

Children of Substance Abusing Parents: Child Behavior Data of Brazilian Service

Keywords: Children of addicted parents; Family relations; Family interventions; Risk factors and prevention

Abstract

Determining the relevant risk factors and protective factors as well as the correlation between them is an important tool for preventing substance abuse. A case-control study of addiction and its risk factors was performed in 305 children and adolescents in Brazilian families (4-18 years of age) living in São Paulo. This study found that, among other risk factors, parents with an addiction to illicit drugs caused substantially harm to the psychological development of their children than parents with only an alcohol addiction. This effect was increased for younger children, who later developed psychiatric disorders or engaged in risky behaviors. Our data, which were obtained from an exclusively Brazilian sample, demonstrate that the children of addicted parents are an important risk group and should be further studied. The findings of this study confirm the need for more studies with this population and more readily available preventive interventions for the children of addicted parents.

In the field of prevention, questions regarding the etiology of addiction cannot be addressed without discussing the risk related to the factors involved in a whole interaction. We are unable to discern which factors are more influential when individual and family resilience are considered [1], as it is established that internal and external factors may increase a child's vulnerability to mental health problems.

Factors related to the home environment, particularly the effects of paternal care and addiction, have a strong influence on the risk of substance abuse among children [2,3]. Parental substance abuse is frequently associated with all types of maltreatment; almost 80% of the families who come to the attention of Child Protective Services in the USA have some type of substance abuse problem [4]. In a Brazilian study [5], high rates of child mental health problems (22.4% in children aged 4-17 years) and severe physical punishment (10.1% in children aged 0-17 years) were found, confirming the need to explore the potential association between those risk factors and parental drug misuse more closely.

The relationship between parental substance abuse and child neglect is stronger than the relationship between parental substance abuse and other types of maltreatment [6]. McCoy and Keen conducted a parental factors study in which 85% of the sample listed substance abuse as one of the top two causes of child mistreatment, with poverty as the other leading cause [7].

Manning et al. reported that the number of children raised by substance-dependent parents has significantly increased as well as the rates of substance abuse and dependence [3]. The interactions between the increase in this population of children and the rates of substance use are unavoidable and reinforce a model of addictive behavior.



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In a national study Figlie et al. investigated a group 225 members of 63 families; they found that alcohol dependence was the most common type of substance dependence among fathers [8]. In addition, 58% of the spouses were at risk for developing mental disorders, and 59% of the children required some type of mental health treatment.

The majority of studies have shown that there are significant data demonstrating a relationship between parents with alcohol problems and the consequences of such problems on their children or family systems. Moreover, despite the well-documented evidence of child outcome among mothers who used drugs during pregnancy, there is relatively little information on the predictive relation on children of drug dependent fathers [9,10].

Understanding the characteristics of this subset of children at particular risk is critical for the implementation of preventive programs, services, and policies. The purpose of this study was to evaluate the effects of father's addiction at the national level and to explore data regarding alcohol and illicit drug problems in a sample of Brazilian families with an emphasis on children. This study took place in a specialized service organization for children and adolescents of parents with substance dependence located in the outskirts of Sao Paulo, an area with high population density, widespread poverty, few services and other social vulnerabilities.

Methods

Setting

The study group was enrolled in a selective prevention program for the children of parents with substance dependence (Support Center for Children and Adolescents from Families with Alcohol and Drug Problems (CUIDA), Federal University of São Paulo, Brazil. The control group was recruited from the pediatric outpatient clinic of a

public health care facility. Data collection from the study and control group was conducted on the outskirts of the city of São Paulo, Brazil.

Inclusion and exclusion criteria

The study group inclusion criteria included the presence of one randomly selected child from each family. Children (4-18 years of age) of alcohol or drug-dependent fathers who achieved a positive score on the Family CAGE (Cut down on drinking; Annoyed by complaints about drinking; Guilty about drinking; had an Eye-opener first thing in the morning) questionnaire and who were accompanied by a caregiver at the prevention program were included. The exclusion criteria included children of addicted mothers and children who were not accompanied by a caregiver at the selected prevention program. It is important to note that most of the drug-dependent family members at this service organization were male; there were too few children with substance-using mothers to be included in the sample.

The control group inclusion criterion was one randomly selected child from each family (4-18 years old) with no substance dependence history in the family according with the interview process applied at the pediatric outpatient clinic by the specialized team. The exclusion criterion for the control group also included children who were not accompanied by a caregiver.

Subjects

A case-control study was conducted with a convenience sample; the participants were paired by sex and age. One child per family was randomly selected to avoid biasing the sample, which ultimately included 305 children representing 305 families. The interview was conducted with the caregiver (all were female: mothers, grandmothers, aunts and step mothers). The father had alcohol dependence in 44% ($n = 133$) of the families, and the father had illicit-drug dependence in 16% ($n = 50$) of the families; 40% ($n = 122$) of the families had no parental substance dependence. Of the 305 families evaluated, 71% ($n = 214$) were categorized as socio economic class D or E (see the measures section for the socio economic ratings).

The mean age of the parents was 38 years old ($SD = 11.6$). Of the 305 fathers, 132 (43%) were white, and 173 (57%) were black. Of the 305 mothers, 161 (53%) were white, and 144 (47%) were black. Many of the fathers had manual labor jobs, whereas the majority of the mothers worked as house cleaners or housekeepers. Of the entire sample, 52% ($n = 158$) of the fathers and 50.5% ($n = 154$) of the mothers had not completed elementary school.

The children's ages ranged from 4 to 18 years. Of the children, 124 were between 4 and 8 years of age, 86 were between 9 and 12 years of age, and 95 were between 13 and 18 years of age. The mean age of the children with a father with alcohol dependence was 10.38, the mean age of children with a father with illicit drug dependence was 8.44, and the mean age of children in the control group was 10.30 ($p = 0.007$). Eight percent of the sample was between 17 and 18 years of age; of the 17-18 year olds, only 24% ($n = 6$) had completed high school. Of the 31% of the sample who should have completed 9 years of schooling, only 14% had completed this amount of education. With respect to the number of siblings, 16% ($n = 50$) had no siblings, 56% ($n = 170$) had one or two brothers, and 28% ($n = 85$) had more than three brothers. The demographic data for the sample are included in Table 1. With respect to substance use among the children, 98% ($n =$

299) reported not having used any type of substance, and 4(1.4%) had experimented with alcohol. All four were children of a father with alcohol dependence.

Because some interviews were incomplete, there were eight missing participants who were missing data related to the Child Behavior Checklist protocol [11]. The total CBCL sample included 297 children and adolescents. Of this sample, 21% ($n = 62$) had non-clinical scores, and 79% ($n = 235$) had clinical scores ($p < 0.001$). Of the 79% who received clinical scores, the findings indicated that 105 children were in the alcohol group, 48 children were in the illicit-drug group and 82 children were in the control group.

Measures

A team of previously trained psychologists conducted the interviews. A 60-minute interview was conducted with the caregiver of the children following the sequence described below.

Child behavior checklist: The child behavior checklist [11,12] consists of 20 items aimed at evaluating social competence and 118 items aimed at evaluating behavioral problems in children and adolescents. This checklist has been translated into more than 85 languages, and the Brazilian Portuguese version has been reported to have a sensitivity of 87%. This checklist has been reported to be capable of discriminating between individuals with and without psychopathology.

Brazilian economic classification criterion: The Brazilian Economic Classification Criterion [13] is a socio economic rating system that evaluates the purchasing power of urban families and individuals. This system classifies the population using the sum of points obtained on the questions, which include the following: schooling of the head of the family on an 8-point scale ranging from 0 to 21 points, and the points awarded according to the number of durable goods owned by the family. The social classes are divided as follows: Class E (0-19 points); Class D (20-34 points); Class C (35-58 points); Class B (59-88 points); and Class A (89 points or more). Class A represents the most favored social stratum, whereas Class E represents the least favored social stratum.

In order to assure the inclusion criterion of the sample, the study has applied the Family CAGE questionnaire. The Family CAGE questionnaire is a screening instrument that consists of four questions used to identify family problems related to alcohol consumption; this instrument associated with the interview process applied in both services could assure the father's diagnoses. For that, the instrument was adapted to the Portuguese language by Mansur and Monteiro [14]. The Portuguese version was adapted for use with illegal drugs for this study. The used cut-offs correspond to an affirmative answer.

Statistical analysis

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS v17.0. Chicago, IL, USA). To understand the associations between the groups and the socio-demographic characteristics, the chi-square test and Fisher's exact test were used. To compare the means of the ages of the children between the groups, an analysis of variance was used.

Table 1: Demographic data related to the families and children in the study (N = 305).

Characteristic	Paternal dependence			Total N (%)	Statistic	P
	Alcohol n (%)	Drugs n (%)	Controls n (%)			
Marital status of the parents					$F_{2,257}=24,544$	0.001**
Single	4 (3)	4 (8)	2 (2)	10 (3)		
Married/steady partner	94 (71)	24 (48)	84 (69)	202 (66)		
Divorced/separated	31 (23)	21 (42)	32 (26)	84 (27.5)		
Widower	4 (3)	1 (2)	4 (3)	9 (3)		
Socioeconomic status					$F_{2,257}=13,282$	0,056
B	4 (3)	2 (4)	3 (2,5)	9 (3)		
C	32 (24)	7 (14)	43 (35)	82 (27)		
D	90 (68)	39 (78)	74 (61)	203 (66,5)		
E	7 (5)	2 (4)	2 (1,5)	11 (3,5)		
Age of the parents, mean ± SD						
	39.06 ± 11.6	35.03 ± 9.8	37.02 ± 10.6		$F_{2,257}=13,695$	0,255 5,076 p=0,007
Total	133 (100)	50 (100)	122 (100)	305 (100)		
Sex of the child						
Male	66 (50)	32 (64)	62 (51)	160 (52)		0.203 3,218
Female	67 (50)	18 (36)	60 (49)	145 (48)		
Age of the child, average ± SD					$F_{2,257}=5,076$	0.007** 5,076 p=0,007
	10.38 ± 4.2	8.44 ± 3.4	10.30 ± 4.2			
Level of child's education					$F_{2,257}=23,396$	0.013*
Illiterate	4 (3)	0 (0)	13 (11)	17 (6)		
Preschool	28 (21)	17 (34)	18 (15)	63 (21)		
< 9 years of schooling	66 (50)	29 (58)	54 (44)	149 (49)		
9 years of schooling	9 (7)	1 (2)	9 (7)	19 (6)		
High school (incomplete)	20 (15)	3 (6)	22 (18)	45 (15)		
High school (complete)	3 (2)	0 (0)	3 (2.5)	6 (2)		
Does not know	3 (2)	0 (0)	3 (2.5)	6 (2)		
Total	133 (100)	50 (100)	122 (100)	305 (100)		

Chi-square test or Fisher's exact test p-values
 F test (ANOVA) p-value for mean comparisons- *p<0.05 p<0.01

Ethical issues

All of the participants provided written informed consent, and their anonymity was guaranteed. The study design was approved by the Human Research Ethics Committee of the Federal University of São Paulo -School of Medicine (protocol no. 917/99).

Results

Demographic data

Family: Of the 305 families evaluated, 214 (71%) were categorized as poverty stricken (class D or E). There were no significant differences between the socioeconomic classes in the entire sample.

Children: The mean age was 10.38 for the children of fathers with alcohol problems, 8.44 for the children of fathers with drug problems and 10.30 for the children in the control group (p = 0.007). Of the sample, 124 (41%) were between the ages of 4 and 8 years old, 86 (28%) were between 9 and 12 years old, and 95 (31%) were between 13 and 18 years of age. Of the children between 13 and 18 years of age, 8% were 17-18 years old; only 6 (24%) of the 17-18 year olds had

completed high school. Of the 31% of the sample that should have completed the obligatory nine years of schooling, only 14% had done so (Table 1).

Child behavior data

Analysis of the CBCL (n = 297) revealed that the children of drug-dependent parents showed greater number of clinical aspects related to the psychological development of their children than fathers with alcohol addiction. The aspects that were affected were as follows: withdrawal, somatic complaints, social problems, thought problems, delinquent rule-breaking behavior, externalizing, and total behavioral problems. The children of alcohol-dependent parents showed higher rates for the following 4 subsets that constitute the CBCL: anxious/depressed, attention problems, aggressive behavior, and internalizing (Table 2).

Table 3 shows the distribution of the CBCL subscale results by age bracket with Pearson's chi-square test statistics to determine the correlation between this variable and the other variables. We determined that the age bracket correlated with the following:

Table 2: Child behavior checklist data, by substance (N= 297).

Child Behavior Checklist Clinical Conditions of The Children	Substance Groups			Total 297 (100%)	p** < 0.001
	Alcohol 105 (80.8%)	Drugs 48 (98%)	None 82 (69%)		
Withdrawal	29 (22)	29 (59)	6 (5)	64 (21.5)	< 0.001
Somatic Complaints	12 (9)	12 (24.5)	1 (1)	25 (8)	< 0.001
Anxiety/ Depression	26 (20)	3 (6)	8 (7)	37 (12.5)	= 0.001
Social Problems	22 (17)	14 (29)	10 (8.5)	46 (15.5)	= 0.003
Thought Problems	10 (8)	6 (12)	4 (3)	20 (7)	< 0.001
Attention Problems	26 (20)	4 (8)	11 (9)	41 (14)	= 0.001
Delinquent Behavior	11 (8.5)	12 (24.5)	6 (5)	29 (10)	< 0.001
Aggressive behavior	26 (20)	8 (16)	11 (9)	45 (15)	= 0.027
Sexual Problems	63 (48.5)	11 (22)	53 (45)	127 (42)	< 0.001
Internalizing	61 (47)	11 (22)	25 (21)	97 (33)	< 0.001
Externalizing	55 (42)	27 (55)	33 (28)	115 (39)	= 0.001
Total Behavioral Problems	69 (53)	27 (55)	33 (28)	129 (43)	= 0.001

Chi-square test; Fisher's exact test

anxiety/depression (p = 0.002), delinquent rule-breaking behavior (p = 0.001), aggressive behavior (p = 0.018), sexual problems (p < 0.001), and total behavioral problems (p = 0.010). No significant correlations were observed between the age brackets and any of the remaining CBCL subsets (Table 3).

Discussion

According to Richter, Leppin, and Gabhainn, and Richter et al., it is possible to identify an association between the socio economic status of a family and the development of maladaptive behavior in children and adolescents [15,16].

Of this sample, 214 families (71%) were considered poverty stricken (economic class D or E). A socioeconomic trait is not in itself a determining factor, and a family with a low-income does not necessarily have substance dependence-related or violence-related problems. However, when low socioeconomic status is accompanied by other risk factors, it could increase the risk for developmental problems among children and adolescents [17].

Having separated parents might be a risk factor when accompanied by other factors [18]. Although the majority of the families investigated in the present study consisted of couples, the proportion of separated parents was greater among the children of drug-dependent parents than among other groups. We observed that the proportion of families with an unplanned parenthood was also higher among this group. It is important to consider the association between socioeconomic status and the arrangement of the Brazilian families investigated because various characteristics within families could make such families high risk.

The method used to identify differences between the groups in this study was the probability of a child developing behavioral and/or emotional problems. The findings from this study revealed that substance abuse by fathers is more harmful when it involves illicit drug use, and these harms are associated with other factors, such as the age of the child.

Data showed that impairments in externalizing factors were

Table 3: Child behavior checklist data by subscale and age bracket (N= 297).

Clinical Conditions of The children associated with the Age	Clinical	p**
	297 (100%)	
Delinquent rule-breaking behavior	29 (10)	
4-8	19 (15)	0.001
9-12	7 (9.5)	
13-18	3 (3)	
Aggressive behavior	45 (15)	
4-8	26 (21)	0.018
9-12	10 (13.5)	
13-18	9 (9)	
Total behavior problems	129 (43)	
4-8	66 (53)	< 0.010
9-12	33 (45)	
13-18	30 (30)	
Anxious/depressed	37 (12.5)	
4-8	16 (13)	0.002
9-12	13 (18)	
13-18	8 (8)	
Sexual problems	127 (43)	
4-8	16 (13)	< 0.001
9-12	27 (36.5)	
13-18	84 (85)	

Chi-square test; Fisher's exact test

greater among children of drug-dependent fathers. These children tended to develop problems such as withdrawal, somatic complaints, social and thought problems, delinquent behavior, externalizing problems and total behavioral problems. These results are consistent with data found in the literature [19,20]. For instance drug-dependent parents spend less time with their children and tend to monitor the children less, providing the children with fewer social stimuli [21]. Studies have suggested that the children of drug-dependent parents

are at increased risk for maladaptive behavior because they are subjected to numerous risk factors associated with the substance abuse and dependence of their parents [22].

According to Bailey, Hill, Oesterle, and Hawkins, parental monitoring and externalizing behavior in children are associated with generational models [23]. From this perspective, it should be highlighted that substance abuse is often a behavior that is learned from other generations and identified in other generations.

The children of alcohol-dependent parents, however, were more vulnerable to developing emotional problems such as depression and anxiety, attention problems, internalizing aspects and aggressive problems. These findings can be associated with Rocha et al. and Murray et al., once they reported that children of addicted parents are more likely to develop depression, anxiety, conduct disorder, and social phobia [24,25]. Furthermore Feitosa and Zanoti-Jeronymo&Carvalho, highlighted that the self-esteem of children of alcoholic parents is worse than that of children of nonalcoholic parents [6,26].

Another aspect to be associated with the factor of alcohol dependence is that it affects the functioning of families and has an effect on the mood of the children. Eiden et al. found that alcohol-dependent fathers were nearly incapable of reaching out to their children, thereby affecting the emotional status of the children in fact [2].

When the groups of the children of alcohol-dependent and drug-dependent fathers were compared with the control group, the effect of parental addiction became evident. Having an alcohol or drug-dependent father was shown to have a negative effect on the emotional and behavioral functioning of children. Although 235 of the participants received a clinical score on at least one CBCL subscale, the worst consequences were found among the children whose fathers had a problem with illicit drug use.

It was also investigated the substance use among children. From the total sample, 98% (n = 299) reported not having used any type of substance, and four children (2%) had experimented with alcohol. All four of these children had fathers with alcohol dependence according to the caregivers' perception. It is likely that this behavior could easily be denied by the parents or not shared by their children. However, the findings of a national study [27] showed that the mean age of drinking onset in Brazilian adolescents has decreased; the mean age is currently approximately 13.9 years old. According to the World Health Organization (2001), between the ages of 12 and 18 years, mental and behavioral disorders caused by the use of psychoactive substances could emerge. It is important to note that the mean age bracket was 8-10 years of age. Thus, analyzing this evidence from the point of view of age alone makes it difficult to predict whether these children would develop problematic substance use.

When considering age as a potential risk factor, the CBCL results varied based on the age range of the child. Children in the developmental phase were shown to be more vulnerable. As shown in Table 3, the three age brackets analyzed in the present study (4/8-9/12-13/18) reflected greater or lesser vulnerability to specific CBCL subscales. Children in the 4/8 bracket were more likely to present

with behavioral problems, aggressiveness, and delinquency than the children in the other age brackets. Children in the 9/12 bracket, a phase in which children gain a deeper understanding of their parent's problems and of family dysfunction, were the most vulnerable to depression and anxiety. Children in the 13/18 bracket were the most vulnerable to sexual problems. In the 13/18 bracket, children experience a sexual awakening and the onset of sexual activity occurs.

Limitations

The present study has some limitations. First, this study focused on a high-risk, relatively homogeneous low-socioeconomic status population sample from a Latin American country; the study facilitated the identification of risk factors related to specific types of child mental health problems in a population that has rarely been systematically studied. Our study results are likely generalizable to other disadvantaged communities located in the outskirts of highly populated cities in developing countries. These results have important implications for designing effective interventions to address the development of child mental health problems in similar populations.

This aspect had also impact on the data, which needed to be a cross-sectional data thus the economic status of this population has keeping requiring many geographic adaptation, including the fact that many families have moving from their homes in order to find a better condition of life and work opportunities.

Another point, because the study has considered children enrolled in the prevention service, the diagnosis of substance misuse was made during the process of enrolling the families of the participants, and for the dependence criteria, it was taken into account one drug of choice only (licit or illicit drug). However, this interview process did not assure the possibility to have fathers using more than one type of substance.

Furthermore, the questionnaire was administered to the caregivers of the children evaluated (CBCL), which could result in bias due to the perception of the caregivers and their understanding of the questions.

Conclusions

Although the findings of the present study showed that both alcohol dependence and illicit drug dependence of fathers are very harmful to the development of their children because they considerably increase the likelihood that they will experience emotional and behavioral problems.

The data also confirms that findings between national sample and international studies are similar, once those children of drug-dependent fathers showed greater impairment with respect to externalizing behaviors than the children of alcohol-dependent fathers. Although the contribution of this study with a Brazilian sample must be highlighted. Furthermore, the children of drug-dependent fathers tended to develop problems related to behavior (withdrawal, somatic complaints, social problems, thinking problems, delinquent rule-breaking behavior, and total behavioral problems). Children of alcohol-dependent fathers were more likely to develop emotional problems such as anxiety, depression, attention problems, internalizing behavior, and aggressive behavior. In clinical terms, children in the 4-8 year age bracket were the most vulnerable and should be the primary target of early preventive interventions. This

age bracket was found to be more vulnerable to developing behavioral problems, aggressiveness, and delinquency than the other age groups. Physical aggression and severe diseases among family members were shown to be significant risk factors.

The combination of these factors cries out for better, more comprehensive, readily available prevention strategies that can address complex correlated risk factors, the multiple needs of Brazilian families with parents who misuse drugs, and the characteristics of their communities indicating the need of more research on this population.

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