Marriage Rate and Fertility in Cycloid Psychosis: Comparison with Affective Disorder, Schizophrenia and the General Population

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Summary. A cohort of patients with cycloid psychosis (n = 34) admitted to hospital for the first time in 1925 was compared with affective patients (n = 30) and schizophrenic patients (n = 81) admitted at the same time as well as with the general population in the catchment area. The marriage rate in cycloid probands was in accordance with that of the general population at index admission. Five years later it was significantly lower than expected, but after 10 years the marriage rate was statistically in accordance with expected figures. Fertility was significantly higher than in schizophrenic probands (P < 0.001). Fertility in cycloid women was in accordance with expected figures based on the mean fertility of birth cohorts of women. It was, however, significantly lower than expected, both in affective women (P < 0.05) and in schizophrenic women (P < 0.0001). Prepsychotic fertility (before the index episode) did not significantly diverge from expected figures in cycloid women. It was, however, significantly lower both in affectively ill (P < 0.05) and schizophrenic women (P < 0.001). Postpsychotic fertility in cycloid women was in accordance with expected figures. In affective women it also approximated normality, but in schizophrenic women it was significantly lower than expected. Marital fertility was within the expected interval in cycloid probands. The observations are in support of the opinion that neither prepsychotic nor postpsychotic conditions constitute an unsurmountable obstacle to normal social adaptation in cycloid patients. The differences are also interpreted as an argument in favour of nosological autonomy of the category of cycloid psychosis.

Key words: Cycloid psychosis – Marriage rate – Fertility

Introduction

It is well-established in psychiatric epidemiology that marriage rate and fertility are higher in affective disorder, approximating the figures of the general population, than in schizophrenia [6, 13, 18, 21, 24, 25, 29]. In his study on fertility in mental illness, published in 1935, Essen-Möller [6] reviewed studies as far back as to the 19-th century where these facts were demonstrated in cohorts of patients admitted to mental hospitals. Even if diagnostic systems have changed in the course of time, it is not too daring a hypothesis to assume that these cohorts contain nuclei of cases, compatibly diagnosed from time to time, large enough to preserve significant statistical relationships.

The current study investigated the marriage rate and fertility in cycloid psychosis. Though similar syndromes had been described by several authors [15, 17], Karl Leonhard's concept of cycloid psychosis has won wide acceptance in Swedish diagnostics after its introduction at several psychiatric university clinics in the early 1970s [19, 20, 27]. Cycloid psychoses are characterized by a polymorphous admixture of affective and schizophrenic symptoms; confusion is often prominent, the course is recurrent and recovery without defect is the rule. As here defined, the category of cycloid psychosis overlaps with several of the categories in DSM-III. In the revised version (DSM-III-R), 'good prognosis' schizophreniform disorder seems to delimit a syndrome comparable to an important subgroup judged as cycloid by Leonhard [2, 3, 16].

Since premorbid adjustment is assumed to be normal and full recovery without defect is the rule, the marriage rate and fertility were assumed to approximate the figures of the total population, as in the case of affective disorder. Lower rates would be explained by the fact that recurrent episodes of psychosis would delay or, in serious cases, preclude marriage. Since the mean age at onset is lower in cycloid psychosis, than in affective disorder, frequent periods of illness during fertile years seem to be a more important obstacle to marriage and reproduction in the former than in the latter group. However, marriage rate and fertility will nevertheless always be higher than for schizophrenia. This is the hypothesis to be tested.

In his monograph on cycloid psychosis, Perris [27] investigated the celibacy rate and fertility in his probands. The rate of celibacy was found to be somewhat higher than that of bipolar affective patients and it was significantly higher in male than in female patients. Differences could, however, at least partly, be explained by the fact that more cycloid patients were of marriageable age at
the end of observation. Mean age at onset was 6 years lower in male than in female patients, and more than 4 years lower at the end of observation. Since the celibacy rate in the same age-classes is higher also among men than among women in the general population, the difference between sexes may be explained in this way.

There had been no previous studies on marriage rate and fertility in cycloid psychosis, and, as to my knowledge, no such study has been published afterwards. It is reasonable to assume that, in most other studies on marriage rate and fertility in mentally ill patients, cases of cycloid psychosis as here defined often have been regarded as either cases of affective disorder or schizophrenia according to the diagnostic system in use [4]. According to the hypothesis that both marriage rate and fertility in cycloid psychosis approximate normality, such a procedure would not change the figures if the concept of affective disorder is inclusive, permitting mood-incongruent psychotic features. If, on the other hand, the concept of schizophrenia is inclusive, as is the concept of Schizophrenia of DSM-II [1], marriage rate and fertility would be higher in this group — even if only moderately so, since the incidence of cycloid psychosis as here defined is lower than the incidence of schizophrenia [22].

In still other studies, cycloid psychoses have obviously been assigned to an intermediate group, e.g. as “other or reactive functional psychoses” in Ödegård’s studies, where this group was found to occupy an intermediate position also with respect to marriage rate and fertility [25].

The study of Essen-Möller [6], based on a large cohort of patients admitted to the Psychiatric University Clinic in Munich, Germany, during the first decades of this century contains diagnostic delimitations, which make it reasonable to assume that cases, regarded as cycloid by us, were assigned to a separate group in contrast to the group of schizophrenics as well as the group of affective patients. Obvious cases of schizophrenia (DpA) and manic-depressive illness (MdA) were separated from uncertain cases of schizophrenia (DpB), which seem to comprise what is now called negative schizophrenia and borderline cases, and uncertain cases of manic-depressive illness (MDB). This group (MDB) comprises manic-depressive cases initially judged as schizophrenic, but owing to the course, impossible to distinguish from manic-depressive patients. Finally, a group initially judged as MdA, but then deteriorating into typical schizophrenia (MdK), was separated. Figures were calculated separately for each group. As described by Essen-Möller — diagnoses originally made by Rüdin — it can be assumed that a considerable part of his group of atypical manic-depressive cases (MDB) should have been judged as cycloid by us, using Leonhard’s system. Celibacy rate and fertility were intermediate in the MdB-group compared with the DpA- and the MdA-group.

### Material and Method

All patients admitted to St. Lars Mental Hospital in Lund, Sweden, for the first time for psychosis or affective disorder during 1925 were selected as the cohort of investigation. Thirty-four of these patients (12 males and 22 females) were judged as prognostically verified cases of cycloid psychosis, 30 (9 males and 21 females) were suffering from affective disorder and 81 (45 males and 36 females) were verified as cases of schizophrenia after follow-up. In 7 cases, organic causes could not be excluded and, in 2 cases, the initial diagnosis could be neither verified nor denied. Records were re-diagnosed in accordance to DSM-III and Leonhard’s diagnostic system, including the category of cycloid psychosis, both at first admission and after follow-up.

Ten (29%) of the cycloid patients were diagnosed as schizophrenics according to records and 17 (50%) as cases of manic-depressive psychosis at index admission. Seven received other diagnoses: insanity presenilis (5), psychosis ex infectione (1) and psychosis ex intoxicatione alcohol (1). At later admissions the diagnoses of 3 patients were changed.

When re-diagnosed according to DSM-III the cycloid cases were distributed over six different categories. Eleven patients (32%) were diagnosed as major affective disorders with psychotic features at index admission. There were 7 cases (21%) diagnosed as schizoaffective disorder and atypical psychosis respectively. Eight patients were related to other categories [schizoaffective disorder (4), schizophrenia (3), acute paranoid disorder (2)]. Six patients received other diagnoses at later admissions.

When cases prognostically verified as affective disorder by us, 93.3% were also judged as cases of affective disorder at index admission according to the record diagnoses. One patient was diagnosed otherwise at readmission; final concordance thus decreased to 90.0%. Concordance in the diagnosis of affective disorders was 100% with respect to DSM-III.

As to the diagnosis of schizophrenia concordance was 76.5% between cases prognostically verified by us and record diagnoses at first admission. When record diagnoses were changed in the process of disease, concordance increased to 88.9%. In several cases, however, it is our impression that obsolete record diagnoses were not changed. Concordance with DSM-III in the diagnosis of schizophrenia was 84% at first admission, but increased to 95.1% when diagnoses were corrected. Several cases initially judged as paranoia in accordance with DSM-III deteriorated into chronic hallucinating schizophrenia. Among cases judged as schizophrenia in accordance with DSM-III, there were 2 cases of chronic schizoaffective disorder and 7 were cases of classic schizophrenia not fulfilling the criterion of age (<45 year at onset of illness).

The procedure of re-diagnosing has been described elsewhere [12]. Age at first episode (or onset) and at first admission were calculated, since they are of importance when comparing marriage rate and fertility rate in pre- and postpsychotic periods (Table 1). Figures are in accordance with expectations. The mean age of male and female cycloid probands at first episode was 1.7 years higher and 1.0 year higher respectively than in Perris’ probands [27]. Marriage rates in the three groups of affective disorder, cycloid psychosis and schizophrenia were first compared with each other without correction for age and the situation in the general population. Marriage rates in these groups were then compared with the figures of the general population at four different points in time: at index admission in 1925, at estimated first episode, 5 years after

| Table 1. Age at first episode (or onset) and at first admission |
|---------------------|----------------------|----------------------|
|                     | Age at 1st episode   | Age at 1st admission |
|                     | Men | Women | Men | Women |
|                     | Mean SD | Mean SD | Mean SD | Mean SD |
| Affective disorder  | 32.7 | 9.5  | 37.6 | 12.8  | 39.1 | 11.6  | 46.1 | 14.3 |
| Cycloid psychosis   | 28.3 | 9.6  | 33.8 | 10.7  | 30.3 | 10.8  | 37.7 | 12.0 |
| Schizophrenia       | 29.6 | 11.9 | 32.1 | 12.7  | 31.9 | 11.7  | 35.1 | 13.1 |