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Research report

Diagnostic stability in pediatric bipolar disorder

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ABSTRACT

Background: The diagnostic stability of pediatric bipolar disorder has not been investigated previously. The aim was to investigate the diagnostic stability of the ICD-10 diagnosis of pediatric mania/bipolar disorder.
Methods: All patients below 19 years of age who got a diagnosis of mania/bipolar disorder at least once in a period from 1994 to 2012 at psychiatric inpatient or outpatient contact in Denmark were identified in a nationwide register.
Results: Totally, 354 children and adolescents got a diagnosis of mania/bipolar disorder at least once; a minority, 144 patients (40.7%) got the diagnosis at the first contact whereas the remaining patients (210; 59.3%) got the diagnosis at later contacts before age 19. For the latter patients, the median time elapsed from first treatment contact with the psychiatric service system to the first diagnosis with a manic episode/bipolar disorder was nearly 1 year and for 25% of those patients it took more than 2½ years before the diagnosis was made. The most prevalent other diagnoses than bipolar disorder at first contact were depressive disorder (21.4%), acute and transient psychotic disorders or other non-organic psychosis (19.2%), reaction to stress or adjustment disorder (14.8%) and behavioral and emotional disorders with onset during childhood or adolescents (10.9%). Prevalence rates of schizophrenia, personality disorders, anxiety disorder or hyperkinetic disorders (ADHD) were low.
Limitations: Data concern patients who get contact to hospital psychiatry only.
Conclusions: Clinicians should be more observant on manic symptoms in children and adolescents who at first glance present with transient psychosis, reaction to stress/adjustment disorder or with behavioral and emotional disorders with onset during childhood or adolescents (F90–98) and follow these patients more closely over time identifying putable hypomanic and manic symptoms as early as possible.

1. Introduction

One criterion for validating psychiatric diagnoses is that of diagnostic stability (Robins and Guze, 1970). Diagnostic stability may be defined as the degree to which a diagnosis is confirmed at subsequent assessment points (Fennig et al., 1994). Surprisingly, the diagnostic stability of the diagnosis of pediatric bipolar disorder has never been investigated in any larger long-term study. The National Institute of Mental (NIMH) funded "Phenomenology and Course of Pediatric Bipolar Disorder" study (Geller and Tillman, 2005; Geller et al., 2008) has never addressed in detail what proportion of the sample continues to have the same diagnosis, as recently highlighted (Carlson, 2011), although it is mentioned that "subjects remained bipolar and did not develop schizophrenia, ADHD or other psychiatric disorders during 4-year prospective follow-up" (Geller and Tillman, 2005). In fact, there is one study only including 91 children and adolescents with bipolar disorder, which found that 86% fulfilled criteria for mania or hypomania at 6-month follow-up, but this study presented no data on diagnostic shift (Geller et al., 2000). Only two studies on children and adolescents with first episode psychosis have included bipolar disorder patients and reported on diagnoses during follow-up. One study including 13 patients with first episode psychotic bipolar disorder found a 92% diagnostic stability after ½-year follow-up (Castro-Fornieles et al., 2011) and another study including 8 patients with first episode psychotic bipolar disorder revealed a 57% diagnostic stability after 1 year (Fraguas et al., 2008).

Based on the importance of the question of diagnostic stability and the very limited amount of research within the area we find it important to report data from Danish psychiatric case registers on all children and adolescents diagnosed with mania/bipolar disorder within psychiatry and during a period of 16 years.

The aim of the present study was to investigate the diagnostic stability of the ICD-10 diagnosis of pediatric mania/bipolar disorder as made by clinicians within psychiatry using a nationwide register based sample of out- and inpatients from psychiatric settings and further to estimate the gender and age associations with time to first diagnosis of bipolar disorder.

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2. Method

2.1. The register

The Danish Psychiatric Central Research Register (DPCRR) is nation-wide with registration of all psychiatric hospitalizations in Denmark for the 5.3 million inhabitants (Munk-Jorgensen and Mortensen, 1997). From January 1, 1995 the register included information on patients in psychiatric ambulatories and community psychiatry centers, also. General practitioners and private practicing psychiatrist do not report to the DPCRR.

All inhabitants in Denmark have a unique person identification number (Civil Person Registration number, CPR-number) that can be logically checked for errors; so it can be established with great certainty if a patient has had contact to psychiatric service previously, irrespective of changes in name etc.

No private psychiatric inpatient hospitals or department are in operation in Denmark, all are organized within public services and reporting to the DPCRR. The International Classification of Diseases, 10th Revision (World Health Organization, 1992) has been used in Denmark from January 1, 1994.

2.2. The sample

The study sample was defined as all children and adolescents < 19 years with a contact as outpatient (patients in psychiatric ambulatories and community psychiatry centers) or inpatient (patients admitted during daytime or overnight to a psychiatric hospital) with at least one main diagnosis of mania/bipolar disorder (ICD-10, code DF30-31.9) during the study period from January 1, 1994 to December 31, 2012. Outpatients were included in a period from January 1, 1995 to December 31, 2012 (as these data are available for this period, only) and inpatients in the entire ICD-10 period (from January 1, 1994 to December 31, 2012).

2.3. Statistical analysis

Categorical data were analyzed with the chi-square test (2-sided) and continuous data were analyzed with the Mann–Whitney test for two independent groups. $P < 0.05$ was used to indicate statistical significance.

3. Results

Totally, 354 patients below 19 years of age got a main diagnosis of a manic episode (F30) or bipolar affective disorder (F31) at least once during the study period from 1994 to 2012. The annual rate of incident mania or bipolar disorder was approximately 0.003% in 2010 for both sexes. Fig. 1 shows age at first diagnosis of mania/bipolar disorder for boys and girls. There was no significant difference between boys and girls at age at first diagnosis of mania/bipolar disorder ($P=0.6$).

Among the 354 patients, 144 patients (40.7%) got the main diagnosis at the end of the first contact period whereas the remaining patients (210 = 59.3%) got the diagnosis at later contacts. There was no difference in the proportions of boys and girls who got the diagnosis of mania/bipolar disorder at first contact (36.7% of girls versus 45.8% of boys, $P=0.08$).

3.1. Change from bipolar disorder to other diagnoses

Among the 144 patients with the diagnosis of mania/bipolar disorder at the first contact ever in a period from 1994 to 2012, 60 (41.7%) were treated during outpatient settings and 84 (58.3%) during psychiatric hospitalization; 50.7% were girls. Median age at first contact was 17.4 years (quartiles: 16.3–18.2 years) and follow up time from first contact with a diagnosis of mania/bipolar disorder to end of study or 19th birthday was 1.31 years (quartiles: 0.65–2.48).

Table 1 presents main diagnoses at subsequent contact periods for the 144 patients with a main diagnosis of mania/bipolar disorder at first contact. As can be seen, 98 patients had a second contact period, 41.7% had a third contact period, etc. At the end of the second contact period, 79.6% got a main diagnosis of bipolar disorder and this proportion was rather stable at subsequent contact period. The most prevalent other diagnosis during follow-up was within neurotic, stress-related and somatoform diagnoses with an increase to 9.1% at the 5th psychiatric contact. There was no tendency to an increase in other main diagnoses for which the prevalence was 5% or below.

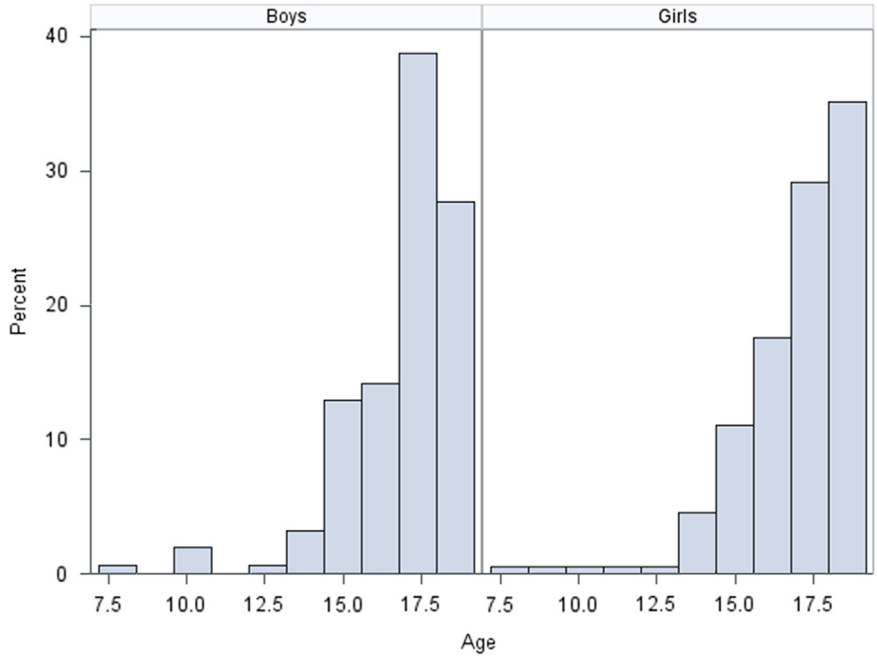

Fig. 1. Age at first diagnosis of mania/bipolar disorder for boys and girls.