QUALITY OF LIFE AND PSYCHOLOGICAL TRAUMA IN FIREARM VIOLENCE VICTIMS

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ABSTRACT: Firearms violence can induce post-traumatic stress and reduce quality of life. This descriptive study aimed to analyze quality of life and Posttraumatic Stress Disorder symptoms of young adult inpatients, victims of interpersonal firearm violence. WHOQOL-Bref and PCL-C instruments were used to interview 95 victims during 2007 in the main hospital of Goiânia, Brazil. The Environment and Physical Health domains presented the lower mean scores of quality of life (44.71 and 48.26, respectively). Symptoms of Posttraumatic Stress Disorder were identified in 60% of victims, but no difference was detected in the quality of life domain scores between those with and without Posttraumatic Stress Disorder symptoms. The traumas due to interpersonal firearm violence may result in low quality of life scores and high prevalence of Posttraumatic Stress Disorder symptoms.

DESCRIPTORS: Quality of life. Violence. Firearms. Emergency service, hospital.

QUALIDADE DE VIDA E TRAUMA PSÍQUICO EM VÍTIMAS DA VIOLÊNCIA POR ARMA DE FOGO

RESUMO: A violência por arma de fogo pode induzir estresse pós-traumático e redução da qualidade de vida. Estudo descritivo analisou a qualidade de vida e sintomas de Transtorno de Estresse Pós-Traumático de adultos jovens vítimas de violência interpessoal por arma de fogo. Os instrumentos WHOQOL-Bref e PCL-C foram aplicados em 95 vítimas no ano 2007, no principal hospital de referência em urgência de Goiânia, Brasil. Os Domínios Meio Ambiente e Físico da qualidade de vida apresentaram os menores escores (44,71 e 48,26, respectivamente). Sintomas de Transtorno de Estresse Pós-Traumático foram identificados em 60% dos casos, mas não foi detectada diferença das médias dos escores dos Domínios entre os indivíduos com e sem sintomas de Transtorno de Estresse Pós-Traumático. O trauma decorrente da violência interpessoal por arma de fogo pode resultar em escores relativamente baixos de qualidade de vida e alta prevalência de sintomas de Transtorno de Estresse Pós-Traumático.

DESCRITORES: Qualidade de vida. Violência. Armas de fogo. Serviço hospitalar de emergência.

CALIDAD DE VIDA Y TRAUMA PSÍQUICO EN LAS VÍCTIMAS DE LA VIOLENCIA POR ARMAS DE FUEGO

RESUMEN: La violencia con armas de fuego pueden provocar estrés post-traumático y reduce la calidad de vida. Este estudio descriptivo tuvo como objetivo evaluar la calidad de vida y Trastorno de Estrés Postraumático en adultos jóvenes víctimas de la violencia interpersonal con armas de fuego. El WHOQOL-Bref y PCL-C fueron aplicados en 95 víctimas durante el año 2007 en el principal hospital de referencia en el departamento de emergencia de Goiania, Brasil. Los dominios Ambiente y Físico tenían la puntuación más baja de calidad de vida (44,71 y 48,26, respectivamente). Los síntomas de trastorno de estrés postraumático se identificó en el 60% de los casos, pero no se detectaron diferencias entre las puntuaciones medias en los dominios entre aquellos con y sin síntomas de Trastorno de Estrés Postraumático. Los traumas por violencia interpersonal con armas de fuego pueden resultar en menor puntuación de la calidad de vida y alta prevalencia de síntomas de Trastorno de Estrés Postraumático.

DESCRIPTORES: Calidad de vida. Violencia. Armas de fuego. Servicio de urgencia en hospital.

INTRODUCTION

Violence has become a major concern worldwide, because it is a threat to the primary right to life, affects health, and reduces quality of life. Firearm violence presents high morbidity and mortality in less developed countries, and affects mostly the male youth, as victims and as aggressors.[1-3]

Taking into consideration the magnitude of the violence problem in Brazil, the Ministry of Health proposed, in the last decade, interventions for improving surveillance, welcoming, and health assistance to victims, health promotion and quality of life.[4]

Violence victims experience the threat to their own and others' physical integrity, intense fear, helplessness or horror.[5] In regions with high rates of violence, the occurrence of repeated events may predict Post-Traumatic Stress Disorder, and reduce the quality of life of the victims.[6]

In Brazil, because of the lack of accurate information in emergency departments regarding victims of violence, it is difficult to understand the effects of interpersonal violence on quality of life. Studies on the victims' perception on quality of life and post-traumatic stress may help to design strategies of professional interventions in the follow up of outcomes.

The objectives of this study were to evaluate the Quality of Life (QL) of young adult firearm violence victims, hospitalized in a main emergency service in Goiânia-GO, identify the presence of symptoms suggestive of Post-Traumatic Stress Disorder (PTSD), and analyze the QL of victims with and without PTSD symptoms.

METHODOLOGY

This descriptive study was performed at the main reference public emergency service in Goiânia - Goiânia Emergency Hospital (HUGO). A total of 717 firearm violence victims were hospitalized between November of 2007 and September of 2008. Survivors hospitalized for over 24 hours, aged between 18 and 39 years, and with cognitive capacity and/or level of comprehension were eligible. The study was approved by the Research Ethics Committee at HUGO, under protocol number 046/07.

Three data collection instruments were used. The first included sociodemographic data and the circumstances of the aggression. The second was the WHOQOL-BREF quality of life assessment,[7] that was translated and validated in Brazil.[8] The WHOQOL-Bref instrument comprises 26 items that are organized in a four Domain structure: Social Relationships (sexual activity, social support and personal relationships), Physical Health (pain and discomfort, dependence on medicinal substances and medical aids, energy and fatigue, mobility, sleep and rest, work capacity and activities of daily living), Psychological (positive and negative feelings, thinking, learning, memory and concentration, self-esteem, bodily image and appearance, spirituality/religion/personal beliefs) and, Environment (freedom, physical safety and security, home environment, financial resources, health and social care - accessibility and quality, opportunities for acquiring new information and skills, participation in and opportunities for recreation/leisure activities, physical environment (pollution/noise/traffic/climate), transportat). The third instrument, the Posttraumatic Stress Disorder Checklist - Civilian Version (PCL-C),[9] Portuguese version,[10] was used to screen for symptoms suggestive of PTSD.

The victims were interviewed at the hospital, 60 days after discharge. The QL questionnaire and the PCL-C were self-administered by the subjects in a private room. When subjects requested help, the questions were read out to them slowly, but with no explanations, interpretations or use of synonyms.The data were input and analyzed in the SPSS software, version 15.0. The minimum monthly salary at the time of the data collection was R$ 415.00. The recommendations for the WHOQOL-Bref standardized syntax scoring were followed, with final scores ranging from zero to100.[7] The answers were coded to show the same meaning (the smaller the number, the worse situation). Because questions Q3, Q4 and Q26 presented values in the opposite direction (the higher the score is the worst situation), these values were inverted to comprise the score (1=5; 2=4; 3=3; 4=2; 5=1). The mean score of items within each domain is used to calculate the Domain score. The scores were transformed on a scale from zero to 100 to allow for a comparison with studies that used the WHOQOL-100 questionnaire.[7] The internal consistency of the WHOQOL-Bref was analyzed using the *Cronbach* reliability coefficient for all Domains.

The overall QL score was not calculated because it is a multidimensional construct, thus each Domain has an independent score. The Domain scores were treated as continuous variables and all the exposure variables were dichotomous. We performed descriptive analysis, and the *Student t test* was used for independent samples in the analysis of the differences between the QL Domain means. Statistical significance was established at 5%.

In order to screen for PTSD the symptoms were divided into groups B, C and D.[9]

- Group B symptoms repeated, disturbing memories, thoughts, or images of a stressful experience from the past; repeated, disturbing dreams of a stressful experience from the past; suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it); feeling very upset when something reminded you of a stressful experience from the past; having physical reactions (e.g., heart pounding, trouble breathing, or sweating) when something reminded you of a stressful experience from the past.

- Group C symptoms: avoid thinking about or talking about a stressful experience from the past or avoid having feelings related to it; avoid activities or situations because they remind you of a stressful experience from the past; trouble remembering important parts of a stressful experience from the past; loss of interest in things that you used to enjoy; feeling distant or cut off from other people; feeling emotionally numb or being unable to have loving feelings for those close to you; feeling as if your future will somehow be cut short.

- Group D symptoms: trouble falling or staying asleep; feeling irritable or having angry outbursts; having difficulty concentrating; being "super alert" or watchful on guard; feeling jumpy or easily startled.

Questions in Group B are related to flashbacks, re-experiencing symptoms. Group C symptoms include a avoidance/numbing symptoms (avoiding people, thoughts, activities or places that remind the traumatic event, memory blanks, detachment, loss of interest). Group D, arousal symptoms, comprises insomnia and startled response. The victims measured the extent to which they were bothered by that problem in the last month, assigning a value on the severity scale that ranges between 1 and 5 (from "not at all" to "extremely"). A symptom is considered to be clinically significant when scored 3 or more.[9] PTSD was considered positive when the individual referred, in addition to symptoms A (violent event *per se*), one clinically significant symptom from Group B, three from C, and two from D.

RESULTS

The interviews with 95 firearm violence victims took place between 60 and 194 days (mean 133.60 ± 37.62 days) following their discharge, and had a mean duration of 30 minutes. Among 136 illegible individuals, 41 refused to participate in the study. The sociodemographic characteristics of the victims are shown in Table 1.

Table 1 - Sociodemographic characteristics of 95 firearm violence victims hospitalized at HUGO. Goiânia-GO, 2007-2008

Sociodemographic characteristics	n	%
Male	90	94.7
Age between 18 and 24 years	55	57.9
White ethnicity	39	41.1
Has a child /children	37	38.9
In a stable relationship	37	33.7
Incomplete primary education	57	60.0
Monthly family income ≤ 2 minimum salaries	70	73.7
Has a religion	47	49.5

Most victims were male, the mean age was 24.6 ± 5.5 years, and the majority of cases were low income. Most occurrences took place at night and among close ones and/or acquaintances (Table 2).

More than half the subjects considered their overall QL was not good (21.1% neither poor nor good and 35.8% poor and very poor). Regarding their satisfaction with their health, 44.2% of the subjects reported being dissatisfied or very dissatisfied, 28.4% stated being neither satisfied nor dissatisfied, and 27.4% satisfied and very satisfied.

Table 2 - Circumstances of firearm violence suffered by 95 victims of ages between 18 and 39 years, hospitalized at HUGO. Goiânia-GO, 2007-2008

Circumstances of the aggression	n	%
The violence occurred between 8PM and 7AM	85	89.5
On a weekend/holiday	50	52.6
Location of the occurrence		
Bar	34	35.8
Street/sidewalk	28	29.5
Business area	10	10.5
Others	23	24.2
People present at the time of the aggression		
Close ones and/or acquaintances	70	73.7
Alone	18	18.9
Strangers	7	7.4
Activity at the time of the occurrence		
Leisure	55	57.9
Work	23	24.2
Traffic	15	15.8
School	2	2.1
Alcohol or drug use within 6 h before the occurrence	49	48.4
Reason for the aggression		
Drugs	29	30.5
Robbery	16	16.8
Prior affective relationship	14	14.7
Discussion with no prior reason	13	13.7
Traffic altercation	11	11.6
Others	12	12.7

The mean scores on the WHOQOL-Bref Domains were low, ranging between 44.71 and 52.84 (Figure 1). The mean score on the Environment Domain was lower than that of the Social Relationships and Psychological Domains.

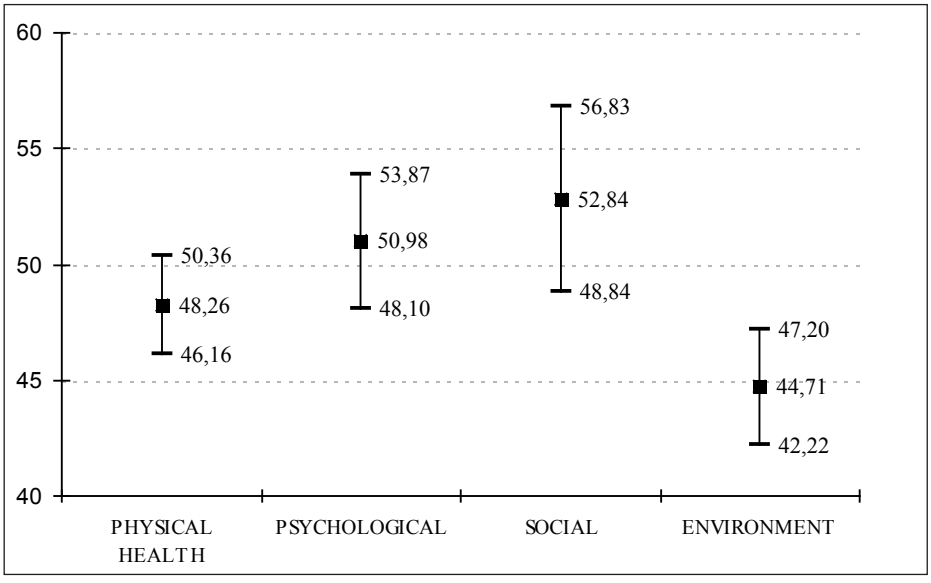

Figure 1 - Means and CI95% of the WHOQOL-Bref Domains, of 95 firearm violence victims hospitalized at HUGO. Goiânia-GO, 2007-2008

Table 3 shows that the mean in the Psychological Domain was higher for those who reported having a religion. Subjects who reported drugs as the reason for the aggression had a significantly lower mean score on the Environment Domain. The *Cronbach Alpha* of the 26 questions was 0.675.

Table 3 - Comparison between the mean scores on the WHOQOL-Bref Domains regarding the exposure variables, of 95 firearm violence victims hospitalized at HUGO, of ages between 18 and 39 years. Goiânia-GO, 2007-2008

Exposure variables	Domain scores							
	Physical health		Psychological		Social relationships		Environment	
	Mean	CI 95%	Mean	CI 95%	Mean	CI 95%	Mean	CI 95%
Length of stay								
>5 days	50.67*	44.76-56.57	53.91*	47.05-60.76	61.46*	51.61-71.30	43.36*	57.40-49.31
2 to 5 days	47.84	45.49-50.04	50.38	47.15-53.61	51.05	46.71-55.43	44.87	42.20-47.79
Education								
< 8 years	49.13*	46.55-51.54	50.15*	46.46-53.83	53.65*	48.39-59.05	42.79*	39.77-46.06
≥ 8 years	47.10	43.31-50.89	52.21	47.40-57.03	51.53	45.27-57.80	47.37	43.28-51.45
Has a religion								
Yes	47.64*	44.72-50.56	53.99*	49.57-58.40	51.59*	45.72-57.47	46.61*	43.01-50.20
No	48.98	45.91-52.04	47.98	44.29-51.65	53.99	48.50-59.48	42.67	39.24-46.09
Reason for aggression: drugs								
Yes	48.40*	45.08-51.72	49.57*	43.42-55.71	47.99*	41.12-54.85	40.09 ‡	35.60-44.57
No	48.20	45.48-50.91	51.61	48.36-54.87	55.00	50.08-59.92	46.78	43.85-49.71

* $p > 0.05$; ‡ $p < 0.05$.

Among all analyzed cases, 57 (60%; CI95% 49.9-69.5) reported symptoms of vulnerability to the development of PTSD. There was no statistically significant difference between the mean scores on the WHOQOL-Bref Domains of the positive PTSD and negative PTSD groups (Table 4).

Table 4 - Comparison of mean scores on the WHOQOL-Bref Domains, according to the symptoms to track PTSD in 95 firearm violence victims hospitalized at HUGO. Goiânia-GO, 2007-2008

Domains and PTSD symptom evaluation	Mean (sd)	CI95%	*p*
Physical health			
Positive PTSD	47.96 (10.19)	45.23-50.69	0.983
Negative PTSD	48.02 (10.00)	44.53-51.51	
Psychological			
Positive PTSD	48.51 (14.27)	44.69-52.33	0.073
Negative PTSD	53.95 (12.89)	49.45-58.44	
Social relationships			
Positive PTSD	52.83 (19.35)	47.64-58.01	0.848
Negative PTSD	51.96 (20.21)	44.91-59.01	
Environment			
Positive PTSD	43.41 (10.95)	40.48-46.35	0.580
Negative PTSD	44.67 (12.58)	40.28-49.06	

DISCUSSION

In this study we showed that the QL of firearm violence victims is generally low. Nearly 2/3 of the victims presented symptoms suggestive of PTSD, but no significant differences were found for the means QL score between individuals with and without theses symptoms.

The smallest scores were obtained on the Physical Health and Environment Domains, similar to the results of a study performed in Brasília (Federal District, Brazil) with spinal cord injury victims, including injuries by firearm violence.[11]

A lower score in the Environment Domain among those who reported drugs as the reason for the aggression suggests a poorer quality of life among drug users and dealers. Drug users and dealers are frequently involved in crimes (homicide, aggressions, robbery and stealing)[12-13] and studies suggest that most of them live in areas with poor social cohesion,[14] high social density and with culture of masculine privileges.[15] On the other hand, one's perception of violence in their home environment may trigger fear and social isolation.[5] In Thailand, other social harms were reported by drug users, such as disturbed personal and work relationships.[16] Although no statistical differences were observed in the mean scores of the Environment Domain between positive and negative PTSD individuals, it is possible that the victims show an avoiding behavior towards places, persons, friends and relatives.

One reason that could explain the lower scores in the Psychological Domain of quality of life for those who did not have any religion, would be that, at least for the study participants, religions did not affect the codes of conduct,[17] on the regulation of social organization, rules and attitudes.

Other point of interest is the high number of individuals with low education level. A deprived physical and socioeconomic environment may have a stronger impact on individuals with a low education level, relating the violence to poverty and social exclusion.[18-19]

The prevalence of probable PTSD in the present study was higher that other studies in developed country with victims of non-domestic violence,[20] victims of many crimes,[21] victims of aggression in emergency services[22] and in victims of crimes reported at police offices.[23] Nevertheless, one study performed in São Paulo, Brazil, identified PTSD in nearly 100% of kidnapping victims.[24] It is possible that the support provided to the victims of violence in more developed regions may have reduced the prevalence of probable PTSD. In Goiânia, Brazil, where the present study was conducted, vulnerable groups (women and children) are priorities for the follow up programs of the violence victims.

Despite the clinical diagnosis for PTSD and the controversy about the reliable diagnosis criteria,[25] the PCL-C is a good instrument to screen PTSD which was adapted for the Brazilian population use.[10] In our study, most of the interviewed victims presented symptoms to screen PTSD, which may trigger family problems, frequent mood changes, relationship troubles, in addition to negatively affecting the individuals' quality of life.[26-28] Experiencing violence can reduce the victim's responsiveness to the world, with a loss of interest in activities, and dismay. The association between violence and mental disorders, such as PTSD remains unclear, because most of the studies performed are cross-sectional,[29] which does not allow for causal inferences.

Among the limitations of the study, we recognize that it is possible that the individuals who refused to participate were engaged in illegal activity or were involved with the police. Nevertheless, we believe that these factors may have contributed with the higher QL scores and smaller number of PTSD symptoms, making more conservative results. The cut-off point for the evaluation of internal consistency of the WHOQOL-Bref questions is variable, as long as there is no ideal cut-off point to be weighed due to the complexiy to measure the phenomenon.[30]

FINAL CONSIDERATIONS

Violence is one of the major problems in developing countries, such as Brazil. Further studies, particularly longitudinal, and with a larger sample size, can clarify the causal effect between firearm violence and QL/PTSD. Also, new prospective Brazilian studies could investigate the protective factors against firearm violence for quality of life and PTSD. Our results reinforce that firearms violence may reduce quality of life and increase PTSD symptoms. Comprehensive interventions to reduce violence and drug use can positively affect mental health and quality of life of the young and poor people, promoting healthy relationships and environments.

REFERENCES

1. Adeodato VG, Carvalho RR, Siqueira VR, Matos e Souza FG. Qualidade de vida e depressão em mulheres vítimas de seus parceiros. Rev Saude Publica. 2005 Apr; 39(1):108-13.
2. Peden M, McGee K, Sharma G, editors. The injury chart book: a graphical overview of the global burden of injuries. Geneva (SZ): World Health Organization; 2002.
3. Sanches S, Duarte SJH, Pontes ERJC. Caracterização das vítimas de ferimentos por arma de fogo, atendidas pelo Serviço de Atendimento Móvel de Urgência em Campo Grande-MS. Saúde Soc São Paulo. 2009 Jan-Mar;18(1):95-102.
4. Ministério da Saúde (BR). Portaria No. 737 de 16 de maio de 2001. Política nacional de redução da morbimortalidade por acidentes e violências. Brasília (DF): MS; 2001.
5. Roman CG, Knight CR, Chalfin A, Popkin SJ. The relation of the perceived environment to fear, physical activity, and health in public housing developments: evidence from Chicago. J Public Health Policy. 2009;30(Suppl 1):S286-308.
6. Breslau N, Peterson EL. Assaultive violence and the risk of posttraumatic stress disorder following a subsequent trauma. Behav Res Ther. 2010 Oct;48(10):1063-6.
7. The WHOQOL Group. Development of the World Health Organization WHOQOL – BREF quality of life assessment. Psychol Med. 1998 May;28:551-8.
8. Fleck MPA, Louzada S, Xavier M, et al. Aplicação da versão em português do instrumento abreviado de avaliação da qualidade de vida "WHOQOL-bref. Rev Saude Publica. 2000 Apr;34(2):178-83.
9. Weathers FW, Litz BT, Herman D, Huska JA, Keane TM. The PTSD Checklist (PCL): realibility, validity, and diagnostic utility. In: Anais at the Annual Meeting of International Society for Traumatic Stress Studies. San Antonio (US): 1993 Oct.
10. Berger W, Mendlowicz MV, Souza WF, Figueira I. Equivalência semântica da versão em português da Post-Traumatic Stress Disorder Checklist - Civilian Version (PCL-C) para rastreamento do transtorno de estresse pós-traumático. Rev Psiquiatr Rio Gd Sul. 2004 Jul; 26(2):167-75.
11. Bampi LNS. Qualidade de vida em pessoas com lesão medular traumática: um estudo com o WHOQOL-bref. Rev Bras Epidemiol. 2008 Sept; 11(1):67-77.
12. Beato Filho CC, Assunção RM, Silva BFA, Marinho FC, Reis IA, Almeida MCM. Conglomerados de homicídios e o tráfico de drogas em Belo Horizonte, Minas Gerais, Brasil, de 1995 a 1999. Cad Saude Publica. 2001 Set-Out; 17(5):1163-71.
13. Carinhanha JI, Penna LHG. Violência vivenciada pelas adolescentes acolhidas em instituição de abrigamento. Texto Contexto Enferm. 2012 Jan-Mar; 21(1):68-76.
14. Kawachi I, Kennedy BP, Wilkinson RG. Crime: social disorganization and relative deprivation. Soc Sci Med. 1999 Mar; 48(6):719-31.
15. Nasir S, Rosenthal D. The social context of initiation into injecting drugs in the slums of Makassar, Indonesia. Int J Drug Policy. 2009 May; 20(3):237-43.
16. Pitisuttithum P, Choopanya K, Bussaratid V, et al. Social harms in injecting drug users participating in the first phase III HIV vaccine trial in Thailand. J Med Assoc Thai. 2007 Nov; 90(11):2442-8.
17. Delumeau J, editor. As grandes religiões do mundo. Lisboa (PT): Presença; 1997.
18. Minamisava R, Nouer SS, Neto OL, Melo LK, Andrade AL. Spatial clusters of violent deaths in a newly urbanized region of Brazil: highlighting the social disparities. Int J Health Geogr. 2009 Nov;8:66.
19. Santos SM, Barcellos C, Carvalho MS, Flores R. Detecção de aglomerados espaciais de óbitos por causas violentas em Porto Alegre, Rio Grande do Sul, Brasil, 1996. Cad Saude Publica. 2001 Sep-Oct; 17(5):1141-51.
20. Johansen VA, Wahl AK, Eilertsen DE, Weisaeth L, Hanestad BR. The predictive value of post-traumatic stress disorder symptoms for quality of life: a longitudinal study of physically injured victms of non-domestic violence. Health Qual Life Outcomes. 2007 May; 5(26):1-11.
21. Brewin CR, Andrews B, Rose S, Kirk M. Acute stress disorder and posttraumatic stress disorder in victims of violent crime. Am J Psychiatry. 1999 Mar;156(3):360-6.
22. Birmes P, Brunet A, Carreras D, Ducassé JL, Charlet JP, Lauque D. et al. The predictive power of peritraumatic dissociation and acute stress symptoms for posttraumatic stress symptoms: a three-month prospective study. Am J Psychiatry. 2003 Jul;160(7):1337-9.
23. Wohlfarth T, Winkel FW, Van Den Brink W. Identifying crime victims who are at high risk for post traumatic stress disorder: developing a practical referral instrument. Acta Psychiatr Scand. 2002 Jun;105(6):451-60.
24. Santos EF. Avaliação da magnitude do transtorno de estresse pós-traumático na qualidade de vida [tese]. São Paulo (SP): Universidade de São Paulo. Faculdade de Medicina; 2006.
25. Ballenger JC, Davidson JR, Lecrubier Y, Nutt DJ, Marshall RD, Nemeroff CB, et al. Consensus statement update on posttraumatic stress disorder from the international consensus group on depression and anxiety. J Clin Psychiatry. 2004; 65 Suppl 1:55-62.
26. Regehr C, Goldberg G, Glancy GD, Knott T. Posttraumatic symptoms and disability in paramedics. Can J Psychiatry. 2002 Dec; 47(10):953-8.

27. Machado SS. Qualidade de vida e stress de adultos jovens na sociedade contemporânea [tese]. Porto Alegre (RS): Universidade Federal do Rio Grande do Sul, Curso de Pós-Graduação em Psicologia do Desenvolvimento, Instituto de Psicologia; 2003.

28. Schnurr PP, Hayes AF, Lunney CA, McFall M. Longitudinal analysis of the relationship between symptoms and quality of life in veterans treated for Posttraumatic Stress Disorder. J Consult Clin Psychol. 2006 Aug; 74(4):707-13.

29. Ribeiro WS, Andreoli SB, Ferri CP, Prince M, Mari JJ. Exposição à violência e problemas de saúde mental em países em desenvolvimento: uma revisão da literatura. Rev Bras Psiquiatr. 2009 Oct; 31(Suppl 2):S49-57.

30. Bowling A. Measuring health - a review of quality of life measurement scales. 2nd editon. Philadelphia (US): Open University Press; 2001.

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