Substantiating child maltreatment: CIS-2003[1]

Nico Trocmé, Della Knoke, Barbara Fallon, & Bruce MacLaurin

The 2003 Canadian Incidence Study of Reported Child Abuse and Neglect (CIS-2003)[2,3] is the third child abuse and neglect incidence study to be conducted in Canada. The first cycle was completed in Ontario in 1993. The second and third cycles were Canada-wide studies, completed in 1998 and 2003 with the Public Health Agency of Canada (PHAC). The CIS-2003 tracked a sample of 14,200 child maltreatment investigations, conducted during the fall of 2003 in 63 out of 400 child welfare sites across Canada. Because of the large amount of missing data in the Quebec portion of the study, this analysis examines the core sample of 11,562 investigations involving children under 16 years of age investigated outside of Quebec.

There is growing debate about how to best analyze and interpret data on reported child abuse and neglect. One of the chief concerns relates to conceptualizing and analyzing unsubstantiated versus substantiated cases. While most child maltreatment researchers have tended to focus on substantiated cases of maltreatment, recent studies indicate that the distinction between substantiated and unsubstantiated cases may not be as clear as assumed and that reported maltreatment may be a more robust category than is substantiated maltreatment.[4,5] A related issue that has received less attention is whether or not cases of suspected or inconclusive maltreatment should be included as substantiated.[6,7]

The CIS-2003 provides an ideal dataset to examine the distinction between levels of maltreatment substantiation because of its relatively large sample size, the broad array of child, family and maltreatment characteristics it examines, and its use of tiered substantiation classification (unfounded, suspected and substantiated). This fact sheet summarizes the results of analyses of the case substantiation decision conducted for the Public Health Agency of Canada.[8]

Rates of substantiation

Table 1 presents the breakdown of rates of substantiation by form of maltreatment. A case was considered substantiated if the balance of evidence indicated that abuse or neglect occurred. If there was insufficient evidence to substantiate maltreatment but there remained suspicion that maltreatment had occurred, a case was classified as suspected. A case was classified as unsubstantiated if there was sufficient evidence to conclude that the child had not been maltreated.

Rates of substantiation vary from a low of 20.3% for child sexual abuse to a high of 75.9% in cases of exposure to domestic violence. The unusually high substantiation rate in cases involving exposure to domestic violence appears to be partially due to important conceptual differences in the basis for substantiation. It may be that the occurrence of domestic violence rather than child maltreatment due to exposure is being substantiated. Physical abuse, neglect and emotional maltreatment were substantiated at similar rates, 37%, 40% and 44% respectively. Rates of substantiation were significantly higher in cases involving multiple forms of maltreatment (59%).

Overall, in 13% of investigations it was not possible to determine whether or not maltreatment had occurred. The rate of suspected maltreatment was fairly consistent across most forms of maltreatment, with rates being highest in cases involving emotional maltreatment or multiple forms of maltreatment.

Correlates of case substantiation

Table 2 presents select case characteristics associated with the decision to substantiate child maltreatment. The relationship between the characteristics of each case and the decision to substantiate maltreatment was

examined in two stages. First, bivariate analyses were used to examine the proportion of cases that were unsubstantiated, suspected and substantiated for each case characteristic. Statistically significant differences are indicated in the table. Second, Logistic Regression was used to examine the characteristics that were related to the likelihood that maltreatment would be substantiated rather than unfounded. For this second stage, cases of suspected maltreatment were excluded. The characteristics that remain significant in the Logistic Regression are identified by the inclusion of the Adjusted Odds Ratio statistic, which measures the odds of a case being substantiated if it has the given characteristic. For example, cases involving one housing risk factor are 1.29 times more likely to be substantiated than are cases without a housing risk factor (contrast category), taking into consideration the influence of all of the other case characteristics in the analysis.

Results from the logistic regression analysis show that a number of referral and family background characteristics are related to the decision to substantiate maltreatment. Referrals from other professional sources (health, mental health, community agencies) and the police were more likely to be substantiated, with police referrals being almost 4 times more likely to be substantiated than referrals from any other source. Housing risk had a dramatic effect on substantiation status with the odds of substantiation being more than 3 times higher in cases involving two or more risk factors (overcrowding, safety problems, multiple moves, public housing or shelter). The role of family structure on substantiation decisions is a little more complicated. While a larger proportion of single parent families were substantiated, once we controlled for other case characteristics they were in fact less likely than two parent biological families to be substantiated (Odds Ratio = 0.87, p<.01). Cases involving black and other minority caregivers were more likely to be substantiated than were cases involving white caregivers.

As one would expect, severity of maltreatment, form of maltreatment and caregiver risk factors are all strongly associated with case substantiation. The odds of substantiation increase with the number of caregiver risk factors (substance abuse, health and mental health problems, cognitive delay, lack of social support, criminality, and violence), with cases involving three or more risk factors being almost four times more likely to be substantiated. If one or both caregivers were considered to be uncooperative, the odds of substantiation increased as well. Prior known incidents of maltreatment, signs of emotional harm, and evidence of physical harm were all strongly associated with the decision to substantiate.

Although maltreatment is substantiated more often for children with behavioural, emotional and health concerns, only behavioural concerns continued to increase the odds of substantiation in the logistic model when the effect of other factors was taken into account. Overall, child age was not related to substantiation. However, separate maltreatment-specific analyses show that physical abuse is more likely to be substantiated for older children, whereas neglect and emotional maltreatment are less likely to be substantiated as children grow older.

Table 1: Proportion of substantiated investigations by form of maltreatment, CIS-2003*

Form of maltreatment investigated	Unfounded		Suspected		Substantiated	
	%	N	%	N	%	N
	Unfounded		Suspected		Substantiated	
Only Physical Abuse	51.0%	1097	11.8%	253	37.2%	801
Only Sexual Abuse	67.1%	357	12.6%	–	20.3%	108
Only Neglect	49.2%	1533	11.0%	342	39.8%	1238
Only Emotional Maltreatment	39.7%	425	16.4%	176	43.9%	470
Only EDV	15.1%	234	9.0%	140	75.9%	1178
Multiple Forms	25.0%	785	15.7%	493	59.3%	1865
Total	38.3%	4431	12.7%	1471	49.0%	5660

* = Unweighted data, excludes Quebec and investigations involving children over 16, N=11,562

Table 2: Rates of substantiation by child, family and referral investigation factors, CIS-2003*

CIS-2003 variables significance	Chi-square significance	Unfounded %	N	Suspected %	N	Substantiated %	N	Adjusted odds ratio (unfounded vs. substantiated)
Child investigations *(row percentages)*		42%	4,197	13%	1,331	45%	4,482	
Referral source	p<.01							
Any non professional referral		45%	1,272	14%	397	41%	1,156	contrast
Police referral		23%	313	11%	150	66%	917	3.80
School referral		46%	1232	13%	346	41%	1086	ns
Other professional referral		39%	926	14%	335	46%	1089	1.28
Anonymous		64%	308	10%	–	26%	124	0.56
Other referral		41%	194	16%	–	43%	208	ns
Housing risk	p<.01							
None		47%	3,235	13%	881	40%	2,778	contrast
One		36%	859	13%	322	51%	1,213	1.29
Two or more		14%	103	18%	128	68%	491	3.37
Family structure	p<.01							
2 parent biological		44%	1,388	12%	374	44%	1,402	contrast
2 parent blended/partner		43%	871	14%	288	43%	881	0.75
lone parent		40%	1,668	14%	585	46%	1,924	0.87
other		43%	270	13%	–	44%	275	ns
Ethno-racial status	p<.01							
White		45%	3,117	13%	895	43%	2,991	contrast
Black		43%	185	9%	–	48%	207	1.51
Aboriginal		32%	512	15%	246	53%	859	ns
Other minority		40%	371	15%	144	45%	418	1.42
# Caregiver A risk factors	p<.01							
None		62%	2,140	10%	325	28%	968	contrast
One		42%	879	14%	301	44%	913	1.79
Two		38%	577	15%	223	47%	712	2.03
Three or more		20%	601	16%	482	64%	1,889	3.83
One/both caregivers uncooperative	p<.01	23%	279	16%	191	61%	752	1.80
Forms of maltreatment	p<.01							
Only physical abuse		51%	1,097	12%	253	37%	801	contrast
Only sexual abuse		67%	357	13%	–	20%	108	0.40
Only neglect		49%	1,533	11%	342	40%	1,238	0.86
Only emotional maltreatment		40%	425	16%	176	44%	470	ns
Multiple forms		25%	785	16%	493	59%	1,865	1.84
Prior substantiated maltreatment	p<.01	29%	809	13%	361	58%	1,593	1.39
Signs of emotional harm	p<.01	11%	165	16%	241	73%	1,126	4.80
Any physical harm	p<.01	15%	115	12%	–	72%	542	5.53
Child behaviour concerns	p<.01	31%	1,224	15%	580	54%	2,111	1.34
Child emotional concerns	p<.01	24%	432	16%	281	60%	1,064	ns
Child physical health concerns	p<.01	32%	776	15%	349	53%	1,272	ns
Child age (mean in years)	p<.01	7.7		7.8		8.1		ns

* = Unweighted data, excludes Quebec, investigations involving children over 16, and investigations involving exposure to domestic violence only, N = 10,010.

Predicting case substantiation

Several multivariate analyses were completed to examine the extent to which substantiation status could be predicted on the basis of child, family and investigation related characteristics. In a first set of analyses, we used multinomial regression to examine whether the case correlates in Table 2 could be used to distinguish unsubstantiated, suspected and substantiated maltreatment. Seventy and 76% of the substantiated and unfounded investigations, respectively, were accurately classified by the model. However, none of the investigations in the suspected category were correctly classified. Sixty percent of the cases involving suspected maltreatment were misclassified by the model as substantiated and 40% as unfounded. Thus, although a variety of factors may influence the likelihood that an investigation will be suspected rather than substantiated or unfounded, the present analysis suggests that suspected maltreatment is not entirely distinct from the other two levels of substantiation.

Logistic Regression analyses indicate that substantiated and unsubstantiated cases can be distinguished with an acceptable level of accuracy. The model (variables described in Table 2) correctly predicted 73% of substantiation decisions, with 37% of the pseudo variance explained. Four additional analyses were conducted for physical abuse only, neglect only, emotional maltreatment only and multiple forms of maltreatment. The overall prediction accuracy was similar across forms of maltreatment, and other than child age and child emotional concerns, there was little variation in the role played by each characteristic.[9]

Conclusions

The primary purpose of these substantiation analyses was to assist researchers in making decisions about when to include unsubstantiated and suspected cases in their studies. Overall our findings show that substantiated cases are very different from unsubstantiated cases. Our analyses also show that the suspected category is a mixed category that should not be collapsed with substantiated nor with unsubstantiated cases.

These findings have some broad policy implications. As argued by Herman (2005), it is likely that substantiation judgments will be more accurate if investigators are given a third suspected or inconclusive option. Most jurisdictions in Canada, however, only offer two case disposition options. A second implication worth noting is that while some critics have argued that case substantiation is a biased decision that is influenced by many extraneous factors, our analyses show that case severity, referral source, housing and caregiver risk factors are the most important determinants of case substantiation.

1 This information sheet is based on the following: Trocmé, N., Knoke, D., Fallon, B., & MacLaurin, B. (2006). *CIS-2003: Understanding the case substantiation decision*. Ottawa, ON: Public Health Agency Canada.

2 Trocmé, N., Fallon, B., MacLaurin, B., Daciuk, J., Felstiner, C., Black, T., et al. (2005). *Canadian incidence study of reported child abuse and neglect – 2003: Major findings*. Ottawa, ON: Minister of Public Works and Government Services Canada.

3 The CIS is part of the national child health surveillance program of the Injury and Child Maltreatment Section, Public Health Agency of Canada.

4 Leiter, J., K. A. Myers, et al. (1994). "Substantiated and unsubstantiated cases of child maltreatment: Do their consequences differ?" *Social Work Research* 18(2): 67–83.

5 English, D. J., S. I. Bangdiwala, et al. (2005). "The dimensions of maltreatment: Introduction." *Child Abuse and Neglect* 29: 441–460.

6 Herman, S. (2005). "Improving Decision Making in Forensic Child Sexual Abuse Evaluations." *Law and Human Behavior* 29(1): 87–120.

7 King, G., N. Trocmé, et al. (2003). "Substantiation as a multi-tier process: The results of an NIS3 Analysis." *Child Maltreatment* 8(3): 173–189.

8 Trocmé, N., Knoke, D., Fallon, B., & MacLaurin, B. (2006). *CIS-2003: Understanding the case substantiation decision*. Ottawa, ON: Public Health Agency Canada.

9 Detailed tables are provided in: Trocmé, N., Knoke, D., Fallon, B., & MacLaurin, B. (2006). *CIS-2003: Understanding the case substantiation decision*. Ottawa, ON: Public Health Agency Canada.

Public Health Agency of Canada   Agence de santé publique du Canada

This information sheet can be downloaded from: www.cecw-cepb.ca/infosheets