Use of the Public Territorial Neuro-Psychiatric Services in adolescence: a post-hoc study.

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Introduction

Psychiatric illness in childhood is a widespread phenomenon. The data in the international literature shows about 20% of psychiatric problems in this age group (WHO, 2000; Üstün, 1999).

Rutter & Taylor (2002) state that the presence of psychopathology in the younger population is between 10% and 20%. This percentage gap is the result of the variability in the methodological approach adopted by the epidemiological studies present in the literature. Comorbidity is common: about 40% of children and adolescents treated by a mental health service present more than one disorder at the same time. There is also a marked co-presence of psycho-social problems (Besana & Spinelli, 2001).

The problems related to mental health are increasingly important in industrialised nations, because their incidence reveals a growing trend and because they are associated with a high degree of disability and economic and social costs which weigh on the patients, their family members and on the community.

World Health Organisation reports (WHO, 2000) indicate that in the space of one year about 20% of the adult population presents one or more of the mental disorders that can be classified gnosographically. Adult mental disorders are known to be preceded by disorders in adolescence (WHO, 2000; Üstün, 1999). In particular, about 8% of children and adolescents present a mental disorder which can cause interpersonal problems and maladjustment. It should not be forgotten that suicide is the second cause of death among teenagers (Morosini et al. PNSM, 2001).

In the Italian literature very few studies have so far been made providing epidemiological documentation of distress and psychiatric pathology in adolescence based on proper sampling.

Objectives

Considering the marked differences in organisation and type of Childhood Neuropsychiatry Services (Servizi di Neuropsichiatria Infantile) (SNPI) in Italy and between these and the rest of Europe (CSM), we tried to compare the data available on the clients of the Local Health Service in the Rome area (ASL RM H: Childhood Psychiatry Operative Unit (Unità Operative di Neuropsichiatria Infantile) (UONPI) Districts H1-H2-H3-H5-H6) with those found in the literature about our country and the international panorama. In this comparison, we sought emerging areas of adolescent distress and data that can be accepted.

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The international literature

Steinhausen (2006) carried out a longitudinal study on a total sample of 1964 Swiss children and teenagers (1015 males and 945 females) aged between 7 and 16. The prevalence of mental disorders in the school-aged group is 22.5% of which 12.5% in comorbidity with other disorders. There is a greater percentage of disorders in males, with a prevalence of 28.5%, compared to the percentage of 15.6% found in the female sample. Collishaw and colleagues (2004) underline that comparing the percentages of the disorders assessed in different time periods is complicated by the change in diagnostic criteria, by the use of different methods of evaluation and by variability in the drafting of official reports. The sample assessed is of 868 fifteen-year-olds. From evaluation of the trend of psychiatric disorders in the last 25 years and taking into consideration three diagnostic labels (conduct disorders, hyperactivity and emotional problems) and in relation to factors like sex, type of family structure, and socio-cultural class, an increase in conduct disorders was reported in the whole period considered, while emotional disorders increased between 1986 and 1999. See Table 1 for the percentages.

Table 1

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<th>1974</th>
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<th>1999</th>
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<td>12.1</td>
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</tr>
<tr>
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<td>8.6</td>
<td>13.7</td>
</tr>
<tr>
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<td>10.4</td>
<td>14.9</td>
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<tr>
<td>Hyperactivity problems</td>
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<td></td>
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<tr>
<td>Male</td>
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<td>8.3</td>
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<td>Emotional problems</td>
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<tr>
<td>Total</td>
<td>10.2</td>
<td>10.5</td>
<td>16.9</td>
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</table>

Progress over time of incidence by psychopathological area, from Collishaw, S. et al. (2004)

In another English study, the National In-patient Child and Adolescent Psychiatry Study (NICAPS, 2001) of 80 facilities studied, 71 (89%) work as residential facilities with hospitalisation. Most of these facilities (54) admit teenagers (12-18 years old). Of these, 30% are private. The data from NICAPS, which analysed a sample of 663 patients, indicates that the main reasons for admission to a psychiatric unit concern eating disorders, affective disorders, psychosis and schizophrenia, followed by conduct disorders. Admissions mainly concern males under 13, and older females. For the percentages of single disorders, see Table 2.

Table 2
A prospective study (Sourander et al., 1995, 1996 a, b and c, 1997, Sourander & Piha, 1998), describes how the percentage of teenage admissions over a relatively short period of time (on average 35 days) underwent an increase of between 50% and 75%. A north-American study indicates that compared to adults, the young have a longer hospitalisation time and the more expensive treatments (Patrick et al, 1993).

A Finnish study (Riittakerttu Kaltiala-Heino, 2004), assessed childhood disorders by subdividing the casebook into voluntary (R.V.) and forced admissions (R.C.). As regards the percentages of voluntary admissions, perhaps more compatible with Italian data, in the general sample (all ages), Conduct disorder is the most common, at 45,5%, while in adolescence it is estimated to be 33,1%.

The difficulty in comparing this data with that related to the Italian adolescent psychiatric population lies in the fact that in Italy there is no univocal legislation regulating the use of Compulsory Admission (Trattamento Sanitario Obbligatorio) and of compulsory medical examination (ASO) for this age group.
Italian data

In our country, the tendency of the Mental Health Services in childhood, as is indicated in the guidelines in the Mental Health Protection Project ("Progetto Obiettivo per la tutela della salute mentale 1998/2000, 2001-3 e 2003-5") is that of investing in going beyond psychiatric hospitalisation and in the integration of the services, by creating Day Hospitals, Consulting rooms (National Health System’s Mother-child Service - Servizio Materno-Infantile della ASL) and Day-centers for therapy-rehabilitation, and favoring cycles of specific intensive interventions according to age-group.

In the 6th National Report on Conditions in Childhood and Adolescence (Caffo & Fara 2005) 2% of the general population in childhood presents a serious neurological or psychiatric disorder; about 4% present a disorder in the development of higher cognitive functions, not as serious, but equally persistent, while the other 4% present a persistent disorder, albeit modifiable, of the affective and/or social functions. Lastly, 4% of the population in childhood and adolescence present less serious psychopathological disorders, initially acute or with a progress in phases, followed, at least in appearance, by the remission of the disorder. To these figures should be added about 5% of subjects in childhood who present disorders that are clinically not significant, and are therefore not reported to the health services, but that anyway involve difficulties in social integration and cognitive and affective functioning.

On underage deviance (minors reported by public prosecutors, admission to penal institutions) it is shown that psychological distress is a frequent cause of youth violence. This is also confirmed in the American literature which, among the four factors predictive of youth violence, identifies at least two “traits” that can be linked to mental distress: psychological characteristics like hyperactivity, aggressiveness, impulsiveness and antisocial behaviors (Hawkins, J. D., 1998).

The Information System for Childhood Mental Health Services (Sistema Informativo per i Servizi di Igiene Mentale dell’Età Evolutiva) (SIMEE), in operation since 1984 in the municipality of Milan, records the data of clients per year in 19 services (Marzani, C., Palazzi, C. 1990). From the study it emerges that in the total number of clients (5082 subjects), males outnumber females 2:1, with higher percentages for school-aged (65%) compared to pre-school (21%) and adolescence (14-18) (15%). The data concerning the pathology were elaborated using the following diagnostic division: Neurobiological Pathology, Retardation in skills development, Minor and Major Psychopathology, significant social problems. Minor Psychopathology (32%) also considers conduct disorders and neurotic disorders.

Major psychopathology (20%) includes Development imbalances and Personality disorders. The Local health service (ASL) in Campobasso (Camuffo & Palmieri, 1987), reports data compatible with the previous study, in terms of sex and age-group prevalence. For the percentages see Table 2. It seems clear that it is difficult to compare the data emerging from the various studies, given the differences in methodological approach (overlapping and variability of gnosographic labels, different degree of seriousness of the populations examined, the dominance in adolescence of psychiatric diagnoses over diagnoses in other Axes, and involvement of different specialists in the various countries).

Subjects and methods

The data at our disposal refers to the year 2001 on a total sample of 1197 teenagers aged between 13 and 18 (most frequent age 13, minimum 13, maximum 18), 722 males (60,3%) and females (39,7%) who spontaneously approached the local facilities for Childhood Mental Health Care and Rehabilitation (Tutela salute Mentale e Riabilitazione Età Evolutiva) (UONPI Frascati H1, UONPI Albano, UONPI Genzano H2, UONPI Marino H3, UONPI Pomezia H4, UONPI Velletri H5, UONPI Nettuno H6).

The age group we considered and analysed is large compared to the total (40%), in 5 districts out of 6, preceded only by that from 7 to 12 years of age, representing 31,9% of all
the clients in the 0-18 age group. This seems to reflect the distribution found in the general population residing in the Local Health Service ASL RM H.

ISTAT data up to 1st January 1999 reports that the general population residing in the area covered by the ASL RM H was made up as follows: 93,993 aged 0-18 years, of which 31,572 were in the 13-18 group (33.5%). Of these 13,573 were boys and 12,660 girls.

Of all the population residing in the RM H area (in the 13-18 group) the percentage coming to the service and receiving a diagnosis during 2000-2001 can be calculated at around 3%.

The diagnostic team used the criteria of the ICD-10 (WHO, 1992). This took into consideration the psychiatric and psychopathological diagnoses, and childhood disorders of development and mental retardation.

The final diagnoses were based on a diagnostic screening for a minimum of 5 assessment sessions with the parents and the child, designed to identify the main pathology underway. Those excluded were diagnoses of Anxiety disorder from separation (F 93), Selective mutism; Reactive attachment disorder (F 94), Enuresis, Pica, Encopresis, Stammering, Eating disorders (F 98), not compatible with the age group considered.

The sample was therefore reduced to 1,072 subjects, 649 males (60.5%) and 423 females (39.5%).

The ICD-10 diagnoses were divided into three groups or main axes:
- Psychopathological and psychiatric disorders (Axis I)
- Neuropsychological Disorders, or disorders specific to development (Axis II)
- Global retardation of growth (Axis III)

An evaluation was made of the incidence of these pathologies and the comorbidity between them in the population under examination. As regards sex, the prevalence of the disorders in males and females was compared.

Results

As regards Axis I (psychiatric disorders) of the ICD-10 classification, the diagnoses are the following:
- Schizophrenia and psychotic disorders
- Mood Disorders
- Anxiety Disorders
- Eating Disorders
- Personality Disorders
- ADHD
- Conduct disorders
- Mixed behavioral and emotional disorders
- Tic Disorders

In 46% of the male sample (Tab. 1) we found a psychiatric disorder. The most frequent diagnosis was that of Behavioral disorder (15%) followed by Anxiety Disorders (11%). The sum of the percentages of externalising disorders (ADHD 5%, Behavioral disorder 15% and Mixed behavioral and emotional disorders (6%), equal to 26% of the total, is higher than all the other diagnoses. In the male sample, no Eating Disorders were found.

In 43% of the female sample (Tab. 2) we found a psychiatric disorder. The most frequent diagnosis was that of Anxiety Disorders (16%). The disorders of the externalising area are 16% of the total (Behavioral disorder 9%, ADHD 2%, Mixed behavioral and emotional disorders 5%).

As regards Axis II (Specific Development Disorders) following the categories that are part of the ICD-10 classification, the following diagnoses were made:

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1 Dear readers, we are sorry for publishing the tables of Di Brina’s article in the Italian language. The editorial staff
- Communication Disorder (DSL as the previous diagnosis)
- Learning Disorder (DSA)
- Motor skills Disorder (Dyspraxia)
- Mixed specific developmental disorders (Borderline Cognitivi)
- Generalised Developmental Disorders (DGS)

In 49% of the male sample (Tab. 3) we found a neuropsychological disorder. The clearly most frequent diagnosis was Specific Learning Disorder (DSA) with 33% of the total sample. There is a significant presence of Mixed specific development disorders (Borderline Cognitive impairment) which cover 7% of the total.

In 32% of the female sample (Tab. 4) we found a neuropsychological disorder. The main disorder is still Specific Learning Disorder (DSA) which is found in 17% of the sample, followed by other diagnostic categories.

As regards Axis III (Global Development Retardation), using the categories that are part of the ICD.10 classification, the diagnoses are:
- slight Mental Retardation
- average Mental Retardation
- serious Mental Retardation
- very serious Mental Retardation

In 25% of the male sample (Tab. 5) we found Mental Retardation (RM). Most, 12% of the total, show a developmental level compatible with a diagnosis of slight RM, and 9% with a diagnosis of average RM.

In 30% of the female sample (Tab. 6) we found RM, of which 16% was slight RM. The percentages of the incidence of average and serious RM coincide with those in the male sex.

The most common comorbidity in the categories diagnosed on the three Axes (Tab. 7) considering the total sample (males and females) shows that 61% of the diagnoses in Axis I (psychiatric pathologies), are not in comorbidity with a diagnosis in Axis II or III and must be considered pure psychiatric disorders.

In Axis I we examined the spectrum of comorbidity with two single disorders: Anxiety Disorder and Conduct disorder. The comorbidity was assessed against both the total sample, and the subdivision of the sample into males/females to assess the possible difference between the two sexes.

Anxiety disorder seems to be present without comorbidity in about 77% of the total sample. The spectrum of comorbidity is represented in particular by DSA with 11% of the total, followed by slight RM with 7% and Borderline Cognitive impairment with 4%. Very infrequent is the overlap with the diagnosis of Dyspraxia (1%).

Comorbidity in terms of sex is low for this diagnosis in both sexes. In males the diagnosis most often overlapping it is DSA with 18% of the total. In females it is more frequently found with slight RM (13%) and with Borderline Cognitive (6%); with DSA, comorbidity is only at 3%.

For Behavioral disorder, in 48% of the cases there is no comorbidity. The spectrum of comorbidity is wider in the diagnosis of DSA (23%), Borderline Cognitive impairment (10%), slight RM (9%), average RM (5%), serious RM (2%) and DSL (3%).

The elaboration on sex reveals that in males the diagnosis of Conduct disorder is more often in association with other disorders (Tab. 8) while, among females, it is mainly a pure diagnosis (no comorbidity 42% as against 62%).

There is confirmation of the general fact that DSA is found in association more among males, while in females this does not happen apart from a small co-presence with slight RM (11% of the total).
In axis II, Specific Learning Disability is found without co-morbidity in 70% of the sample. The spectrum of comorbidity with Axis I involves numerous psychiatric pathologies: Conduct Disorder (11%) of the total, Anxiety Disorders (5%), Mixed behavioral and emotional disorders (5%), ADHD (4%), Mood disorders (3%), Personality disorders (1%), Tic Disorders (1%).

For mixed specific development disorders (Borderline Cognitive impairment) there is no comorbidity in 62% of the cases. The spectrum of comorbidity with Axis I involves numerous psychiatric pathologies: Conduct disorders with 20% of the total, Mood Disorders (1%), Anxiety disorders (7%), Personality disorders (3%), ADHD (1%), Mixed behavioral and emotional disorders (6%).

Lastly, for Axis III, slight Mental retardation is found without comorbidity in 71% of the cases. Comorbidity seems to be distributed with overlapping percentages between Anxiety disorder (7%), Personality disorders (6%), ADHD (6%) and Conduct disorder (8%). Less frequently found is the overlap with Psychotic disorders (2%).

Discussion

The studies we found describe selected populations which makes it difficult to draw univocal conclusions about the real prevalence of the pathology in the general population.

The sample we examined, too, was already selected since it came from a first level Child Neuropsychiatry service. Despite clear methodological shortcomings (absence of independent judges, single geographical area, absence of methodological consistency, use of diagnostic tools that were not always standardised), the fact that a recognised classification tool (ICD-10) was used, the presence of highly specialised staff with decades of experience in the clinical field of mental health and the fact that the sample was numerous, allow us to draw some general conclusions.

In both sexes and for the age group considered, DSA is by far the more frequent pathology, higher than the total of all the other diagnostic categories taken into consideration. It is interesting to underline that at this age there are still difficulties in the “three r’s”, reading, writing and arithmetic. The higher incidence of specific developmental pathologies in the male sample (49% as against 32%) is an expected result since it reflects the results found in the literature. In males DSA is often found in concomitance with behavioral disorder as if the symptom were chosen in part to cover a difficulty of a more cognitive kind. It can be hypothesised that this contributes to the high drop-out rate reported in schools in these areas. There is however an extremely high co-presence of a psychopathological disorder with a neuropsychological disorder.

The total percentages of reports reaching the service for a disorder in the externalising area (conduct disorder, ADHD, mixed behavioral and emotional disorders) are about 22% of the total, those related to a disorder of the internalising area (anxiety disorder, mood disorder, eating disorder) are altogether almost 17%. Disorders like mental retardation or more serious ones like Psychotic disorders (1%) are in a constant percentage in the two sexes and seem to be stable over time (in relation to the latency stage), matching the data found in the literature.

There is confirmation of the prevalence in the male sex of disorders in the externalising area with marked incidence of conduct disorder. This can be connected to being reported at an early age, to the choice of the symptom of aggressiveness in this particular developmental phase and to the greater “visibility” of the symptomatology which makes it more urgent for the case to be reported to the mental health services. We also think that the low percentages of mood disorders observed in the male sample may be determined by the high percentage unrecorded pathology but also to the tendency to manifest psychopathological distress through impulsive–disruptive behavior which has a high breakdown risk. In the female sample the opposite tendency is found, in that there is a strong prevalence of anxiety disorders compared to disorders in the externalising area. In both sexes the percentage of psychotic disorders and personality disorders appears constant.
Wickrama & Bryant (2003) show that many studies pay less attention to the symptoms of the internalizing area. Some authors report that depression symptoms during adolescence seem to be a subclinical marker, significant for the onset of psychological disorders in adulthood (Peterson et al. 1993). As yet in Italy the course of the development in these patients for both areas (internalising and externalising), is still undefined and no systematic study has followed the clinical course of the illness. Moreover the decision to convey psychic suffering by means of the symptoms of the internalised area, which in characteristics and phenomenology are less visible and therefore not so easy to record, is quantitatively more common and cannot be ignored or underestimated. In both cases it seems to us to be useful to make an in-depth examination of these issues using longitudinal epidemiological studies designed to be assess the outcome of such pathologies.

References


