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Validity of the WHO VAW study instrument for estimating gender-based violence against women

ABSTRACT

OBJECTIVE: To validate the instrument of the World Health Organization Violence Against Women (WHO VAW) study on psychological, physical and sexual violence against women perpetrated by intimate partners.

METHODS: This was a cross-sectional study conducted in several countries between 2000 and 2003, including Brazil. Representative random samples of women aged 15-49 years with intimate partners were selected, living in the city of São Paulo (n = 940) and in the Zona da Mata, Pernambuco (n = 1,188), southeastern and northeastern regions, respectively. Exploratory factor analysis on questions relating to violence was performed (four psychological, six physical and three sexual questions), with varimax rotation and creation of three factors. Cronbach's alpha was calculated to analyze the internal consistency. To validate through extreme groups, mean scores (0 to 13 points) for violence were tested in relation to the following outcomes: self-rated health, daily activities, presence of discomfort or pain, suicidal ideation or attempts, heavy alcohol consumption and presence of common mental disorders.

RESULTS: Three factors were defined, with similar accumulated variance (0.6092 in São Paulo and 0.6350 in the Zona da Mata). For São Paulo, the first factor was determined by physical violence, the second by sexual violence and the third by psychological violence. For the Zona da Mata, the first factor was formed by psychological violence, the second by physical violence and the third by sexual violence. Cronbach's alpha coefficients were 0.88 in São Paulo and 0.89 in the Zona da Mata. The mean scores for violence were significantly higher for less favorable outcomes, with the exception of suicide attempts in São Paulo.

CONCLUSIONS: The instrument was shown to be adequate for estimating gender-based violence against women perpetrated by intimate partners and can be used in studies on this subject. It has high internal consistency and a capacity to discriminate between different forms of violence (psychological, physical and sexual) perpetrated in different social contexts. The instrument also characterizes the female victim and her relationship with the aggressor, thereby facilitating gender analysis.

DESCRIPTORS: Spouse Abuse, Violence Against Women, Sexual Violence, Domestic Violence, Gender and Health, Cross-Sectional Studies. Validation Studies.

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INTRODUCTION

The number of studies on violence against women has grown since the last decade of the twentieth century. In the beginning, research on violence sought to estimate the magnitude of the problem[10,25] but, more recently, it has sought to analyze factors associated with its occurrence and explore its participation as a factor of relevance for several health outcomes.[1,5,12,13]

These studies present a multiplicity of designs, samples[10,25] and instruments.[2,3] The instruments generally present a certain list of acts and discriminate between them according to different situations[24] within interpersonal, conjugal and familial relationships. Depending on how these relationships are classified, the list of acts may cover situations such as gender conflicts, i.e. as asymmetrical relationships that are guided from the perspective of gender inequality. The list may be more comprehensive, as in the Conflict Tactic Scale (CTS),[22,24] which has been validated in Brazil[16] and provides detailed enumeration of verbal misunderstandings and physical and sexual aggression; or it may be restricted to a few acts, such as in the Abuse Assessment Screen (AAS).[15]

Different authors[2,4,11,17,24] have discussed how to approach the subjects of violence against women, measurement of violence and possibilities for comparisons in relation to a diversity of sociocultural contexts. In view of the polysemy of the term violence, which is also observed in Brazil,[18,20] and the consequent difficulties in communication, there is a need for instruments to discriminate between acts of aggression in questionnaires or other means of inquiring about situations of violence. This methodological care serves to avoid difficulties in understanding the questions that might lead to information bias in surveys on aggression or abuse suffered by women, thereby minimizing the underestimation of such violence.

Another important element relates to identifying the aggressor by defining such individuals clearly in the instrument. The perpetrator of the violence is not always identified, and this depends on the explanatory perspective adopted in each study on violence. Such identification makes it possible not only to characterize the act that was perpetrated and individualize the victim, but also to show the act as the product from aggressive behavior.[7,21,24,a] Three different explanatory perspectives are indicated in the literature as the most common theoretical constructs in approaches towards violence against women (as family, individual or gender-related phenomena).[21] Use of any of these will produce different instruments. In the present paper, our interest was in studies that took a gender perspective, since these consider violence to be the product of conflicts that arise within conjugal relationships, in situations that are more stable and longer lasting, or even between dating couples or affective-sexual encounters. Such situations could arise between men and women or between partners of the same sex.

Conflicts are taken to be the result of inequalities of values and power in such relationships. These situations are not structured around an individual or family dynamics, but depend on aspects of the process through which relationships are constructed, and on the current culture, with regard to the different social attributions of men and women that constitute the gender relationships produced in each society. This makes it possible to develop an explanatory model, in the form of an ecological model[9,13] that, even through starting from individual behavior, expands the comprehension of violence as the product of conjugal relationships, within the context of the community and broader social relationships.

Seeking to deepen the knowledge of gender violence and enable cross-cultural comparisons, the World Health Organization (WHO) launched the WHO Multicountry Study on Women's Health and Domestic Violence in 1998.[7,8] This study was based on household surveys, and it aimed to estimate the prevalence of different forms of violence against women and factors associated with partner violence, among the initial ten participating countries (Bangladesh, Brazil, Ethiopia, Japan, Namibia, Peru, Samoa, Serbia and Montenegro, Thailand and Tanzania). In addition, the associations between this violence and health issues, and the strategies or services that the women used to deal with violence perpetrated by their partners, were explored. In accordance with this gender-based perspective, the physical, sexual or psychological violence perpetrated by these women's intimate partners, over their lifetimes or over the 12 months preceding the application of the questionnaire, was studied. Other forms of violence have been investigated,[7,8] but are outside of the scope of the present study. To ensure quality and comparability in different sociocultural contexts, extensive standardization of definitions, design, methodology and research ethics is worthwhile.[6,7,19]

The objective of the present study was to analyze the validity of the questions in Portuguese on violence (psychological, physical and sexual) perpetrated by the women's intimate partners.

METHODS

The WHO study was conducted between 2000 and 2003. Each participating country selected two research localities: one large city and one region of urban and

[a] Walby S. Improving the statistics on violence against women. In: Expert Group Meeting; 2005 Apr 11-14; Geneva, CH. Geneva: UN Division for the Advancement of Women; 2005.

rural characteristics. In Brazil, the city of São Paulo (southeastern region) and the Zona da Mata region in the State of Pernambuco (northeastern region), respectively, were chosen, totaling 15 municipalities. São Paulo is a cosmopolitan city with around 11 million inhabitants and the characteristics of a large metropolis. The ZMP is an urban and rural region with sugar cane production and tourism activities, and with around one million inhabitants, of whom around 60% live in urban areas.

For the household survey that was carried out in Brazil in 2000-2001, a random representative sample was formed at each locality. In SP and ZMP, respectively, 1,172 and 1,473 women aged 15 to 49 years were interviewed. Of these, 940 (SP) and 1,188 (ZMP) had had intimate partners at some time during their lives (affective-sexual partnership), and were thus considered eligible for the present analysis. Setting up the teams of investigators responsible for the research and for the fieldwork, training, supervision and quality control were standardized for all the participating countries, by WHO's coordinating team for the multicountry study. Because of the special ethical care that the topic demanded, the teams were mixed and composed of university researchers with experience of epidemiological studies and researchers from feminist non-governmental organizations (NGOs).[6,8,20]

The questionnaire was composed of a common core of questions on violence.[8,19] Formulation of this common core was preceded by qualitative research conducted in SP and ZMP, and this was regarded as a formative stage for the questionnaire.[7] Sixteen focus groups on domestic violence were conducted among men and women of different ages, both from rural and from urban locations in the municipalities studied. The participants in each group were always individuals of the same sex (four composed of men and four composed of women). The subjects were also stratified according to income (≤ 5 and > 5 minimum monthly salaries) and schooling level ($\leq 8^{th}$ and $> 8^{th}$ grade). Two groups were composed of individuals of lower income and schooling levels and two of individuals with higher levels. The aim was to study gender representations in the more popular layers and the more highly educated and richer layers, along with their effect on domestic and intimate partner violence against women. It was also sought to ascertain the current terms and usages within the language of violence, in order to name and ask about violence in the most appropriate manner. In addition, it was observed how these groups dealt with violence and what relationship they established between its occurrence and health or healthcare questions. Within these same aims, twelve in-depth interviews were conducted with women who had suffered violence perpetrated by their intimate partner (five in ZMP and seven in SP). A further 39 interviews were held with key informants from services specializing in this type of care in SP and ZMP, in order to address how professionals involved in caring for cases of domestic violence represent and deal with the situation.[7,19]

Drawing up the final common core in English was done by the international committee for the study, with participation by researchers from the different countries. The data from the qualitative research also guided the translation and local adaptation of the questionnaire, and provided support for better analysis and interpretation of the results from the surveys in each country. Officially qualified translators with experience with the field of healthcare carried out the translations of the common core. In addition, consultative committees (with 25 members for SP and 22 for ZMP) participated in the cultural adaptation and in determining the best manner of formulating the questions. These committees were composed of researchers on violence, managers and health service professionals, along with representatives of feminist social movements and service networks or NGOs specializing in this topic. Finally, the questionnaire was retranslated into English (back translation) and pretested, to evaluate its ease of application and the time taken to apply it, during the pilot phase of the survey.[7]

In the analyses, because of the complex sampling design, the Stata software, version 9 with svy commands was used.

In validating these questions on violence, a descriptive analysis on the variables relating to women and psychological, physical and sexual violence was presented. Comparisons between the mean age and the number of children in the two areas were made using the respective 95% confidence intervals. Comparisons between marital status and schooling level were made using the chi-square association test.

To perform construct analysis, exploratory factor analysis was carried out, considering the questions relating to violence (four psychological, six physical and three sexual questions), separately for each area (SP and ZMP). This was done because, given that this was the first assessment of the instrument regarding its validity, it was important to consider a diversity of sociocultural contexts. In the factor analysis, three factors with eigenvalues greater than one were selected. Varimax rotation was applied, because the domains were taken to be independent, and only loads greater than 0.5 were considered. In addition, to analyze the internal consistency, Cronbach's alpha was used.

Following the factor analysis, violence scores were created for SP and ZMP for validation according to extreme groups (discriminatory validity).[23] To set up these scores, it was deemed that positive responses for each of the 13 questions relating to violence would represent one point in counting this score. The higher the score was, the greater the diversity of acts of violence against women would be.

A comparison between the mean scores in SP and ZMP was made, using the 95% confidence intervals for the two areas. Next, for each area separately, comparisons were made between the mean scores for the different categories of health self-assessment (excellent/good versus moderate/poor/ very poor), daily activities (no problems versus some/many problems), presence of pain or discomfort (no pain/slight pain versus some/much pain), thinking of killing themselves at any time (yes or no), making suicide attempts (yes or no) and high alcohol consumption (yes [consumption almost every day] versus no [consumption once or twice a week, one to three times a month, occasionally but at least once a month, or never]).

The Self-Reporting Questionnaire (SRQ-20) was also used to evaluate the presence of common mental disorder. The means for the categories of absence of disorder (0 to 7 points) versus presence of disorder (8 to 20 points) were compared, as done in another paper from this multicountry survey.[14]

For all the analyses, results were considered significant when $p < 0.05$.

This study was approved by the Research Ethics Committees of the Faculdade de Medicina da USP and Hospital das Clínicas (CAPPesq-609/98) on November 11, 1998, and the National Research Ethics Commission (Report No. 002/99) on January 11, 1999.

RESULTS

In relation to lifetime intimate partnerships, there was a difference in the ages of the women between SP and ZMP (Table 1). The number of live children per woman was greater in ZMP. The women in SP presented greater schooling levels and fewer informal pairings, compared with the women in ZMP.

Table 2 presents the prevalence of each question, according to the three different types of violence. In the case of physical violence, although slapping and pushing were the acts most reported, threats or actual use of weapons by the intimate partner occurred frequently, especially in ZMP, where the frequency was almost twice what was found in SP. This important contrast between SP and ZMP also occurred in relation to sexual violence, regarding practices that were considered degrading or humiliating.

The factor analysis considering only the questions relating to violence is in Table 3. Three factors were found to present very similar accumulated variance between SP (0.6092) and ZMP (0.6350). For SP, the first factor was determined by questions relating to physical violence, followed by sexual violence and finally by psychological violence. Only the question "Has he threatened to hurt you or someone you care about?" did not remain in any of these factors, but it was decided to keep it in the score for violence because it was significant in ZMP.

Table 1. Demographic and socioeconomic characteristics of the women interviewed. São Paulo and Zona da Mata, Southeastern and Northeastern Brazil, 2000-2001.

Variable	São Paulo N=940 n (%)	Zona da Mata N=1188 n (%)	Total n (%)	p
Schooling				<0.001
0 to 4	182 (19.4)	592 (49.8)	774 (36.4)	
5 to 8	283 (30.1)	300 (25.3)	583 (27.4)	
9 to 11	284 (30.2)	242 (20.4)	526 (24.7)	
≥ 12	191 (20.3)	54 (4.5)	245 (11.5)	
Marital status				<0.001
Currently married	490 (52.1)	494 (41.6)	984 (46.2)	
Living with a partner	191 (20.3)	479 (40.3)	670 (31.5)	
Dating	154 (16.4)	93 (7.8)	247 (11.6)	
Separated, divorced or widowed	105 (11.2)	122 (10.3)	227 (10.7)	
Number of liveborn children				<0.001
None	203 (21.6)	132 (11.1)	335 (15.7)	
1 or 2	512 (45.7)	543 (45.7)	1055 (49.6)	
3 or more	225 (23.9)	513 (43.2)	738 (34.7)	
Age (years)				0.01
15 to 29	361 (38.4)	523 (44.1)	884 (41.6)	
30 to 44	468 (49.8)	556 (46.8)	1024 (48.1)	
45 to 49	111 (11.8)	108 (9.1)	219 (10.3)	

Table 2. Frequency of the response "yes" to each of the questions. São Paulo and Zona da Mata, Southeastern and Northeastern Brazil, 2000-2001.

Affirmative response	São Paulo		Zona da Mata	
	n	%	n	%
Psychological violence				
Has he insulted you or made you feel bad about yourself?	309	33.4	422	36.5
Has he belittled or humiliated you in front of other people?	182	19.0	308	27.5
Has he done things to scare or intimidate you on purpose?	206	21.9	332	27.9
Has he threatened to hurt you or someone you care about?	156	15.9	278	23.8
Physical violence				
Has he slapped you or thrown something at you that could hurt you?	183	18.4	291	24.7
Has he pushed or shoved you?	212	20.9	305	24.4
Has he hit you with his fist or with something else that could hurt you?	104	10.0	159	13.9
Has he kicked you, dragged you or beaten you up?	67	7.0	114	10.4
Has he choked or burnt you on purpose?	29	2.8	33	3.1
Has he threatened to use or actually used a gun, knife or other weapon against you?	65	6.3	147	12.1
Sexual violence				
Has he physically forced you to have sexual intercourse when you didn't want to?	78	7.6	122	10.2
Did you ever have sexual intercourse when you didn't want because you were afraid of what he might do?	66	6.4	115	9.9
Has he forced you to do something sexual that you found degrading or humiliating?	31	2.9	63	5.4

For ZMP, the first factor was composed by questions relating to psychological violence, the second by physical violence and the third by sexual violence. In ZMP, the question "Has he slapped you or thrown something at you that could hurt you?" and the question "Has he pushed or shoved you?" were selected both for the factor of psychological violence and for the factor of physical violence. Nonetheless, they were counted into the violence score only once.

The Cronbach alpha coefficients were high for both regions (0.88 for SP and 0.89 for ZMP), thus showing that the internal consistency was excellent. From analysis on the internal consistency of each factor, the Cronbach alpha values for the domains of psychological, physical and sexual violence were, respectively, 0.78, 0.83 and 0.78 for SP and 0.79, 0.83 and 0.77 for ZMP. Figure 1 presents the results from the scores obtained for each area. It was seen that the distribution

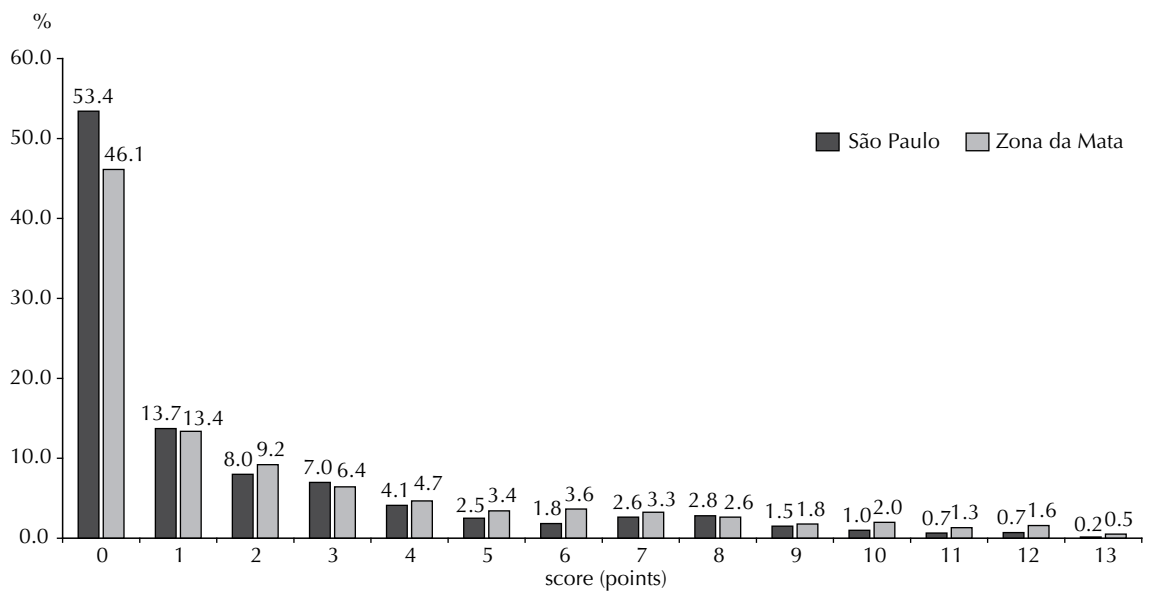

Figure 1. Distribution of the positive-response scores for items of violence according to study location. São Paulo and Zona da Mata, Southeastern and Northeastern Brazil, 2000-2001.

Table 3. Factor analysis on the questions relating to the three forms of violence. São Paulo and Zona da Mata, Southeastern and Northeastern Brazil, 2000-2001.

Affirmative response	São Paulo			Zona da Mata		
	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
Psychological violence						
A. Has he insulted you or made you feel bad about yourself?			0.8170	0.7352		
B. Has he belittled or humiliated you in front of other people?			0.7329	0.7182		
C. Has he done things to scare or intimidate you on purpose?			0.6645	0.7042		
D. Has he threatened to hurt you or someone you care about?				0.6230		
Physical violence						
A. Has he slapped you or thrown something at you that could hurt you?	0.7079			0.5729	0.5708	
B. Has he pushed or shoved you?	0.6699			0.6435	0.5150	
C. Has he hit you with his fist or with something else that could hurt you?	0.7697				0.7060	
D. Has he kicked you, dragged you or beaten you up?	0.7667				0.7620	
E. Has he choked or burnt you on purpose?	0.5703				0.6811	
F. Has he threatened to use or actually used a gun, knife or other weapon against you?	0.5063				0.5617	
Sexual violence						
A. Has he physically forced you to have sexual intercourse when you didn't want to?		0.8485				0.7771
B. Did you ever have sexual intercourse when you didn't want because you were afraid of what he might do?		0.8300				0.7851
C. Has he forced you to do something sexual that you found degrading or humiliating?		0.6807				0.7700
Accumulated variance	0.2450	0.4302	0.6092	0.2464	0.4586	0.6350

was asymmetrical to the left: more than two thirds of the women had scores between 0 and 2 (respectively, 75.1% and 68.7%). The means for the scores were 1.7 points (95% CI: 1.5; 1.9) in SP and 2.3 points (95% CI: 2.1; 2.5) in ZMP ($p < 0.001$). The medians were zero points for SP and one point for ZMP, and the 90th and 95th percentiles were 8 and 11 points for SP and 10 and 12 points for ZMP.

Comparisons of the means according to certain health and life questions are presented in Figure 2. In ZMP, there was a difference between the means for suicide attempts, but not in SP. In both study locations, higher mean scores for violence were found among the women with low health assessments and problems in performing daily activities, and among those who felt some or a lot of pain, who consumed alcohol almost every day and who had common mental disorders.

Some of the mean scores for violence in relation to the same question were greater in ZMP. The mean score obtained by these women was statistically greater than what was observed in SP. The women in ZMP had greater problems in performing daily activities, felt more pain or discomfort and reported that they thought of killing themselves more than the women in SP did.

DISCUSSION

This is the first validation of the instrument developed by WHO. The results from the factor analysis allow it to be affirmed that the instrument in the Portuguese language was adequate and can be used in investigations on intimate partner violence against women. In addition to having high internal consistency, it is capable of discriminating between different forms of violence against women, in its psychological, physical and sexual domains, perpetrated by intimate partners in different social contexts in Brazil.

The instrument was equally capable, both in a metropolis and in an urban and rural area, of pinpointing less favorable health conditions for which scientific evidence already exists for an association with intimate partner violence.[1,5,10] The comparability enabled by this characteristic is very important for studies on

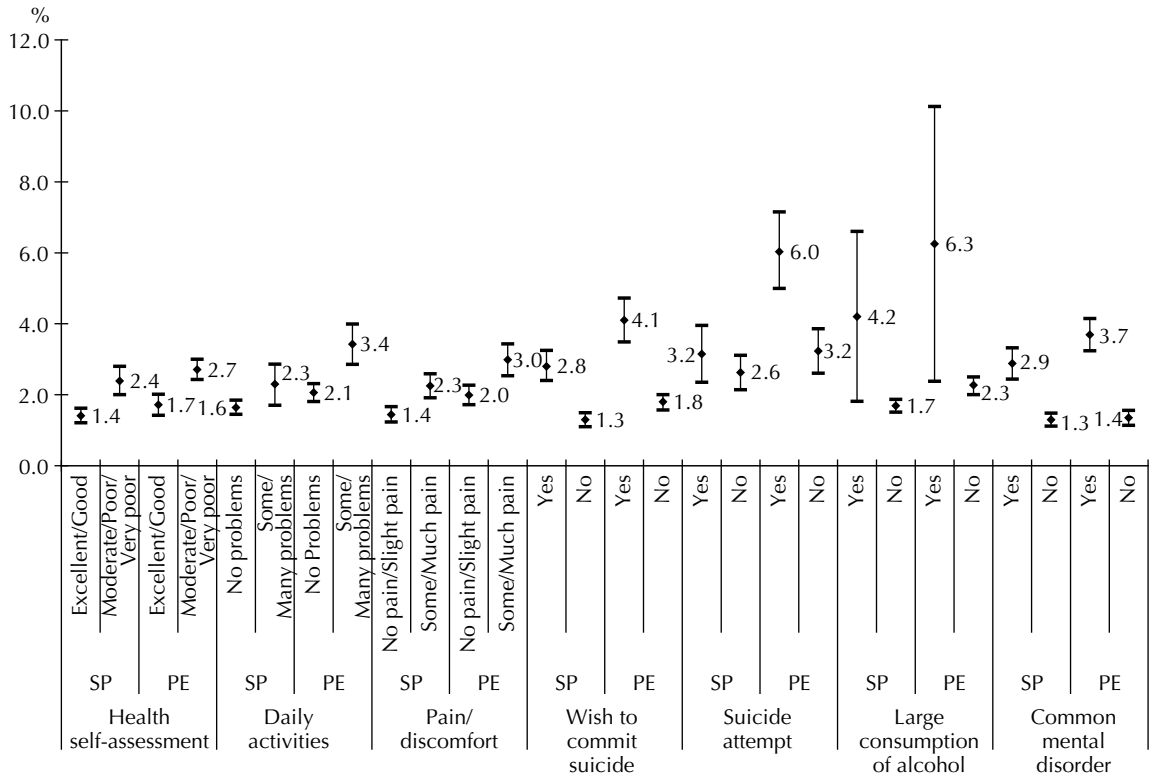

Figure 2. Positive-response score for violence according to health conditions. São Paulo and Zona da Mata, Southeastern and Northeastern Brazil, 2000-2001.

violence perpetrated by intimate partners, because the diversity of definitions of violence and instruments is one of the problems of this field. This finding of similar performance of the questionnaire in two regions does not exclude the possibility that other investigations and analyses on the instrument might find important differences. Further studies in this direction are needed.

Studies that have addressed violence against women as a general topic and reviews that have taken violence against women as their subject[3,10,18] have indicated that this violence may occur in the forms of aggression, abuse or harassment in various spheres of social life (domestic or other spheres), during the woman's childhood or in adult life, caused by aggressors as different as her spouse or strangers in the street. Nonetheless, acts of aggression perpetrated by intimate partners or spouses are the events that most symbolize this violence against women, since these individuals are the main aggressors, even if such acts occur outside of the home.[8,13] These situations express and are based on gender perspectives, given that with recent socioeconomic changes that have affected family relationships (thereby transforming the established roles and attributions of men and women), conflicts in relationships between couples and situations of violence have increased. Thus, violence against women under these conditions has arisen as a gender-based problem.[10,18]

These issues may explain both the good performance of the present instrument and the similarity of performance found between two regions with different social contexts. This is because it allows this cultural marker of gender to be reached directly. Although there is some diversity in the material acts of violence performed, such violence goes beyond differences in socioeconomic or political conditions.[9,13] By defining precisely who is responsible and this person's position regarding the violence, along with the acts reported and the woman's relationship with the perpetrator, the present instrument avoids treating gender relationships as symmetrical and enables analyses aimed specifically towards women's issues within gender inequalities.[6,24] This characteristic is important for the victims' reports on such violence,[4] in addition to presenting items of different material acts divided into three domains. This division increases the opportunity to speak, thereby improving the degree of revelation.

Along the same lines, another positive aspect of the present instrument is that it was formulated with precise questions, given that the items of the three domains of violence were expressed in the form of specific and very material acts of aggression, thereby enabling clarity and good communication of the question. This characteristic was confirmed by the high internal consistency that was found using Cronbach's coefficient for psychological,

physical and sexual violence, along with the independence in the factor analysis and varimax rotation.

Within violence against women, there is great overlapping between psychological, physical and sexual violence,[9] and this has also been observed in Brazilian studies.[19] This may explain, for example, the cross-loads between psychological and physical violence that were found in the present study.

Finally, and considering all the points that have been made here, it can be concluded that studies in which gender violence (psychological, physical or sexual) is the outcome or exposure can now count on an adequate instrument for estimating its occurrence or association with determining factors or consequences for health. It enables comparisons between different places and populations and thus makes it possible to expand the knowledge of this complex phenomenon.

This instrument is wide-ranging and relatively short, and it can be used both in population-based investigations and in healthcare services or other types of service, in which the interest is in obtaining information on gender violence.

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