psychological sampling etc. from the beginning of the century until at least the fifties, with the possible exclusion of the neuroleptics because the last subgroup was too small, made no difference at all to the course of the illness. Closer examination reveals, however, several selective sampling factors, partly related to mortality. Among them an increasing proportion of prognostically more unfavourable schizophrenics with late onset during the later decades could conceal more favourable courses in recent years. But such possibly hidden improvements were not overwhelming enough to counterbalance the sampling effects mentioned.

A second important finding, which points in the same direction, is the relationship between the outcome on one hand and various methods of treatment on the other, such as electroshock (given to 6.5 per cent of patients), insulin (12.5 per cent), pre-neuroleptic drugs (31 per cent), or complete lack of any particular therapy (50 per cent). Here also, no significant differences of outcome could be found between all these different approaches.

Again these results should be interpreted with great care. Various treatments could have been effective for a short time without, however, improving the final outcome. Furthermore, there is no guarantee that the different groups of patients and treatments are really comparable. It might well be, for instance, that only the most unfavourable cases received electroshock and insulin, which in contrast were given very seldom or not at all to the most favourable cases. The only thing that once more can be safely said is that any possible favourable effects of the treatments mentioned were certainly not overwhelming enough to counterbalance the likely biases.

Continuing in the same line, some other negative findings may be of particular interest. Contrary to common beliefs and information in the literature, no specific relations at all were found between the different aspects of outcome and sex, constitution, heredity (schizophrenia or other mental illnesses), intelligence, school education, and age of onset.

By contrast, the following variables, weighted by the sum of their correlation coefficients with the different aspects of outcome (without organic brain syndrome), were most closely related to the outcome of the illness:

1. Current housing situation
2. Total duration of hospital admission
3. Type of course
4. Duration of first period of hospital care
5. Current employment situation
6. Premorbid social adaptation
7. Premorbid occupational adaptation
8. Premorbid personality
9. Type of onset
10. Current physical health
11. Severity of initial symptomatology
12. Age at first admission
13. Current age
14. Civil status
15. Occupational training
16. Occupation

Except for the obviously circular relations between outcome and several aspects of the current situation such as housing, employment and perhaps physical health, it seemed that three general factors emerged, which were determinants for the overall outcome, namely

1. A **personality factor**: the better adapted and the more harmonious the premorbid per-
sonality was, the more probable statistically was a favourable course of illness.

2. An illness-Gestalt-factor (which is perhaps related to or even identical with the personality factor): the more florid and transient certain main characteristics of the illness were (such as type of onset, productivity and acuteness of the initial symptomatology, developing form), the more probable statistically was a favourable course of illness.

3. An age factor: it was found that the latter half of life often exerts a levelling, smoothing and calming influence on schizophrenia. The further the person advanced into old age, the more probable statistically was a favourable course of illness.

Discussion and Conclusions

During recent years, not only our own, but also two other major long-term studies on schizophrenia have been published in German, providing together a view of the course of about 1,000 cases over several decades. In 1972, also from Switzerland, came Manfred Bleuler's book, which has just been translated into English, on a very careful 22 year follow-up investigation of 208 schizophrenics in Zurich, and in 1979 appeared the important study by Gerd Huber and co-workers from Bonn on 502 schizophrenics followed-up after an average of 21.4 years. These three studies, closely comparable in their methodology and framework, in spite of a quite different theoretical approach by Huber, were undertaken completely independently of each other. The concordance of the results in general, as well as in many details, is striking.

Thus, favourable end-states were found in 53 per cent of cases by Bleuler, 49 per cent by us in an identical evaluation, and 57 per cent by Huber and collaborators. In all three studies, a great variety of developing types was found by combining various aspects (Huber for instance identified initially 72 types of development which he condensed to 12, as compared to the eight types reported, with very similar frequencies, by Bleuler and ourselves).

Many findings are very similar concerning the variables related to favourable or unfavourable outcome, such as for instance the premorbid personality and social adaptation, the type of onset, the form of development, and to some extent also the initial symptomatology. A common finding, with some minor variations, was also the lack of correlation between course and outcome on one hand and genetic factors on the other (as assessed by schizophrenia or other mental illnesses among family members).

Concerning the influence of treatment, however, the findings are somewhat different. Bleuler avoided statistical calculations because of the enormous inherent methodological uncertainties. Huber on the other hand, whose cases were examined between 1945 and 59, identified some possible, but questionable, indications of a positive long-term effect of neuroleptics as well as of electroshock treatment, especially when they were given shortly after the onset of the illness. This points to a possible bias, as the cases with chronic onset have a worse prognosis.

Our own stand is, as mentioned, intermediate. We would certainly fully agree with Bleuler's (1972) very thoughtful general reflections on the effective factors in the treatment of schizophrenia. He considers that three principles are vitally important in every one of the many old and new therapeutic approaches. The first consists in therapists relating constantly and actively to the healthy aspects of the psychotic patient. The second concerns the therapeutic effect of sudden and surprising changes in general, social and somatic conditions, often leading to a mobilization of hidden resources. The third consists in calming actions and influences which can be introduced in many ways, the best of them being talking and togetherness, and another being neuroleptic drugs. Bleuler is, however, against a regular, heavy and prolonged use of such drugs, giving many convincing arguments on the basis of his long-term observations. It is striking, and emphasized by Bleuler himself, how these three general therapeutic principles can be seen at work in nearly all treatment methods in schizophrenia, as in many other mental conditions and even in normal growth and creativity. Bleuler is convinced that a 'specific treatment of schizophrenia' does not exist.
On the same lines is the following general conclusion we can draw from our own recent long-term investigations and those of the authors mentioned. For everyone who does not link the concept of schizophrenia itself to an obligatory bad outcome, the enormous variety of possible evolutions shows that there is no such thing as a specific course of schizophrenia. Doubtless, the potential for improvement of schizophrenia has for a long time been grossly under-estimated. In the light of long-term investigations, what is called 'the course of schizophrenia' more closely resembles a life process open to a great variety of influences of all kinds than an illness with a given course. Just as in normal life processes, here what we call illness may represent the complex and variable reaction to an equally complex global situation of a given person, with his particular sensibilities and idiosyncrasies, personality structure, behaviour and communication patterns, and past and present experiences. Several important environmental influences on the course have already clearly been identified, among them family attitudes and stressful life-events according to investigations by Brown et al. (1968, 1972) and Vaughn and Leff (1976), as well as the expectations of the patient himself, his family and surrounding persons which, according to our own recent research, seem often to act strongly as self fulfilling prophecies (Ciompi et al., 1979).

Such a conclusion may be both bewildering and encouraging at the same time. Practically none of the old and seemingly secure dogmas about this illness hold when we look at them closely and long enough. But also no approach which takes the person into account more than the illness, and is hence 'psychotherapeutic' in a wider or narrower sense, has to be a priori discarded. Viewing schizophrenia as closer to a life process than to an illness might not be a less useful concept for therapeutic purposes than any other. Anyhow it inspires hope as well as modesty in dealing and communicating with our fellow men hidden by the fascinating and as yet unsolved enigma of psychotic alienation.

References


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