

Emotional and Behavioral Problems in Children Living With Addicted Family Members: Prevention Challenges in an Underprivileged Suburban Community¹

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Abstract: Children living with substance abusers are more likely to experience negative outcomes. Our goal was to compare caregivers' reports on the Child Behavior Checklist (CBCL) and a socioeconomic and risk form of psychological aspects of children exposed to substance abuse assisted versus not assisted by a preventive intervention program in an underprivileged community. This observational intervention study was conducted with 66 caregivers of children who attended the program and 35 caregivers of children from the same community who did not attend. Ages ranged between six and 11 years old. Chi-square and logistic regression tests indicate that children exposed to substance abusers have more mental health problems than the general population and those who did not participate in the preventive intervention program presented worse outcomes, with higher rates of behavioral/emotional problems and exposure to risk situations. Results suggest that preventive actions might be helpful to promote the mental health of children at risk, validating the need for public policies and services.

Keywords: substance-related disorders, child behavior checklist, mental health, risk factors, drug abuse prevention

Problemas Emocionais e Comportamentais de Crianças que Convivem com Familiares Dependentes Químicos: Desafios de Prevenção em uma Comunidade Suburbana Desfavorecida

Resumo: Crianças que convivem com usuários de substâncias psicoativas são mais propensas a apresentar problemas. O objetivo deste estudo foi comparar, a partir dos relatos dos cuidadores no Child Behavior Checklist (CBCL) e numa ficha de dados sociodemográficos e de fatores de risco, aspectos psicológicos de crianças expostas ao abuso de substâncias assistidas e não assistidas por um programa de intervenção preventiva, em uma comunidade desfavorecida. O estudo observacional de intervenção foi conduzido com 66 cuidadores de crianças que passaram pela intervenção e 35 da mesma comunidade que não foram atendidas. A faixa etária era de seis a 11 anos. Os testes qui-quadrado e regressão logística indicaram que as crianças expostas ao abuso de substâncias apresentaram mais problemas de saúde mental do que a população geral e que aquelas que não participaram do programa preventivo apresentaram desfechos piores, com escores mais elevados de problemas emocionais/comportamentais e maior exposição a situações de risco. Sugere-se que ações preventivas podem contribuir para a promoção de saúde mental em crianças em situação de risco, validando a necessidade de políticas e serviços públicos.

Palavras-chave: transtornos relacionados ao uso de substâncias, lista de verificação comportamental para crianças, saúde mental, fatores de risco, prevenção do abuso de drogas

Problemas Emocionales y de Comportamiento en Niños que Viven con Familiares Adictos: Desafios de Prevención en una Comunidad Suburbana Desfavorecida

Resumen: Los niños que viven con consumidores de drogas son más propensos a tener problemas. Nuestro objetivo fue comparar, a partir de los informes de los cuidadores en el Child Behavior Checklist (CBCL) y en una hoja de datos sociodemográficos y de factores de riesgo, aspectos psicológicos de niños expuestos al abuso de sustancias, con y sin la asistencia de un programa de intervención preventiva en una comunidad desfavorecida. Este estudio de intervención observacional fue realizado con 66 cuidadores de niños que pasaron por la intervención y 35 de la misma comunidad que no fueron atendidos. Las edades oscilaron entre seis y 11 años. Las pruebas de chi-cuadrado y regresión logística indicaron que los niños expuestos al abuso de sustancias tenían más problemas de salud mental en comparación con la población general y que aquellos que no participan del programa de prevención tuvieron peores resultados, con una puntuación más alta de problemas emocionales y de conducta y una mayor exposición al riesgo. Se sugiere que las acciones preventivas puedan contribuir a la promoción de la salud mental en los niños en situación de riesgo y se valida la necesidad de políticas y servicios públicos.

Palabras clave: trastornos relacionados con sustancias, lista de verificación del comportamiento infantil, salud mental, factores de riesgo, prevención en el abuso de drogas

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The impact of alcohol abuse and substance dependence in children exposed to them has been widely researched and reported in international literature. However, in Brazil, this population has only recently started to receive attention, which makes it impossible to estimate how many children live with this problem.

International prevalence studies of child mental health found rates ranging from 9% to 20% of psychiatric disorders in developed countries (Fleitlich & Goodman, 2002). Although there is a paucity of epidemiological research in developing countries, preliminary studies indicate rates on the same range. Specifically in Brazil, different rates of mental health problems have been reported. Feitosa, Ricou, Rego, and Nunes (2011) found a 10% rate when studying children from middle class urban and underprivileged rural areas. Paula, Duarte, and Bordin (2007) identified a 24.6% rate of prevalence of mental health problems on the outskirts of Sao Paulo city. Vitolo, Fleitlich-Bilyk, Goodman, and Bordin (2005) indicated a 35.2% prevalence of clinical cases in a school-based sample from Taubaté-SP, while Assis, Avanci, Pesce, Oliveira, and Furtado (2007) found the occurrence of 3.5% for internalizing problems, 4% for externalizing and 1.3% for attention problems in a school-based sample from São Gonçalo-RJ. The discrepant rates found on these studies suggests that we still do not understand the global impact of child mental health in Brazil.

On the other hand, associations between behavior disorders and family environment variables have been found consistently. The amount of negative family events is pointed out as particularly harmful to children's development, being a factor that leads to behavior problems, altogether with exposure to poverty, maternal psychiatric illness and domestic violence (Fatori, Bordin, Curto, & Paula, 2013). Besides, the association between domestic violence and community problems with internalizing and externalizing problems is observed in the literature. This indicates a strong relation between community violence and mental functioning of the child, since in this context the sense of security can be jeopardized, yielding negative effect on his/her development (Huculak, McLennan, & Bordin, 2011; Murray, Anselmi, Gallo, Fleitlich, & Bordin, 2013).

Parental addiction is associated with several negative outcomes on the child development. Investigations from the last three decades have shown that having a substance abuser parent increases from two to nine times the risk of developing substance misuse later, despite the good results of adaptive behavior of many of these children (Beard et al., 2010; Kumpfer & Johnson, 2007). Children of substance abusers were found to be more likely to consume and face substance use related problems (Buu et al., 2012). Moreover, these individuals tends to start the consumption of alcohol and drugs earlier, when compared to children of non-addicts and, in early adolescence, have significantly higher odds of drinking alcohol, using illicit drugs, drinking heavier, and presenting addiction symptoms (Adkison et al., 2013).

Besides the risk for addictive behaviors, children of substance abusers are also at higher risk of developing

emotional, behavior, academics, criminal and other social problems (Barrow, Ulrich, Grabe, Freyberger, & Spitzer, 2007). Some authors report an increasing frequency of delinquency, social inadequacy and somatic problems (Serec et al., 2012; Temple, Shorey, Fite, Stuart, & Le, 2013), while others also report that these children show high levels of anxiety, depression, and show widespread stress, depressive humor and attention deficit-hyperactivity disorder (Chen et al., 2013; Klostermann et al., 2011; Mackrill & Hesse, 2012).

It is well recognized by health professionals that children from substance-affected families are in a vulnerable condition for developing substance related problems or other mental health issues. On the other hand, few preventive programs targeted at this specific group have been scientifically studied. Bröning et al. (2012) conducted a systematic review of the literature on this subject and found nine programs – four school based intervention, one community based intervention and four family-based interventions – with preliminary evidence of effectiveness. All programs were conducted in the United States, except for one adaptation of an American program conducted in Spain and in Canada. In Brazil, reports of programs designed specifically for children of substance abusing parents were not found.

In 2001, a pioneer selective prevention program was implemented in the outskirts of São Paulo city focused on children between zero and 17 years-old, living with addicted family members (CUIDA – Utility Intervention and Support Center for Children of Substance Abusers). Its main concerns were: to promote protection of emotional and behavioral problems and coping skills for stressful situations; to prevent psychoactive substances consumption and exposition to drugs trafficking; to ensure educational conditions, social and recreational integration; to strengthen the social networking between the families; and to provide damage reduction associated to the consumption of substances by the addicted family members (Figlie, Milagres, & Crowe, 2009).

Figlie, Fontes, Moraes, and Payá (2004) conducted the first study describing CUIDA and characterizing children of substance abusers in Brazil. The authors reported that children assisted by the program showed behavioral characteristics similar to those found in the international literature, with predominance of feelings of insecurity and inadequacy associated with depression, apathy and repression. They also noted the presence of fights, difficulties in family relationships and aggressive behavior, in addition to lowered self-esteem, high rates of affection privation, use of defenses such as problems denial, impoverishment in the ability to solve problems, isolation and early maturity. This first study not only described the children and adolescents treated at CUIDA but also emphasized the need of a preventive intervention program for this population.

Apart for that, this is one of the first studies conducted in Brazil aimed to assess the social and psychological aspects of children living with addiction in their families. Our

purpose was to compare caregivers reports of psychological aspects of children exposed to substance abuse assisted versus not assisted by a preventive intervention program in an underprivileged community of São Paulo, Brazil.

Method

Participants

This is an observational intervention study that included 101 caregivers of six to 11 years old children exposed to substance abuse in their families. Inclusion criteria were: the child had to live with at least one addicted family member; to reside in Jardim Ângela neighborhood; to be a volunteer. They were divided in two groups, 66 caregivers of children ($M = 9.41$ years, $SD = 1.51$) who attend CUIDA for at least one year (Intervention Group) and 35 caregivers of children ($M = 8.69$ years, $SD = 1.73$) from the same neighborhood who attend municipals Centers for Children and Adolescents (CCA), but not CUIDA or any other preventive intervention center for substance abuse (Control Group).

CUIDA offered mental health assistance and other activities, such as educational, recreational, musical, sports and computational. Psychologists, social workers and a pediatrician carried out the assistance individually or in groups. All activities took place outside the regular school time-period and all participants received nourishment. The Control Group children attended CCA, which main goal is to be a place where children be together and interact in a health way through recreational, cultural and sportive activities, not to give any substance abuse preventive program.

The present study was conducted in two services offered by a non-governmental organization in the neighborhood of Jardim Ângela, on the outskirts of São Paulo. This area comprised the highest alcohol outlet density reported in the medical literature. A study revealed the proportion of approximately one alcohol selling point per twelve properties. In the late 90s, the United Nations ranked this area as the most violent neighborhood in the world (Laranjeira & Hinkly, 2002).

Instruments

In order to assess child's exposure to addiction, it was used the familiar *CAGE questionnaire* (acronym of its four questions: Cut down on drinking; Annoyed by criticizing about drinking; Guilty about drinking; had an Eye-opener first thing in the morning), a screening tool, which consists of four items that aim to detect family problems related to alcohol consumption. This instrument was found to be a consistent and effective measure of alcohol misuse in families. Originally aimed to measure alcohol consumption, it was changed to include other drugs (marijuana, cocaine and crack). Studies demonstrate internal consistency of 84% to 89% (Frank, Graham, Zyzanski, & White, 1992). The version used was based on the validation in which was found 88% of sensitivity range for the CAGE (Masur

& Monteiro, 1983). The used cut-offs correspond to an affirmative answer.

The *Child Behavior Checklist Ages 6 to 18 (CBCL/6-18)* was used to assess emotional and behavioral problems. The CBCL is a questionnaire developed in the United States, and validated for different cultures, in which parents evaluate their child behaviors (Achenbach & Rescorla, 2001). Two areas are assessed: Competences and Behavioral/Emotional Problems, being this last one divided in three large scales: Total Problems, Internalizing, and Externalizing. Raw items scores are converted in T-scores, which are classified as normal, borderline or clinical in comparison with a normative sample of children not referred for mental health services.

In Brazil, its psychometric proprieties has being established by a few studies. The first indicated high sensitivity of the instrument in comparison with psychiatric assessment: 87% of the clinical cases were identified (Bordin, Mari, & Caiero, 1995). This was confirmed in comparison with results found using a semi-structured psychiatric interview (K-SADS-PL): 82.4% of children with psychiatric disorders achieved clinical scores on the CBCL (Brasil & Bordin, 2010). Using the latest version of the CBCL, Rocha et al. (2013) reported the validity of its factorial structure (RMSEA = .023), the discriminative capacity of the instrument ($p < .001$), and suggested more appropriate normative standards for assessing our population. A review article giving detailed information on the development of these forms in the United States and Brazil was recently published (Bordin et al., 2013).

Considering Rocha et al. (2013) findings regarding norms and cutoff points for the clinical range, group 3 norms, indicated by Achenbach and Rescorla (2007) multicultural study, were used. Besides, borderline and clinical range scores were grouped following Achenbach and Rescorla (2001) instructions to avoid false negatives.

Moreover, questions aimed at sociodemographic description of the sample concerning gender, age, color, religion, educational level, socioeconomic status, family substance abuse, and stress situations experienced were asked.

Procedure

Data collection. The study was carried out from August 2010 to December 2011. According to CUIDA's records, 791 children and adolescents attended the service and 174 were aged six to 11 when data collection was conducted. Researchers tried to locate all Intervention Group potential participants by either phone or home visits. A total of 66 (38%) caregivers accepted to participate in the research and completed all forms, 38 (22%) refused to participate, 37 (21%) were not located, nine (5%) had moved to another city and two (1%) reported their children had never attended CUIDA. Besides, 22 (13%) of the children were institutionalized and were not living with their originated family.

To compose the Control Group children from the same region were allocated from social work services, community-based recreation activities and leisure services

specially designed for children. For both groups, data were collected by a psychologist who conducted a 60-minute face-to-face interview with the informant at the preventive service location, as well as at the social work services designed for the child, or during home visits. All forms were filled out during this interview.

Data analysis. Data were analyzed using the Statistical Package for the Social Sciences (SPSS 15.0) and involved descriptive and inferential statistics. Initially, descriptive statistics regarding sociodemographic characteristics and CBCL scores of both groups were performed. Chi-square tests were used to compare the distribution of all variables on both groups. Then a logistic regression model was adjusted to understand the relationship between both groups, their characteristics and CBCL scores. All sociodemographic variables were included in the model as independent variables, in addition to the Internalizing, Externalizing, Total Problems and Total Competence Scales, whereas group (Intervention vs. Control) were included as dependent variables. Analysis was controlled for gender, age, Brazil Economic Classification Criteria, type of drug (alcohol or illicit) and substance abuser family member. The covariates above were retained regardless of significance and variables not significant at 5% ($p < .05$) were eliminated by the stepwise selection method. Odds ratio were used to assess the risk of not attending CUIDA. Values below 1 were considered protective factors, while values above 1 were considered risk factors.

Ethical Considerations

The study was approved by the Ethics Committee of the Universidade Federal de São Paulo (EPMedicina/UNIFESP - CEP n.1843/09) and by the Ethics Committee in Research of the Municipal Health Department of São

Paulo (CAAE n. 05.174/11) and contemplated all ethical guidelines in Resolution No. 196/96 of the National Health Council of the Ministry of Health.

All protocols contained an informed consent form properly signed ensuring the anonymity of the participant and confidentiality of information. All of the participants were informed of the nature, content, and propose of the interviews and requested to sign an Informed Consent for Participation.

Results

Descriptive statistics with sociodemographic data and the family stressful situations reported by the participants of the two groups are presented in Table 1. Groups were equivalent in most of the variables. Chi-square test indicated significant differences regarding age, religion, education and stress in the following situations: suicide, attempted suicide and family member death, all occurring in the year preceding the interview.

The age difference between the groups is due to the different configuration: Intervention Group has more children between 9-11 years old than the Control Group (77.3% vs. 57.1%). Intervention Group has also the highest number of people who have a religion (91.8% vs. 62.9% in Control Group).

Regarding education, the significance also takes place due to the age difference, since the percentage of grade repetitions is minimal. Since there is no significance in the variable number of repetitions and all children in the sample are in school, there is no significant school delay in either group.

In relation to situations of stress experienced by the child, there was significant difference in the items suicide, suicide attempt and death of family member. In all three cases, there are a greater number of occurrences in the Control Group.

Table 1
Distribution of Sociodemographic Characteristics and Stressful Situations (N = 101)

	Intervention Group (n = 66)		Control Group (n = 35)		Total (n = 101)		p
	N	%	n	%	n	%	
Gender							.929
Female	27	40.9	14	40.0	41	40.6	
Male	39	59.1	21	60.0	60	59.4	
Age*							.035
6 to 8 years old	15	22.7	15	42.9	30	29.7	
9 to 11 years old	51	77.3	20	57.1	71	70.3	
Color							.072
White	29	43.9	09	25.7	38	37.6	
Non-white	37	56.1	26	74.3	63	62.4	

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	Intervention Group (<i>n</i> = 66)		Control Group (<i>n</i> = 35)		Total (<i>n</i> = 101)		<i>p</i>
	<i>N</i>	%	<i>n</i>	%	<i>n</i>	%	
Religion*							.000
Yes	56	91.8	22	62.9	78	81.3	
No	05	8.2	13	37.1	18	18.8	
Children Educational level*							.007
Up to E.F.1 Completed (equivalent to 3rd grade)	47	71.2	33	94.3	80	79.2	
Up to E.F.2 Uncompleted (equivalent to 5th grade)	19	28.8	02	5.7	21	20.8	
School Repetitions							.961
None	64	97.0	34	97.1	98	97.0	
One	02	3.0	01	2.9	3	3.0	
Brazil Economic Classification Criteria							.692
Class B	01	1.5	01	2.9	02	2.0	
Class C	46	70.8	22	62.9	68	68.0	
Class D	18	27.7	12	34.3	30	30.0	
Parents' marital status: Married?							.579
Yes (married or living together)	34	51.5	16	45.7	50	49.5	
No (single, divorced, separated)	32	48.5	19	54.3	51	50.5	
Number of substance abusers who coexists							.522
One substance abuser	47	71.2	27	77.1	74	73.3	
More than one substance abuser	19	28.8	8	22.9	27	26.7	
Substance Abuser Member							.068
First-degree relatives	57	86.4	25	71.4	82	81.2	
Second-degree relatives	09	13.6	10	28.6	19	18.8	
Type of drug consumed							.159
Alcohol	38	57.6	15	42.9	53	52.5	
Illicit drug	28	42.4	20	57.1	48	47.5	
Stressful situations							
Psychiatric hospitalization	07	11.5	09	25.7	16	16.7	.072
Family severe disease	19	30.6	13	37.1	32	33.0	.513
Suicide*	01	1.6	08	22.9	09	9.3	.001
Attempted suicide*	04	6.5	11	31.4	15	15.5	.001
Police problems	10	16.1	09	25.7	19	19.6	.253
Death of a family member*	12	19.422	15	42.9	27	27.8	.013
Physical aggression between family	14	.6	14	40.0	28	28.9	.069

**p* < .05.

Table 2 shows the frequency of clinical and non-clinical CBCL scores. The percentage of children with scores in the clinical range on Internalizing, Externalizing and Total Problems scales at Control Group

is considerably higher in comparison to Intervention Group (51.4% vs. 13.6%, 60% vs. 30.3% and 62.9% vs. 28.8%, respectively). The Total Competence Scale has not shown significant difference.

Table 2

Distribution of CBCL Scores in the Groups (N = 101)

	Intervention Group (n = 66)		Control Group (n = 35)		Total (N = 101)		p
	n	%	n	%	n	%	
Internalizing Scale ^{a**}							.000
Non-clinical	57	84.4	17	48.6	74	73.3	
Clinical [§]	09	13.6	18	51.4	27	26.7	
Externalizing Scale ^{b**}							.004
Non-clinical	46	69.7	14	40.0	60	59.4	
Clinical [§]	20	30.3	21	60.0	41	40.6	
Total Problems Scale ^{c**}							.001
Non-clinical	47	71.2	13	37.1	60	59.4	
Clinical [§]	19	28.8	22	62.9	41	40.6	
Total Competencies Scale ^d							.050
Non-clinical	44	66.7	28	79.4	72	71.3	
Clinical [§]	22	33.3	07	20.6	29	28.7	

§Scores in the clinical range in comparison to Group 3 cutpoints (Achenbach & Rescorla, 2007). ^aIncludes Anxious/Depressed, Withdrawn/Depressed, and Somatic Complaints subscales. ^bIncludes Rule Breaking Behavior and Aggressive Behavior subscales. ^cIncludes all problems items of the CBCL. ^dIncludes Activities, Social and School subscales.

**p < .01.

Results achieved in the logistic regression test can be observed in Table 3. Among the significant variables in chi-square test, age (WaldX² = 8.570; p = .003), religion (WaldX² = 8.985; p = .003) and family stress situation death of family member (WaldX² = 7.253; p = .007) remained significant in logistic regression model.

The control variable substance abuser member, who did not appear significant in the chi-square test, has achieved significance in the logistic regression model (WaldX² = 5.546; p = .019). From CBCL Scales a significant difference was observed between the Intervention and Control Group on the Internalizing Scale (WaldX² = 8.5971; p = .003).

Table 3

Results of Logistic Regression and Odds Ratio (OR) With the Sociodemographic Variables, Stressful Situations and Scores From CBCL (N = 101)

Variables	WaldX ²	p	OR	95% CI
Sex ^a	.391	.532	.666	[.186, 2.382]
Age ^{ab}	8.570	.003	7.483	[1.945, 28.794]
Religion ^b	8.985	.003	.095	[.021, .443]
Brazil Economic Classification Criteria ^a	.157	.692	.780	[1.345, 25.516]
Type of drug (alcohol or illicit) ^a	1.089	.297	.538	[.168, 1.725]
Substance Abuser Member ^{ab}	5.546	.019	5.859	[.228, 2.669]
Stress Situation: Death of a family member ^b	7.253	.007	.161	[.043, .608]
Internalizing Scale ^b	8.971	.003	.376	[.198, .713]

^aControl variables. ^bSignificant variables.

Discussion

Mental health problems of children exposed to substance abuse assisted versus not assisted by a preventive intervention program in an underprivileged community of São Paulo, Brazil were assessed. Results show that, despite the presence of small sociodemographic differences, since Intervention Group was older and more religious, caregivers of the Control Group reported worst mental health indexes

and exposure to risk situation. For instance, children that attended the preventive service achieved, on average, normal scores on three of four CBCL scales analyzed: Internalizing, Externalizing and Total Problems, with a greater emphasis towards the Internalizing Scale, which remained in the model logistic regression with significance (p = .003, OR = .376).

Considering the number of children with clinical scores, Intervention Group also had fewer for all problems scales: 13.6% vs. 51.4% for Internalizing, 30.3% vs. 60%

for Externalizing, and 28.8% vs. 62.9% for Total Problems. These numbers suggest an association between participating of preventive intervention and caregivers reporting less behavioral problems, which also suggests the importance of psychosocial preventive action involving this population.

The implementation of preventive services aimed at children of substance abusers may be key to care for the population living in a low-income area, especially considering the easy access to alcohol and other drugs (Laranjeira & Hinkly, 2002) and that it is cheaper to implement preventive than curative actions (Robertson, David, & Rao, 2003). CUIDA's strategies included all sorts of health care professionals to give the children the possibility of developing higher tolerance while dealing with their reality and improve the problem solving capacity. This kind of program is conform to Trim and Chassin (2008) suggestion that multidisciplinary teams should include Psychologists, Psychiatrists, Occupational Therapists, as well as any other professional that could help improve the patients' mental health.

Although caregivers of children from Intervention Group reported less problems than those from Control Group, both groups have higher rates of behavioral problems than found as epidemiological rate for mental health problems in children from urban and poor areas in Brazil, which is 20% according to Fleitlich and Goodman (2001). The same happens considering the rate of 24.6% indicated by Paula et al. (2007). On our sample, 26.7% of the children scored in the clinical range for Internalizing, 40.6% for the Externalizing, and 40.6% for the Total Problems. These findings converge with those found by Vitolo et al. (2005), which showed a 35.2% prevalence rate of mental health problems in a school population, indicating the need for assistance of this population, notably lacking this type of intervention.

Another important result was that Control Group had higher number of children who exposed to suicides (22.9% vs. 1.6%), suicides attempts (31.4% vs. 6.5%) and death (42.9% vs. 19.4%) in the family during the previous years. Death of a family member entered the logistic regression model with significance ($p = .007$), being the children of the Intervention Group more protected regarding this fact ($OR = .161$). These results may demonstrate that Intervention Group had a better family structure, protecting its members from these types of occurrences. This healthier family structure may also explain the fact that children were taken to CUIDA.

It is interesting to notice that the variable "Substance Abuser Member" entered the logistic regression model with significance ($p = .019$, $OR = 5.859$). Although for both groups the number is very high, Intervention Group has a greater number (86.4%) of first-degree relatives (mother, father and/or siblings) suffering from addiction than the Control Group (71.4%). It is possible to hypothesize that the greater proximity to the substance abuser, the greater the losses of affected children. On the other hand, our data have shown that the caregivers of these children report less emotional/behavioral problems than caregivers from Control Group, which may suggest that preventive intervention acts as a protective factor, showing that prevention services like CUIDA are likely to be effective on underprivileged communities.

It is worth mentioning, however, that although families from the Intervention Group may be considered more protected, since they have sought assistance, they were still families in need of this kind of assistance, because of all the risk factor they experience by having a substance abuser within them. This fact highlights the need for such intervention to be carried out on a large scale, especially when observing the differences in rates of mental health problems found in the sample that participated in the preventive program in comparison to who did not participate, and also in epidemiological studies with the general population conducted in our country (Feitosa et al., 2011; Paula et al., 2007; Vitolo et al., 2005).

Noteworthy among the results is the variable Religion, which showed high significance level ($p = .003$), indicating to be a protection factor for the Intervention Group ($OR = .095$). It can be inferred that having a religion is associated with a better outcome with regard to children's mental health, which was also observed in a study of Cucchiario and Dalgalarondo (2007).

Although there was no difference between the groups with regard to socioeconomic status, this should certainly be a concern, since adverse economic conditions collaborate to worse prognosis in mental health problems (Feitosa et al., 2011). The vulnerable social condition of the population studied is added to the vulnerability of being children of substance abusers, dealing with violence of which children are usually direct or indirect victims. This scenario further increases the risk of psychological and psychiatric problems (Kumpfer & Johnson, 2007).

Both groups were composed of children who live in the same neighborhood, regulars of centers from the same institution, with similar economic status and living with users of the same type of drugs (alcohol or illicit). Thus, potential biases in the study were minimized. However, there are limitations involving the presented study that must be addressed to delimitate the reach of the results found.

Data from CBCL are not provided by the children, but rather by their mothers or guardians. Researches (Linares et al., 2006) consider essential to ponder over the effect that the informants have in the assessment, because information given by parents about children behavior problems are affected by their own psychological problems. Since we were not able to assess informant's mental health status, this is a bias to be considered, although CBCL is a world known instrument with proven sensitivity and widely used for such studies (Achenbach & Rescorla, 2007).

Another issue is a constraint on the number of participants. Having this population high-risk of vulnerability, a great level of difficulty was found in establishing contact with the families who have been monitored by CUIDA. Many had changed their address and telephone number, making it impossible to reach them. Therefore, it was not possible to contact the entire population that received the intervention, but only 38% of those who were within inclusion criteria. And even when reached, a selection bias is noteworthy, since the participation was voluntary and 22% refused to participate. Besides, the number of participants on the

Control Group is lower and it was not possible to pair them with the Intervention Group regarding all variables, which definitely would enhance the legitimacy of the mental health differences found on our study.

In addition, the methodology does not allow causality relation; however, it indicates the presence of an association, as well as directions for further studies within this population. Nevertheless, despite any attention given to children in Brazil, no research, up to the present moment, has presented results from a prevention intervention program with children exposed to substance abuse in their families.

In line with international and national studies, implications can be found for the mental health of children living in a poor environment with substance abusers, domestic violence and social risk. Knowing the severity of impact of mental disorders in childhood and, as well as the high rates of these disorders especially in poorer regions, our findings highlight the need for deployment and implementation of preventive mental health centers (Curto, Paula, do Nascimento, Murray, & Bordin, 2011; Paula, Lauridsen-Ribeiro, Wissow, Bordin, & Evans-Lacko, 2012). According to Fleitlich and Goodman (2002), these centers should be concentrated on the areas of lower socioeconomic level, where prevalence rates of mental health problems are higher, as in the region of this study. They should also prioritize prevention and treatment of the most common disorders, offering standardized tested treatments and diagnostic assessment.

In addition to the implementation of prevention and care centers, further research should also be conducted, both to investigate the impacts of adverse problems for the development of children, and to develop strategies for prevention and health promotion aimed to mental health. Thus, apart from immediately improve the quality of life of these children, it shall be observed an impact on the future of these young people by favoring the reduction of school failure and dropout, criminality, substance abuse, development of personality or other mental disorders and the feasibility of preventive health care against the use of psychoactive substances and mental health (Fatori, Evans-Lacko, Bordin, & Paula, 2012).

In conclusion, it is noteworthy that being CUIDA a one of a kind facility in Brazil, there are no other studies to compare the data with. The research here presented is one of the few conducted in the country regarding prevention on children exposed to substance abusers and it points to a positive association between preventive intervention program and protection of emotional and behavioral problems in children. These first results should collaborate with the literature findings concerning this theme. For this reason, it validates the importance of investing in services and public policies in order to promote the mental health of those children at risk, direct victims of alcohol and drugs abuse by their families.

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