# Content validation of an instrument for identifying violence against children

Validação de conteúdo de um instrumento para identificação de violência contra criança

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Nursing assessment; Child; Nursing care; Pediatric nursing; Violence

#### Descritores

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**Objective:** To elaborate and validate the contents of an instrument for identifying violence against children. **Methods:** Methodological study consisting of two stages: the first was the development of the instrument from the literature review; the second was content validation, with evaluation of the instrument by 25 experts. For analysis, were adopted Kappa coefficient  $\ge 0.61$ , and content validity index  $\ge 0.75$ .

**Results:** In the first round, of 62 items, it was necessary to reformulate the content of 23 items. After adjustments suggested by the experts, the instrumented had 50 items in the second round. Of these, only one had Kappa> 0.61 (Kappa = 0.50). The lack of agreement among experts resulted in the exclusion of this item in the third round.

**Conclusion:** The instrument showed satisfactory content validity index and can be used to identify signs of suspected violence and help health professionals in child care.

### Resumo

Abstract

**Objetivo:** Elaborar e validar o conteúdo de um instrumento para identificação de violência contra criança. **Métodos:** Estudo metodológico composto por duas etapas: a primeira foi a elaboração do instrumento, a partir de revisão da literatura; a segunda, de validação de conteúdo, mediante a avaliação do instrumento por 25 especialistas. Para análise, adotaram-se coeficiente *Kappa*  $\ge$ 0,61 e índice de validade de conteúdo  $\ge$ 0,75. **Resultados:** Na primeira rodada, dos 62 itens, observou-se necessidade de reformulação do conteúdo de 23. Após as alterações sugeridas pelos especialistas, na segunda rodada, o instrumentou passou a possuir 50 itens. Destes, apenas um apresentou *Kappa* >0,61 (*Kappa* = 0,50). A insuficiência de concordância entre os especialistas ocasionou na exclusão dele, em uma terceira rodada.

**Conclusão:** O instrumento apresentou índice de validade de conteúdo satisfatório e pode ser utilizado para identificar os sinais de suspeita de violência e auxiliar os profissionais de saúde na assistência à criança.

### Introduction

Approximately 10% of major trauma occurred in developed countries have children as victims, among which the non-accidental injuries stand out with high prevalence in children under two years. In recent decades there has been a reduction of infant mortality rates and in childhood in Brazil because of the various activities in the fields of health, public health, and access to other social benefits. However, between 2000 and 2010, the increase of 13.8% in homicide rates is noteworthy in the first year of life, and of 13.5% by the age of five.<sup>(1,2)</sup>

Violence and accidents are the third leading cause of death among children aged 0-9 years, characterize as a social problem and a major public health issue. Many of these injuries do not result in death of the individual, but can harm the development of the victim. $^{(3,4)}$ 

Ill-treatment against children began to receive more attention from society in the late 1980s through the Federal Constitution and the Statute of Children and Adolescents. At that time, reporting cases of confirmed or suspected violence against children and adolescents became mandatory, and penalties were provided for doctors, teachers and responsible for health facilities and education who failed to report cases of their knowledge. According to Art. 5 of Law No. 8,069/90 of the Statute of Children and Adolescents, no child or adolescent should be subjected to any form of negligence, discrimination, exploitation, violence, cruelty and oppression.<sup>(5,6)</sup>

Health professionals must be aware of the risk factors for the occurrence of violence and general signs of ill-treatment. They are often the first people to identify the possibility of the child be suffering violence.(4,7,8)

The role of multidisciplinary teams is essential for the prevention and early identification of aggression, abuse and maltreatment. In addition, they should ensure adequate monitoring, as well as the identification and monitoring of families at risk. However, there is still great difficulty among professionals in relation to the identification of signs of violence. (4,9,10)

In the literature, there are standardized and validated instruments to the Brazilian context investigating violence in children according to the observation of teachers or through reports of the own family. However, there is lack of validated and standardized instruments designed to be handled and directly completed by health professionals and/or teams.(11)

There are also manuals of the Ministry of Health and protocols developed by local and state health departments targeted to professionals in this area, but they lack of semantic and psychometric assessment. Moreover, these are long informative manuals on the subject without space to be filled out by health professionals/teams during the research process.(12-14)

Physical violence is defined as any violent act with intentional use of non-accidental physical force, practiced by an older, stronger or more influential person, with the objective to get what is desired. Psychological violence is any action that might endanger or cause damage to the self-esteem, identity or development of the child.<sup>(12,15)</sup>

Sexual abuse is defined as sexual acts or games performed by older individuals that aim to stimulate the child to obtain sexual satisfaction. Relationships may be homosexual or heterosexual. Negligence is characterized by omissions of those responsible for the child, who fail to provide the basic needs for the physical, moral, emotional, spiritual and social development of children. Abandonment is a more serious form of neglect.<sup>(12,15)</sup>

Thus, there is need for a validated instrument that can be used by health professionals in a practical and objective way to trace violence against children in everyday clinical practice. Given the previously highlighted context, the aim of this study was to develop and validate the content of an instrument to identify violence against children, the starting point for multidisciplinary follow-up of cases.

### **Methods**

This methodological study of quantitative approach was developed in two stages: the first was the development of the instrument; and the second was content validation through the assessment of instruments by judges/experts.

The first stage of the instrument preparation was based on the bio-ecological theory of human development through a review of literature on psychosocial risk factors for violence against children. Later, for the construction of each item, was also gathered information from the guidance document called 'Care Line for Integral Attention to the Health of Children, Adolescents and their Families in Violence Situation (*Linha de Cuidados para a Atenção Integral à Saúde da Criança, Adolescentes e suas Famílias em Situação de Violências*).<sup>(12,16)</sup>

The questionnaire was called Instrument for Identification of Violence Against Children. The target population are multidisciplinary health teams that could investigate the presence of signs of violence in children aged under 12 years, as defined by the Statute of Children and Adolescents. The items comprise signs and/or symptoms indicative of the four natures of the phenomenon, namely: physical, sexual, and psychological violence, and child neglect, with the response options 'Yes', 'No' and 'Not applicable'.

In the second stage, initially we selected health professionals to collaborate in the instrument content validity<sup>(17)</sup> and used the Delphi technique for this purpose.<sup>(18)</sup>

An intentional sample of 178 professionals was selected by the Lattes Platform of the National Council for Scientific and Technological Development (CNPq), using the advanced search by subject and considering the following inclusion criteria: holding a PhD; researcher or professional in the health field; working with one of the following themes: violence against children, infant human development or Delphi method; having updated the resume in the last 60 months; and having published papers or articles on the subject over the past five years. The experts who did not meet the acceptance deadline stipulated by researchers (from October to December 2014) were excluded. Later, the selected experts were contacted by e-mail. They received an online evaluation questionnaire constructed via Google Docs, the Informed Consent Form (IC) and a letter of invitation explaining the study proposal.

The questionnaire for instrument evaluation allowed that experts analyzed each item using a scale of three levels of agreement: adequate, partially adequate or inadequate for the criteria of relevance, objectivity, clarity, simplicity, practicality and vocabulary.

There was also a space for formulating suggestions for each item. At the end of the questionnaire, the experts made a comprehensive evaluation of the instrument using the same criteria through an open question that allowed formulating suggestions for the instrument as a whole.

In the first round, 25 experts agreed to participate, forming the study sample. The sample of the second round was composed of 22 experts, and the third of 21, respecting the principle of literature that does not recommend the use of more than 30 experts in the analysis.<sup>(19)</sup>

With regard to statistical analysis, data were entered into a spreadsheet. There was agreement among the experts regarding the relevance of the items through the content validity index calculated by dividing the number of judges who deemed the item appropriate by the total number of experts. The calculation for the overall evaluation of the instrument was performed using the ratio of the number of items deemed appropriate by the experts and the total number of items.

The reliability of the agreement of item evaluation by the judges was analyzed using the Kappa index, indicated as a complement to the content validity index. As acceptance criteria, the Kappa coefficient was established at agreement > 0.61, and  $\geq$ 0.75 for the content validity index, both for the evaluation of each item as for the overall evaluation of the instrument.<sup>(20-22)</sup>

The analysis provided support for reformulations of the instrument according to the experts' suggestions. Other data were analyzed using descriptive statistics. The study was registered in Brazil under the Platform Presentation of Certificate number to Ethics Assessment – *Certificado de Apresentação para Apreciação Ética* (CAAE) 24583413.9.0000.5292.

# Results

The study included 25 health professionals, the majority (96%) were female and aged between 27 and 61 years (mean 45.2 years). With regard to the professional category, 52% were nurses, 24% psychologists, 16% doctors, 4% physical therapists, and 4% occupational therapists. In relation to qualification, in addition to doctorate, 12% of the sample had post-doctorate.

Initially, the instrument had 62 continuous items without categorization in dimensions, even though the items corresponded to the four natures of the phenomenon. Regarding the first round, 39 (62.90%) showed Kappa  $\ge 0.61$  and content validity index  $\ge 0.79$ . In the other items (n = 23; 37.10%) were found low Kappa indexes, hence there were also reformulations. The instrument received Kappa overall evaluation of 0.62 and content validity index of 0.85, which are considered good results.

The experts considered some items were similar, and requested the unification of information (Chart 1).

Note that in addition to unifying the items 'Discharge, secretion, bleeding, injury, genital scars or ulcers' and 'Open anus during an examination', the following sentence was added: 'Also consider the child's report of itching and/or pain in the genital areas', following the considerations of an expert. In addition to these, the items 'Recurring or persistent discomfort in passing urine or in the perianal region' and 'Evidence of foreign bodies in one of the genitals' showed K = 0.58 and CVI = 0.84, and received two and three suggestions, respectively, indicating the need of the child's account. The recommendations were accepted and the descriptions of items were reformulated. Other items were changed due to the need for more clarity, according to experts (Chart 2).

One of the experts mentioned that the item 'Emergence of new symptoms when previous symptoms are solved, unlikely or not explainable clinical situation by the previous history of the child, search of parents/caregivers' for opinions from different professionals even before a definitive clinical judgment' (K = 0.58; CVI = 0.84) had two distinct ideas. Thus it was split into two, by separating the information in different items.

Furthermore, the item 'Hypernatremia (abnormal levels of sodium in the blood)' was analyzed by five experts as restricted to medical use (K = 0.47; CVI = 0.80). The suggestion of one of the experts was accepted, and the item was changed to 'Hypernatremia (ab-

Chart 1. First round: items with unified information	Chart 1.	First	round: if	tems with	unified	information
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Items from the first version of the instrument			
Contusion or hematoma in the shape of a hand, belt or stick; or marks of tooth or nails	0.76/0.43		
Contusion or hematoma in any non-bone body part (such as head, neck, face, buttocks, torso or arms)	0.80/0.48		
Hematoma or red or purple spots	0.80/0.48		
Injuries with appearance of an adult human bite.	0.80/0.48		
Discharge, secretion, bleeding, injury, scars or genital ulcers	0.88/0.67		
Open anus during examination.	0.84/0.58		
Sexualized behavior (like speaking and demonstrating sexual knowledge, drawing genitalia, simulation of sexual activity with another child)	0.88/0.67		
Precocious sexual behavior.	0.84/0.58		
Frequent absences in school activities	0.88/0.67		
Little or no school attendance without clinical conditions that justify it.	0.92/0.77		
Father/caregiver's refusal to seek a health professional for child care, or no permission for the own child looking for a health professional.	0.84/0.58		
Parents/caregivers do not seek health services when the child needs care; they cannot administer the treatment prescribed for the child; or often do not accompany the child in health services.	0.96/0.88		
The child has not been receiving adequate monitoring of immunization, treatment for tooth decay, growth and development.	0.88/0.67		

Items from the first version of the instrument	CVI/Kappa				
Severe or unusual injuries.	0.68/0.28				
Intracranial injury or subdural hemorrhage in the absence of a large accidental trauma.	0.76/0.43				
Signs of cervical spine injury in the absence of accidental trauma confirmation.	0.84/0.58				
Intra-abdominal or thoracic injuries in the absence of large accidental trauma and/or external hematoma.	0.84/0.58				
Controlling behavior with parents/caregivers.	0.84/0.58				

Chart 2. First round: analyzed items that needed more clarity in content

CVI - Content validity index

normal levels of sodium in the blood) without clinical explanation', with the objective to clarify the analyzed content. The other items were changed in accordance with the suggestions of experts (Chart 3).

All experts considered the instrument appropriate in the overall evaluation, but four of them indicated the need for categorization of items according to the nature of violence against children. Therefore, the content of the instrument was distributed in the following dimensions: behavioral signs of the child; signs of physical violence; Munchausen syndrome by proxy (induction of symptoms and diseases in children by parents/caregivers); signs of sexual violence; and signs of neglect.

After reformulations, the instrument had 50 items and was evaluated by the experts again. In the second round, 49 items presented content validity index between 0.81 and 1.00, and Kappa between 0.61 and 0.99. The instrument was evaluated positively, obtaining Kappa of 0.85, and content validity index of 0.95.

The item evaluating hypernatremia had a Kappa index of 0.50. Four experts still evaluated this information as of little relevance given the medical specificity and complexity of the item. Three judges suggested to clarify the need for laboratory evidence to apply this item, which was changed to 'Hypernatremia (abnormal levels of sodium in the blood) verified by clinical and laboratory examination and without clinical explanation'. The other items have not changed and the instrument remained with 50 items.

The changes were evaluated by the judges in the third round. The items related to the investigation of strong behavioral changes, the presence of drug levels in the blood, and lack of proper promotion of socialization presented Kappa of 0.85, and content validity index of 0.95. The other items had Kappa coefficient and content validity index equal to 1.00.

The item that evaluated sodium blood levels received great content validity index (0.80), but Kappa coefficient of 0.58. Thus, we decided to exclude

Items from the first version of the instrument	CVI/Kappa	Suggestions from experts (n)	Justification
Strong change in behavior or emotional state neither expected for the child's age nor explained by a stressful situation (such as parental divorce). Examples: crying, psychomotor agitation, tics, stuttering, urination, sleep disturbances, fear, apathy, low self-esteem, introversion, destructive or self-destructive behavior, aggressive behavior (unusual), attempted suicide.	0.76/0.43	Include the arrival of a sibling. <sup>(1)</sup>	For most children, the arrival of a new sibling is considered a period of developmental crisis and can cause changes in behavior or emotional state. <sup>(23)</sup>
Excessively nice behavior (unusual) with strangers, including health professionals (looking for affection).	0.80/0.50	The use of demonstration of lack of affection would demonstrate the emotional neglect by caregivers. $^{\left( 1\right) }$	Neglect is also characterized by disregard for the child's well-being in relation to affection, indicating the need for a thorough investigation of the family situation. $^{(12)}$
Burns: in covered areas of the body or posterior regions (such as palm of hands, soles, buttocks, back); in shape of a utensil (such as cigarette or iron); in shape of a glove or sock; bilateral; symmetrical.	0.80/0.50	In this item, consider any type of burn that cannot be justified, regardless of shape or location. $^{\!(1)}$	Physical violence can be practiced through slaps, pinches, kicks and by throwing objects, which causes injuries, trauma, burns and mutilations. $^{\left( 12\right) }$
Dissociation (depersonalization and amnesia).	0.84/0.58	Describe the terms for a better understanding of professionals using the instrument. $^{\left( 1\right) }$	The concepts of dissociative experiences are complex and require clarity even for mental health professionals. $\ensuremath{^{\text{C4}}}$
Encopresis (repeated defecation, including in inappropriate places) or enuresis (lack of control of sphincters) without the identification of stressful situations (such as mourning or parental divorce).	0.84/0.58	Specify if it occurs frequently or if it is punctual. $^{\left( 1\right) }$	The onset of encopresis and enuresis is often indicative of violence. $^{\scriptscriptstyle (25)}$
The use of children to meet the needs of adults (parental alienation).	0.84/0.58	Define the concept of parental alienation. <sup>(1)</sup>	The term is most often used in the legal sphere and relates to the emotional and behavioral consequences suffered by the child victim of the father's or mother's conduct, who act in a way to make the child reject the former spouse after separation. <sup>(12)</sup>

Chart 3. First round: experts' suggestions for the other items that were reformulated

CVI - Content validity index; (n) indicates the number of judges that suggested changes in the composition of the instrument categorie

it given the lack of agreement among experts. The general indexes of Kappa and content validity of the instrument were 0.98 and 0.99, respectively. Therefore, the content validation was concluded with 49 items, and the aforementioned item was the only one deleted of the instrument. Throughout the process, all suggestions of the experts were accepted as a result of congruence with the literature. The final version of the instrument is available in appendix 1.

### Discussion

The composition of the multidisciplinary group of judges with extensive training and experience in different areas through the Delphi technique contributed to obtain an overall, thorough and credible evaluation.<sup>(19)</sup> The reduction of the sample in each round was in accordance with the literature recommendations.<sup>(21)</sup> The aim was to reduce the limitations of using consensus through the synthesis of scientific evidence in the drafting of the instrument, and by using statistical-mathematical resources in the analysis of the items, allowing the process reliability.

According to the WHO global report, violence against children is still underreported because of little investment in predicting abuses in Brazil.<sup>(26)</sup> Hence the urgency of an instrument to assist multidisciplinary teams in the various spheres of health with the identification of signs of violence, and to contribute with other necessary actions.<sup>(27)</sup>

Health professionals or teams have essential moments of contact with children to observe signs and symptoms resulting from a situation of violence. The instrument developed in this study can be used to help with tracking violence against infants. The items were distributed in dimensions related to the four natures of the phenomenon, showing congruency between the analysis of experts and the literature.<sup>(4,12)</sup>

In the dimension that analyzes children's behavioral signs, were considered the behavioral changes more often presented in health services care. Psychological violence usually coexists with other natures of the phenomenon, and is investigated by the child's behavior and relationship with parents/ caregivers.<sup>(17,28)</sup> Among the natures of violence against infants, abuse and physical abuse stand out as the most frequent causes of notification, accounting for over 40% of children and adolescents who require the service. Initially, it is necessary to exclude the possibility that the injuries or scars are a result of unintentional trauma. Moreover, the delay in seeking care should be interpreted as a sign of neglect and/ or attempted concealment of violence.<sup>(1,2,4)</sup>

In cases of Munchausen syndrome by proxy, the responsible person/caregiver simulates or creates signs or symptoms of diseases in the child. Although considered a form of physical violence for demanding that health professionals run a series of tests and painful investigations for the child, we chose to keep it as a dimension of the instrument because of the peculiarity of the phenomenon.<sup>(12)</sup>

Sexual violence causes physical and psychological signs and symptoms in the individual. The types of greater notifica tion refer to rape, sexual harassment and indecent assault. Girls from the age of 10 are the biggest victims of rape. In general, sexual intercourse with penetration happens after some time of the adult seducing the victim. The results of a meta-analysis review on the prevalence of violence against children found this type of violence as the most studied, particularly in developing countries. This interest may be related to the severity of consequences caused by sexual abuse.<sup>(2,17)</sup>

The analysis of experts is corroborated by the literature on the importance of the child's report for the investigation of violence. Thus, the infant's information must be appreciated, whereas the spontaneous report is highly credible. The subtle approach is essential to avoid further trauma. Furthermore, the help of a psychologist and other qualified professionals is advisable for the care of children in situations of violence.<sup>(12)</sup>

The analysis of the judges regarding the dimension related to negligence was also in line with the literature. Thus, it was evaluated by investigating the disregard for the welfare, health and safety, affection, and education of the child, or detection of developmental delays without any organic apparent cause.<sup>(12,17)</sup>

According to the criterion of simplicity in the construction of items, each question must express an

idea. Thus, items with the same content were gathered in a single component. Different ideas initially found in the same item, were separated into different components following the same criteria. In addition, some items were reformulated observing the criteria of clarity highlighted by the experts.<sup>(29,30)</sup>

The evaluation of sodium levels in the blood was excluded from the instrument because the judges did not reach an agreement about its relevance. Hypernatremia was considered of difficult evaluation and according to some experts, this information would be of little contribution for tracing ill-treatment in infants.

Health institutions are considered as gateways to identify signs of violence in children. Therefore, it is key that teams are trained to perform the proper monitoring of infants. The use of instruments for investigating violence against children is a resource to assist in guiding the healthcare practice and contribute with team work. However, there should be an integral approach in professional interventions, considering the individual as a whole, and the multiple causes of the phenomenon.

# Conclusion

The instrument showed satisfactory indexes of content validity and Kappa. Thus, it can assist professional teams in tracking violence against children, which is a starting point for the investigation and mobilization of the existing health resources and services, and articulation of intrasectoral and intersectoral networks. Note the need to create valid and reliable instruments to contribute with qualified actions and interventions in health.

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