



## Cases of fatal accidents and violence among children, adolescents and young people: perception of the family and associated factors

Christine Baccarat de Godoy Martins<sup>1\*</sup> and Maria Helena Prado de Mello Jorge<sup>2</sup>

<sup>1</sup>Departamento de Enfermagem, Universidade Federal de Mato Grosso, Av. Fernando Correa Costa, 2367, 78060-900, Bairro Coxipó, Cuiabá, Mato Grosso, Brazil. <sup>2</sup>Departamento de Epidemiologia, Faculdade de Saúde Pública, Universidade de São Paulo, São Paulo, São Paulo, Brazil. \*Author for correspondence. E-mail: leocris2001@terra.com.br

**ABSTRACT.** Hundreds of children and young people die from fatal accidents or violence every year and others suffer the consequences of non-lethal lesions. Knowing the associated factors is essential for moving forward in the control of these events. The study analysed the families' perception and factors associated with deaths due to external causes of children, adolescents and young people. Cross-sectional study from deaths from accidents and violence in the age group of 0 to 24 years in the city of Cuiabá- State of Mato Grosso, followed by a domestic survey with the families. The families could not tell whether the accident/violence was a foreseeable event and do not believe that habits/lifestyle have favoured the occurrence. Intentional deaths showed a greater association with factors: maternity/paternity in adolescence, role overload of the mother, consumption of alcohol/drugs, family conflicts and prior deaths from external cause. Feelings of appreciation (study, housing, work, and whether the victim's pregnancy has been desired) were positive in a higher proportion among cases at which the victims died in an accident. The families had easy access to health care services; however, it was difficult to access the network of social and religious support. Associated factors differ according to the intentionality of the event.

**Keywords:** external causes, risk factors, mortality.

## Casos fatais de acidentes e violências entre crianças, adolescentes e jovens: percepção da família e fatores associados

**RESUMO.** Anualmente, milhares de crianças e jovens morrem anualmente de acidente ou violência e milhões sofrem as consequências de lesões não fatais. Conhecer os fatores associados é essencial para que se avance no controle desses eventos. O estudo analisou a percepção das famílias e os fatores associados com os óbitos por causas externas de crianças, adolescentes e jovens. Estudo transversal a partir dos óbitos por acidente e violência, de 0 a 24 anos de idade, em Cuiabá-Mato Grosso, seguida de inquérito domiciliar com as famílias. As famílias não souberam responder se o acidente/violência constituiu-se evento previsível e não acreditam que os hábitos/estilo de vida favorecem a ocorrência destes. As mortes intencionais apresentaram maior associação com os fatores: maternidade e paternidade na adolescência, sobrecarga de papéis da mãe, consumo de álcool/drogas, conflitos familiares e mortes anteriores por causa externa. Os sentimentos de valorização (estudo, moradia, trabalho e se a gravidez da vítima foi desejada) foram afirmativos com maior proporção entre as vítimas que faleceram por acidente. As famílias acessam facilmente os serviços de saúde, porém há dificuldade de acesso à rede de apoio social e religioso. Os fatores associados se diferenciam conforme a intencionalidade do evento.

**Palavras-chave:** causas externas, fator de risco, mortalidade.

### Introduction

Currently, thousands of children and young people die every year from accidents or violence and millions of others suffer the consequences of non-fatal lesions, thereby contributing to the loss of potential years of life (CAVALCANTI et al., 2008). For each death of a person less than 18 years of age, 12 children are hospitalized or become permanently disabled and 34 need medical care or failed school or work attendance due to injury (OMS, 2008).

Since the 1980s, Brazil has shown an increase in mortality rates due to external causes alternating

between the second and third cause of mortality in the general population (BRASIL, 2007). In 2003, the rate of mortality from external causes in Brazilian capital cities ranged from 53.8 to 120.1 per 100,000 inhabitants. Among all the capitals, seven showed mortality rates from external causes higher than 90 per 100,000 inhabitants: Porto Velho, Boa Vista, Macapá, Recife, Vitória, Rio de Janeiro and Cuiabá (SOUZA; LIMA, 2007).

Nowadays with the recognition of the role of the community as a health conditioning factor for individuals, being aware of the associated factors for

external causes is essential for moving significantly forward in the control of these events (WAKSMAN, 2004). However, the authors emphasize that more important than defining the pre-event risks is examining what associated factors can change and working systematically on those (BLANK, 2005).

Scholars classify factors associated with external causes into protective factors (stable family, appreciation and child protection, effective communication, appropriate models of care, perception of the family as to the predictability of the event, sources of social and religious support, access to health services, good quality schools, resources in the neighborhood, traffic education, measures for child protection in relation to the domestic environment, besides direct supervision of the child) and vulnerability factors (daily stress, illness or loss of a parent, poverty, social inequality, racism, bad schools, social isolation, lack of affection, urban violence, alcohol use mainly in relation to occupational accidents, transport and episodes of violence and aggression, murders and suicides) (ABREU et al., 2009; BRITTON, 2005).

However, the lack of articulation of the protective factors, combined with the intensity and diversity of vulnerability factors, produce a dynamics that still generates external events, often fatal (ANTONI et al., 2007).

In view of the fact that knowing the associated factors allows developing ways to control external causes (SANTOS et al., 2001), and because there are no studies on this in the municipality, this research aims to analyze the families' perception and factors associated with deaths due to external causes among children, adolescents and young people.

## Material and methods

Cross-sectional study with quantitative analysis, the population comprises children, adolescents, and young adults (0 to 24 years of age) who lived in Cuiabá, State of Mato Grosso, Brazil, who died from external causes (accident or violence) from January 1 to December 31<sup>st</sup>, 2009.

The identification data for the victims and their families were obtained directly from the Death Certificate made available by the Birth and Death Surveillance Management of the Municipal Health Secretary of Cuiabá, inclusion criteria being: age 0 to 24 years, resident in Cuiabá, death in 2009 and the external cause was the basic cause of death. We then performed a domestic survey with the victims' families using a previously elaborated and tested form.

We studied the following categories of analysis (exposure variables): perception of the family as to the predictability of the event (whether it was susceptible to prevention and if habits favored the occurrence); and associated factors: in relation to the parents of the victim (maternity in adolescence, paternity in adolescence, role overload of the mother), in relation to the victim (presence of depression or emotional instability, use of alcohol and drugs), in relation to the victim's family (family conflicts and prior death from the same cause), in relation to the support network (access to health services and social and religious support), in relation to the feelings of appreciation (appreciation of the qualities of the victim, the valuation of study / house / work, if the victim's pregnancy was desired), wishes of the family (in relation to children, safety and violence). It was considered as outcome variable the intentionality of deaths (accidental causes, intentional causes, legal intervention and undetermined intent).

We processed all data with the software Epi Info 3.4.3 and conducted a bivariate analysis between the outcomes and the study factors, in order to check the association between variables, using the non-parametric chi-square test, establishing the level of significance at 5% ( $p < 0.05$ ).

The Birth and Death Surveillance Management of Cuiabá has authorized the access to the Death Certificate. The Research Ethics Committee of the University Hospital Julius Miller of the Federal University of Mato Grosso has approved the project on October 25<sup>th</sup>, 2010 under the 929/CEP-HUJM/2010 protocol. The families involved in the domestic survey signed a Free and Informed Consent.

## Findings

We accomplished 124 domestic surveys, which represent 94.7% of the total deaths from external causes among those aged 0 to 24 in Cuiabá in 2009. There was a loss of seven cases (5.3%), all males, aggression by firearm, due to wrong address, or difficult or dangerous access to the residence of the victim's family.

For comparison and crossing with the studied factors, we systematized the deaths into accidental causes (39 cases), intentional causes (80 cases), legal intervention (2 cases) and undetermined intention (3 cases). The accidental causes involved traffic accidents, drowning, suffocation, falls and accidental injury by firearm. Intentional causes concerned aggressions (most by firearm) and self-harm (most

by hanging). The cases of legal intervention (also considered aggression) represented confrontation with the police and undetermined intention, i.e., those cases in which it was not possible to determine whether the event was intentional or accidental.

Among the victims, men were more prevalent (88.7%) than women (11.3%). Among men, prevailed intentional causes (68.2%), which did not occur among women (50.0 and 50.0% for accidents from violence). The prevalent age among men was 0 to 24 (60.0%), followed by 15 to 19 (32.7%) 10 to 14 (2.7%), 1 to 4 (1.8%), less than 1 year (1.8%) and 5 to 9 (0.9%). Among women, the age group with the highest frequency was 10-14 years (57.1%), followed by 20-24 (14.3%), less than 1 year (14.3%), 15-19 (7.2%) and 5 to 9 (71%). As for the family income it was prevalent 1-2 minimum wages (68.6%), followed by 3-4 (27.4%) and 1 minimum wage (4.0%).

Analyzing the perception of the family as for the predictability of accidents and violence according to the intentionality of the fatal events, the results showed that most families (53.8 % whose victims died from accidental and 73.7 % whose victims died from intentional causes) cannot tell whether the accident/violence was a foreseeable event (Table 1). The percentage of families that believe prevention was not possible was 41.0% for accidental causes, 21.2% for intentional causes, 100.0% for legal interventions and 66.7% for the cases of undetermined intent ( $p = 0.0092$ ). Only a few believe the events were preventable (5.1% for accidental causes and 5.0% for intentional causes).

**Table 1.** Deaths from external causes among people aged 0 to 24 years, according to the families' perception of the intentionality, Cuiabá, 2009.

Intentionality of the event	Did the accident / violence is a foreseeable event?								p value*
	Yes		No		No opinion		Total		
	N <sup>o</sup>	%	N <sup>o</sup>	%	N <sup>o</sup>	%	N <sup>o</sup>	%	
Accidental	2	5.1	16	41.0	21	53.8	39	100.0	
Intentional	4	5.0	17	21.2	59	73.7	80	100.0	
Legal Intervention	-	-	2	100.0	-	-	2	100.0	
Undetermined Intention	-	-	2	66.7	1	33.3	3	100.0	
Total	6	4.8	37	29.8	81	65.3	124	100.0	0.0092
Intentionality of the event	Do habits and life style favor the occurrence of accidents / violence?								p value*
	Yes		No		Total				
	N <sup>o</sup>	%	N <sup>o</sup>	%	N <sup>o</sup>	%			
Accidental	20	51.3	19	48.7	39	100.0			
Intentional	14	17.5	66	82.5	80	100.0			
Legal Intervention	-	-	2	100.0	2	100.0			
Undetermined Intention	-	-	3	100.0	3	100.0			
Total	34	27.4	90	72.6	124	100.0			0.0029

\*Fisher's exact test (p value).

As for habits and life style favoring the occurrence of an accident / violence, families whose victims died from accidents agreed (51.3%), but families whose victims died from violence (82.5%), legal intervention (100.0%) and undetermined intention (100.0%) have not agreed (Table 1).

As for the associated factors (Table 2), all showed a higher rate for intentional deaths than for accidental death.

**Table 2.** Deaths from external causes among people aged 0 to 24 years, according to the intentionality of the fatal event and vulnerabilities in the family, Cuiabá, 2009.

Vulnerability in the family	Yes		No		Total		p value*
	Nº	%	Nº	%	Nº	%	
Adolescent Maternity (mothers of the victim)							p = 0.0028
Accidental	13	33.3	26	66.7	39	100.0	
Intentional	47	58.7	33	41.3	80	100.0	
Legal Intervention	1	50.0	1	50.0	2	100.0	
Undetermined Intention	2	66.7	1	33.3	3	100.0	
TOTAL	63	50.8	61	49.2	124	100.0	
Adolescent Paternity (fathers of the victim)							p = 0.0017
Accidental	11	28.2	28	71.2	39	100.0	
Intentional	45	56.2	35	43.7	80	100.0	
Legal Intervention	2	100.0	-	-	2	100.0	
Undetermined Intention	-	-	3	100.0	3	100.0	
Total	58	46.8	66	53.2	124	100.0	
Mother's role overload (mother of the victim)							p = 0.0011
Accidental	11	28.2	28	71.2	39	100.0	
Intentional	46	57.5	34	42.5	80	100.0	
Legal Intervention	2	100.0	-	-	2	100.0	
Undetermined Intention	3	100.0	-	-	3	100.0	
Total	62	50.0	62	50.0	124	100.0	
Depression or emotional instability (victim)							p = 0.0000
Accidental	9	23.0	30	77.0	39	100.0	
Intentional	42	52.5	38	47.5	80	100.0	
Legal Intervention	-	-	2	100.0	2	100.0	
Undetermined Intention	-	-	3	100.0	3	100.0	
Total	51	41.1	73	58.9	124	100.0	
Alcohol consumption by the victim							p = 0.0000
Accidental	15	38.5	24	61.5	39	100.0	
Intentional	74	92.5	6	7.5	80	100.0	
Legal Intervention	2	100.0	-	-	2	100.0	
Undetermined Intention	3	100.0	-	-	3	100.0	
Total	94	75.8	30	24.2	124	100.0	
Drug consumption by the victim							p = 0.0000
Accidental	9	23.0	30	77.0	39	100.0	
Intentional	65	81.2	15	18.7	80	100.0	
Legal Intervention	2	100.0	-	-	2	100.0	
Undetermined Intention	3	100.0	-	-	3	100.0	
TOTAL	79	63.7	45	36.3	124	100.0	
Family conflicts							p = 0.0000
Accidental	13	33.3	26	66.7	39	100.0	
Intentional	60	75.0	20	25.0	80	100.0	
Legal Intervention	2	100.0	-	-	2	100.0	
Undetermined Intention	3	100.0	-	-	3	100.0	
Total	78	62.9	46	37.1	124	100.0	
Prior death in the family from the same cause							p = 0.0026
Accidental	15	38.5	24	61.5	39	100.0	
Intentional	55	68.7	25	31.3	80	100.0	
Legal Intervention	2	100.0	-	-	2	100.0	
Undetermined Intention	3	100.0	-	-	3	100.0	
Total	75	60.5	49	39.5	124	100.0	

\*Fisher's exact test (p value).

Among the victims who died from self-harm (intentional causes), maternity in adolescence (58.7%), paternity in adolescence (56.2%), overload of roles of the mother (57.5%), presence of depression or emotional instability (52.5%), consumption of alcohol (92.5%) and drugs (81.2%), presence of family conflicts (75.0%) and prior deaths in the family from the same cause (68.7%) showed statistically significant differences compared with the other types of events (accidental, legal intervention and undetermined intention). Accidental causes showed a lower rate of the studied factors, although the sole presence of such factors may be of concern for prevention. Motherhood and fatherhood in adolescence as well as the overload of roles of the mother concern the parents of the victim. Yet the presence of depression and the use of alcohol and drugs concern the victim. The presence of family conflicts and prior death from the same cause concern the family as a whole.

As for the access to health services, it was reported by most except for cases of undetermined intent (66.7%). Yet access to social support networks is only reported by families whose victims died from accidents; the others met difficulties in accessing this type of service, especially among the intentional cases (83.7%), and in accessing religious support networks (72.5%). It is important to highlight that the p value for the health services network does not allow confirming an association between the network and the intentionality of the event, unlike the other aspects analyzed (Table 3).

As for feelings of appreciation, we inquired the families about the appreciation of the victims' qualities prior to death, appreciation of studies, housing and work, and whether the victim's pregnancy had been desired (Table 4). Feelings of appreciation were highly affirmative only in cases where the victims died in an accident, with the exception of appreciation for work, which was expressive also among the families of victims of intentional causes. The p-value in each crossing allowed drawing an association between feeling of appreciation and intentionality of the event.

As for the families' wishes in relation to their children, to safety and violence (Table 5), the wish for improved life, security and interruption of violence is present in virtually all categories of event. However, we still observed indifference

when the cause was intentional, legal intervention or undetermined intent (significant p value).

**Table 3.** Deaths from external causes among people aged 0 to 24 years, according to the intentionality of the fatal event and support networks, Cuiabá, 2009.

Associated Factors according to the intentionality of the event	Yes		No		Total		p value*
	Nº	%	Nº	%	Nº	%	
Access to Health Service Network							p = 0.7700
Accidental	39	100.0			39	100.0	
Intentional	78	97.5	2	2.5	80	100.0	
Legal Intervention	1	50.0	1	50.0	2	100.0	
Undetermined Intention	1	33.3	2	66.7	3	100.0	
Total	119	96.0	5	4.0	124	100.0	
Access to Social Support Network							p = 0.0000
Accidental	20	52.1	19	48.7	39	100.0	
Intentional	13	16.2	67	83.7	80	100.0	
Legal Intervention	1	50.0	1	50.0	2	100.0	
Undetermined Intention			3	100.0	3	100.0	
Total	34	27.4	90	72.6	124	100.0	
Access to Religious Support Network							p = 0.0000
Accidental	29	74.4	10	25.6	39	100.0	
Intentional	22	27.5	58	72.5	80	100.0	
Legal Intervention			2	100.0	2	100.0	
Undetermined Intention			3	100.0	3	100.0	
Total	51	41.1	73	58.9	124	100.0	

\*Fisher's exact test (p value).

**Table 4.** Deaths from external causes among people aged 0 to 24 years, according to the intentionality of the fatal event and families' feelings of appreciation, Cuiabá, 2009.

Feelings of appreciation according to Intentionality of the event	Yes		No or of no concern		Total		p value*
	Nº	%	Nº	%	Nº	%	
Appreciation of the child's qualities							p = 0.0000
Accidental	35	89.7	6	15.4	39	100.0	
Intentional	14	17.5	66	82.5	80	100.0	
Legal Intervention	-	-	2	100.0	2	100.0	
Undetermined Intention	1	33.3	2	66.7	3	100.0	
Total	50	40.3	76	61.3	124	100.0	
Appreciation of study							p = 0.0000
Accidental	37	94.7	2	5.1	39	100.0	
Intentional	27	33.7	53	66.3	80	100.0	
Legal Intervention	-	-	2	100.0	2	100.0	
Undetermined Intention	1	33.3	2	66.7	3	100.0	
Total	65	52.4	59	47.9	124	100.0	
Appreciation of housing							p = 0.0000
Accidental	32	82.0	7	17.9	39	100.0	
Intentional	20	25.0	60	75.0	80	100.0	
Legal Intervention	-	-	2	100.0	2	100.0	
Undetermined Intention	-	-	3	100.0	3	100.0	
Total	52	41.9	72	58.1	124	100.0	
Appreciation of work							p = 0.0472
Accidental	37	94.9	2	5.1	39	100.0	
Intentional	56	70.0	24	30.0	80	100.0	
Legal Intervention	-	-	2	100.0	2	100.0	
Undetermined Intention	-	-	3	100.0	3	100.0	
Total	93	75.0	31	25.0	124	100.0	
The victim's pregnancy was desired							p = 0.0040
Accidental	37	94.9	2	5.1	39	100.0	
Intentional	26	32.5	54	67.5	80	100.0	
Legal Intervention	1	50.0	1	50.0	2	100.0	
Undetermined Intention	1	33.3	2	66.7	3	100.0	
Total	93	75.0	31	25.0	124	100.0	

\*Fisher's exact test (p value).

**Table 5.** Deaths from external causes among people aged 0 to 24 years, according to the intentionality of the fatal event and families wishes, Cuiabá, 2009.

Family wishes according to Intentionality of the event	Yes		No or of no concern		Total		p value*
	Nº	%	Nº	%	Nº	%	
Life improvement							p = 0.0020
Accidental	39	100.0			39	100.0	
Intentional	62	77.5	18	22.5	80	100.0	
Legal Intervention	2	100.0			2	100.0	
Undetermined Intention	2	66.7	1	33.3	3	100.0	
Total	105	84.7	19	15.3	124	100.0	
Safety							p = 0.0038
Accidental	39	100.0			39	100.0	
Intentional	60	75.0	20	25.0	80	100.0	
Legal Intervention	2	100.0			2	100.0	
Undetermined Intention	2	66.7	1	33.3	3	100.0	
Total	103	83.1	21	16.9	124	100.0	
Interruption of violence							p = 0.0023
Accidental	39	100.0			39	100.0	
Intentional	58	72.5	22	27.5	80	100.0	
Legal Intervention			2	100.0	2	100.0	
Undetermined Intention			3	100.0	3	100.0	
Total	97	78.2	27	21.8	124	100.0	

\*Fisher's exact test (p value).

## Discussion

One limitation of this study is that information about the factors have been associated with the family, and may therefore be subject to recall bias and information. The cross-sectional design also limits the possibility of interpreting the associations found as derived from cause-effect relationships.

Notwithstanding these caveats, the results revealed the existence of important factors associated with deaths due to external causes among children, adolescents and young adults.

### Foreseeability of external causes

Although most families consider accidents and aggressions unpreventable, currently such causes are not considered inevitable anymore, because they emerge from individual, social and environmental conditions (BEM et al., 2008). Unpreparedness and lack of information often preclude prevention and make external causes seem a natural event. Though studies have revealed the conditions that favor the occurrence such as the urban environment with its intense traffic, the home environment and its jeopardies, the family's carelessness and negligence, the social and economic conditions that create violence, and minimally preventive individual behavior (MULLER; WEIGELT, 2005). In this sense, creating a culture of prevention seems fundamental, since the family plays an important role in protecting and socializing the child/adolescent.

Even though various families believed that habits and life style do not favor accidents and violence, the

Uri Bronfenbrenner's epidemiological model on physical injuries (BLANK, 2005) shows several factors to be involved in the occurrence of external causes (accidental or intentional - including the self-inflicted), namely, cultural factors (values and social norms, government policies and legislation), institutional factors (interaction with the community, school and work), interpersonal factors (interaction between parents and children either in the form of protecting them or exposing them to risks) and intrapersonal factors (naive behavior of the child and challenging behavior of adolescents).

Thus, it is important to consider this complex context, assuming that habits and life style collaborate directly with the prevention or occurrence of accidents and violence, and develop actions to raise awareness on predictability and preventability.

### Associated factors

As for the associated factors studied, predominance of alcohol and drug abuse among the victims of aggression coincides with a study on victims of accidents and violence in emergency services in Brazil from 2006 and 2007 (MASCARENHAS et al., 2009), which shows the highest rates for alcohol consumption among the victims of intentional causes, especially young male adults. In São Paulo, toxicological examinations of murder victims also shows alcohol abuse (GAZAL-CARVALHO et al., 2002), and in Curitiba (PR), half of the victims of aggression by firearms was intoxicated (FREITAS et al., 2008).

Researches show alcohol and drug abuse by both the victim and the perpetrator (HEIM; ANDRADE, 2008; MOROJELE; BROOK, 2006) to be an important associated factor, especially for work and transport accidents, aggressions, homicides, suicides, domestic violence, sexual offenses and traffic accidents. However, there is no simple and unidirectional relation, because family and social factors should also be taken into account (ROOM et al., 2005). In Brazil, besides social cultural determinants, scholars associate a great number of accidents and violence to alcohol and drug abuse (REICHENHEIM et al., 2011).

The presence of family conflicts, mother's role overload, depression, teenage parenthood, and death from the same cause in the family corroborates the fact that violence is expressed intensely in the family context (ANTONI et al., 2007).

However, one must keep in mind that the family concept has changed over the years from the definition of only blood bonds to the representation of a group of people that nourish the same feeling of belonging and affective bonds (ALVES, 2006).

Research points out that maternity and paternity in adolescence (here in relation to the parents of the victims - whether the victim was born when the parents were still teenagers) are an associated factor for external causes, especially intentional ones (CECCONELLO et al., 2003), because usually adolescents are not yet ready to accept responsibilities as to child care and easily become negligent, not only of physical care, but also emotional, family, and social care, besides situations that generate stress and may lead to violent acts. Research shows that children who are victims of violence, have experienced family conflicts and situations of aggression, or have a parent in conflict with the law, have a higher risk of violent behavior when adults (CHEMERINSKI; LEVINE, 2006; WIJERATNE; MALHI, 2007), because, according to the theory of learning, the aggressiveness is acquired through experience in the family (BEAVER et al., 2009).

In this sense, investments in family planning have become relevant specifically for adolescents, with actions that use appropriate methodologies for this age group and that culminate in effective pregnancy prevention in a phase of life in which the lack of knowledge about him/herself and about responsibilities may favor the occurrence of accidents and violence, creating thus a family environment in which these events seem natural with the risk of future replication (ANTONI et al., 2007). Authors also indicate that, in case of pregnancy during adolescence, the reception of both the girl and the boy by the health service is essential to promote self-esteem and may help in the reorganization of life projects and affective bonds, to face the losses and enhance the gains (SARMENTO, 2008).

Another highly discussed associated factor, when it comes to external causes, is the overload of roles on the maternal figure. Currently, family roles do not follow the ideal anymore of the mother as the responsible for raising children and the father as the financial provider (ANTONI et al., 2007). As a result, women accumulate the activities of work, study, household and education of the children, which imposes an overload of tasks that lead to stress and, consequently, to negligence and intolerance, conditions that favor accidents and violence. In such context, the relevance of services that offer family therapy is evident, as they could discuss family roles, the division of tasks and other educational practices than physical punishment in order to develop a culture of peace.

Depression, as identified in this study, is considered one of the most common emotional

consequences of intentional violence (DAY et al., 2004), which may indicate an experience of aggression among the studied victims. Research shows that an abused or neglected child tends to develop depression in adulthood or even in childhood (LANG et al., 2004). In this sense, the structure of the health care system should provide proper care to victims still in childhood, besides early diagnosis and intervention in order to soften the consequences in adulthood. For this reason, the performance of professionals of the Family Health Program is essential and should be enhanced by proper training for the development of the necessary knowledge and skills.

The presence of family conflicts in the intentional cases corroborates with studies in which a not in the least inviting family environment and family conflicts characterize the complex context of violence (RODRIGUES; NAKAMO, 2007). For some authors, conflicts and the emotional stress of parents directly influence the socialization of the child, who grows up in the midst of frustration, tension and insecurity, thus increasing the possibility of aggressive behavior, since violence is taken for common in conflict resolution (TAQUETTE et al., 2003).

However, if a child has at least one positive model, it is already capable of breaking the cycle of perpetuation of violence (HEITMEYER; ANHUT, 2008). This shows the importance of professionals from different areas being attentive to the identification and early interruption of situations of violence involving children in order to provide appropriate treatment and break this cruel cycle.

Prior deaths from the same cause as a result of criminality, especially in cases of murder and legal intervention, draw attention to social factors that are driving this type of violence, because criminality and the consequent violence suffered in the family strongly influence aggressive behavior of youngsters (MOREIRA et al., 2008). Research shows that a family environment with exposure to crime and violence influences the development of a personality prone to extreme violent behavior (FERGUSON, 2008), which justifies the study's findings, in which the homicide victims had other family members also injured in the same event.

Criminality, however, has multifactorial causes, not just the family. As it is a social phenomenon, violence is produced in different scenarios: in society, school, work, public and private institutions, interpersonal relationships and in all social and cultural sectors (CONCHA-EASTMAN; KRUG, 2002).

The effects of violence on society are intense and are expressed in the reduction of social interaction,

the change in behavior of the population, as all live in fear and feel threatened by imminent violence, the anguish and helplessness of the victim, the lack of human solidarity; the economic impact with its expenses for care and loss of productivity, predominance of private instead of the public spaces as the latter do not offer security, among other direct and indirect consequences (CONCHA-EASTMAN; KRUG, 2002).

What should be widely discussed is the importance of an effective social and family support network within the bodies of health care since authors argue that the situations of vulnerability can be modified, producing positive results. Therefore, we need to stimulate the capacity of the individual to overcome crises and adversity, the so-called resiliency (processes of “overcoming” crises and hardship in individuals, groups and organizations) (YUNES, 2003). In addition, still, the need to develop mechanisms for coping with violence that act directly in situations of vulnerability.

Factors relating to the support network, feelings of appreciation and wishes of the family in relation to children / security / violence, are recognized by some authors as protective factors, classified didactically into individual factors (activities, positive self-esteem, self-control, autonomy, affectionate and flexible temper); family factors (cohesion, affection, stability, mutual respect, support and assistance, absence of discord and negligence); and factors of individual or institutional support available for the child and the family (relationship of the child with peers and people outside the family, cultural support, individual care such as medical or psychological care, religious institutions, etc.) (PESCE et al., 2004). For scholars, these factors seek to modify the response of the individual to situations of vulnerability, thus reducing the impact of such and the chain of negative reactions.

Although the *P* value in relation to the network of health services was not statistically significant, the results coincide with Antoni et al. (2007, p. 130), who defined a support network as “[...] a set of locations and people where the families seek some kind of support and aid [...]” in order to socialize their problems and find ways of overcoming (BARBOSA; PEGORARO, 2008).

Social support is an important factor against violence, because it offers an interface between the subject and the social system of which he/she is part (SIQUEIRA et al., 2006). The lack of such support can lead to social isolation, because the individual ceases to establish relationships within his/her microsystems: family, friends and school, among others (SANTOS et al., 2001). Authors suggest that

most conflicts are due to the lack of a social support network with appropriate family guidance (MARTINS et al., 2007).

Therefore, furthering spaces for the families, especially those under situations of violence, is essential, whether through educational activities or group activities that promote social competence and encourage positive change. After all, in case of violence, social participation and involvement of the community are essential for the diagnosis, complaint and support for the family (BARBOSA; PEGORARO, 2008).

As for the network of religious support, research (ANTONI et al., 2007) also identified its importance as it helps to develop the moral and spiritual values necessary for dealing with suffering.

Since positive factors improve the responsiveness of individuals to negative environments and events, reducing the occurrence to aggression, alcohol or drug abuse, anger, conduct disorder, cruelty to animals, among others (MAIA; WILLIAMS, 2005), policies on the issue of external causes should not only be concentrated in situations of vulnerability, but also on the factors considered protective.

### Feelings of appreciation

The findings of this research highlight the fact that appreciation of the qualities of the child is present in far greater proportion in accidental cases than in intentional ones. More than 80.0% of the latter did not value the victim's qualities. Since feelings of appreciation are an important indicator of protection due to the self-esteem they further (ANTONI et al., 2007), these results are worrisome, for the presence of appreciation would allow for the children to feel beloved. Such emotional condition in family ties is essential for the promotion of non-violence.

Appreciation of work, in turn, present in the families whose victims died both from accidental and intentional causes, is important for the children to understand professionalization as a life project, besides the fact that criminal activities become less attractive (SANT'ANNA et al., 2005). Similarly, appreciation of studies stimulates school attendance and also helps define future goals (ANTONI et al., 2007), although this factor has been manifested in greater proportion only in accidental cases.

The appreciation of housing, a space for interacting with people, symbols and objects, for coexistence and significant protection, favoring well-being (ANTONI et al., 2007), reveals the perception of the environment. The fact that this factor is predominant only in the accidental cases, but not very much valued by families of intentional cases

may indicate a lack of such feeling, maybe due to their own family conflicts and characteristic social conditions of violence.

Another finding that stands out is that the victims' pregnancy in this study was not desired in most intentional cases. However, we found no studies that examine the same aspect. What can be considered in this context is that unwanted pregnancy can result in the loss of personal and family structure, with the consequent lack of care for the child (DADOORIAN, 2003), conditions intimately related to the context of violence. In this sense, we highlight the importance of sexual education programs and services specifically designed for adolescents that offer access to guidance and contraceptive methods, prenatal support, as well as the monitoring of the child's growth and development.

### Family wishes

The wishes of the families, both in accidental and intentional cases, for their children to improve in life, for safety and interruption of violence were also identified in another study with families in situations of violence (ANTONI et al., 2007). Such desires show that, even in the presence of important situations of vulnerability, the families still believe that positive changes are possible. Attitudes of indifference in the cases of legal intervention still draw the attention to the need to strengthen such desires by providing room for communication, having the families participating in discussions on violence and ways of coping with it. It is necessary to work on prevention and overcoming suffered violence through information, education, discussion and awareness.

### Final considerations

The presence of associated factors that differ according to the intentionality of the harm reveals the fragility of the context of these events. However, it is important to consider that each family has peculiarities, which must be taken into account when proposing strategies for intervention. It is shown the need to intensify the social support and family care networks can help reduce the suffered and inflicted violence, as well as accidental causes.

Enhancing family roles, family planning in order to avoid maternity and paternity in adolescence, developing an awareness for non-violent educational practices, stimulating appreciation and positive desires of the families, as well as a culture of peace seem essential actions on this long path against these, not at all natural, accidental and intentional events.

We also highlight the need for training human resources at the various levels of attention, so that they can understand the phenomenon and identify and intervene appropriately when facing conditions of perceived violence.

Monitoring the events in order to know their magnitude and characteristics is also essential. In this sense, the information system of Brazil, managed by the Ministry of Health, is structured on the basis of mortality data (Information System on Mortality - SIM in Portuguese, based on the Death Certificate, of morbidity (Hospital Information System - SIH in Portuguese, based on hospital admission authorizations) and attendance by emergency services through compulsory notification (Surveillance System of Violence and Accidents - VIVA in Portuguese, implanted in 2006) (BRASIL, 2009). The continuous improvement of these information systems, with periodic assessments and rapid data access can contribute to the epidemiological analysis, subsidizing measures for the reduction and monitoring these events.

The research may contribute to the advancement of knowledge, highlighting actions to be implemented to face the issue.

Furthermore, we suggest epidemiological studies that can contribute to the development of strategies for the prevention of accidents and violence.

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