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# Mood Disorders in Childhood and Adolescence and Their Outcome in Adulthood

Ulf Engqvist  
Mid Sweden University  
Sweden

## 1. Introduction

In this chapter occurrence of mood disorders in a child and adolescent psychiatric population and among patients visiting a youth psychiatric clinic for young adults in a smaller county council and province study area in Sweden is described. It also describes the outcome in adulthood for patients having mood disorder in childhood and adolescence in terms of later general psychiatric care and diagnoses, mortality and criminality.

Mood disorders refer to a category of mental health problems that include all types of depression and bipolar disorder. They are defined by ICD-10 chapter V, block F30-F39 and described from reasons for admission and diagnoses given at a child and adolescent psychiatric clinic, and from the patients' own descriptions of their symptoms when they visited a youth psychiatric clinic for young adults.

### 1.1 Psychiatry in Sweden

Psychiatry is one of the most large-scale caring sectors in our time. It is probably the most changeable, and widely prejudice loaded sector in the health care system in Sweden. Among the most rapidly growing, controversy-ridden, and attention-attracting area of history over the past generation has been the history of psychiatry (Ottosson 2003)

Psychiatry is not at all a uniform concept. In Sweden, there are three psychiatric settings, general (adult) psychiatry, forensic psychiatry and child and adolescent psychiatry working with adult patients, children and young people up to 18 years and mentally disordered offenders, respectively (Levander et al. 2006). Without being a speciality there are also units for geriatric psychiatry in some hospitals. Particularly, in the research work delimitation of psychiatry is made with consideration to method and theoretical basis in for example dynamic psychiatry, social psychiatry and biological psychiatry (Ottosson 2009).

Psychiatry has a history dating back to medieval times when the church organized the first care of the sick in Sweden and the health care facilities belonged to the monasteries. In the 18<sup>th</sup> century the madhouses played a more important role. General hospitals for care of physical diseases were established but the mentally ill remained at the "madhouses" (Gunnarsson 2006). Round 1860 several large changes within psychiatry and psychiatric care in Sweden was effected. A new regulation was sanctioned, psychiatry became an

established branch of learning at the medical seats of learning and more hospitals were built (Qvarsell 1982). In 1851 the Government laid the foundation for psychiatry as a medical speciality (Sjöström 1992).

Construction of new mental hospitals after the turn of the century took off and grew the following decades, until the 1960's as an expression of a general institutionalization trend. From 1900 to 1950 the number of beds at the mental hospitals increased from 4,600 to 25,000. In the beginning of the 1960s there were 31 free-standing mental hospitals in Sweden (Beckman 1984). In 1967, when the county councils took over the responsibility for mental health services from the Government the number of inpatient beds were approximately 36,000 most of them in mental hospitals.

In January 1 1995 the Community Mental Health Care reform (SOU 1992:73 1992) came into effect, a reform that all political parties supported. The reform made clear the liability for the municipality to provide for occupation and housing so that the psychiatric disabled patients could adapt themselves to the society. They were now seen as mental handicapped and placed under the same act as individuals with a bodily handicap, The Act on Support and Service (LSS) (SOU 2006:100 2006).

In 2001 only 5,565 beds for inpatient psychiatric care remained and 2006 the number was 4,600 beds. An increasing population and decreasing number of beds has lead to more individuals out of society (Socialstyrelsen 2003).

The national psychiatry coordinator (which was appointed as an investigator of psychiatry at the beginning of the 2000s) established that the Community Mental Health Care Reform from 1995 has implied an increased supply of housing and occupation in the municipalities and that the needs of the target group has been attended to in a better way than before. But the weak support in law for the reform, the lack of local political support and the lack of evidence based methods for the community-based support caused obstacles that to a great extent remains more than ten years later (SOU 2006:100 2006).

For a long time children and young people were not separated from adults in the psychiatric context. As a medical specialty child and adolescent psychiatry is altogether a 20th century matter but intelligence defects and psychoses among children had been paid attention to through earlier centuries. They were treated together with adults in the "madhouses" (Harding 1975).

Within paediatrics it was early observed during the latter part of the 19th century that also children could show nervous and mental diseases. Sweden was the first country in the world to set up special chairs on child diseases. The first psychiatric guidance unit was established in Stockholm in 1914. School psychiatry was also a form of early child psychiatry. The child custody authority in Stockholm established the Child Guidance Clinics Centrals in the beginning of the 1930s.

Professorships in child and adolescent psychiatry were established from 1958 onwards. In November 1960 the mental health care was subsidized by the State. Ten independent child and adolescent psychiatric clinics were active in Sweden at that time. In 1971 all county councils has an organization with in- and outpatient services for child and adolescent psychiatry. The State subsidy regulation remained to end of 1975 when the number of clinics was 30 (Karlén 1985; Schleimer 1999).

Three years after the Community Mental Health Care reform in 1995 another governmental report on child and adolescent psychiatry was published (SOU 1998:31 1998). That report established among other things that psychiatric care for youths with severe psychological disturbances such as eating disorders, autism, schizophrenia, severe obsessive-compulsive disorders and depression with suicide risk did not seem to be working in a satisfactory manner. Many proposals were given in the report but few were realized.

During the 1990s the inflow of admissions to child and adolescent psychiatry increased to a large extend. The waiting lists grow and it was not unusual with more than yearlong periods of waiting for care. This caused debate in media and in authorities (Nyberg, 2001, Schubert, 1999, SOU 1998:31, 1998, Wieselgren, 2007).

## **1.2 Psychiatric care in Jämtland county**

### **1.2.1 General psychiatry**

The history of general psychiatry in Jämtland County follows the history for the rest of the country. Frösö Hospital that was finished in 1912 was one of the large mental hospitals built in Sweden at that time. As late as the start of the 1980s there were more than 20 psychiatric wards with more than 1,000 inpatients. During the 1980s the psychiatry was divided in sectors.

At the start of the 1990s psychiatry was transferred from Frösö hospital to Östersunds hospital and became a psychiatric unit integrated with the physical care. Today there are five wards and less than 100 beds.

### **1.2.2 Child and adolescent psychiatry**

As early as in 1944 Jämtland County Council came to a decision that child and youth care should be organized in the County and the activity started in August 1946 and was closed in the beginning of 1948 when the chief physician left his post. The work was conducted without a treatment ward but with the possibility to use three beds at the paediatric ward. Consulting hours existed at not less than nine different places in the County (Arbetsgruppen kring översyn av den barn- och ungdomspsykiatriska verksamheten i Jämtlands län 1984).

It took more than twenty years before child and adolescent psychiatry again was established in Jämtland. In September 1970 the activity started with one children's ward and one youth ward with seven beds each. The children's ward was transformed to a family ward in 1977 but that was closed one year later. From 1978 up to and until 1993 there was one ward with five beds. In the beginning the care was characterized by traditional nursing a successive change and development towards environment therapy and family therapy. In 1984 a treatment home was opened and it was closed ten years later.

The inpatient activities were replaced in the mid 1990s by an intensified systemic outpatient treatment at the same time as the treatment home and the ward were closed (Arbetsgruppen kring översyn av den barn- och ungdomspsykiatriska verksamheten i Jämtlands län 1984; Engqvist 1993). During the time for child and adolescent psychiatric

care that this chapter comprises both outpatient and inpatient care at a ward and a treatment home was active.

### **1.2.3 The youth psychiatric clinic for young adults**

In 1998 a survey was conducted with a view to comparing different occupational groups in child and adolescent psychiatry and general psychiatry. The aim was to compare the knowledge of children and youth, and staff perceptions of each other's activities and views on the youth group and cooperation in the in the various occupations within child and adolescent psychiatry and general psychiatry (Engqvist 2000).

The results showed that in general psychiatry was deficiencies in the child and youth literacy in general and that there were differences in views and approaches between the disciplines. Interest existed for cooperation on the youth group with a willingness to approach each other from this group's needs.

After an investigation work of a collaboration group, and when state funding became available, heads of child and adolescent psychiatry and general psychiatry applied for investment in outpatient psychiatric care for the age group 16-25 years. The youth psychiatric clinic officially started its operations in September 2002 and one month later, the activity began to take on young people. The clinic is jointly funded by child and adolescent psychiatry and general psychiatry.

### **1.3 Similarities and differences between general psychiatry and child and adolescent psychiatry**

There are many similarities between general psychiatry and child and adolescent psychiatry. The two disciplines have operated in parallel during the last 100 years. Despite the similarities there is a lack of significant and reliable information regarding, for instance the relationship between psychiatric deviations and behavioural disturbances in childhood and psychiatric disorders and social adjustment problems and or criminality later in adulthood.

Information about the relationship between behavioural disturbances in childhood and criminality in later life has however developed further compared to information about psychological deviations during childhood and later psychiatric illness. There is also a virtual lack of information regarding possible early symptoms of mental disorders, and how they change during the process of maturing from childhood to adulthood.

It is easy to describe the difference between the two psychiatric settings. Child and adolescent psychiatry works with psychopathological states of the growing and maturing individual or personality where the psychopathological symptoms change in pace with maturity. General psychiatry, on the other hand, works with adult patients where the process of maturing has, if not ended, at least slowed down.

This means that psychiatrists working with adult patients can work with a system of classification of symptoms over time and states that are not as dependent on age and maturation.

In child and adolescent psychiatry, great individual differences and gender differences appear which is why symptoms and behavioural disturbances can actually have varying

meaning even in children of the same age. A certain symptom can also form an adequate way of expression for children in a certain age, but be considered pathological in other ages.

#### **1.4 Mood (affective) disorders in Sweden**

The national public health report (the latest is from 2009) describes six national diseases<sup>1</sup>: Cardiovascular diseases; Mental illness; Tumour diseases, musculoskeletal diseases, allergies and Accident Injuries (Socialstyrelsen 2009).

In Sweden, clinical depression is a major national disease. One in four men and one in two women suffer at some time in the life of a deep depression according to the Swedish Lundby study (Rorsman et al. 1990). Clinical depression affects 6 percent of all teenagers each year (Olsson and von Knorring 1999)

According to the World Health Organization depression is common worldwide, affecting about 121 million people and depression is among the leading causes of disability worldwide. About one percent of the adult population in Sweden suffers from bipolar disorder. Depression is of great economic importance. An estimate for the entire Swedish population shows that the costs of depression in 2005 were 33 billion Swedish Kronor (over \$ 5,000,000).

Treatment for depression and anxiety has become more common for young people. The proportion of 20-24 year olds admitted to hospital for depression doubled between 1997 and 2007, among both women and men. Among youths aged 16-19 years, it is now four times as common with such care. In the case of mental illness among young people, there are major differences between the sexes. Approximately twice as many women as men are cared for attempted suicide, suffer from anxiety and are treated with antidepressants. More than twice as many women are hospitalized for depression (Socialstyrelsen 2009).

Research shows that comorbidity is very high as regards the abuse of alcohol and depression. There is also evidence that alcohol abuse is not always detected when the depression is treated, and that depression is not recognized in people being treated for their addiction. A clear majority of young people who turned to Maria Ungdom<sup>2</sup> in Stockholm showed an extensive psychiatric disorder that often overshadowed the actual abuse problems (SOU 2006:100 2006).

### **1.5 Background**

#### **1.5.1 Previous longitudinal studies**

In Sweden, we can proudly note that there are prospective and longitudinal studies describing child and adolescent psychiatry patient materials in different time periods, from 1928 until present, and this may be considered to be unique in the research field. Researchers in the Nordic countries, especially in Finland, have also the opportunity to use

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<sup>1</sup> Term for diseases that have a high prevalence in the population. Usually chosen to express the prevalence as a percentage and considering diseases with a prevalence of 1%

<sup>2</sup> Specialized rehabilitation clinics for children and adolescents up to age 20 who have substance abuse problems or at risk of developing an addiction



registers that allow longitudinal studies of this kind. In the following sections different studies from Sweden and some Nordic studies are reviewed.

### 1.5.2 Descriptions of child and adolescent psychiatry patients

Child and adolescent psychiatry patients have been described from as early as 1928 when Alice Hellström started her description of psychopathic boys treated at the Mellansjö treatment home.

Hellström described all the children who came to Mellansjö treatment home 1928-1940 under a special research protocol. She followed then her patients long time after her retirement and until 1968. However, because of age she was not capable of completing her report.

The complete research material was bequeathed to the child and adolescent psychiatric clinic at the S:t Görans children's hospital in Stockholm, where Ingegärd Fried completed the work in her licentiate's dissertation (Fried 1995).

The next study of children treated by child psychiatry was the longitudinal prospective follow up of 2,164 child and adolescent guidance clinic patients (cared for 1953-1955) followed up to 1975. This group was originally studied by Curman and the study was later completed by Nylander (Curman and Nylander 1976; Nylander 1979).

### 1.5.3 Different Swedish risk groups

Various risk and control groups and children from the general population have been described with prospective longitudinal research from the perspective of several scientific disciplines (see Table 1). This provides a number of opportunities to discuss similarities and differences between patient groups, other groups at risk and children in general.

In addition to the studies named above there are also descriptions of child and adolescent psychiatry patients conducted with so called cross section methods.

In 1950 chief physician Svante Nycander at the Erica Foundation presented his thesis "Personlighetsutveckling på avvägar" (Personality Astray) where 308 boys and girls that were examined and treated at the Erica Foundation Curative Pedagogy Institute in Stockholm were described (Nycander 1950).

Ulf Otto, at the University of Lund, used retrospective longitudinal methods in his thesis from 1972 "Barns och ungdomars självmordshandlingar" (Suicidal acts by children and adolescents) (Otto 1972) to describe during a period of fifteen years the outcome for 1,727 boys and girls that at the end of the 1950s were treated for attempted suicide. The results of this study have been recovered also in later Swedish studies that indicate that children and youth's suicide acts are a "call for help" that needs treatment, support and help. However, attempted suicide in itself may be a "poor" predictor for later executed suicide. The high risk group that commits suicide before the age of 25 seems to be found among those who develop psychiatric illness or anti sociality and addiction (Engqvist and Rydelius 2006).

During pre-puberty and puberty behaviour problems and mental symptoms are common among children in general. When 222 common Stockholm boys were described during the 1950s it appeared that every tenth boy in the age of 8-16 years had phobias and compulsive

| Sample   | Discipline  | Criminality | Alcoholism | Follow-up period                       |
|--|---|-------------|------------|--|
| Psychopathic boys treated at the Mellansjö-treatment home      | Child and adolescent psychiatry                                     | 41%         | 28%        | 1928-1968 (Fried 1995)                 |
| Delinquent boys treated at the Children’s Village SKÅ          | Child and adolescent psychiatry                                     | 67%         | 58%        | 1954-1973 (Andersson et al. 1976)      |
| Young law-breakers from the general population                 | Child and adolescent psychiatry, Sociology, Psychology, Criminology | 39%         | 46%        | 1960-1972 (SOU 1973:25 1973)           |
| Teenage alcoholics   | Child and adolescent psychiatry                                     | 42%         | 58%        | 1964-1985<br>1964-1977 (Rydelius 1985) |
| Adopted children with heredity for social problems /alcoholism | Child and adolescent psychiatry                                     | 14%         | 21%        | 1930-1972 (Bohman 1978)                |
| Children of alcoholic fathers                                  | Child and adolescent psychiatry                                     | 42%         | 35%        | 1958-1978 (Rydelius 1981)              |

Table 1. Different risk groups as described with longitudinal / prospective methodology.

acts. The result of the description of symptoms showed that every fourth schoolboy suffered from some kind of difficulty, nervous symptom or difficulty in adapting to the extent that specialist help or special treatment was needed. However, their prognosis was not decided by the load of symptoms or the behavioural disturbances. The 18 year follow up assessment showed that the prognosis for most of them was much better than was expected and it was not the load of symptoms but learning ability and home environment that was of importance for the future outcome (Andersson et al. 1976).

1.5.4 Studies on the Swedish general population

In addition, different risk and control groups and the general population have been studied with prospective longitudinal research methods from various disciplines during the second half of the 20th century.

The Lundby Study is a project exceptional and world leading by its prospective design (Ottosson 2003). International reviewers (MFR (Swedish medical research council) 2000) have stated that “the Lundby Study has produced prevalence, incidence and outcome data



on depression and anxiety over many years, and is one of the few studies capable of producing reliable data on changes in incidence" (Nettelbladt 2009). It is a well-known longitudinal survey of the mental health in a total Swedish population during the time period from July 1, 1947, to July 1, 1997. The Lundby population consisting of 3,563 probands was investigated in 1947, 1957, and 1972. Sufficient information was available for 98–99% of the subjects. In 1997–2000 Per Nettelbladt and his research team carried through a fourth field investigation.

In a longitudinal research project, Nylander and Rydelius (Rydelius 1981) followed up the children of male alcoholics from the lowest social class. The results of these studies have shown that when they are still small, the children exhibit signs of mental disturbances and that when they become adults; the boys develop social maladjustment problems and addictions, and have a high rate of both somatic and psychiatric diseases. In comparison to their controls (matched for socio-economic class), the values found for these variables are consistently higher for the probands.

The Stockholm Metropolitan study is a follow-up of 15,000 individuals born in 1953 who were still living in the Stockholm Metropolitan area in 1963. The project was initiated by late professor Carl-Gunnar Janson and is now conducted by Sten-Åke Stenberg and Denny Vågerö (Stenberg and Vagero 2006). The study was primarily concerned with sociological issues of social mobility and organization, conformity and deviance, and marital patterns. This study has resulted in over 100 publications (Jansson 2006).

The IDA project is a prospective, longitudinal research program led by Professor David Magnusson from the outset in 1965, investigating three cohorts of subjects: all boys and girls who attended school in a municipality in mid-Sweden, and attended the third, sixth or eighth grade at the time of the first data collection. The main group, encompassing in excess of 1,400 individuals, are the participants in most of the research conducted in the program (Geisor 2007).

The Solna study is a birth-to-maturity study of 212 children born in Stockholm in the mid 1950s. The goal was to acquire a comprehensive picture of individual growth and development by charting the course of physical and psychological development and obtaining reasonably comprehensive life histories that would be useful in many areas of research. The information covers many issues from birth to mid-life. The database is large (Geisor 2008).

### **1.5.5 Studies in the Nordic countries**

Thomsen followed up a total of 546 children and adolescents in Denmark, aged 5 to 15 years. They were inpatients in psychiatric hospitals throughout Denmark between 1970 and 1973, and followed up regarding later readmissions and mortality. Approximately one-third of the sample had at least one readmission after the age of 18 years. In total, 24 probands died during the study period. Eight individuals had committed suicide. The SMR was significantly increased (Thomsen 1996).

Thomsen also performed a register-based study of 485 children (0-15 years of age) admitted to a child psychiatric hospital from January 1, 1970, to December 31, 1972, who were followed up on December 31, 1986. They showed higher rates of admission to psychiatric hospitals in late adolescence or young adulthood than found in an age-standardized general population (Thomsen 1990).

Psychiatric morbidity, expressed as hospital admissions during a 30-year follow-up period, among 322 former child psychiatric patients in a register investigation was studied by Larsen in Denmark. They were admitted from 1949-1951, and were followed up as of December 31, 1980. By the variables employed, 37% of the sample was judged to have had a good overall outcome, with diagnosis being an inconsistent predictor of outcome (Larsen et al. 1990; Larsen 1991).

A Norwegian population of 1,276 former adolescent psychiatric inpatients was followed up 15 to 33 years after hospitalization by Kjelsberg by record linkage to the national registers of criminality (n=932), disability benefits (n=1,095) and causes of death (n=1,095). In total, 1,095 patients (53.7% males), representing 85.8% of the original sample could be traced. At follow-up, 52.0% of those investigated had engaged in criminal activity. It was shown that male sex, psychoactive substance use disorder, short hospital stay and poor impulse control remained strong and independent predictors of death (Kjelsberg and Dahl 1998, 1999; Kjelsberg et al. 1999; Kjelsberg 1999b, 1999a).

The Finnish "From a Boy to a Man study" has an objective to study associations between comorbid psychopathology and long-term outcomes in a large birth cohort sample from age 8 to early adulthood. The sample included long-term outcome data on 2,556 Finnish boys born in 1981 and the aim was to study the impact of early childhood psychopathology types and informant sources on young adult outcomes, based on data from a military registry of psychiatric diagnosis, a police registry on criminal and drug offences, and self-reported problems in late adolescence and early adulthood. The conclusions in this study were that the subjective suffering and long-term burden to society are especially high among children with comorbid conduct and internalizing problems in childhood. A major challenge for child and adolescent psychiatry, education, and social services is to develop effective intervention strategies focusing on these children (Sourander et al. 2007).

In a population-based birth cohort in Finland, with the aim of studying the continuity of psychopathology from the age of 3-12 years, children's emotional and behavioural problems were assessed at age 3 using the Child Behaviour Checklist 2-3, and at age 12 by parents using the Child Behaviour Checklist 11-18, and the Youth Self Report completed by the children. Behavioural ratings were obtained from 800 subjects at both time points and the results showed the complexity of pathways in psychopathology from early childhood to preadolescence. In particular, aggressive and destructive behaviour in very early childhood predicted later problems and require early recognition and possible intervention at an early age (Pihlakoski et al. 2006).

A Northern Finland 1966 birth cohort has been followed-up in different studies for 34 and 35 years regarding childhood precursors and risk factors of schizophrenia. The findings supported the longitudinal dimension and life span models of schizophrenia. No powerful risk factor, pre-morbid sign or a risk indicator was identified that was useful for the prediction of schizophrenia in the general population was identified (Isohanni et al. 2004; Isohanni et al. 2005; Isohanni et al. 2006; Jääskeläinen et al. 2008).

### **1.5.6 An important study on Swedish adolescents and depression**

As stated below there has been a radical change in the past two decades in the understanding of depressive disorders arising early in life. Earlier psychiatrists did not see

the current symptoms as depression the symptoms were instead associated to other things. A study that was important to increase knowledge about depression in adolescence was Gunilla Olsson's thesis from 1998 (Olsson 1998). At that time, more attention focused on mood disorders as evidenced by Figure 1 later.

Olsson's study engaged a total population of 16-17-year-old urban high-school students and 2,300 (93%) were screened for depression and previous suicide attempts. Adolescents with high depression scores in self-evaluation (12.3%) or reporting previous suicide attempts (2.4%) were diagnostically interviewed together with one control for each, matched for gender and educational program. After the interview self-ratings were completed regarding social network, family climate, and life events.

In her study Major depression was prevalent during the last year in 5.8% and during life time in 11.4%, 4 girls for every boy. A depression with remaining symptoms for a year or more was the most common type. Dysthymia without major depressive episodes was diagnosed in 1.1%, two girls for every boy. Short hypomanic episodes had been experienced by 13.2% of those with major depressive disorder.

Anxiety disorder was comorbid to depression in one half and conduct disorder in one fourth of the depressed adolescents. Alcohol was abused by 6.5% and used regularly by another 12%. Other drugs were used by 6.5% of depressed adolescents and not at all by controls. The depressed used tobacco twice as frequently as non-depressed.

Social network and family climate were compared within the originally matched pairs. Adolescents with long-lasting depressions had a smaller and unsatisfying social network. They also had experienced many stressful life events related to family adversities, while those with shorter depressive episodes had stress related to the peer group. Depressed adolescents with comorbid conduct disorder reported insufficient support from the close network and a more negative family climate.

## 1.6 Relationships between mental disorders in childhood and adulthood

In his opening speech at the 26th Berzelius symposium "Mental and Psychosocial Adaptation in Children - A Longitudinal and prospective Approach" (Linköping, May 1993) sir professor Michael Rutter discussed today's "current opinions" and level of attainment with 1960s and 1970s. This was an update of a lecture from 1972 about "Relationships between child and adult psychiatric disorders" (Rutter 1972).

Rutter stated that when the relationship was reviewed over the two last decades [54] there was a paucity of evidence on the adult outcome of mental disorders among children and the childhood antecedents of mental disorder in adulthood; it was concluded that most links over time became rather uncertain or non-specific. When the same topic was reconsidered a dozen years later, there were a few more research findings but the empirical base had not expanded greatly. The findings were used to consider both the conceptual issues and possible mediating mechanisms (Rutter 1995).

There is mounting evidence that many, if not most, lifetime psychiatric disorders' first appears in childhood or adolescence and that childhood maltreatment strongly predicts poor psychiatric and physical health outcomes in adulthood (Arnold 2004; Costello et al. 2005).

Most adult disorders should be reframed as extensions of juvenile disorders. In particular, juvenile conduct disorder is a priority prevention target for reducing psychiatric disorder in the adult population (Kim-Cohen et al. 2003).

Although, there has been a radical change over the last 1-2 decades in the understanding of depressive disorders arising early in life, Swedish longitudinal studies indicate that psychotic mood disorders are rare among child and adolescent psychiatric patients (Nylander 1979). Standardized methods of diagnostic assessment began to show that clinical conditions with phenomena quite similar to those seen with affective disorders in adult life were much more common in childhood and adolescence than had been hitherto appreciated. The scepticism that had dominated thinking about childhood depression for many years had in the 1990s been replaced by a huge upsurge of clinical and research interest in these disorders (Rutter 1995). The seriousness of the condition has been underlined by the substantial suicide risk (Harrington et al. 1994).

Adolescent depression carries an elevated risk of adult depression irrespective of comorbidity. Comorbid conduct disorder in childhood is associated with elevated rates of other psychiatric outcomes (Rutter and Maughan 1997). Ferguson and colleagues found that young people having early depression were at increased risk of a later adverse psychosocial outcome. There was a direct linkage in which early depression was associated with increased risk of later major depression and anxiety disorders. Linkages between early depression and other negative psychiatric outcomes appeared to reflect the effects of confounding factors (Fergusson and Woodward 2002).

Harrington and his colleagues found that depression in childhood or adolescence was associated with a fourfold increase, compared with a non depressed psychiatric group, in the risk of recurrence of major depressive disorder during early adult life. Even more important was the finding that the childhood depression group did not show any increased risk for any mental disorder other than affective conditions (Harrington et al. 1990).

Early risk factors for affective disorder exert effects by modifying person-environment relationships close to onset of adult symptoms. Sensitivity to life events may be transmitted from parents to offspring; psycho pathological continuity over the life-span may be explained in part by continuity of altered stress sensitivity (Van Os and Jones 1999).

Roza and colleagues suggest different developmental pathways for mood and anxiety disorders. Anxiety disorders predominantly began in childhood and early adolescence whereas the incidence of mood disorders increased sharply in adolescence and young adulthood. A follow-up showed that mood disorders were predicted by high scores on the anxious / depressed scale and on the internalizing composite (withdrawn somatic complaints, and anxious / depressed). Anxiety disorders were significantly predicted by the social problems scale and the externalizing composite (delinquent behaviour and aggressive behaviour). The predictions based on problem behaviour remained stable during a 14-year period across adolescence and young adulthood (Roza et al. 2003).

## 2. Aims

The overall aim with this chapter was to describe and discuss the occurrence of mood disorders in some psychiatric in- and outpatient populations in a smaller county in Sweden.

A specific aim with the follow-up of 1,400 child and adolescent psychiatric patients was to describe their outcome in adulthood. The outcome is described in terms of psychiatric care in adulthood, the relationship between symptoms in childhood and adolescence and in adulthood, criminality and mortality and suicide.

The specific aim with the two questionnaire surveys conducted at the youth psychiatric clinic for young adults was to investigate the problems and symptoms the patients themselves stated that they had. It was also examined what expectations they had and what help they expected and if they felt they had received help for their problems.

### **3. The design of the studies**

A longitudinal study was performed where child and adolescent psychiatric patients admitted 1975-1990 to inpatient or outpatient child and adolescent psychiatric care in Jämtland County, Sweden were followed until 2003. Data were collected from hospital records and official Swedish registers.

The homogeneity of the psychiatric care organization in the study area, the responsive study populations, the possibility of studying hospital records and the unique opportunity to use National registers allowed for the potential to carry out a longitudinal study, descriptive in its nature.

Two user surveys were conducted at a special youth psychiatric clinic for young adults 16-25 years of age in the same county and hospital organisation. In the first survey a questionnaire was answered when the patients visited the clinic for the first time and a second questionnaire was answered after the last contact with the clinic. In the second survey the patients answered a questionnaire when they had visited the clinic for the last time

## **4. Material and methods**

### **4.1 The study area**

Jämtland County is one of Sweden's 21 counties. It consists of the two provinces Härjedalen and Jämtland and minor parts of Ångermanland and Hälsingland. Jämtland is located in the western part of middle Sweden at the border to Norway. It represents 12% of Sweden's total land mass but only 1.5% of the population. From 1975 - 2003, the total population varied from 133,433 to 127,645 with a peak of 136,301 inhabitants in 1994.

Östersund is the only city in the county and the city is a major trade centre for the entire county. The county and the regional hospital in Östersund were well suited for this type of studies. In Jämtland County there were one child and adolescent psychiatric clinic and one general psychiatric clinic and a youth psychiatric clinic for young adults within the same health and hospital organization giving service to the whole population in Jämtland County.

### **4.2 Swedish registers**

Sweden and the Nordic countries, especially Finland is unique concerning official registers. In this chapter several Swedish national registers were used. The parish registration



required by the 1686 Church Ordinance laid the groundwork for future population statistics. Sweden began to keep population statistics in 1749, quite a unique phenomenon.

*National registration* is the fundamental registration of the Swedish population. In the national registration it is continuously registered who is living in the country and where they live. The register is based on personal identification numbers. For a long time it was conducted by the church through parish registration, but since July 1, 1991, the Swedish Tax Authority is responsible for the national registration (Statistiska Centralbyrån (SCB) 2006). Information from National registration; i.e. personal identification was used as a base for gathering information from all other official registers, which are described below.

From 1987 *the National Patient Register* covers all public inpatient care in Sweden. Statistics of diseases and surgical treatments of patients have a long history in Sweden. Data of this kind has been published for more than 100 years and was available during the entire 20th century. In the 1960s the National Board of Health and Welfare started to collect data on individual patients who had been treated as inpatients at public hospitals. The register built up at that time initially covered all patients treated in psychiatric care and around 16% of patients in somatic care, involving six of the 26 county councils in Sweden (Socialstyrelsen 2008a). This register has been used to collect data pertaining to inpatient psychiatric care and diagnoses.

*The National Causes of Death Register* has been used to establish time for death and causes of death. Along with the register death certificates have been examined. The National Causes of Death Register goes back to 1749 when a nation-wide report system first was introduced. The National Causes of Death Register is annually updated and based on personal identification numbers and includes all death certificates for the Swedish population. The National Swedish Board of Health and Welfare has been responsible for publication since 1994 (Socialstyrelsen 2008b).

Statistics of persons convicted of offences has continuously been recorded since 1972 by SCB. The Swedish NCCP (BRÅ) is since July 1, 1994, responsible for Sweden's official crime statistics. *The Register of Persons Convicted of Offences* has been used to obtain information regarding criminality.

### 4.3 Samples

#### 4.3.1 The child and adolescent psychiatry patient group

The study was performed based on a total sample of former child and adolescent psychiatric patients. All 1,420 patients born between 1957 and 1976 that finalised child and adolescent psychiatric care in Jämtland County, Sweden, during the period 1975-1990 were initially considered for inclusion. Eight individuals not covered by the national registries and twelve who subsequently emigrated during the follows-up period were excluded.

The index group comprises 1,400 former child and adolescent psychiatry patients, including 285 in- and 1,115 outpatients, or 98.6% of the original population. The age groups were chosen on the basis of the fact that the oldest patients, born 1957 may have finalized their contact at child and adolescent psychiatry just before they turned 18 years; that is 1975. The youngest patients, those born 1976, may have made their first visit at

child and adolescent psychiatry during their first year of life but may also have been readmitted later than 1990.

4.3.2 Patients at the youth psychiatric clinic for young adults

The two studies performed at the youth psychiatric clinic for young adults were both based on a total sample. All patients visiting the clinic from mid-November 2002 until 2004-12-31 were invited to participate in the first survey. A total of 219 questionnaires were received in connection with the first visit. One respondent submitted the form, but stated that he or she did not want to answer the questions and one has filed a blank form. The remaining 217 form the basis for this report. The loss at the first question time was 28.7 percent. A total of 126 questionnaires were received after the end of treatment. Three of them said they did not want to answer the questions. The remaining 123 form the basis for this report. The loss at the second follow-up time was 45.1 percent. The second survey included a total sample of those who completed their treatment in 2008, it comprises 85 submitted questionnaires and loss is not known.

All questionnaires were discussed with staff before shaping. They had the same design throughout the follow-ups. The questionnaires were not tested before they began to be used.

The problem descriptions were in the first survey made on the patient’s first visit and they were asked to write freely in an open question which was: “Briefly describe your problems.” The problems described were then categorized by the author. The categories were based on the categorization of problems and symptoms used by the Swedish Association for Child and Adolescent Psychiatry. The problem descriptions have not been transferred into diagnoses. Problem descriptions were very different. Some stated clearly their problems while others gave more vague descriptions of the problems they sought help for. Several patients provided a variety of problems. The number of problems will be more than the number of individuals.

In the second survey the description was made after treatment and the respondents had to mark their symptoms in a checkbox containing categories based on the first survey.

4.3.3 A patient group used for comparisons

It was also possible to use a previous Swedish follow up study for comparisons, a sample of 2,164 patients from Municipal Child Guidance Clinics in Stockholm (see Table 2) who were treated between 1953 and 1955 and followed over 20 years. Further when possible comparisons were also made to the general Swedish population.

|                           | Stockholm |         | Jämtland County |         |
|---------------------------|-----------|---------|-----------------|---------|
|                           | Number    | Percent | Number          | Percent |
| Primary Material          | 2364      |         | 1420            |         |
| Excluded:                 |           |         |                 |         |
| Emigrated                 | 100       | 4.2     | 12              | 0.8     |
| Deceased during follow up | 50        | 2.1     | 38              | 2.7     |
| Unusable data             | 50        | 2.1     | 8               | 0.6     |

|                             | Stockholm |      | Jämtland County |      |
|-----------------------------|-----------|------|-----------------|------|
| Inpatient care              | 0         | 0    | 270             | 19.0 |
| Less than 20 year follow up | 0         | 0    | 484             | 34.1 |
| Index group:                | 2164      | 91.5 | 608             | 42.8 |
| Males                       | 1417      | 65.5 | 325             | 53.5 |
| Females                     | 747       | 34.5 | 283             | 46.5 |

Table 2. Index groups for the Stockholm and Jämtland studies

4.4 Data collection

4.4.1 The child and adolescent psychiatric patient group

The study started in the mid 1990s when the index group was identified though an examination of registration books and hospital records at the child and adolescent psychiatric clinic.

The personal identification numbers were checked and information about place of current residence was obtained at Local Tax authorities. Information about a number of patients (75) could not be found at first due to incorrect or incomplete personal identification numbers and their information was searched and checked in birth records at the regional state archives.

When the index group was identified the hospital records at the child and adolescent psychiatric clinic were reassessed according to a protocol (based on previous empirical results from follow-ups of child and adolescent psychiatric patients).

The protocol entailed recording the following information from the child and adolescent psychiatric hospital records:

- Age at first admission to child and adolescent psychiatry and age at finishing the care and gender.
- Who referred the patient to the child and adolescent psychiatric clinic?
- Where or with whom they lived with during period of child and adolescent psychiatric care (family, foster family, institution, etc.).
- Problems with learning and/or behaviour problems at school.
- Information about inpatient or outpatient care at the child and adolescent psychiatric clinic.
- At the time of admission to the child and adolescent psychiatric clinic, family circumstances. If the patient’s biological parents were living together, this would be described as a complete family and if not, as a split family.
- Any information about adoption.
- Reason for admission to the child and adolescent psychiatric clinic according to standards established by the Swedish Association for child and adolescent psychiatry.
- Diagnosis.

One-third of the outpatients were not given a formal diagnosis. Outpatients in the child and adolescent psychiatric clinic did not receive diagnoses when their problems were considered temporary due to growing and maturation.

The retrospective data from child and adolescent psychiatric hospital records were used as independent variables to the dependent variables mood disorder or not, deceased or alive, suicide or not suicide, convicted of offences or not and general psychiatric care or not.

#### 4.4.2 Patients who visited the youth psychiatric clinic for young adults

In the first survey questionnaires were allocated out and were collected in connection with the youth's first visit. After the last visit the second questionnaire was sent out along with an addressed envelope. Distribution and collection of questionnaires was managed by the clinic secretary. In the second study patients answered the questionnaires in connection with the closing session.

#### 4.5 Analysis of the data

The findings based on prospective data and answered questionnaires are descriptive in nature. All data analysis was performed using the SPSS for Windows, release 17.0 (SPSS Inc.) software.

The *chi-square* and *t-tests* were employed to analyze differences between categorical and continuous variables, respectively, with a P-value of < 0.05 being considered statistically significant in both cases.

Differences between proportions were analyzed utilizing a *two-by-two cross table* and *Student's t-test*. Although the t-test has earlier been debated as valid for making such comparisons, extensive studies have shown it to be applicable also in these respects, and, consequently, the Student's t-test has been widely and successfully used for analysis of proportional data (Uitenbroek 1997).

*Binary logistic regression* determined the effect of a set of variables on probability of a dependent variable — plus effect of individual variables. Binary logistic regression is a regression application for a dichotomous, dependent variable and when the independents are of any type. The logistic regression model is a non-linear transformation of the linear regression.

*The Cox proportional-hazards regression model* was used for survival analysis. The regression model is broadly applicable and the most widely used method of survival analysis. It offers the possibility of a multivariate comparison of hazard rates. Survival time was defined as (1) the interval between birth year and death or end of follow-up and as (2) the interval between diagnosis and death or end of follow-up.

Observed and expected numbers of deceased were calculated using *the prospective method* described by Hartz et al. (Hartz et al. 1983) and *the SMR method*. The difference between observed and expected numbers of deceased was tested using the z test variable, (Berry 1983) which we also applied in the SMR method:

$$z = \frac{D - E}{\sqrt{E}}$$

Where D denotes number of observed dead, E denotes expected number of dead, and z the test variable is asymptotic normally distributed (0.1). If the absolute value of z is larger than

1.96, then the hypothesis of equal mortality is rejected (the 5-percentage level). The limit for the 1-percentage level is 2.58, and for the 0.1-percentage level, 3.29. All-causes' SMR and sex-specific SMR were calculated for the entire country and for Jämtland County.

*The relative risk or the risk ratio (RR)* was presented with 95% CIs. The risk ratio takes on values between zero ('0') and infinity. One ('1') is the neutral value and means that there is no difference between the groups compared, close to zero or infinity means a large difference between the two groups on the variable concerned. A risk ratio larger than one means that group one has a larger proportion than group two.

*The odds ratio (OR)* is a way of comparing whether the probability of a certain event is the same for two groups. An odds ratio of 1 implies that the event is equally likely in both groups. An odds ratio greater than one implies that the event is more likely in the first group. An odds ratio less than one imply that the event is less likely in the first group. The odds ratio was presented with 95% CIs.

*The rate ratio* is most suited to study events in a constant domain while the denominator-i.e. the population at risk- is very large. The rate ratio was presented with 95% CIs (Wald).

Some questions in the questionnaires were designed to be answered on a scale graded from one to ten. These issues can be attributed to the categorical variables, also known as ordinal data. There is an order between the different categories. The central measure is *the median* and *quartile deviations* are specified.

#### 4.6 Ethical considerations

Personal registers are an inalienable part of the research design for longitudinal studies as carried out in this longitudinal study. A comprehensive regulation of research on humans is of national and international nature. To the extent that personal data are processed in the framework of a research project the Personal Data Act (The Swedish Data Inspection Board 2008) that replaced the out-dated Swedish Data Act from 1973 is applicable. Some personal information is particularly sensitive nature. These are referred to in the Act as sensitive personal data. All health information is considered sensitive in the law, regardless of disease. Sensitive personal data may be processed for research purposes under the conditions set out in the Personal Data Act.

The data collection started long before the Act concerning the Ethical Review of Research Involving Humans came into force and in some cases before the Personal Data Act. The Ethical Review of Research Involving Humans includes, for example, research on living persons, research on the deceased, research on biological material from humans and research that involves the handling of sensitive personal data. Accompanying the new law an authority "*Centrala etikprövningsnämnden*" (the Central Ethical Review Board) and six regional councils was established.

The register study would be implemented within the general register license for health and medical service and the research ethical principles in force at each data collection were carefully followed. An initial application for ethical permission was sent 1995 and was approved by the ethical review committee of the Medical Faculty of Umeå University: Um document no. 95-051.



The research plan was later amended to include issues of crime and drug abuse. Following a request of the ethics committee, I received notice that the original license (Um document no. 95-051) could continue to apply to the register study on the child and adolescent psychiatric-patients and future psychiatric morbidity and mortality but that new ethical applications must be submitted for the parts of the project on crime and abuse. Additional applications were therefore sent in for ethical review. In 1999, ethical review committees of the Medical Faculty of Umeå University and the Regional Research Committee at Karolinska Institutet approved the expanded study on crime (Um document no. 99-023 and KI document no. 99-209). Every register search has also been approved by the authority responsible for the register.

The chief physician of the child and adolescence clinic and the general psychiatry clinic both respectively approved the reading of medical records within the general register license for health and medical service regularized in the Official Secrets Act.

Even though the study on patients at the youth psychiatric clinic for young adults was a continuous monitoring of what young people thought about the clinic and not intended as a scientific study, I have striven to follow the ethical principles regarding research involving human subjects stated by The Swedish Research Council (Vetenskapsrådet 2005) based on the WMA Declaration of Helsinki - Ethical Principles for Medical Research Involving Human Subjects.

The questionnaire contained no information about names, they were coded and included in a list that only a limited number of people had access to. The presentation of the results is also made in such a way that individuals are not to be identified even by informed individuals.

## **5. Results**

### **5.1 Distribution of baseline information**

#### **5.1.1 The child and adolescent psychiatric-patient population at baseline**

- The gender distribution was 733 female (52.4%) and 667 male (47.6%).
- Mean age at admission was 12.1 years of age (S.D. 4.0).
- The patients were referred to child and adolescent psychiatry by paediatricians or general practitioners (35%), by school or childcare personnel (22%), by social services (12%) or other authorities (2%) or else they by themselves and/or their parents sought help (29%).
- Inpatient care was given to 285 patients (20.4%).
- Over half of the study group (52.5%) lived in a split family.
- Nearly half of the patients (46.5%) had school problems noted in their records.

#### **5.1.2 Patients in the youth psychiatric clinic for young adults at baseline**

For those respondents who submitted questionnaires at one or two occasions in the first survey (n = 276) the gender balance was 222 women (80%) and 54 men (20%). 83 persons in the second survey reported gender and among them 74 were young women (89%) and nine young men (11%).

In the second study all 85 reported an age group. The majority (60%) were between 19 and 22 years of age, just over a quarter (26 percent) was found in the group 23-26 years of age and 14 percent were between 16 and 18 years of age.

In the first study the respondents also indicated their occupation. Nearly half of them (47.5%) studied, 19.8% worked, 17.5% were unemployed, 6.9% were put on the sick-list and 8.3% had mostly combinations of the aforementioned.

5.2 Mood disorders in childhood and adolescence

5.2.1 Mood disorders in the child and adolescent psychiatric-patient population

A total of 74 patients (5.3%) was admitted and or diagnosed with depression, depressed mood or sadness/mood disorder, more female than male (63,5% vs. 36.5%) ( $p = 0.048$ ).

A lower proportion of them (40.5%) lived in a split family ( $p = 0.034$ ) than those with other reasons for admittance and or diagnoses. Slightly less than half of them (45.1%) had problems in school noted in their hospital records.

Most of them (73%) were admitted to the child and adolescent psychiatric clinic when they were older than 13 years, which was the median age for admittance. The difference to others was strongly significant ( $\leq 0.001$ ). Eleven patients (14.9%) were inpatients.

As shown in Table 3 60 patients (4.3%), more female 38 (63.3%) than male 22 (36.7%) were admitted to the child and adolescent psychiatric clinic due to depression, depressed mood or sadness.

The most frequent occurring reasons for admission to child and adolescent psychiatry are shown in Table 3 and diagnoses made at child and adolescent psychiatry are shown in Table 4.

| Reason for admission to child and adolescent psychiatry | Frequency | Percentage |
|---|-----------|------------|
| Behavioural disorder                                    | 292       | 21.0       |
| Relationship problems                                   | 258       | 18.6       |
| Anxiety   | 181       | 13.0       |
| Somatic problems and eating disorders                   | 138       | 9.9        |
| Mental retardation and developmental problems           | 80        | 5.8        |
| Suicide attempt, suicide thoughts                       | 71        | 5.1        |
| Depression , depressed mood, sadness                    | 60        | 4.3        |
| Reaction to stress                                      | 52        | 3.7        |
| Enuresis or encopresis                                  | 47        | 3.4        |
| Abused and/or neglected                                 | 38        | 2.7        |

Table 3. The ten most frequent occurring reasons for admission to child and adolescent psychiatry, n = 1389

As shown in Table 4 below 31 patients received a diagnosis in the block F30-F39 Mood [affective] disorders and just over half of them (17 or 54.8%) or had been admitted with depression, depressed mood or sadness as reason for admittance.

| Diagnoses (block)   | Frequency | Percentage |
|---|-----------|------------|
| Z00-Z99 Factors influencing health status and contact with health services                            | 321       | 35.6       |
| F90-F98 Behavioural and emotional disorders with onset usually occurring in childhood and adolescence | 196       | 21.8       |
| F40-F48 Neurotic, stress-related and somatoform disorders   | 140       | 15.5       |
| X60-X84 Intentional self-harm   | 48        | 5.3        |
| F50-F59 Behavioural syndromes associated with physiological disturbances and physical factors         | 46        | 5.1        |
| F80-F89 Disorders of psychological development  | 39        | 4.3        |
| F30-F39 Mood [affective] disorders  | 31        | 3.4        |
| F70-F79 Mental retardation  | 27        | 3.0        |
| F10-F19 Mental and behavioural disorders due to psychoactive substance use                            | 24        | 2.7        |
| F20-F29 Schizophrenia, schizotypal and delusional disorders   | 20        | 2.2        |
| F60-F69 Disorders of adult personality and behaviour  | 4         | 0.4        |
| Other diagnoses   | 4         | 0.4        |
| F99 Unspecified mental disorder   | 1         | 0.1        |

Table 4. Diagnoses (blocks) made at child and adolescent psychiatry according to ICD-10, n = 901

Other reasons for admission for those diagnosed within the block F30-F39 Mood [affective] disorders were anxiety (6), suicide attempt, suicide thoughts (2), behavioural disorder, somatic problems and eating disorders, conflicts with peers or bullying, conflicts in family, personality change and request for investigation from social services one respectively.

The mood disorder block included the following diagnoses:

- 31.4 Bipolar affective disorder, current episode severe depression without psychotic symptoms (6)
- 31.5 Bipolar affective disorder, current episode severe depression with psychotic symptoms (1)
- 32.9 Depressive episode, unspecified (24).

Two-thirds (39 patients or 65%) of those admitted to the child and adolescent psychiatric clinic with depression, depressed mood or sadness as reason for admittance were given a diagnosis at discharge, shown in Table 5:

| Diagnoses (block)   | Frequency | Percent |
|---|-----------|---------|
| F30-F39 Mood [affective] disorders  | 17        | 43.6    |
| F40-F48 Neurotic, stress-related and somatoform disorders   | 8         | 20.5    |
| F90-F98 Behavioural and emotional disorders with onset usually occurring in childhood and adolescence | 5         | 12.8    |
| Z00-Z99 Factors influencing health status and contact with health services                            | 5         | 12.8    |
| F50-F59 Behavioural syndromes associated with physiological disturbances and physical factors         | 2         | 5.1     |
| F20-F29 Schizophrenia, schizotypal and delusional disorders   | 1         | 2.6     |
| X60-X84 Intentional self-harm   | 1         | 2.6     |

Table 5. Diagnoses made at the child and adolescent psychiatric clinic for patients admitted with depression, depressed mood or sadness as reason for admittance.

As shown in Figure 1 the proportion of patients admitted to the child and adolescence psychiatric clinic with depression, depressed mood or sadness as reason for admittance has increased significantly. Mean value over the whole period is 8.9 percent. The trend is also evident for patients in the study group (up to 2003) where the mean value is 4.3 percent.

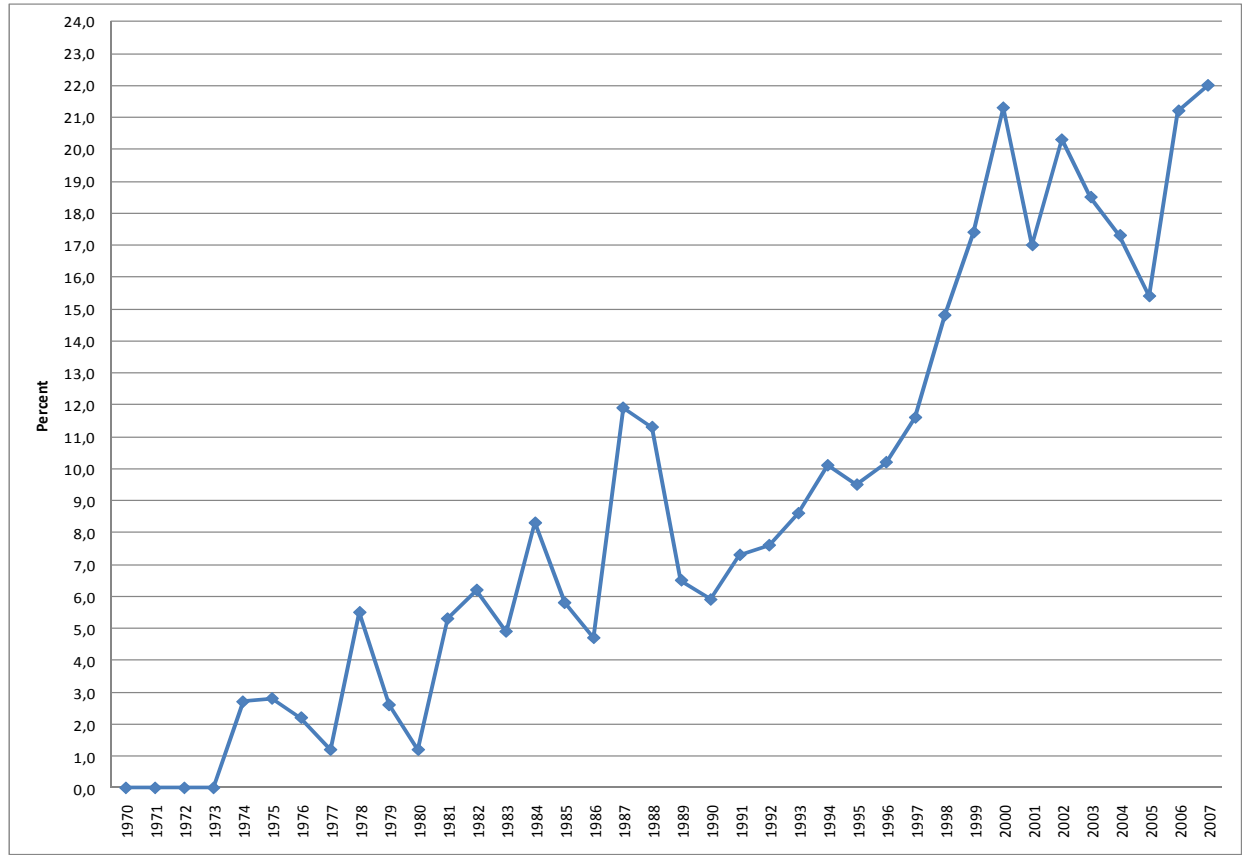


Fig. 1. Patients admitted to the child and adolescent psychiatric clinic with depression, depressed mood or sadness as the reason for admittance 1970 to 2007.

5.2.2 Mood disorders at the youth psychiatric clinic for young adults

As explained earlier the patients themselves described their problems and symptoms in an open question in the questionnaire in the first survey. Close to two hundred respondents reported 1.7 problems per person. Five problems account for 85% of the respondents answering the question and nearly half of the reported numbers of problems (49.7%).

In Table 6 the most frequent problem descriptions are listed.

| Description of the problems that led to contact with the clinic | Frequency | Percentage of the reported number of problems (n = 338) | Percentage of respondents (n = 198) |
|---|-----------|---|-------------------------------------|
| Depression  | 58        | 17.2  | 29.3                                |
| Anxiety, phobia   | 51        | 15.1  | 25.8                                |
| Problems with self-confidence or self esteem                    | 20        | 5.9   | 10.1                                |
| Crisis response   | 20        | 5.9   | 10.1                                |
| Relationship problems   | 19        | 5.6   | 9.6                                 |
| Problems with food and eating                                   | 14        | 4.1   | 7.1                                 |
| Family problems   | 11        | 3.3   | 5.6                                 |
| Reaction to stress  | 9         | 2.7   | 4.5                                 |
| Problems with sleep   | 9         | 2.7   | 4.5                                 |
| Tired, worn   | 9         | 2.7   | 4.5                                 |
| Victim of violence, maltreatment, assault                       | 8         | 2.4   | 4.0                                 |
| Suicidal thoughts   | 6         | 1.8   | 3.0                                 |

Table 6. Mood disorders described in the first survey by the patients themselves at the youth psychiatric clinic for young adults.

In the second survey 81 patients (95%) gave a description of the problems that led to contact with the clinic (see Table 7). They reported 129 different problems, 1.6 per person. Anxiety and Depression constitutes more than half of the problems. They were also often given together

Five problems account for 84% of the respondents answering the question and more than half of the reported numbers of problems (53%).

5.3 Patients' perception whether they received help for their problems

What did the patients think about the help they received? The patients in the first survey answered the question by marking on a scale of one to ten where one was “very poor” and 10 “very good”. Only two respondents (1.6%) declined to respond. The lowest value was two and the maximum value of ten. The median value was 8.0 and the lower quartile, P<sub>25</sub>, was 6.5 while the upper, P<sub>75</sub>, was 9.5. None of the 121 respondents felt that the problem had



become worse, one-third (33.1%) believed the problem remained unchanged and two-thirds (66.9%) thought it had improved or disappeared completely.

The second study had three possible answers: “yes”, “to some extent” or “no”. More than half of the 81 who responded, 50 or 62% said yes while 28 or 35% responded to some degree and three (4%) answered no.

| Description of the problems that led to contact with the clinic | Frequency | Percentage of the reported number of problems (n = 129) | Percentage of respondents (n = 81) |
|---|-----------|---|------------------------------------|
| Anxiety, phobia   | 22        | 17.1  | 27.2                               |
| Depression  | 20        | 15.5  | 24.7                               |
| Crisis response   | 10        | 7.8   | 12.3                               |
| Problems with self-confidence or self esteem                    | 10        | 7.8   | 12.3                               |
| Suicidal thoughts   | 6         | 4.7   | 7.4                                |
| Victim of violence, maltreatment, assault                       | 4         | 3.1   | 4.9                                |
| Parents with substance abuse                                    | 3         | 2.3   | 3.7                                |
| Family problems   | 3         | 2.3   | 3.7                                |
| Relationship problems   | 3         | 2.3   | 3.7                                |
| Self harm   | 3         | 2.3   | 3.7                                |
| Problems with alcohol, drugs                                    | 2         | 1.6   | 2.5                                |
| Problems with sleep   | 2         | 1.6   | 2.5                                |
| Obsessions, compulsions   | 2         | 1.6   | 2.5                                |

Table 7. Mood disorders described in the second survey by the patients themselves at the youth psychiatric clinic for young adults.

5.4 Psychiatric care and mood disorders in adulthood for former child and adolescent psychiatric patients

5.4.1 Psychiatric care in adulthood

Information on later outcome in adulthood was available for the patient group comprising 1,400 patients cared for in child and adolescent psychiatry. At the end of the follow-up 531 patients or 37.9% of the child and adolescent psychiatric group had been treated in general psychiatry as adults, more female (62.3%) than male (37.7%) ( $p < 0.001$ ). Mean age at first admission was 22.2 years of age (S.D. 5.2). More than half (56.5%) were inpatients in general psychiatry while 169 (31.8%) had been inpatients in child and adolescent psychiatry.

Risk factors for later general psychiatric care were: Psychosis symptoms as a reason for admission to child and adolescent psychiatry (RR 2.1); gender (female) (RR 1.9); older than 13 years at first admission to child and adolescent psychiatry; suicide attempt, suicide thoughts (RR 1.6) and anxiety (RR 1.3) as reason for admission and problems at school (RR

1.2). Depression, depressed mood, sadness as a reason for admittance was not a risk factor ( $p = 0.504$ ), 25 patients (41.7%) were later admitted to general psychiatry.

5.4.2 Mood disorders in adulthood

The former child and adolescent patients were given diagnoses in general psychiatry shown in Table 8:

| Diagnoses (block)   | Frequency<br>N = 524 | Percent |
|---|----------------------|---------|
| F40-F48 Neurotic, stress-related and somatoform disorders   | 163                  | 31.1    |
| F30-F39 Mood [affective] disorders  | 77                   | 14.7    |
| F10-F19 Mental and behavioural disorders due to psychoactive substance use                            | 58                   | 11.1    |
| Z00-Z99 Factors influencing health status and contact with health services                            | 52                   | 9.9     |
| F60-F69 Disorders of adult personality and behaviour  | 50                   | 9.5     |
| F20-F29 Schizophrenia, schizotypal and delusional disorders   | 41                   | 7.8     |
| F50-F59 Behavioural syndromes associated with physiological disturbances and physical factors         | 18                   | 3.4     |
| X60-X84 Intentional self harm   | 17                   | 3.2     |
| F90-F98 Behavioural and emotional disorders with onset usually occurring in childhood and adolescence | 14                   | 2.7     |
| F70-F79 Mental retardation  | 12                   | 2.3     |
| R00-R99 Symptoms, signs and abnormal clinical and laboratory  | 7                    | 1.3     |
| Other diagnoses   | 6                    | 1.1     |
| F00-F09 Organic, including symptomatic, mental disorders  | 4                    | 0.8     |
| F99 Unspecified mental disorder   | 3                    | 0.6     |
| F80-F89 Disorders of psychological development  | 2                    | 0.4     |

Table 8. Diagnoses in general psychiatric care for patients earlier cared for in child and adolescent psychiatry

The 77 patients who received a mood disorder diagnosis in adulthood were give diagnoses in child and adolescent psychiatry according to Table 9. Their reasons for admission to child and adolescent psychiatry are shown in Table 10.

5.4.3 The relationship between symptoms in childhood and adolescence and in adulthood

Relationship between diagnoses made in child and adolescent psychiatry and later in general psychiatry is shown in Table 11. Overall one in five diagnostic blocks is equivalent (0.21).

| Diagnoses (block)   | Frequency<br>N = 77 | Percent |
|---|---------------------|---------|
| Z00-Z99 Factors influencing health status and contact with health services                            | 18                  | 23.4    |
| F90-F98 Behavioural and emotional disorders with onset usually occurring in childhood and adolescence | 17                  | 22.1    |
| F40-F48 Neurotic, stress-related and somatoform disorders   | 16                  | 20.8    |
| F30-F39 Mood [affective] disorders  | 7                   | 9.1     |
| X60-X84 Intentional self-harm   | 6                   | 7.8     |
| F70-F79 Mental retardation  | 4                   | 5.2     |
| F50-F59 Behavioural syndromes associated with physiological disturbances and physical factors         | 3                   | 3.9     |
| F80-F89 Disorders of psychological development  | 3                   | 3.9     |
| F10-F19 Mental and behavioural disorders due to psychoactive substance use                            | 2                   | 2.6     |
| F20-F29 Schizophrenia, schizotypal and delusional disorders   | 1                   | 1.3     |

Table 9. Diagnoses in child and adolescent psychiatric care for patients diagnosed within block F30-F39 Mood [affective] disorders in adulthood.

| Reason for admission                          | Frequency<br>N = 75 | Percent |
|---|---------------------|---------|
| Anxiety                                       | 16                  | 21.3    |
| Behavioural disorder                          | 11                  | 14.7    |
| Suicide attempt, suicide thoughts             | 10                  | 13.3    |
| Relationship problems                         | 8                   | 10.7    |
| Mental retardation and developmental problems | 7                   | 9.3     |
| Somatic problems and eating disorders         | 7                   | 9.3     |
| Depression , depressed mood, sadness          | 7                   | 9.3     |
| Reaction to stress                            | 3                   | 4.0     |
| Enuresis or encopresis                        | 2                   | 2.7     |
| Request for investigation                     | 2                   | 2.7     |
| Confusion, personality change                 | 1                   | 1.3     |
| Abused and/or neglected                       | 1                   | 1.3     |

Table 10. Reason for admission to the child and adolescent psychiatric clinic for patients diagnosed within the block F30-F39 Mood [affective] disorders in adulthood.

| Diagnoses (block)   | Childhood | Adulthood | Equivalent |      |
|---|-----------|-----------|------------|------|
| F20-F29 Schizophrenia, schizotypal and delusional disorders                                   | 20        | 41        | 12         | 0.60 |
| F10-F19 Mental and behavioural disorders due to psychoactive substance use                    | 17        | 60        | 8          | 0.47 |
| F70-F79 Mental retardation  | 14        | 12        | 5          | 0.36 |
| F50-F59 Behavioural syndromes associated with physiological disturbances and physical factors | 31        | 54        | 11         | 0.35 |
| F40-48 Neurotic, stress related and somatoform disorders                                      | 86        | 129       | 29         | 0.34 |
| F30-39 Mood [affective] disorders   | 23        | 77        | 7          | 0.30 |

Table 11. The most consistent diagnoses from childhood and adolescence to adulthood.

5.4.4 Psychotic mood disorders incidence and early signs

By the end of the follow-up period 62 former child and adolescent psychiatric patients (26 males and 36 females, male/female ratio 1:1.4), 4.4% of the entire index group, had received an ICD-10 diagnosis of “F20-29: Schizophrenia, schizotypal and delusional disorders” (48 patients) and/or “F30-39: Psychotic mood disorders” (14 patients). The overall estimated incidence of first-episode psychosis per 10,000 person-years in the index group was 15.4 (17.1 for females and 13.7 for males).

The mean age at the time of the first onset of symptoms was 21.4 years (SD 6.4 years) and corresponding median age was 18 years. A majority of these (27 patients = 44%) were diagnosed between the age of 13 and 17 years, 17 patients (27%) between 18 and 25 years of age, 10 patients (16%) between the ages of 26 and 30 years, and the remaining 8 patients (13%) were older than 30 years of age when first diagnosed.

The 48 individuals diagnosed with schizophrenia were significantly younger (mean age 20.3 years; SD 5.2) at the time of the initial diagnosis of psychosis than were the 12 patients with psychotic mood disorders (mean age 26.8 years; SD 8.3) ( $p = 0.018$ ).

The patients given diagnose of psychoses at an age of 25 years or older exhibited unspecific psychopathological symptoms, but did not exhibit any signs of a possible psychotic disorder during their child and adolescent psychiatric care. In adolescence acute psychoses were more common.

One-third (21 patients) of these individuals were given their initial diagnosis of psychosis during child and adolescent psychiatric care. Two of these 21 patients were not treated later for this disorder in general psychiatric care whereas the remaining 19 individuals were diagnosed with the same type of disorder as adults. The other 41 patients were not diagnosed as psychotic until they were cared for in general psychiatry. More than a third (15 patients) of them was given the diagnosis “F90-F98 Behavioural and emotional disorders with onset usually occurring in childhood and adolescence” during child and adolescent psychiatric care, eight individuals received the diagnosis “F40-F48 Neurotic, stress-related and somatoform disorders” and six patients were diagnosed with “Z00-Z99 Factors influencing health status and contact with health services.”

Of the 21 patients given a diagnosis of psychosis in connection with child and adolescent psychiatric care, 19 had a psychosis diagnosis in both settings. 12 were placed in the same sub-category of "F20-29: Schizophrenia, schizotypal and delusional disorders" and one in the same sub-category of "F30-39: Psychotic mood disorders" at both time-points. Three patients with a child and adolescent psychiatric diagnosis in the sub-category of "F20-29: Schizophrenia, schizotypal and delusional disorders" were later categorized as "F30-39: Psychotic mood disorders" in adulthood. In contrast, three individuals treated during adolescence for "F30-39: Psychotic mood disorders" were later categorized in the sub-category of "F20-29: Schizophrenia, schizotypal and delusional disorders".

Changes in behaviour, including social isolation, refusal to go to school, loneliness and odd behaviour in general were the initial signs or symptoms most frequently observed prior or upon admission to child and adolescent psychiatric care. However, this was not the overall picture regarding the category of schizophrenia. Among the individuals diagnosed with schizophrenia or psychotic mood disorders, symptoms such as motor restlessness, obsessive rituals and poor sleep were equally common, being observed in 44% of the cases. Patients in both of these groups also frequently demonstrated anxiety and depression at the time of admission.

Of the three different groups of patients that could be discerned, the first and most distinct (Group I) included the 21 (34%) who exhibited signs and symptoms of psychosis in connection with child and adolescent psychiatric care and, consequently, received their first definitive diagnosis of psychosis as children. Among this group, 14 demonstrated obvious symptoms of a disorder at their initial contact with child and adolescent psychiatric care-givers, whereas the diagnosis for the 7 others was established only after an observation period of 1-4 years. Accordingly, the mean period of time that elapsed from first admission to child and adolescent psychiatric care until definitive diagnosis of a psychosis was 2.0 years, (SD 3.6).

A second group (Group II) of 15 patients (24%) also showed possible signs of psychosis during their child and adolescent psychiatric care, but were first diagnosed with such a disorder in connection with general psychiatric care, mostly at a relatively young age. Their diagnoses were established at a mean of 6.0 years, (SD 5.8) following first admission to child and adolescent psychiatric care.

The child and adolescent psychiatric records for the third group (Group. III) of 26 patients (42%) contained no notation of signs of psychosis and their definitive diagnosis of this disorder was made following completion of the child and adolescent psychiatric care. For these patients, the period from first admission to child and adolescent psychiatry to first diagnosed onset of psychosis was even longer; mean 12.4 years, SD 7.9. During child and adolescent psychiatric care, most of this group exhibited unspecific psychopathology, such as behavioural and emotional problems or problems with relationships.

Patients placed in the ICD-10 category "F20-29: Schizophrenia, schizotypal and delusional disorders" demonstrated more symptoms of psychosis at an earlier age than did those classified as "F30-39: Psychotic mood disorders" ( $p = 0.019$ ).

## 5.5 Mortality and suicide

The findings in the study of 1,400 child and adolescent psychiatric patients showed that Swedish child and adolescent psychiatric patients are currently running an elevated risk of



early death. Twenty-four males and 14 females died. The male/female ratio was 1.7:1. Twenty-eight of the patients (74% of the deceased) died before age 30. The all-causes standardized mortality ratio for the deceased was higher ( $p < 0.001$ ) than the standardized mortality ratio for the general population of Sweden and for Jämtland County. The risk of dying was almost twice as high for young males as for young females and 50% of all deaths occurred more than ten years after child and adolescent psychiatric treatment.

None of the 74 patients who had been admitted to child and adolescent psychiatry due to depression, depressed mood or sadness or were given a mood disorder diagnosis had died at the end of the follow up.

Six patients died of somatic illnesses while the others died of unnatural causes. Suicide was the single most common cause of death (50%). Other unnatural causes were drug overdose, other accidents and suicidal intention unclear. Seven patients - all males who had experienced childhood histories of aggressive outbursts, difficulties controlling impulses, and troublesome psychosocial situations' - died in traffic accidents.

Nineteen patients (11 males and 8 females, male/female ratio 1.4:1.) committed suicide. When including an additional patient where a suicidal intention was unclear, this entails an approximate suicidal death rate of 14.3 per 1,000 persons in the cohort of former child and adolescent psychiatry patients. Males often used violent means to commit suicide while most of the female suicide victims died of intoxication.

Although suicide was the most common cause of death, only two of the 19, who later committed suicide, had been initially admitted for child and adolescent psychiatric clinical care because of attempted suicide. None of them had been admitted due to depression, depressed mood or sadness or were given a mood disorder diagnosis. Eleven of these 19 individuals exhibited obvious psychosocial risk factors related to their home environments at their first admission to a child and adolescent psychiatric unit. Two variables – problems at school and behavioural disorder – were the factors in the initial contacts that were found to be the most important for predicting premature death and suicide, irrespective of which statistical method was used.

## 5.6 Criminality development

Every third child and adolescent psychiatric patient treated between 1975 and 1990 (every second male and every fifth female) had been entered into the Register of Persons Convicted of Offences, which is a significantly higher rate than the general population. The male/female ratio was 2.3:1. The findings were compared to published results for patients from the Stockholm Child Guidance Clinics who were treated between 1953 and 1955 and followed over 20 years (Nylander 1979). The male patients in the present study were entered into the register for criminality at double the rate compared to the group of patients from the 1950s; and for girls, this rate increased sevenfold. Repeated criminality was common, a total of 315 (59%) reoffended.

It was shown that admission to child and adolescent psychiatry for behavioural disorder was the single most substantial risk factor for conviction of offences. Patients who had relationship problems also showed an increased risk. Both a split family and problems at school independently entailed nearly doubled risk later being entered into the Register of Persons Convicted of Offences.

Depression, depressed mood or sadness as a reason for admittance was not a risk factor. On the contrary, these patients were significantly less convicted of offences than others.

The 530 former child and adolescent psychiatric patients were entered into the Register of Persons Convicted of Offences for more than 2,000 incidents of committing crime, which included 81 types of crimes. Larceny, burglary, driving without a licence, motor vehicle theft, petty larceny, assault, drunk driving and narcotics were the most commonly registered crimes. The most serious crimes were robbery (10 cases), rape (6 cases), arson (3 cases), manslaughter (2 cases), and murder (1 case).

### 5.7 An overall outcome

A total of 835 child and adolescent psychiatric patients (59.6%) were found in one or more registers concerning general psychiatric care in adulthood, mortality, conviction of offences or compulsory care of addicts. Three-quarters appeared in one register. Only 3% were found in three registers. More male patients than female had this “poor” outcome.

The child and adolescent psychiatric patients that were found on these registers, in comparison to the patients not found on any of the registers, often had a split family, they had problems at school, they were older than 13 years of age at admission to child and adolescent psychiatry, more frequently they were inpatients at the child and adolescent psychiatric clinic, and behaviour disorder was a significant cause for admission to child and adolescent psychiatry resulting in a “poor” outcome. Mood disorders did not predict a significant “poor” outcome.

## 6. Discussion

### 6.1 Methodological considerations

One disadvantage of the present studies is that the population of Jämtland County cannot be considered to be representative of the entire Swedish population in all respects. Although comparison with an earlier longitudinal study of outpatients in Stockholm (Nylander 1979) as well as an unpublished comparison with child and adolescent psychiatric inpatients in the Stockholm metropolitan area reveals few significant differences, it should be kept in mind that the study group here came from a sparsely populated region.

The designs of the studies, using both retrospective and prospective longitudinal approaches, were well suited for the goals of the studies. The fact that Jämtland County had only one regional hospital with one child and adolescent psychiatric unit and one general psychiatric unit for the whole population made it well suited for a study of this kind. The study population is simple to describe and it is homogenous.

Furthermore, the primary information on child and adolescent psychiatric patients was obtained from psychiatric hospital records, which are in many respects not scientifically rigorous instruments of examination. Although the quality of these records was considered to be satisfactory, they were assessed employing a protocol chosen for the present study and, moreover, also contain information provided by parents, school personnel and other authorities. The protocols and the data used in this study have not been changed during the long observation time. However, no measures on an inter-reliability rate exist in regard to how the information from hospital files and registers were transformed into the protocols.

This was done only by one person and depending on his pre-understanding (conformability) of the available information which may be both an advantage and a limitation.

Although the follow-up period is relatively long for the 1,400 former child and adolescent psychiatric patients, they are still relatively young. At the end of the follow-up period, the youngest was 26 years old while the oldest was 46. Most likely additional clinical information of value for psychiatrists and child and adolescent psychiatrists will emerge if they are followed over an extended time period.

The weakness of the follow up of patients at the youth psychiatric clinic for young adults is particularly the categorization of their problems made by the author alone. No comparison with the staff description of the problems has been made.

The studies also lack, in common with most follow-ups of this nature, qualitative elements that can contribute to a more comprehensive picture of the respondents and their views on their problems and the psychiatric care.

## 6.2 The overall aim

The overall aim with this chapter was to describe and discuss the occurrence of mood disorders in some psychiatric in- and outpatient populations in a smaller county in Sweden.

The strength of these studies is the large amount of patients included. It has been possible to describe and discuss the occurrence of mood disorders and also to describe trends over time. It is clear that there has been a change over time. During the first third part of the follow-up of child and adolescent psychiatric patients (1970-1976) only eight patients were admitted to child and adolescent psychiatry with depression, depressed mood or sadness as reason for admittance. Mean value was 1.8% of all reasons for admittance. During the next seven years (1977-1983) the proportion had doubled to 3.7% (20 patients) and for the last third (1984-1990) it had risen to 7.9% (32 patients). The increase continued as evidenced by Figure 1. Men value for the period after the follow-up (1991-2007) was 14.7% with a peak in 2007 of 22 %. As shown in Table 6 and Table 7 depression constituted a quarter of the problems described by the patients themselves at the youth psychiatric clinic for young adults.

It can be assumed that there has been a change in description of child and adolescent symptoms and disorders over time. It is only in the past two decades, as knowledge of child and adolescent depression has been emerged. The symptoms were formerly not associated with depression, but instead to other things. They may be confused with common teenage problems or be hidden behind acting-out aggressive behaviour or irritability. In recent years there has been increasing awareness that many adults and children with AD/HD may also meet criteria for depression and bipolar disorder. Since this study was conducted before the wave of AD/HD diagnoses that were given to child and adolescent psychiatric patients more examinations of the material are required to investigate if comorbidity is the case here too.

The current findings are supported by the results of former Swedish longitudinal prospective studies of child and adolescent psychiatric patients that were carried out from the 1950s to 1980s (see Table 1).

### 6.3 The follow-up of 1,400 child and adolescent psychiatric patients

A specific aim with the follow-up of 1,400 child and adolescent psychiatric patients was to describe their outcome in adulthood. The outcome was described in terms of psychiatric care in adulthood, the relationship between symptoms in childhood and adolescence and in adulthood, criminality and mortality and suicide.

#### 6.3.1 Psychiatric care in adulthood and the relationship between symptoms in childhood and adolescence and in adulthood

A total of 531 persons or 38% had been patients at a general psychiatry unit at end of follow-up. More girls than boys (male/female ratio 1:1.7) became patients in general psychiatry in adulthood. Girls also had more symptoms of depression, depressed mood or sadness.

Similar results have been found previous follow-ups of Swedish child and adolescent psychiatry patients (Nylander 1979) and from follows up other Swedish risk groups (Rydelius 1981) findings. This may depend on gender typical psychiatric symptoms, i.e., with anxiety, depression and somatic symptoms more commonly expressed by girls, and acting-out behaviour more common in boys. The symptoms more commonly expressed by girls may be easier for professionals to manage and in turn may lead to making it easier for girls to receive help within child and adolescent psychiatry, and may entail that they may more easily seek help even within general psychiatry. Acting-out behaviour on the other hand is often found disturbing by professionals, which is why the boys themselves may adopt a negative attitude towards child and adolescent psychiatry and to later general psychiatry contact. Another explanation for these gender differences may be that the profession perceives girl typical symptoms as psychiatry while boy typical symptoms are perceived as anti social behaviour. Due to this they are more often referred to social welfare, dependence care and institutions for treatment of offenders instead. Findings from the register on criminality support the latter explanation.

It appears that based on empirical findings during the past 70 years, psychotic disorders have been and continue to be relatively uncommon among patients admitted to child and adolescent psychiatric care in Sweden. The typical male Swedish child and adolescent psychiatric patient is "a 10-year-old troublesome boy", while the typical female patient is "a 14-year-old depressed girl". Both come from families with psychosocial difficulties; have problems at school and risk later delinquency and/or alcohol and/or drug abuse. However, the rate of schizophrenia observed in the child and adolescent psychiatric patient group (3,4%) is threefold higher than in the general population, indicating that these individuals run an increased risk for developing severe chronic psychosis and that use of a specific treatment model for early psychosis among children and adolescents might be valuable (Engqvist and Rydelius 2006).

The present empirical findings indicate that psychotic disorders debut during the teen-age years and, moreover, that disorders in the ICD category "F20-F29: Schizophrenia, schizotypal and delusional disorders" are more common than those classified as "F30-39: Psychotic mood disorders". Clearly psychotic mood disorders are rare among children and adolescents.

There only seems to be a weak connection between diagnoses given to patients in child and adolescent psychiatry and later to the same patients in adult psychiatry. This can probably

be explained by the different traditions of diagnosis within child and adolescent psychiatry and adult psychiatry during the current observation period. There can be another way to explain the weak connection, which also appears between certain child and adolescent psychiatric diagnoses and later psychiatric diagnoses. This applies particularly to crisis reactions, adjustment problems, and the age specific diagnoses. These groups of diagnoses can be related to children's maturity and development, and thereby so unspecified that, in different children they can have different meaning, and thus predict many different results in adulthood. Additional explanations may appear.

The observations indicate that disorderly behaviour and attention deficit disorders in childhood could be anxiety-related symptoms and that anxiety in childhood may be associated with mood disorders. The findings indicate a relationship between behaviour disturbances and later depressive disorder diagnoses. This suggests that behaviour disturbance and attention deficit disorder in childhood can be an expression for depressive internal feelings.

The current knowledge's Rutter (Rutter et al. 2006) discusses in reference to the relation between childhood symptoms and disorders in adulthood are similar to the findings appearing in this study.

### **6.3.2 Criminality**

In this study 54% of the boys and 21 % of the girls were registered for criminality at the end of the follow up. Malfunctioning parental care and supervision, behaviour disorders and school problems were obvious risk factors. Those, who later developed criminal behaviour, also received more in-ward psychiatric care than other child and adolescent psychiatric patients.

Depression, depressed mood or sadness as a reason for admittance was not a risk factor. On the contrary, these patients were significantly less convicted of offences than others.

### **6.3.3 Mortality and suicide**

The findings showed that the child and adolescent psychiatric patients have faced an elevated risk of early death, despite overall improvement in health that has occurred in Sweden in recent decades. Behavioural problems, problems at school, and crime were common, irrespective of the cause of death, whereas suicide attempts constituted a poor predictor for later suicides. It was surprising that none of the deceased belonged to the group that had been admitted and or diagnosed with depression, depressed mood or sadness/mood disorder.

Many studies of depressive disorders have stressed the importance of the mortality and morbidity associated with depression. The mortality risk for suicide in depressed patients is more than 20-fold greater than in the general population (Lépine and Briley 2011).

### **6.3.4 An overall outcome**

The available evidence suggests that a poor adult outcome is most likely the result of early onset of conduct problems associated with hyperactivity / attention deficits and poor peer



relations. It is also evident that the poor outcome is a function of persistent and pervasive conduct disturbances in childhood rather than a consequence of transient or isolated antisocial problems (Rutter 1995).

Using register data on their need of psychiatric care, the occurrence of criminality and mortality/suicides you can conclude that 60% of the former child and adolescent psychiatric patients had problems also as adults. This is an indication that they did not function well in adulthood which needs further discussion.

#### **6.4 The two questionnaire surveys conducted at the youth psychiatric clinic for young adults**

The specific aim with the two questionnaire surveys conducted at the youth psychiatric clinic for young adults was to investigate the problems and symptoms the patients themselves stated that they had. It was also examined what expectations they had and what help they expected and if they felt they had received help for their problems.

The large number of respondents is the greatest strength of the surveys at the youth psychiatric clinic for young adults. A large sample of patients participated and answered the questions asked. The aim has been fulfilled to a much greater degree than was expected when monitoring began.

The problems described by patients are perceived as large or very large and they have a significant impact both at work, study situation and relationships within and outside the family. Depression is one of the two most frequently described problems. There is a majority of women admitted to the youth psychiatric clinic for young adults and responding to the survey. As showed above mood disorders occur more frequently in women.

None of the respondents thought that the problem had become worse than it was on the first visit at the youth psychiatric clinic for young adults and the majority of the third who thought the problem was unchanged still thought that the problem was easier to live with. Two-thirds thought the problem gotten better or much better, which may be considered a good result considering the conditions at the first visit.

A summary conclusion of the two surveys is that the youth psychiatric clinic for young adults has filled a need for the target group it was intended for and that the activity during follow-up time really has been helpful for most of the patients

### **7. Conclusion**

During the approximately 40 years that these surveys cover mood disorders have changed from being a rare phenomenon to be a national disease and one of the most common symptoms in psychiatric care for children and young people. This makes great demands on the psychiatric health care providers. More knowledge is needed about the early signs and on the presence of mood disorders together with other symptoms and disorders.

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## **Clinical, Research and Treatment Approaches to Affective Disorders**

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The causes, development and outcomes of disorders are determined by the relationship of psychological, social and cultural factors with biochemistry and physiology. Biochemistry and physiology are not disconnected and different from the rest of our experiences and life events. This system is based on current studies that report that the brain and its cognitive processes show a fantastic synchronization. Written by the foremost experts on Affective Disorders worldwide, this book is characterized by its innovative, refreshing, and highly sensitive perspective on current knowledge of diagnostic, neurobiology, early life stress and treatment of Mood Disorders. The authors share a deep understanding of unique challenges and difficulties involved in Affective Disorders, and have achieved a balance among clinical, research and new treatment approaches to Affective Disorders. The chapters are written in a comprehensive, easily readable, and highly accessible style, stimulating readers, clinicians and researchers.

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Phone: +86-21-62489820  
Fax: +86-21-62489821

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