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Impact of exposure to intimate partner violence on children's behavior

ABSTRACT

OBJECTIVE: To analyze the relationship between intimate partner violence (IPV) against women and children's dysfunctional behaviors and school problems.

METHODS: Population-based study part of the WHO Multicountry Study on Domestic Violence Against Women including 790 women living with their children aged five to 12 years in two different regions of Brazil: the city of São Paulo, Southeastern Brazil, and Zona da Mata area in the state of Pernambuco, Northeastern Brazil. Three multivariate models were developed to estimate the strength of the relationship between explanatory variables such as social and community support, stressful events of life, sociodemographic factors and "IPV severity," among others, and three outcomes: number of dysfunctional behaviors; aggressive behavior; and school problems (interruption, drop out or failure).

RESULTS: Exposure to severe physical and/or sexual IPV was associated to school problems, behavioral dysfunctions in general and aggressive behaviors in the univariate analysis. Exposure to severe IPV against women was associated to the occurrence of three or more dysfunctional behaviors in their children, regardless of common mental disorder, low schooling, physical IPV against maternal grandmother, social and community support in the multivariate models. Severe IPV remained associated to aggressive behavior and school problems after adjustment for other sociodemographic variables, among others. Maternal mental health status was identified as a mediating factor between IPV exposure and dysfunctional behaviors, especially aggressive behaviors.

CONCLUSIONS: Severe IPV affects children's behaviors and should be addressed in health policies for school-aged children through the development of common interventions for mothers and children.

DESCRIPTORS: Student Dropouts. Child Behavior. Parent-Child Relations. Violence Against Women.

INTRODUCTION

The impact of children's exposure to intimate partner violence (IPV) against their mothers has attracted growing interest from researchers, providers and policymakers. Children's exposure may be either direct by witnessing violence or indirect by violence hazards to their mother's physical and mental health. Both are considered risk situations for the development of emotional, behavior and school problems in children.[13,20]

It is estimated that 15% of children have witnessed physical violence between their parents in the United States.[20] A study conducted in São Gonçalo,

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Southeastern Brazil, showed that 21.4% of school-children between six and 11 years have been exposed to verbal or physical violence between their parents.[1]

The impact of IPV on children's health is associated with trauma symptoms,[3,8,13] depression and anxiety,[13,18] aggressive behaviors,[6,18] behavioral disorders and poor school performance.[5]

There is no consensus on the extent of this impact. Some studies have found no association between IPV and depression and anxiety, nor with school performance.[20] Many studies have been characterized by selection bias as they included women recruited from shelters, health services or courts, leading to an overestimation of health hazards to children. There are few population-based studies that have investigated a combination of individual, family and community-related factors.[23] Studies in Brazil have mainly focused on violence perpetrated against children and adolescents, with no attention to the indirect exposure to IPV.

There is a need to construct a comprehensive model that integrates factors mediating exposure to violence and hazards to children's health such as maternal mental health conditions, social and community support and stressful life events.[23]

The present study aimed to analyze the relationship between the severity of IPV against women and behavior and school problems in their children (aged five to 12 years).

METHODS

This study was anchored on a multicountry study,[7] the World Health Organization Multicountry Study on Violence Against Women (WHO-VAW Study). The WHO-VAW Study primary data was collected through a household survey carried out between 2000 and 2001 in a representative sample of women 15 to 49 years in the city of São Paulo (SP), Southeastern Brazil, and in 15 municipalities of the urban-rural Zona da Mata, state of Pernambuco (PE), Northeastern Brazil.[21] The present study was based on a model of inter-related effects of exposure to IPV in women and their children (Figure 1). The model includes integrated gender-based elements and psychological trauma and psychodynamic theories and constructs the hypothesis that IPV negatively affects the children either directly or indirectly by affecting their mother's mental health.

Of 2,128 respondents who have had partners in their lifetime (1,188 in PE and 940 in SP), there were excluded those women without children aged five to 12 or who did not live with them. The final sample comprised 790 women (465 in PE and 325 in SP) who were analyzed together due to the small sample size in each region. The analysis of school problems included 749 women as there were excluded women whose children did not attend school.

The unit of analysis was women without taking into account individual characteristics and behaviors of each child separately. Thus, it was a study of the problem: whether there were or not certain behaviors at home among children, according to the mothers' reports.

A standard questionnaire was used in all countries, which proved to be consistent[7,21] and valid for identifying IPV as psychological, physical and sexual violence in different Brazilian backgrounds.[22]

It was assessed the relationship between severity of IPV and three indicators of problems among children: 1) number of reported behavioral problems: aggressive behaviors against the mother or other children; bedwetting; thumb sucking; frequent nightmares; withdrawal/shyness; and runaways; 2) aggressive behaviors against the mother or other children; and 3) school problems (interruption, drop-out or failure).

The study variables were categorized according to their theoretical importance, number of respondents (no categories with few subjects), and statistical associations.

The variable "number of reported behavioral problems" (none; one to two; three or more) included the following problems: frequent nightmares; thumb sucking; bedwetting; withdrawal/shyness, aggressive behaviors of the child against their mother or other children; and runaways. Number of reported was the criterion used for stratum distribution.

"Aggressive behaviors" (yes/no) were assessed through the following question: "Does any of your children (five to 12 years) have an aggressive behavior against you or other children?."

"School problems" (yes/no) were considered present when at least one child aged five to 12 had discontinued/drop out of school or failed a school year.

IPV was categorized into psychological, physical or sexual forms, or into a combined form depending on the severity of the violent event. IPV was considered present when the woman answered yes to at least one question in the related section (Figure 2).

The variable "severity of IPV" was divided into four categories: no IPV; exclusive psychological; moderate physical; severe physical and/or sexual violence. This categorization was based on a potential direct physical impact of the violence experience and the WHO-VAW Study definitions.[7] The WHO-VAW Study defines moderate IPV when a yes answer is given to any of the first two questions on physical violence (1, 2) (Figure 2); severe IPV when a yes answer is given to any question on sexual violence or any of the last

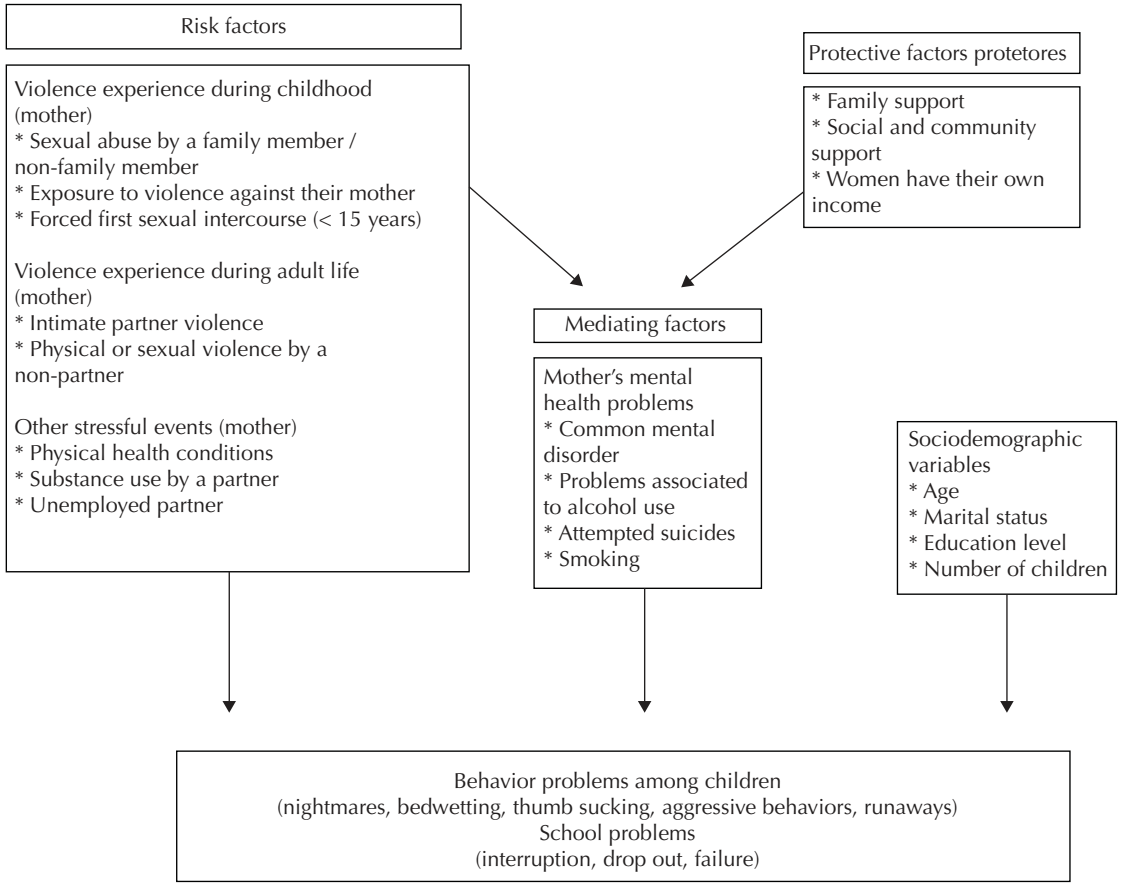

Figure 1. Conceptual framework: risk, protective and mediating factors of behavior and school problems. City of São Paulo and Zona da Mata area in Pernambuco, Brazil, 2001–2002.

four questions on physical violence (3, 4, 5 and 6); and exclusive psychological violence when a yes answer is given to any of the four related questions but not to any question on physical or sexual violence.

"Stressful life events" and "social and community support" were defined as proposed by Ludermir et al:[15]

- Stressful life events: a) unemployment of the current or most recent partner; b) how often the current or most recent partner was drunk (never; once a week to once a month; and almost every day); c) age of sexual initiation and consented intercourse (>15 years/ consented; >15 years/forced; ≤15 years/ consented; ≤15 years/forced); d) sexual abuse by a family member (no abuse; ≤15 years; >15 years); f) sexual abuse by a non-family member (no abuse; ≤15 years; >15 years); and g) physical IPV against the woman's mother.
- Social and community support comprises: a) social and community backing evaluated through five questions on actions of reciprocity by neighbors (strong = five yes answers; moderate = one to four yes answers; no backing = no yes answer). The latter two were combined in multivariate analysis as moderate/weak; b) frequency of contact with family; and c) family support to solve any problems.

The variable "common mental disorder" (CMD) was assessed using the Self-Reporting Questionnaire (SRQ-20), a reliable validated tool for screening the Brazilian population. CMD was considered present in individuals with scores higher than seven.[16]

"Suicide attempts" were assessed using the following question: "Have you ever tried to kill yourself?", referring some lifetime episode.

"Problems of alcohol use by the women" (yes/no) were considered present when a yes answer was given to at least one of the four questions on problems with family, friends, health or financial issues caused by alcohol use.

Other variables studied included: smoking (no smoking/occasional smoking/daily smoking); age; education; income, marital status (married/living with a partner/having a sexual partner/divorced/separated or widowed); and place of residence (SP/PE).

The analyses were performed using Stata version 10 and svy commands to test the design effect. Three logistic regression models were constructed including the dependent variables: number of behavioral problems in children; aggressive behaviors; school problems. A polynomial analysis was carried out for the number of behavioral problems.

Crude (OR_{crude}) and adjusted ($OR_{adj.}$) odds ratios and their related 95% confidence intervals (95%CI) were calculated to estimate associations and the chi-square test (χ^2) was performed to test the statistical significance of associations. A significance level was set at $p \leq 0.05$.

The independent variables that were associated with the outcome with $p < 0.15$ in the univariate analysis and those with theoretical relevance for the analysis were included in the anterograde multivariate models. Those variables that remained associated with the outcome after adjustment for all variables included ($p < 0.05$ in the Wald test) and those considered relevant in the literature remained in the model. The Hosmer-Lemeshow test was used for fitting the model.

Mediating effects were tested as proposed by Baron and Kenny[2] (1986) following three criteria to classify a variable as a mediating one: 1) the independent variable must be significantly associated with the hypothesized mediating and dependent variables; 2) the mediating variable must be significantly associated with the dependent variable; and 3) the strength of association between the independent and the dependent must decrease in the presence of a mediating variable.

Special ethical care was taken due to the sensitive nature of the topic studied.[21] The study was approved by the Research Ethics Committee of the Faculdade de Medicina da Universidade de São Paulo and Hospital das Clínicas (CAPPesq-609/98) on 11/11/1998 and Comissão Nacional de Ética em Pesquisa (Report 002/99) on 01/11/1999.

RESULTS

The mean age of the women studied was 34.1 years (SD = 0.31) and mean schooling was 6.6 years (SD = 0.28), which corresponds to incomplete elementary education. The mean number of children was 2.7 (SD = 0.1). Other sociodemographic data, prevalences of behavioral problems, aggressive behaviors, school problems in children, maternal CMD and IPV reported by the respondents are showed in Table 1.

Most respondents had frequent contact with their family (89.2%) and family support when they needed help to deal with their problems (82.2%). In contrast, most reported low-to-moderate community and social support (67.4%).

Partner's unemployment and daily alcohol abuse was reported by 10.8% and 6.5% of the women, respectively. Of all, 9.1% and 16.1% reported forced first sexual intercourse when they were under 15 and older than 15 years, respectively. Physical IPV against the woman's mother was reported by 23.9%. And 3.3% reported sexual violence by a family member and 8.9% by a non-family member.

Moderate and severe IPV was reported in 27.0% and 10.3% of the women, respectively (Table 1).

Women with lower education (zero to eight years) and higher parity (three or more children) living with a partner in PE had higher rates of children with three or more behavioral problems in the univariate analysis. IPV against the woman's mother and forced first sexual intercourse before 15 were events associated with the outcome. Women with CMD and history of suicide attempts had a higher prevalence of behavioral problems among their children (three or more).

IPV was strongly associated with behavioral problems among children and the strength of this association

Psychological violence
1- Has he insulted you or made you feel bad about yourself?
2 – Has he belittled or humiliated you in front of other people?
3 – Has he done things to scare or intimidate you on purpose (e.g. by the way he looked at you, by yelling and smashing things)?
4 – Has he threatened to hurt you or someone you care about?
Physical violence
1 – Has he slapped you or thrown anything at you that could hurt you?
2 – Has he pushed or shoved you?
3 – Has he hit you with his fist or with something else that could hurt you?
4 – Has he kicked you, dragged you or beat you up?
5 – Has he choked or burnt you on purpose?
6 – Has he threatened to use or actually used a gun, knife or other weapon against you?
Sexual violence
1 – Has he physically forced you to have sexual intercourse when you did not want to?
2 – Have you ever had sexual intercourse when you did not want because you were afraid of what he might do to you?
3 – Has he forced you to do anything sexual that you found degrading or humiliating?

Figure 2. Questions about intimate partner violence against women. City of São Paulo and Zona da Mata area in Pernambuco, Brazil, 2001–2002.

Table 1. Sociodemographic characteristics and mental health conditions of women, severity of intimate partner violence against women and behavioral and school problems in children. City of São Paulo and Zona da Mata area in Pernambuco, Brazil, 2001–2002. (N=790)

Variables	Women living with their children aged five to 12 years	
	n	%
Age* (years)		
15 to 29	256	31.0
30 to 39	484	61.2
40 to 49	49	7.8
Schooling (years)		
12 or more	73	10.0
9 to 11	182	22.1
5 to 8	214	26.0
0 to 4	321	41.9
Own income		
Yes	403	53.5
No	387	46.5
Marital status		
Married	383	46.7
Living with a partner	273	33.9
Having a sexual partner	45	7.0
Divorced, widowed, separated	89	12.4
Number of living children		
1	152	19.2
2	317	40.1
3	179	22.7
4 to 11	142	18.0
Place of residence		
City of São Paulo	325	40.9
Zona da Mata area (Pernambuco)	465	59.1
Number of behavior problems		
None	246	31.2
1 to 2	453	55.9
3 or more	91	12.9
Aggressive behavior against the mother or other children		
No	612	77.5
Yes	178	22.5
School problems**		
None	508	68.0
Interrupted/dropped out/failed school	241	32.0
Common mental disorder		
No	528	64.6
Yes	262	35.4
Smoking		
No	600	75.7
Occasionally	23	3.2
Daily	167	21.2
Severity of intimate partner violence		
None	369	45.3
Psychological only	117	17.4
Moderate physical	88	10.3
Severe	216	27.0

* Missing information for 1 woman
** No information for 41 women

increased with violence severity and number of problems (Table 2).

In the polynomial multivariate analysis, CMD reduced by approximately 45.0% the strength of association between severe IPV and the occurrence of three or more behavioral problems but it remained significant. CMD was considered a mediating variable as it was directly associated with severe IPV (OR_{crude} = 5.22; 95%CI 3.41;8.00) and the outcome studied.

Severe IPV was associated with the occurrence of three or more behavioral problems in children ($OR_{adj.}$ 2.00), regardless of maternal CMD, zero to eight years of schooling, physical violence against the woman's mother by an intimate partner and low-to-moderate social and community support (Table 2).

Women living with a partner, with education less than high school, three or more children, CMD and history of suicide attempts showed a higher prevalence of aggressive behaviors in their children in the univariate analysis. Exposure to severe IPV and to every stressful life events except for sexual abuse by a non-family member was associated with aggressive behaviors in children.

CMD reduced by over 10.0% the association between exposure to IPV and aggressive behaviors, and was also considered a mediating variable (model 1) in the multivariate analysis. This association was adjusted for education, number of living children, father's physical violence against the mother and sexual abuse and it remained associated with the outcome and these variables remained in the model (model 2). All the remaining variables were excluded from the model. Exposure to severe IPV, CMD, zero to four years of schooling, having three or more children,

Table 2. The severity of intimate partner violence against women and its association with aggression and school problems among children. City of São Paulo and Zona da Mata area in Pernambuco, Brazil, 2001–2002.

Severity of IPV			Model 1*		Model 2**		Model 3***	
	1 or 2 problems OR_{crude} (95%CI)	3 or more problems OR_{crude} (95%CI)	1 or 2 problems $OR_{adjusted}$ (95%CI)	3 or more problems $OR_{adjusted}$ (95%CI)	1 or 2 problems $OR_{adjusted}$ (95%CI)	3 or more problems $OR_{adjusted}$ (95%CI)	1 or 2 problems $OR_{adjusted}$ (95%CI)	3 or more problems $OR_{adjusted}$ (95%CI)
No IPV	1	1	1	1	1	1	1	1
Psychological only	1.48 (0.86;2.53)	2.68 (1.10;6.55)	1.19 (0.70;2.03)	1.63 (0.76;3.50)	1.10 (0.65;1.86)	1.59 (0.75;3.35)	1.10 (0.66;1.84)	1.59 (0.75;3.37)
Moderate physical	0.82 (0.45;1.47)	1.88 (0.73;4.85)	0.62 (0.33;1.14)	1.01 (0.37;2.74)	0.56 (0.29;1.07)	0.89 (0.30;2.62)	0.57 (0.30;1.08)	0.92 (0.32;2.65)
Severe	2.17 (1.30;3.62)	4.60 (2.22;9.51)	1.67 (1.00;2.79)	2.55 (1.25;5.19)	1.43 (0.86;2.42)	2.03 (1.04;3.95)	1.41 (0.84;2.39)	2.00 (1.03;2.65)

* Adjusted for common mental disorder (CMD) (four degrees of freedom)
** Adjusted for CMD + schooling + physical violence of the father's woman against her mother (seven degrees of freedom)
*** Adjusted for CMD + schooling + physical violence of the father's woman against her mother + social and community support (eight degrees of freedom)

sexual violence by a family member and physical IPV against the woman's mother were all factors associated with aggressive behaviors among children. History of suicide attempts was significantly associated with the outcome, but the association with severe IPV lost its significance (model 3).

Living with a partner and in PE, having three or more children and zero to eight years of schooling were factors associated with a higher prevalence of school failure, interruption and drop out among children in the univariate analysis. Women with CMD who reported daily smoking also had more of these problems.

Lack of family support, the partner's almost daily alcohol abuse, physical IPV against the woman's mother and consented or forced first sexual intercourse before 15 were all associated with school problems.

Exposure to severe IPV was associated with a higher prevalence of school problems in the univariate analysis. The following variables remained associated with the outcome in the multivariate analysis: zero to four years of schooling, having three or more children,

Table 3. Severity of intimate partner violence against women and its association with aggressive behaviors and school problems among children. City of São Paulo and Zona da Mata area in Pernambuco, Brazil, 2001–2002.

Severity of IPV	(N= 178) N	%	Crude OR (95% CI)	Model 1[a] Adjusted OR (95% CI)	Model 2[b] Adjusted OR (95% CI)	Model 3[c] Adjusted OR (95% CI)
Aggressive behaviors						
No IPV	51	14.8	1	1	1	1
Psychological only	34	25.8	1.99 (1.11;3.59)	1.59 (0.84;3.03)	1.54 (0.78;3.04)	1.53 (0.78;3.01)
Moderate physical	23	25.2	1.94 (0.98;3.81)	1.50 (0.76;2.95)	1.39 (0.69;2.79)	1.28 (0.65;2.51)
Severe	70	32.2	2.72 (1.69;4.39)	2.07 (1.25;3.43)	1.66 (1.01;2.74)	1.48 (0.89;2.49)
School problems						
No IPV	90	26.1	1	1	1	
Psychological exclusive	39	34.3	1.48(0.88;2.48)	1.29 (0.78;2.16)	1.10 (0.66;1.84)	
Moderate physical or sexual	25	28.8	1.14 (0.64;2.06)	1.05 (0.58;1.92)	0.80 (0.41;1.57)	
Severe physical or sexual	87	42.0	2.05 (1.30;3.25)	1.62 (1.01;2.61)	1.20 (0.72;1.99)	

IPV: intimate partner violence
[a] Adjusted for common mental disorder (CMD) (four degrees of freedom); Hosmer-Lemeshow test p = 0.9999
[b] Adjusted for CMD + schooling + physical violence of the father's woman against her mother + sexual abuse by a family member (nine degrees of freedom); Hosmer-Lemeshow test p = 0.5928
[c] Adjusted for CMD + schooling + number of children + physical violence of the father's woman against her mother + sexual abuse by a family member + suicide attempts (ten degrees of freedom); Hosmer-Lemeshow test p = 0.7307
[d] Adjusted for schooling (five degrees of freedom); Hosmer-Lemeshow p = 0.9401
[e] Adjusted for schooling + number of children + place of residence + frequency of alcohol abuse by the woman's partner + physical violence of the father's woman against her mother + smoking (16 degrees of freedom); Hosmer-Lemeshow test p = 0.7366

living in PE, the partner's almost daily alcohol abuse, physical IPV against the woman's mother and daily smoking. After adjustment for these variables, the association of severe IPV with the outcome lost its statistical significance.

Education and number of children were mediating variables in the relationship between exposure to severe IPV and the outcomes, because they reduced by over 10% (model 1) the strength of the association and were associated with the dependent and independent variables. The crude OR (95%CI) for the association between zero to four years of schooling and severe IPV was 3.88 (1.68;8.93) and for the association between having three or more children and severe IPV was 2.09 (1.44;3.05).

DISCUSSION

The study results are consistent with the international literature[12] suggesting that exposure to severe IPV directly and indirectly affects the behavior of school-age children. Severe IPV against the mother is closely associated with three or more behavioral problems among their children, regardless of the mother's mental health status, education, experience of physical IPV and social and community support.

As showed in the mediating effect analysis, IPV is indirectly associated with behavioral problems in children through its impact on the mother's mental health. These findings corroborate the Levendosky & Graham-Bermann[12] (2001) study that found that domestic violence affects the mother's ability of caring for her children and has negative effects on their mental health status due to a traumatic effect on the mother's psychological functioning.

These results are in line with psychoanalytic trauma theories that highlight the hazards of living in violent family environments as a result of the negative effects of maternal depression and anxiety. These affects convey anger, unpredictability and sadness and compromise the quality of interaction and organization in the family environment, which favors the development of emotional and behavioral problems in children.

Exposure to severe IPV was a factor associated with aggressive behaviors in the univariate analysis. But this association was no longer significant after the variables CMD and suicide attempts, among others, were included in the multivariate analysis, which suggests that poor maternal mental health status, aggravated by suicide attempts, is a major mediating factor.

Other types of violence experienced by women such as sexual abuse perpetrated by a family member and physical IPV against their mother are directly associated with aggressive behaviors in their children. Violence experienced during childhood – most reported sexual abuse by a family member before the age of 15 – has a more significant effect for the development of aggressive behaviors among children than the experience of IPV during adulthood.

Low education (zero to four years of schooling) and having many children (three or more) were found to be factors associated with aggressive behaviors among children. Since low education is generally associated with poor socioeconomic conditions, it can be assumed that social determinants associated to different types of deprivation have a strong influence in the development of aggressive behaviors.

This finding confirms the study that have specifically investigated the subgroup of aggressive behaviors from the inventory of childhood and adolescence behaviors[a] showing that exposure to IPV has a slight variance (3.9%) on the occurrence of these behaviors.[14] However, it is not consistent with most studies investigating the association between IPV and behavioral disorders such as oppositional defiant disorder or conduct disorder,[6,11,19] which have verified this association.

One possible explanation for inconsistent results is sampling differences. Many studies have used convenience samples of women living in shelters, or women attending health services seeking counseling and psychiatric or pediatric care, police stations and courts. Another possible explanation refers to the classification criteria of aggressive behaviors. It may be that the question used in the present study to assess aggressive behaviors was not sufficiently specific, which may have led to the inclusion of children who did not have relevant behavior problems, which would underestimate the association.

IPV was characterized as a factor associated with school problems in the univariate analysis but this association was not significant in the multivariate analysis.

The mediating role of number of children between exposure to IPV and school problems can be understood based on the sociological theory of "resource dilution"[17] that proposes that higher parity reduces the amount of time and money parents invest in each child, which would negatively influence these children's development and school performance. The results of the present study points to having many children as a intersecting factor between IPV and school problems as the literature shows women experiencing IPV have more children.[4,10]

[a] Achenbach TM. Manual for the Child Behavior Checklist: 4-18 and 1991 profile. Burligton: University of Vermont, Department of Psychiatry; 1991.

The present study overcomes major methodological limitations found in other studies, particularly regarding sample selection and self-disclosure bias. However, there are still some limitations. Using information about the children exclusively reported by their mothers prevents identifying problems from the child's perspective. Also, by not differentiating violence against mothers from violence against children makes it difficult to clearly understand the effects of each form of violence. The study data provided little information about individual children such as gender and age. However, this is one of the first Brazilian studies to take this approach to investigate this phenomenon.

Violence must be promptly diagnosed at health services and addressed as a significant aspect of women's health. Improved women's health, particularly mental health, can help preventing school and behavior problems in their children,[9] which reinforces the relevance of studying mediating variables.

Resources should be allocated to prevent and reduce the effects of violence so that mental health needs of women and their children can be effectively addressed.

REFERENCES

1. Assis SG, Avanci JQ, Pesce RP, Ximenes LF. Situação de Crianças e adolescentes brasileiros em relação à saúde mental e à violência. *Cienc Saude Coletiva*. 2009; 14(2):349-61. DOI:10.1590/S1413-81232009000200002
2. Baron RM, Kenny DA. The moderator-mediator variable distinction in social psychological research: conceptual, strategic and statistical considerations. *J Pers Soc Psychol*. 1986;51(6):1173-82. DOI:10.1037/0022-3514.51.6.1173
3. Bogat GA, DeJonghe E, Levendosky AA, Davidson WS, Von Eye A. Trauma symptoms among infant exposed to intimate partner violence. *Child Abuse Negl*. 2006;30(2):109-25. DOI:10.1016/j.chiabu.2005.09.002
4. Durand JG, Schraiber LB. Violência na gestação entre usuárias de serviços públicos de saúde da Grande São Paulo: prevalência e fatores associados. *Rev Bras Epidemiol*. 2007;10(3):310-22. DOI:10.1590/S1415-790X2007000300003
5. Edleson JL. Children's Witnessing of adult domestic violence. *J Interpers Violence*. 1999;14(8):839-70. DOI:10.1177/088626099014008004
6. Fantuzzo JW, Depaola LM, Lambert L, Martino T, Anderson G, Sutton S. Effects of interparent violence on the psychological adjustment and competencies of young children. *J Consult Clin Psychol*. 1991;59:258-26. DOI:10.1037/0022-006X.59.2.258
7. Garcia-Moreno C, Jansen HA, Ellsberg M, Heise L, Watts CH, WHO Multi-country Study Team. Prevalence of intimate partner violence: findings from the WHO multi-country study on women's health and domestic violence. *Lancet*. 2006;368(9543):1260-9. DOI:10.1016/S0140-6736(06)69523-8
8. Graham-Bermann AS, Levendosky AS. Traumatic stress symptoms in children of battered women. *J Interpers Violence*. 1998;13(1):111-28. DOI:10.1177/088626098013001007
9. Graham-Bermann AS, Lynch S, Banyard V, DeVoe ER, Halabu H. Community-based intervention for children exposed to intimate partner violence: an efficacy trial. *J Consult Clin Psychol*. 2007;75(2):199-209. DOI:10.1037/0022-006X.75.2.199
10. Heise L, Ellsberg M, Gottemoeller M, Ending Violence Against Women. Baltimore: Johns Hopkins University School of Public Health, Population Information Program; 1999. (Population reports series L, 11).
11. Kernic MA, Wolf AE, Holt VL, McKnignt B, Huebner CE, Rivara FP. Behavioral problems among children whose mothers are abused by an intimate partner. *Child Abuse Negl*. 2003;27(11):1231-46. DOI:10.1016/j.chiabu.2002.12.001
12. Levendosky AA, Graham-Bermann SA. Parenting in Battered women: the effects of domestic violence on women and their children. *J Fam Violence*. 2001;16(2):171-92. DOI:10.1023/A:1011111003373
13. Levendosky AA, Huth-Bocks, Semel MA, Shapiro Dl. Trauma symptoms in preschool-age children exposed to domestic violence. *J Interpers Violence*. 2002;17(2):150-64. DOI:10.1177/0886260502017002003
14. Litrownik AJ, Newton R, Hunter WM, English D, Everson MD. Exposure to family violence in young at-rish children: a longitudinal at the effects of victimization and witnessed physical and psychological aggression. *J Fam Violence*. 2003;18(1):59-73. DOI:10.1023/A:1021405515323
15. Ludermir AB, Schraiber LB, D'Oliveira AFPL, França Jr I, Jansen HA. Violence against women by their intimate partner and common mental disorders. *Soc Sci Med*. 2008; 66(4):1008-18. DOI:10.1016/j.socscimed.2007.10.021
16. Mari JJ, Williams P. A comparison of the validity of two psychiatric screening questionnaires (GHQ-12 and SRQ-20) in Brazil, using Relative Operating Characteristic (ROC) analysis. *Psychol Med*. 1986;15(3):651-9. DOI:10.1017/S0033291700031500
17. Marteleto LJ. O papel do tamanho da família na escolaridade dos jovens. *Rev Bras Estud Popul*. 2002;19(2):159-67.
18. McCloskey LA, Figueredo AJ, Koss MP. The effects of systematic family violence on children's mental health. *Child Dev*. 1995;66(5):1239-61. DOI:10.2307/1131645
19. Mcfarlane JM, Gruff JT, O'Brien JA, Watson K. Behaviors of children who are exposed and not exposed to intimate partner violence: an analysis of 330 black, white and Hispanic children. *Pediatrics*. 2003;112(3):202-7. DOI:10.1542/peds.112.3.e202
20. Rossman BBR, Hughes HM, Rosenberg MS. Children and interparental violence: the Impact of Exposure. Philadelphia: Brunner/Mazel; 1999.

21. Schraiber LB, d'Oliveira AFPL, França Jr I, Diniz S, Portella AP, Ludermir AB et al. Prevalência da violência contra a mulher por parceiro íntimo em regiões do Brasil. *Rev Saude Publica*. 2007;41(5):797-807. DOI:10.1590/S0034-89102007000500014

22. Schraiber LB, Latorre MRDO, França-Junior I, Segri NJ, d' Oliveira AFPL. Validade do instrumento WHO-VAW Study para estimar violência de gênero contra a mulher. *Rev Saude Publica*. 2010;44(4): 658-666.

23. Wolfe DA, Crooks CV, Lee V, Mcintyre-Smith A, Jaffe PG. The effects of children's exposure to Domestic Violence: A meta-analysis and critique. *Clin Child Fam Psychol Rev*. 2003;6(3):171-87. DOI:10.1023/A:1024910416164

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