

# Preliminary data on the prevalence of psychiatric disorders in Brazilian male and female juvenile delinquents

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## Abstract

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The aim of the present investigation was to study the prevalence of psychiatric disorders in a sample of delinquent adolescents of both genders and to compare the prevalence between genders. A total of 116 adolescents (99 males and 17 females) aged 12 to 19 on parole in the State of Rio de Janeiro were interviewed using the screening interview based on the Schedule for Affective Disorders and Schizophrenia for School-Age Children - Present and Lifetime (KSADS-PL). Data were collected between May 2002 and January 2003. Of 373 male and 58 female adolescents present in May 2002 in the largest institution that gives assistance to adolescents on parole in the city of Rio de Janeiro, 119 subjects were assessed (three of them refused to participate). Their average age was 16.5 years with no difference between genders. The screening interview was positive for psychopathology for most of the sample, with the frequencies of the suggested more prevalent psychiatric disorders being 54% for attention-deficit/hyperactivity disorder, 77% for conduct disorder, 41% for oppositional defiant disorder, 57% for anxiety disorder, 60% for depressive disorder, 63% for illicit drug abuse, and 58% for regular alcohol use. Internalizing disorders (depressive disorders, anxiety disorders and phobias) were more prevalent in the female subsample. There was no significant difference in the prevalence of illicit drug abuse between genders. There were more male than female adolescents on parole and failure to comply with the sentence was significantly more frequent in females. The high prevalence of psychopathology suggested by this study indicates the need for psychiatric treatment as part of the prevention of juvenile delinquency or as part of the sentence. However, treatment had never been available for 93% of the sample in this study.

### Key words

- Delinquency
- Conduct disorder
- Psychiatry disorders
- Adolescents
- Parolees
- Illicit drug use

The growth of violence in Brazil is no longer a question of statistics but a part of its population's daily life. Government statistics show that an increasing number of adolescents are committing acts of violence (1). People are afraid of children who, instead of playing with toy guns, use real ones to threaten them. However, this is not a specific Brazilian problem but one affecting other countries, even developed ones (2). For this reason many scientific studies are being published that address this phenomenon, seeking to understand it and to find possible strategies by which it might be reduced (3). Although there is extensive research on juvenile delinquency, the studies focus on males and there is little information about delinquent girls (3-5).

The aim of the present investigation was to study the prevalence of psychiatric disorders in a sample of delinquent adolescents of both genders who were on parole in the State of Rio de Janeiro. As far as we know, no studies carried out in Brazil on this subject have been published (MEDLINE, 1966 to April 2003). The available literature is based on international studies in countries with very different cultures and more favorable social and economic conditions, variables that must be considered when assessing the diagnoses of mental disorders (6).

The present study was approved by the Ethics Committee for Research Project Analysis of the Clinical Board of Hospital das Clínicas and the São Paulo University Medical School.

The sample consisted of 116 young offenders (99 males and 17 females) aged 12 to 19. All of them were on parole, serving sentences in a government institution named "Pólo de Liberdade Assistida da Ilha do Governador" reserved for offenders who receive this kind of sentence. Data were collected between May 2002 and January 2003. Inclusion criteria were: adolescents of both genders aged 12 to 19, serving a sentence on parole in the State of Rio de Janeiro,

with informed consent from the offender and his/her guardian to participate in the study. Subjects were excluded from the study when they and/or their guardians refused to participate or when they were serving a sentence but were not on parole.

Subjects were interviewed using the Schedule for Affective Disorders and Schizophrenia for School-Age Children - Present and Lifetime (K-SADS-PL) (7) consisting of a semi-structured interview subdivided into three main parts aiming to provide full life and current diagnoses. The first part of the interview consisted of identification, demographics, general health history and present health care, development, past history of abuse, psychiatric history, school background, and social relations. The second part consisted of an 82-symptom screen to rate key symptoms for current and past episodes in 20 different diagnostic areas. The third part consisted of 5 supplementary diagnostic score sheets (i.e., affective, psychotic, anxiety, behavioral, and substance abuse/other disorders) containing confirmatory diagnostic symptom ratings where screening was positive. No supplementary interview was required if a patient scored positive for post-traumatic stress disorder, social phobia, enuresis, and encopresis. In these cases, supplementary questions are included in the screening questionnaire. The screening interview also provides information on initiation to, and abuse of, alcohol and other drugs. The screening interview was described as effective in providing a diagnostic overview of lifetime psychopathology, was effective in differentiating a psychiatric sample from normal subjects and compares favorably with other instruments (8). The supplementary diagnostic sheets (the third part of the instrument) were not applied because volunteers perceived the interview as too long and were not willing to spend more time in an additional evaluation. All interviews were carried out by a single researcher (R.C. Andrade) to avoid methodological bias.

Research was planned around the Institution's routine in order to disturb it as little as possible. The adolescents were therefore selected on the day they received assistance. Assistance is provided for each adolescent on specific days. Any professional on the assistance team may require an adolescent to be present. On the day specified for legal assistance subjects and their respective guardians were invited by the researcher to take part in the study and were informed that their participation in the research was voluntary and confidential and that at any time they could withdraw without being penalized. On agreeing to take part, they signed a written consent. The adolescents were interviewed first, followed by their guardians, according to the protocol. Each parent and child interview took approximately 40 min each.

Parametric and nonparametric tests were used as needed. Proportions were compared using the chi-square test. The significance level was set at 0.05.

In May 2002 there were 431 adolescents being assisted at the institution. These adolescents were called once or twice per month for legal assistance. Between May 2002 and January 2003, the researcher collected data three times a week. On these specific days she invited all the adolescents who attended the institution and were with a guardian to take part in the study. This procedure resulted in a selected sample of 119 adolescents. One hundred and sixteen adolescents agreed to participate and three refused (all males); those who did not agree were not invited again. Of the total number of offenders, 373 were males and 48 were females. This discrepancy between the number of males and females in the penal system has been reported in many studies (2,4,9) and has many possible explanations (4,10). One of them is that conduct disorder is more prevalent in boys than in girls at a ratio of 5:1 to 3.2:1 (4). Moreover, there are also gender-specific features, with a tendency towards aggression among boys, and a tendency

towards covert crimes and prostitution among girls. These differences cause boys to be more easily arrested than girls. In addition to the smaller number of females in custody, statistics show that females comply less frequently with their sentences than males: of the total sample (373 males and 58 females), 107 males and 25 females were not attending the appointment ordered by the court ( $P = 0.0391$ , chi-square test) (11). Taken together, these two characteristics resulted in only a small number of girls available for the study.

The average age of the sample was 16.3 years ( $\pm 1.3$ ), with no difference between genders. There was no ethnic predominance. About 45% of the adolescents were attending school and only 23.3% lived with both parents.

As for perinatal and pregnancy history, 14% of the subjects reported some perinatal distress, 24.6% were exposed to alcohol intra-uterus, 1.7% to illicit drugs intra-uterus, and 33.3% to tobacco intra-uterus.

Only 17.2% subjects reported physical abuse during childhood and no sexual abuse was reported. These data are probably understated because information of this kind is usually not disclosed to an interviewer in a single session.

Regarding psychiatric history, 37% of the subjects reported psychiatric pathology within the family, 5.3% of the subjects had received psychiatric treatment in the past but none were under treatment during the study period, and 17.5% had used psychotropic medication - mainly benzodiazepines prescribed while in prison.

The prevalence of alcoholism within the family was 75%, a much higher level than the normal level for the Brazilian adult population, which is 10% (12). Illicit drug use in the family was also high: 45%.

The most common offences committed by the sample were armed assault (28.7%), drug dealing (23.5%) and theft (17.4%). The rate of recidivism in males was significantly

higher than in females.

The screening interview indicated that psychopathology was present in most of the adolescents. The most prevalent psychiatric disorders in the sample were attention-deficit/hyperactivity disorder (54%), conduct disorder (77%), oppositional defiant disorder (41%), anxiety disorder (57%), depressive disorder (60%), and illicit drug misuse (63%).

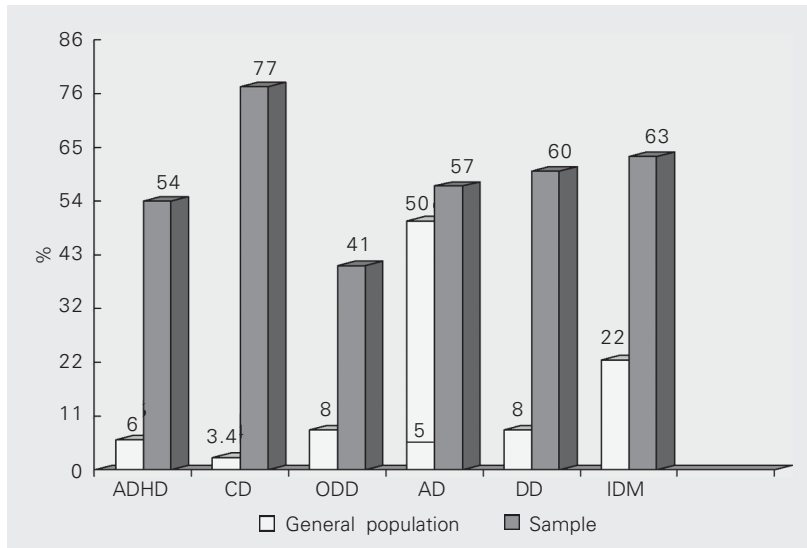


Figure 1. Prevalence of psychiatric disorders in the sample of 116 adolescent parolees of both genders compared to the prevalence found in several studies of the general population. ADHD = attention-deficit/hyperactivity disorder (14); CD = conduct disorder (4); ODD = oppositional defiant disorder (15); AD = anxiety disorder (16); DD = depressive disorder (17); IDM = illicit drug misuse (13). The exact percentages of frequency are shown by the numbers at the top of the columns.

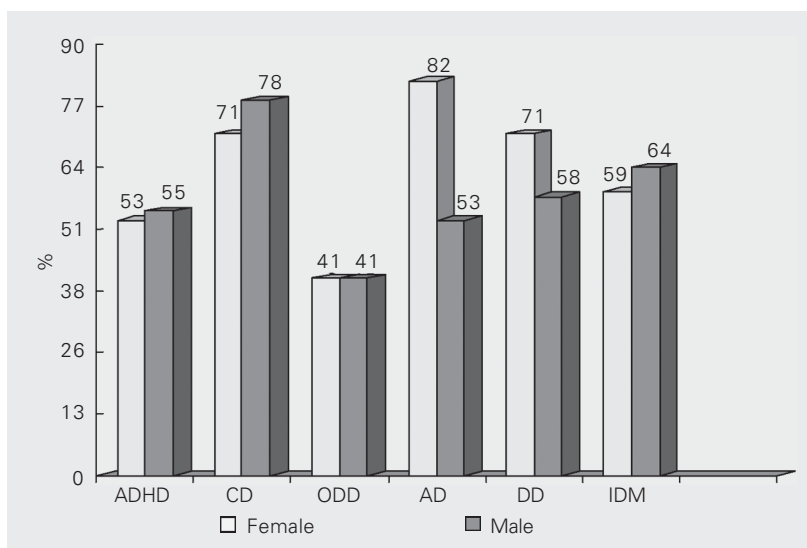


Figure 2. Prevalence of psychiatric disorders in the male subsample (N = 99) compared to the female subsample (N = 17). For abbreviations, see legend to Figure 1. The exact percentages of frequency are shown by the numbers at the top of the columns.

der (41%), anxiety disorder (57%), depressive disorder (60%), and illicit drug abuse (63%). Marijuana was the most prevalent illicit drug reported (43%). The prevalence of regular alcohol use was 58%. Although alcohol use is not a psychiatric disorder it is associated with disruptive behavior in adolescence (13). These statistics agree with the literature, which suggests that these diagnoses are more common in the delinquent population. A comparison between the prevalence in the sample and the prevalence found in several studies (4,13-17) of the general population of adolescents is shown in Figure 1. It should be remembered, however, that these results may be overestimated since they were collected by using only the screening interview of K-SADS-PL. However, the prevalence of psychopathology in this sample can be considered high since only 4.3% of the sample did not screen positive for any mental disorder.

Besides, the reliability and validity study (7) found that psychiatric outpatients screened positive for an average of 3.7 current diagnoses. In the present study the average was 4.4. Therefore, we may conclude that Brazilian delinquent adolescents screened positive just as American psychiatric outpatients of the same age group. In the validation study, a positive screening for current disorder was found in less than 10% of the control population. In the present study it was possible to exclude the following mental disorders, which never screened positive in the sample: mania, encopresis, anorexia, and bulimia. Among the diagnoses that could be reached by the screening interview, post-traumatic stress disorder was found in 7.8%, enuresis in 26.7%, and social phobia in 10.3% of the sample. There was no significant difference between genders in the prevalence of disruptive disorders: attention-deficit/hyperactivity disorder (55% among males and 53% among females;  $P = 0.9$ , chi-square test), oppositional defiant disorder (41% in both genders), and conduct disorder (78% among

males and 71% among females;  $P = 0.70$ , chi-square test). This similarity between genders was unexpected since these pathologies are more prevalent among males (4). A possible explanation is the fact that we were studying delinquent females who had been arrested and not females from the general population. There are studies suggesting that in more severely disturbed girls the gender-specific symptoms disappear (4). Apparently we had a sample of more disturbed girls that might exhibit a higher rate of disruptive behavior. This might explain why the girls from our sample tended not to attend the appointment ordered by the court.

Internalizing disorders were more prevalent in the female subsample: depressive disorder (54% in males and 71% in females) and anxiety disorder (52% in males and 82% in females). The higher prevalence of internalizing disorders in adolescent females has been suggested in other studies (13). There was no significant difference in the prevalence of illicit drug abuse between genders ( $P = 0.70$ , chi-square test; Figure 2).

Adolescents screening positive for conduct disorder started regular alcohol use significantly earlier compared to those not suffering from this disorder ( $14.2 \pm 1.5$  vs  $15.1 \pm 1.3$ ;  $P = 0.001$ , Student  $t$ -test). Adolescents screening positive for conduct disorder also reported significantly more lifetime use of illicit drugs compared with those not suffering from this disorder ( $P < 0.01$ ).

In conclusion, the present study suggests

that the prevalence of psychiatric disorders in adolescents who are in custody may be high. This finding was especially frequent for attention-deficit/hyperactivity disorder, conduct disorder, oppositional defiant disorder, depressive disorder, and illicit drug abuse. At least illicit drug abuse can be prevented. Knowledge of the high prevalence of these disorders in this particular group and the possible role of risk factors which may cause an increase in delinquency should guide preventive policies for the protection of children and adolescents. Although specific pharmacological treatment is available for attention-deficit/hyperactivity disorder and depressive disorder, it had never been provided to 93% of the adolescents in our sample, either before or after arrest. Treatment of psychiatric disorders in adolescents should be more seriously considered. The number of special public units needs to be increased and they need to be provided as part of government health policies.

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