

The Association Between Past Sexual Abuse and Depression in Older Adults From Colombia

Journal of Geriatric Psychiatry
and Neurology
1-6

© The Author(s) 2017

Reprints and permission:

sagepub.com/journalsPermissions.nav

DOI: 10.1177/0891988717743588

journals.sagepub.com/home/jgp



Renee J. Flores, MD¹, Adalberto Campo-Arias, MD, MSc²,
Jim P. Stimpson, PhD³, Claudia M. Chalela, MD⁴, and
Carlos A. Reyes-Ortiz, MD, PhD¹

Abstract

To explore the association between past sexual abuse and depression in elders living in Bogotá, Colombia, we used data from the SABE (Salud, Bienestar y Envejecimiento [Health, Well-being, and Aging]) Bogotá Study. Participants were 2000 community-dwelling adults aged 60 years and older in 2012. Sexual abuse was assessed by self-report. Depression was measured by the Geriatric Depression Scale. The weighted prevalence estimate was 2.6% for past sexual abuse and 23.4% for depression. Multivariate data analyses showed significantly higher odds of depression for past sexual abuse (odds ratio [OR] = 3.91, 95% confidence interval [CI]: 2.13-7.16). Other characteristics associated with depression were history of being displaced by violence (OR = 1.77, 95% CI: 1.30-2.40), low socioeconomic status, low education, poor self-rated health status, and poor self-rated memory. Thus, past sexual abuse and history of being displaced by violence were strongly associated with depression among Colombian elderly individuals.

Keywords

older adults, Colombia, sexual abuse, displacement, depression

Introduction

In the United States, the National Violence Against Women Survey 1995-1996 found that 1 in 33 men and 1 in 6 women have encountered completed or attempted rape in their lifetime.¹ Data from the US Department of Justice during 2003 to 2013 showed that the elderly individuals (65+) had a rate of 0.2 (per 1000 persons) for rape or sexual assault, which is lower than other age groups (2.6 for 12-24 years, 1.2 for 25-49 years, and was 0.5 for 50-64 years).² A study of 4467 older adults in 7 cities from 7 countries in Europe found that the 1-year prevalence of sexual abuse was between 0.3% and 1.5%.³

In a systematic review and meta-analysis, Chen et al⁴ demonstrated that sexual abuse is associated with multiple psychiatric disorders, including lifetime diagnosis of anxiety disorders, depression, eating disorders, post-traumatic stress disorder (PTSD), sleep disorders, and attempted suicide. A community survey examined lifetime psychopathology risk in adults who experienced sexual abuse as children and found depressive disorders to be significantly higher in both adult men and women with a history of sexual abuse.⁵ Among children, adolescents, and adults who have been sexually abused, depression has been reported.⁶ In addition, child sexual abuse has been linked to higher rates of adult depression among female veterans.⁷ Although a history of elder abuse in general

has been associated with depression,⁸ there is limited information how a specific history of sexual abuse among older adults is related to depression.

Sexual abuse is a common consequence of armed conflict. A systematic review selecting data from 14 countries estimated a 21.4% prevalence of sexual violence among armed conflict-affected populations.⁹ Approximately 8% of female household members in Sierra Leona reported war-related sexual assaults.¹⁰ Likewise, in all armed conflicts, sexual abuse is frequently used as an instrument of war, subjugation, and humiliation.¹¹

¹ Division of Geriatric and Palliative Medicine, Department of Internal Medicine, University of Texas Health Science Center at Houston, Houston, TX, USA

² Programa de Medicina, Facultad de Ciencias de la Salud, Universidad del Magdalena, Santa Marta, Colombia

³ City University of New York, Graduate School of Public Health and Health Policy, New York, NY, USA

⁴ Programa de Medicina, Pontificia Universidad Javeriana, Bogotá, Colombia

Corresponding Author:

Carlos A. Reyes-Ortiz, Division of Geriatric and Palliative Medicine, Department of Internal Medicine, University of Texas McGovern Medical School at Houston, 6431 Fannin St, MSB 5.111, Houston, TX 77030, USA.
Emails: careyortiz@hotmail.com; carlos.a.reyesortiz@uth.tmc.edu

Colombia has had an internal armed conflict for about 50 years, which has generated violence and forced internal displacement of the rural population migrating to urban areas.¹² The transitioning from rural to urban settings does not confer safety where internal displaced persons experience impoverished living conditions along with overcrowding, shared beds, lack of privacy, and additional exposure to refugee camp violence. Special populations are disproportionately represented including indigenous, Afro-Colombian, low educational attainment, and low socioeconomic status (SES) subgroups.¹² In the Colombian armed conflict, displacement is associated with sexual abuse, particularly in women.¹³

The objective of this study is to explore the association between past sexual abuse and depression among older adults within the city of Bogotá, Colombia. We are also interested to know how displacement may influence depression among those with past sexual abuse.

Methods

The SABE Bogotá study (Salud, Bienestar y Envejecimiento [Health, Well-being, and Aging]) is a cross-sectional study with a probabilistic cluster sampling design (sectors, subsections of neighborhoods, blocks, and sets of 10 houses). Initially selected individuals were invited on foot to participate and were visited 1 to 2 times at their homes. Among 2433 persons, 2000 (81.9%) who agreed to participate were interviewed and assessed in their homes. This population was statistically representative of 779 534 persons aged 60 years and older and living in the city of Bogotá in 2012.

Thirty individuals aged 60 years and older in this pilot project were selected to be representative of the target population in the city. The pilot was conducted before going to the field to validate the questionnaire and identify potential problems related to the survey. Based on the results from this pilot project, adjustments were made to improve the questionnaire and make the survey easier to administer. Teams composed of a supervisor, 3 or 4 surveyors, and 1 expert in anthropometric measurements were created. A team of experts composed of the principal investigator or a coinvestigator, a professional trained in conducting field interviews, a statistician, and the field coordinator trained each team. The surveys were administered orally in Spanish.

The Pan American Health Organization designed the SABE survey for 7 Latin American cities, and the SABE Bogotá had a similar design.¹⁴ The instrument was modified and adapted to Colombia's context, and a section on violence experiences was added to the survey. It included the following topics: social and demographic characteristics, cognitive status, health status, and functional evaluation. All survey respondents signed an informed consent in order to participate in the study, which was approved by the ethics committee of the Pontificia Universidad Javeriana.

The outcome variable for this study was depressive symptoms and was measured by the Geriatric Depression Scale (GDS; scores from 0 to 15; depression was defined as ≥ 6).¹⁵

This scale has shown high reliability with an internal consistency $\alpha = .78$ in older Colombians,¹⁶ as well in this study, $\alpha = .84$. In different population studies, the GDS has been shown to be a reliable and valid instrument for identification of older adults with depressive symptoms. The cutoff score of 6 used for the GDS indicates the presence of clinically relevant depressive symptoms and is highly correlated with major depression.¹⁷

The main independent variable was past sexual abuse in older adults, assessed by the question "Have you ever been a victim of sexual abuse?" (Yes or no). If the response was yes: "Can you tell me who the abuser was?" The questions were asked for the older person in a separated room if he/she lived with someone. This approach has been used and found valid in other studies examining sexual abuse.^{18,19}

Sociodemographic variables included age (years; 60-79 vs ≥ 80), gender (male or female), education (years of education; less than the median = 0-4 vs ≥ 5), and SES. People 80 years and older have been shown to have lower depressive symptoms but higher other chronic disease risks than younger old people.²⁰ In Colombia, SES is categorized into 6 levels (1 to 6) from the lowest social class to the highest social class, depending on the income level and house characteristics, following the methodology reported by the Departamento Administrativo Nacional de Estadística.²¹ We dichotomized SES by merging the first 2 lower social class levels and comparing them to the remaining 4 higher social class levels.

Other variables were comorbidity, functional status, cognitive function, self-rated memory, self-rated health status, and history of displacement or violence. Objective cognitive function was assessed using the abbreviated version of the Mini-Mental State Examination (AMMSE) validated in the initial SABE studies.^{14,22} The abbreviated version ranges from 0 to 19, with a higher score indicating better cognitive function. Functional status was evaluated using the Lawton scale for instrumental activities of daily living.²³ The Lawton scale includes 8 activities (using the telephone, taking medications, managing finances, preparing meals, shopping, housekeeping, doing laundry, and using transportation), and the score ranges from 0 to 8, with higher scores signifying higher functional status. Comorbidity included history of 7 medical conditions: hypertension, diabetes, coronary heart disease, arthritis, stroke, chronic pulmonary obstructive disease, or cancer. Respondents were asked: "Has a doctor or a nurse told you that you have . . .?" for each of the conditions previously listed. These comorbidities were counted from 0 to 7.

Self-rated memory (excellent, very good, good, fair, or poor) was dichotomized as poor (code = 1, fair and poor categories) and good (code = 0, other categories). Self-rated memory correlated with objective cognitive measures and has been associated with cognitive impairment in older people.^{24,25} In our sample, self-rated poor memory was negatively correlated with the AMMSE ($r = -.30$). Self-rated health status was measured by the EuroQol visual analog scale (EQ VAS) and used to indicate current health status. The EQ VAS records the respondents' self-rated health on a vertical, VAS where the end

Table 1. Description Statistics and Bivariate Analyses of SABE Bogotá Study.^a

Characteristics	All, N = 2000, n (%)	Depression, n = 514, n (%)	No Depression, n = 1486, n (%)	P Value
Age ≥80 years	338 (16.9)	109 (21.2)	229 (15.4)	.002
Female	1249 (62.4)	351 (68.3)	898 (60.4)	.001
Education 0-4 years	887 (44.3)	309 (60.1)	578 (38.9)	<.001
Low SES	1038 (51.9)	341 (66.3)	697 (46.9)	<.001
Poor self-rated health status (EQ VAS <70)	774 (38.7)	326 (63.4)	448 (30.1)	<.001
Poor self-rated memory	1072 (53.6)	372 (72.4)	700 (47.1)	<.001
Displaced by violence	173 (8.6)	63 (12.3)	110 (7.4)	<.001
Past sexual abuse	56 (2.8)	32 (6.2)	24 (1.6)	<.001

Abbreviations: EQ VAS, EuroQol visual analog scale; SABE, Salud, Bienestar y Envejecimiento (health, well-being, and aging); SES, socioeconomic status. ^aN = 2000. Percentages are unweighted. Chi-square test was used to obtain P values.

points are labeled “worst imaginable health state” or “best imaginable health state,” ranging from 0 to 100, with higher scores representing better health-related quality of life; we dichotomized it as less than the median = 0 to 69 versus ≥70.²⁶ Being displaced from the hometown or history of violent experiences (yes or no) was also included in the analysis.

To adjust for sampling survey design, data were weighted by using complex survey analyses. A descriptive analysis was performed by estimating percentages for nominal variables. Bivariate analyses were performed using the χ^2 or the Fisher test to test the differences between older participants having depression and those without depression. We included all variables in a multivariate logistic regression model predicting the dependent variable depression. Variables were selected using criteria from Greenland.²⁷ Those with $P < .20$ associated with both the dependent variable (depression) and the main independent variable (past sexual abuse) were initially selected. Those which produced a significant variation of ≥10% on the association between dependent and main independent variable were kept into the multivariate model. Variables excluded according to that criteria were the AMMSE, functional status scale, and comorbidity. Odds ratios (ORs) with 95% confidence intervals (CIs) were estimated; the statistical level of significance was set at $P < .05$. Models were checked by Hosmer-Lemeshow procedure.²⁸ The Statistical Analysis System (SAS), version 9.4 was used for analysis (SAS Institute, Cary, North Carolina).

Results

Of the 2000 study participants, 62.4% were female, 25.7% were depressed, and 2.8% reported a history of sexual abuse (Table 1). About 9% were displaced by violence and about half had poor self-rated memory. The weighted prevalence was 23.4% for depressed, 2.6% for a history of sexual abuse, and 7.6% for displaced. In bivariate analyses, older age, female gender, low education, low SES, poor self-rated health status, poor self-rated memory, history of being displaced by violence, and history of sexual abuse were associated with depression.

In multivariate data analysis, older adults reporting past sexual abuse (OR = 3.91, $P < .001$) or a history of being displaced by violence (OR = 1.80, $P = .002$) had higher odds

Table 2. Multivariate Logistic Regression, Associations With Depression.^a

Characteristics	OR (95% CI)
Age ≥80 (vs 60-79 years)	1.30 (0.91-1.86)
Female (vs male)	1.23 (0.90-1.67)
Education 0-4 (vs ≥5 years)	1.64 (1.22-2.21)
Low SES (vs high)	1.59 (1.17-2.17)
Poor self-rated health status (EQ VAS <70 vs ≥70)	3.25 (2.43-4.34)
Poor self-rated memory (vs good memory)	1.77 (1.30-2.40)
Displaced by violence (vs no)	1.80 (1.17-2.76)
Past sexual abuse (vs no)	3.91 (2.13-7.16)

Abbreviations: CI, confidence interval; EQ VAS, EuroQol visual analog scale; OR, odds ratio; SES, socioeconomic status. ^aN = 2000.

of depression (Table 2). Participants who were abused by a family member (OR = 4.33, $P < .001$) tend to have higher odds of depression than those who were abused by a nonfamily member (OR 3.24, $P = .004$; Table 3, model 1). Likewise, compared to participants with neither past sexual abuse nor displacement, participants with both past sexual abuse and displacement tend to have higher odds of depression (OR = 10.95, $P = .002$; Table 3, model 2).

Discussion

Our findings suggest that participants with a history of sexual abuse had more than 3 times a risk of depression, compared to those without a history of sexual abuse. In addition, participants with a history of being displaced by violence were nearly 2 times more likely to have depression.

Our main finding linking a history of sexual abuse and depression is consistent with several studies that found depression to be one of the most important consequences of sexual abuse as a traumatic event.⁴⁻⁶ Depression and PTSD are often significant in victims of sexual abuse and are often substantially worse in those with more severe assaults. For example, in women who were raped once, rates of depression have been reported at 46%, and for women raped more than once, this number almost doubles to more than 80%.²⁹ In minority women, the effects of sexual assault victimization experiences

Table 3. Multivariate Models on the Association of Depression With Past Sexual Abuse According to Categories for Perpetrator or Displacement by Violence.^a

	OR (95% CI)	OR (95% CI)
Model 1		
Past sexual abuse, perpetrator was family member (n = 33) (vs nonabused)	4.33 (1.90-9.85)	
Past sexual abuse, perpetrator was nonfamily member (n = 23) (vs nonabused)	3.24 (1.46-7.22)	
Nonabused (no perpetrator) (n = 1944)	1.00	
Model 2		
Past sexual abuse and displacement (n = 11)		10.95 (2.43-49.33)
Past sexual abuse and no displacement (n = 45)		3.65 (1.86-7.13)
No past sexual abuse and displacement (n = 162)		1.76 (1.12-2.75)
No past sexual abuse and no displacement (n = 1782)		1.00

Abbreviations: CI, confidence interval; OR, odds ratio.

^aModels 1 and 2 are adjusted for age, gender, education, socioeconomic status, self-rated health status, and poor memory. Model 1 is also adjusted for displacement.

result in immediate and long-lasting impact in later life such as problem drinking and depression.³⁰ Older persons who reported childhood sexual abuse are more likely to have depression and poor quality of life.³¹ Among African American sexual assault survivors, poverty is positively correlated with depression.³² This suggests that poverty may act as mediator into the development of depression. Although it is not clear why depression develops after traumatic sexual events, this relationship is believed to be moderated by genetic vulnerability.³³

Our finding on the association between depression and history of internal displacement due to violence is an important addition to the medical literature in Latin America. Violence is a major psychosocial stressor causing multiple mental disorders.¹² Colombia has a long history of violence, with an internal armed conflict generating forced disappearances and displacement, massacres, torture, and sexual violence, where an undetermined number of people have been displaced during the last 20 years (between 1.5 million and 5 million).^{34,35} In addition, victims of internal armed conflict have suffered stigmatization and discrimination, which increases perceived stress and therefore increases the vulnerability for depression.³⁶ Our results suggest that being sexually abused is a traumatic event that may result in higher odds of depression than being displaced by violence. Also, our finding that those who were abused by a family member tend to be more depressed than those who were abused by a nonfamily member is similar to the results of another study.³⁷

Our study has some public health implications. For instance, we found a high association between history of sexual abuse and depressive symptoms in the elderly population. These facts are imperative for setting precedence toward implementing measures and public policy regulations that can improve the quality of life for older adults. Similarly, an effort is needed to provide more access to mental health resources for socioeconomic disadvantaged elderly population.

Our study has some limitations. First, the cross-sectional nature of the study does not allow us to determine causality. Second, this sample is only representative of adults older than

60 years living in the capital city of Colombia. Third, the measure for history of sexual abuse does not measure how recent the abuse occurred and has limited psychometric data for minority geriatric populations. Fourth, retrospective recall may cause bias. Individuals who have depression may be more likely to recall past traumatic events versus those individuals who are doing relatively well at the time of interview. Nevertheless, this study also has strength as this is the first epidemiologic study on sexual abuse and displacement related to depression in the elder population within the city of Bogotá.

Globally, people are living longer and the life course risk of exposure to violence increases, and the diseases of old age can be exaggerated by violence and abuse. As older adults experience the consequences of sexual abuse, such as depression, mental health care service could be strained. As this problem is better recognized, greater validation of abuse and research into its use in clinical screening is needed. Public policies strengthening mental health care could be developed and implemented to help address the mental health consequences of sexual abuse worldwide.^{2,4,38} In conclusion, past sexual abuse and history of being displaced by violence were strongly associated with depression among Colombian elderly individuals.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The SABC Bogota study was supported by a grant from the Administrative Department of Science, Technology and Innovation, Colciencias in Colombia, Code 120354531692. Dr Reyes-Ortiz was supported as US Fulbright Scholar 2017-2018.

References

1. Tjaden P, Thoennes N. Prevalence, incidence and consequences of violence against women: findings from the National Violence Against Women Survey. US Department of Justice. National

- Institute of Justice Centers for Disease Control and Prevention. Research Brief Reports. 1998;1-16. <https://www.ncjrs.gov/pdffiles/172837.pdf>. Accessed November 10, 2017.
2. Morgan RE, Mason BJ. Crimes against the elderly, 2003-2013. US Department of Justice, Bureau of Justice Statistics. NCJ Special Report 248339. 2014;1-23. <https://www.bjs.gov/content/pub/pdf/cae0313.pdf>. Accessed November 10, 2017.
 3. Lindert J, de Luna J, Torres-Gonzales F, et al. Abuse and neglect of older persons in seven cities in seven countries in Europe: a cross-sectional community study. *Int J Public Health*. 2013;58(1):121-132.
 4. Chen LP, Murad MH, Paras ML, et al. Sexual abuse and lifetime diagnosis of psychiatric disorders: systematic review and meta-analysis. *Mayo Clin Proc*. 2010;85(7):618-629.
 5. MacMillan H, Fleming J, Streiner DLE, et al. Childhood abuse and lifetime psychopathology in a community sample. *Am J Psychiatry*. 2001;158(11):1878-1883.
 6. Mullers ES, Dowling M. Mental health consequences of child sexual abuse. *Br J Nursing*. 2008;17(22):1428-1433.
 7. Thomas RA, DiLillo D, Walsh K, Polusny MA. Pathways from child sexual abuse to adult depression: the role of parental socialization of emotions and alexithymia. *Psychology Violence*. 2011;1:121-135. <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1635&context=psychfacpub>. Accessed November 10, 2017.
 8. Roepke-Buehler SK, Simon M, Dong X. Association between depressive symptoms, multiple dimensions of depression, and elder abuse: a cross-sectional, population-based analysis of older adults in Urban Chicago. *J Aging Health*. 2015;27(6):1003-1025.
 9. Wirtz AL, Glass N, Pham K, et al. Comprehensive development and testing of the ASIST-GBV, a screening tool for responding to gender-based violence among women in humanitarian settings. *Confl Health*. 2016;10:7.
 10. Amowitz LL, Reis C, Lyons KH, et al. Prevalence of war-related sexual violence and other human rights abuses among internally displaced persons in Sierra Leone. *JAMA*. 2002;287(4):513-521.
 11. Kirby P. How is rape a weapon of war? Feminist International Relations, modes of critical explanation and the study of wartime sexual violence. *Eur J Int Relations*. 2013;19(4):797-821.
 12. Shultz JM, Garfin DR, Espinel Z, et al. Internally displaced "victims of armed conflict" in Colombia: the trajectory and trauma signature of forced migration. *Curr Psychiatry Rep*. 2014;16(10):475. doi:10.1007/s11920-014-0475-7. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4765495/pdf/nihms-717966.pdf>. Accessed November 10, 2017.
 13. Céspedes-Báez LM. La violencia sexual en contra de las mujeres como estrategia de despojo de tierras en el conflicto armado colombiano. *Revista Estudios Socio-Jurídicos*. 2010;12:273-304. <http://www.pensamientopenal.com.ar/system/files/2014/12/doctrina34890.pdf>. Accessed November 10, 2017.
 14. Albala C, Lebrao ML, Leon Diaz EM, et al. The Health, Well-Being, and Aging ("SABE") survey: methodology applied and profile of the study population [in Spanish]. *Rev Panam Salud Publica*. 2005;17(5-6):307-322.
 15. Yesavage JA, Brink TL, Rose TL, et al. Development and validation of a geriatric depression screening scale: a preliminary report. *J Psychiatr Res*. 1982;17(1):37-49.
 16. Gómez-Angulo C, Campo-Arias A. Escala de Yesavage para depresión geriátrica (GDS-15 y GDS-5): estudio de la consistencia interna y estructura factorial. *Univ Psychol*. 2011;10:735-743. <http://www.redalyc.org/pdf/647/64722377008.pdf>. Accessed November 10, 2017.
 17. Almeida O P, Almeida SA. Short versions of the Geriatric Depression Scale: a study of their validity for the diagnosis of a major depressive episode according to ICD-10 and DSM-IV. *Int J Geriatr Psychiatry*. 1999;14(10):858-865.
 18. Ullman SE, Vasquez AL. Mediators of sexual revictimization risk in adult sexual assault victims. *J Child Sex Abus*. 2015;24(3):300-314.
 19. Williams JH, Davis M, Acierno R. Global prevalence of elder abuse in the community. In: Dong X, ed. *Elder Abuse: Research, Practice and Policy*. Cham, Switzerland: Springer International Company AG; 2017:45-65.
 20. Forlani C, Morri M, Ferrari B, et al. Prevalence and gender differences in late-life depression: a population-based study. *Am J Geriatr Psychiatry*. 2014;22(4):370-380.
 21. Congreso Republica de Colombia. Ley 142. Por la cual se establece el regimen de los servicios publicos domiciliarios y se dictan otras disposiciones, Artículo 102. *Estratos y Metodologia*. 1994.
 22. Folstein MF, Folstein SE, McHugh PR. "Mini-mental state". A practical method for grading the cognitive state of patients for the clinician. *J Psychiatr Res*. 1975;12(3):189-198.
 23. Lawton MP, Brody EM. Assessment of older people: self-maintaining and instrumental activities of daily living. *Gerontologist*. 1969;9(3):179-186.
 24. Reid LM, Maclullich AMJ. Subjective memory complaints and cognitive impairment in older people. *Dement Geriatr Cogn Disord*. 2006;22(5-6):471-485.
 25. Hülür G, Hertzog C, Pearman AM, Gerstorf D. Correlates and moderators of change in subjective memory and memory performance: findings from the health and retirement study. *Gerontologist*. 2015;61(3):232-240.
 26. Badia X, Roset M, Montserrat S, Herdman M, Segura A. La versión española del EuroQol: descripción y aplicaciones. *Med Clin (Barc)*. 1999;112(suppl 1):79-86.
 27. Greenland S. Modeling and variable selection in epidemiologic analysis. *Am J Public Health*. 1989;79(3):340-349.
 28. Hosmer DW, Lemeshow S. *Applied Logistic Regression*. 2nd ed. New York, NY: John Wiley & Sons Inc; 2000.
 29. Rose R, House A. Sexual assault Loue S, Sajatovic M. *Encyclopedia of Aging and Public Health*. New York, NY: Springer and Science & Business Media Publisher; 2008:721-722.
 30. Kaukinen C, Demaris A. Age at first sexual assault and current substance use and depression. *J Interpers Violence*. 2005;20(10):1244-1270.
 31. Kamiya Y, Timonen V, Kenny RA. The impact of childhood sexual abuse on the mental and physical health, and healthcare utilization of older adults. *Int Psychogeriatr*. 2016;28(3):415-422.

32. Bryant-Davis T, Ullman SE, Tsong Y, Tillman S, Smith K. Struggling to survive: sexual assault, poverty, and mental health outcomes of African American women. *Am J Orthopsychiatry*. 2010; 80(1):61-70.
33. Gatt JM, Nemeroff CB, Dobson-Stone C, et al. Interactions between BDNF Val66Met polymorphism and early life stress predict brain and arousal pathways to syndromal depression and anxiety. *Mol Psychiatry*. 2009;14(7):681-695.
34. Wirtz AL, Pham K, Glass N, et al. Gender-based violence in conflict and displacement: qualitative findings from displaced women in Colombia. *Confl Health*. 2014;8:10. doi:10.1186/1752-1505-8-10. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4115473/pdf/1752-1505-8-10.pdf>. Accessed November 10, 2017.
35. Cáceres DC, Izquierdo VF, Mantilla L, Jara J, Velandia M. Epidemiologic profile of the population displaced by the internal armed conflict of the country in a neighborhood of Cartagena, Colombia, 2000 [in Spanish]. *Biomedica*. 2002;22(suppl 2): 425-444.
36. Campo-Arias A, Herazo E. Stigma and mental health in victims of Colombia's internal armed conflict in situation of forced displacement [in Spanish]. *Rev Colomb Psiquiatr*. 2014;43(4): 212-217.
37. Trickett PK, Noll JG, Reiffman A, Putnam FW. Variants of intra-familial sexual abuse experience: implications for short- and long-term development. *Dev Psychopathol*. 2001;13(4):1001-1019.
38. World Health Organization. Abuse of the Elderly. In: *World Report on Violence and Health*. World Health Organization; 2002:125-145. http://www.who.int/violence_injury_prevention/violence/global_campaign/en/chap5.pdf. Accessed November 10, 2017.