Published in final edited form as:
Soc Work Health Care. 2013 April ; 52(4): 351–369. doi:10.1080/00981389.2012.745461.

Intimate Partner Violence, Depression, PTSD and Use of Mental Health Resources among Ethnically Diverse Black Women

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Abstract

Background—This study examined exposure to violence and risk for lethality in intimate partner relationships as factors related to co-occurring MH problems and use of mental health (MH) resources among women of African descent.

Methods—Black women with intimate partner violence (IPV) experiences (n=431) were recruited from primary care, prenatal or family planning clinics in the US and the US Virgin Islands.

Results—Severity of IPV was significantly associated with co-occurring MH problems, but was not associated with the use of MH resources among African American women. Risk for lethality and co-occurring problems were also not significantly related to the use of resources. African Caribbean women with severe physical abuse experiences were significantly less likely to use resources. In contrast, severity of physical abuse was positively associated with the use of resources among Black women with mixed ethnicity.

Conclusions—Severe IPV experiences are risk factors for co-occurring MH problems, which in turn, increases the need for MH services. However, Black women may not seek help for MH problems. Thus, social work practitioners in health care settings must thoroughly assess women for their IPV experiences and develop tailored treatment plans that address their abuse histories and MH needs.

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Keywords

Depression; PTSD; mental health; violence; women

Intimate partner violence (IPV) disproportionally affects women of African descent. Nationally representative studies have consistently reported higher rates of IPV among African American females, when compared to their White American counterparts (Catalano, Smith, Snyder, & Rand, 2009; West, 2004). Furthermore, in a population-based study of three Caribbean countries with predominantly black respondents, two-thirds of women with history of violence reported an intimate partner as the perpetrator(LeFranc, Samms-Vaughan, Hambleton, Fox, & Brown, 2008). All types of IPV can be perceived as chronic psychological stressors (Jun, Rich-Edwards, Boynton-Jarrett, & Wright, 2008) and are associated with adverse mental health (MH) outcomes among women from African American/African Caribbean and other ethnic groups(Alim, Charney, & Mellman, 2006; Carrington, 2006; Martin, Kilgallen, Dee, Dawson, & Campbell, 1998). Negative MH sequelae associated with IPV include depression, and Post Traumatic Stress Disorder (PTSD) (Fowler & Hill, 2004; Kelly, 2010; Martinez-Torteya, Bogat, Eye, Levendosky, & Davidson, 2009; Mitchelle & Hargrov, 2006; Richardson et al., 2001; Svavarsdottir & Orlygsdottir, 2009).

PTSD and depression commonly co-occur, and this co-occurrence has been found to be associated with relatively more severe PTSD and depression symptoms when compared to symptoms within PTSD-only and depression-only problems (Cascardi, O'Leary, & Schlee, 2009; Nixon, Resick, & Nishith, 2004; Taft, Resick, Watkins, & Panuzio, 2009). Furthermore, Black populations with MH problems have been found to experience more severe symptoms and functional impairment compared to whites (Himle, Baser, Taylor, Campbell, & Jackson, 2009). Researchers have consistently linked types of IPV such as physical, sexual, and psychological abuse to PTSD and depression problems (Dutton, 2009; Houry, Kemball, & Rhodes, 2006; Jones, Hughes, & Unterstaller, 2001; McCauley, Kern, Kolodner, Derogatis, & Bass, 1998; O'Campo, Woods, Jones, Dienemann, & Campbell, 2006). Severity within types of IPV places women at elevated risk for PTSD (Dutton, 2009; Jones et al., 2001), depression (McCauley et al., 1998) or comorbid PTSD and depression (Cascardi et al., 1999; O'Campo et al., 2006). Severity of IPV "refers to how life threatening the abuse is. The more life threatening the abuse is, the more traumatic the effect" (Jones et al., 2001; p.100), increasing the risk for co-occurring PTSD and depression problems among women (Cascardi et al., 1999). Women's risk for lethality in situations of IPV have also been found to be associated with poor MH functioning, such as PTSD (Straus et al., 2009; Wilson, Messing, Patchell, & Campbell, 2011). It is hypothesized that severe types of IPV and risk for lethality will be significantly associated with increased likelihood of co-occurring PTSD and depression problems among women of African descent.

Co-occurrence of PTSD and depression increases illness burden, delays response to treatment of one type of problem, and impairs women's ability to fully utilize personal and social resources (Campbell et al., 2006; Gorde, Helfrich, & Finalyson, 2004; Green et al., 2006; Sullivan, & Bybee, 1999). In addition, women with co-occurring PTSD and depression problems have increased prevalence of suicide ideation and seek more frequent outpatient care for emotional problems (Green et al., 2006). Therefore, it is important to examine risk factors (e.g., severity of IPV) that are linked to co-occurrence of PTSD and depression among women, and protective factors (e.g., use of MH resources) that may help address their MH needs. It is further hypothesized that severe types of IPV, risk for lethality, and the co-occurrence of PTSD and depression will be significantly associated with the use of MH resources among women of African descent.

Use of MH Resources among Women Survivors of IPV

As IPV affects MH (Cascardi et al., 1999), women exposed to IPV may need resources to cope with MH effects of IPV. However, women survivors of IPV are twice as likely as women not exposed to IPV to report unmet needs for MH care (Lipsky, & Caetano, 2007; Rodriguez, Valentine, Son, & Muhammad, 2009). Racial and ethnic disparities are clearly evident for utilization of MH resources, with African-American and African Caribbean populations less likely to use formal MH care services (Jackson et al., 2007; Neighbors, et al., 2007; Taylor, Woodward, Chatters, Mattis, & Jackson, 2011; Woodward, 2011) compared to their Caucasian counterparts (Alvidrez, 1999; Johnson & Zlotnick, 2007; Kimerling & Baumrind, 2005; Rosen, Tolman, & Warner, 2007). Furthermore, African-American women with experiences of IPV are less likely to seek help from MH professionals (Ahmed & McCaw, 2010; El-Khoury et al., 2004; Flicker et al., 2011; Johnson & Zlotnick, 2007); rather these women may be more likely to use prayer as a coping strategy (El-Khoury et al., 2004). In a recent review, barriers to MH care utilization among minority women were categorized as those resulting from the patient, provider, and health care system or community. Patient-related barriers were due to sociopolitical (e.g., shame, guilt, fear, abusive partner control tactics), financial (limited or lack thereof), and cultural (e.g., stigma, emphasis on “self-reliance”) factors (Rodriguez et al., 2009). Particularly among African-American women, findings suggest that receiving MH services would be akin to publicizing weakness (El-Khoury et al., 2004). Provider-related barriers include lack of screening for IPV, discrimination, and lack of trust. Health care system and community barriers include language barriers and immigration status (Rodriguez et al., 2009). For example, in a study on IPV affected undocumented women in the U.S, immigrant Haitian women reported fears regarding deportation of themselves, their abusive partner or their children (Latta, & Goodman, 2005).

Furthermore, Black women with co-occurring PTSD and depression problems may not seek help as depression and PTSD may make them feel paralyzed or incapable of taking problem-solving actions, or make them avoidant, numb or fearful (Gill, Page, Sharps, & Campbell, 2008). Thus it is anticipated that abused women with PTSD and depression problems will be less likely to use MH resources to deal with psychological distress or with the abusive relationship. This study extends previous research by exploring factors related to the use of MH resources among three ethnic subgroups of Black women in the US and in the Virgin Islands: African-American, African-Caribbean, and Black women with mixed background.

Research Gap

Most research on PTSD and depression problems in primarily African-American samples evaluated the effects of general trauma exposure on PTSD and depression symptoms. The focus has not been on the effects of severity within types of IPV (Alim et al., 2006; Gill et al., 2008). In addition, studies have examined only one type of MH problem (Perez & Johnson, 2008; Wilson et al., 2011), or evaluated PSTD and depression as separate and distinct outcomes of IPV (Dennis et al., 2009; Houry et al., 2006; Strauss et al., 2009). Moreover studies on MH problems among Black populations have precluded detailed analysis of ethnic variation within Blacks (Williams et al., 2007).

While research to date has been suggestive of a relationship between IPV and co-occurring PTSD and depression problems (O’Campo et al., 2006), additional research is needed to examine this relationship among Black women. Furthermore, research is needed to evaluate severity and types of IPV and co-occurrence of PTSD and depression as determinants of women seeking MH resources. No study has examined the relationships between severity of IPV, MH, and use of MH resources, accounting for heterogeneity among Black women

survivors of IPV. An understanding of factors associated with MH problems, and with the use of MH resources is necessary for effective planning and interventions, to meet the needs of ethnically diverse IPV survivors.

Study Purpose

The purpose of the present study was to examine a) whether types and severity of IPV and risk of lethality were associated with co-occurrence of PTSD and depression problems among Black women, and b) whether severity of IPV, risk of lethality and PTSD and depression problems were associated with the use of MH resources.

Method

Participants and Procedures

This cross-sectional study is part of a large multi-site comparative case-control research project that involves African-American and African-Caribbean women. Women were recruited from primary care, prenatal or family planning clinics in Baltimore, Maryland in the mainland US and St. Croix and St. Thomas in the US Virgin Islands. Eligible women were English and Spanish-speaking women of African descent, aged 18–55, who were in an intimate relationship within the past 2 years. For this study, 431 women who reported lifetime and past year two experiences of intimate partner physical and sexual abuse, with or without psychological abuse, were selected.

Women who self-identified as Black African American were included in the African American sample (n=276). Those who self-identified as Black Caribbean were included in the African Caribbean sample (n=78). Black women in the US and the US Virgin Islands who self-identified as being African with Hispanic or other mixed race/ethnicity were categorized as Black women with mixed background (n=75).

Women who consented to participate in the study completed a 30-minute, audio computer-assisted structured self interview (ACASI). A $20 gift card was provided as incentive for those who screened into the study and completed the interview. All study procedures were approved by the institutional review boards of Johns Hopkins University, the University of the Virgin Islands and the National Institute on Minority Health and Health Disparities.

Measures

Mental health (MH) outcomes—The dichotomous MH variables were created using the *Primary Care Post-traumatic Stress Disorder Screening* (PC-PTSD) and the *Center for Epidemiologic Studies Depression* (CESD-10). The PC-PTSD (Past month; 4 items; alpha=0.78) is a self-report screening tool designed to assess PTSD symptoms in the past month, with scores ranging from 0 to 4. A score of 3 or higher is the cut-off for clinically significant PTSD symptoms (Response options: 0=No, 1=Yes) The CESD-10 (Past week, 10 items; alpha=0.80) is a brief screening measure for assessing levels of past-week depressive symptoms (Range 0–29). A score of 10 or higher is the cut-off for clinically significant depressive symptoms. Each symptom item is rated according to its frequency of occurrence using a 4-point scale ranging from 0 (rarely or none of the time; <1 day) to 3 (All of the time; 5–7 days).

Women who met criteria for both clinically significant PTSD and depression symptoms were categorized as having co-occurring PTSD and depression. Women who met criteria for PTSD but not depression were categorized as the PTSD-only group. Those who met criteria for depression but not PTSD were assigned to the depression-only group, and those who did

not meet criteria for either of these conditions were assigned to the neither PTSD nor depression group.

Severity of IPV—Severity of physical and sexual abuse was measured using items from *the Severity of Violence against Women Scale* (SVAWS; 46 items; alpha=0.94; Past year). Women were asked how often in the past twelve months they experienced the behavior from their abusive partners or if never had an abusive partner about their current or most recent partner. The items were rated using a 4-point scale ranging from 0 (never) to 4 (not in the last 12 months but it did happen before). Continuous severity scores for physical and sexual abuse items were created using a weighted scoring system (Marshall, 1992). The physical abuse severity scores range from .00–54 and the sexual abuse scores range from .00 to 11.5.

Women's Experiences of Battering (WEB; 10 items, alpha=1.00; theoretical range=0–71) was used to measure psychological abuse. The following six domains of the WEB captured psychological abuse: perceived threat, altered identity, managing, entrapment, yearning, and disempowerment (Smith, Earp, & DeVellis, 1995). Each item was rated using a 6-point Likert scale ranging from 1 (Strongly disagree) to 6 (Strongly agree). Higher scores indicate high levels of psychological abuse.

Risk for Lethality—Risk for lethality was assessed using 20 dichotomous items from the *Danger Assessment (DA)* instrument (20 items; alpha=0.83; Range=−3–36). The DA is a clinical and research instrument developed to assist women in assessing their danger of being murdered or seriously injured by their intimate partners (Campbell, Webster, & Glass, 2009). A weighted scoring system identified women at the following levels of danger: variable danger (<8), increased danger (8–13), severe danger (14–17) and extreme danger (18 and above).

Use of MH resources—*Use of MH resources to cope with general psychological distress* was examined using the following item: "Sometimes people need help to cope with feelings, moods, or stress-like feeling sad, down, or anxious. As an adult, have you ever gone to a doctor or MH care provider or counselor to get help, like medicine or just to talk?" (0=No; 1=Yes, currently, or in the past)

Use of MH resources to deal with an abusive partner was measured using the following item: "There may or may not be resources in the community that can help women with problems in their relationships and with the abuse. Sometimes women use these resources and others do not. Which of the following [MH] services or people have you used to get help with an abusive partner? Counselor, Therapist or Caseworker?" (0=No, 1=Yes)

Control variables—The following sociodemographic variables that were significantly correlated with co-morbidity of PTSD and depression, and with the use of MH resources were included as controls in the multivariate model: age, education status, employment status, injuries, and victims' income. Age was measured using a continuous variable. Employment status was measured using a dichotomous item (unemployed=0, employed=1). Past year injuries (e.g., broken bones, facial injuries, bruises on the body, head injury with loss of consciousness) were also measured using a dichotomous variable (No=0, Yes=1). Various categories of education and income were used to measure women's level of education and their yearly income.

Data Analysis Procedures

The sample characteristics were described using univariate and bivariate analysis (Table 1). Mixed effects logistic regression models were used for multivariate analysis (Table 2). The

analyses focused on the three dependent variables a) co-occurring PTSD and depression symptoms (dichotomous), b) use of MH resources to deal with general psychological distress (dichotomous), and c) use of MH resources to cope with the abusive relationship (dichotomous).

Logistic regression models were run for each ethnic subgroup of women of African descent. All models included random effects for site-to-site variability. The potential confounders (such as demographic variables and injuries) were adjusted for in the multivariate analysis for all models. First, we tested the effects of severity of IPV on co-occurring PTSD and depression and on the use of resources after adjusting for the effects of demographic variables and past year injuries (Model 1). Second, including demographic variables and past year injuries as controls, we examined the effects of risk for lethality on co-occurring PTSD and depression problems, and on the use of resources (Model 2). Finally, we included both severity of IPV and risk for lethality to evaluate their unique contributions after controlling for the other variables in the model. The data were analyzed using Stata 12. Adjusted odds ratios and 95% confidence intervals are presented for key independent variables in the final multivariate models (Model 3; Tables 2–4).

Results

Sample Characteristics

The sample was comprised of 431 women from the US (n=128) and the US Virgin Islands (n=303), with a mean age of 28.2 years. More than half of the women in our sample self-identified as African American (64%; n=276), 18.2% (n=78) as African Caribbean, and 17.5% (n=75) as Black mixed with Hispanic and other race/ethnicity. Two women had missing information on race/ethnicity. Eighty percent of the sample (n=347) had graduated from high school, taken some college or vocational training, or had graduated from college. Almost half (50.3%, n=217) of the women were unemployed, and approximately three quarters were in the low income range (78.6%; n=321). The majority of these women were single (50.6%, n=218). Only 13.9% (n=60) reported being currently married, and 28.8% (n=124) reported being in an unmarried relationship. Because of the small sample size, 29 women who were in the other category (e.g., divorced, widowed) were combined with the single category (See table 1).

Most women in the sample had PTSD and/or depression problems (58.2%, n=251). Eighteen percent of women (n=78) reported co-occurring PTSD and depression problems; 34.1% (n=147) reported depression-only problems; and 6% (n=26) reported PTSD-only problems. A one-way ANOVA indicated significant differences in mean scores on PTSD and depression symptoms across types of MH problems (p<.05). The Bonferroni post-hoc analysis revealed that women in the co-occurring PTSD and depression group had significantly higher mean scores on depression (M=18.25) than did women in the depression-only (M=14.77) and the PTSD-only (M=5.88) group. Furthermore, women in the co-occurring PTSD and depression problems group had significantly higher mean scores on PTSD (M=3.66) than did women in the depression-only group (M=0.80; p<.05).

Effects of Severity of IPV and Risk for Lethality on Co-occurring PTSD and Depression

Results of the bivariate analysis found significant differences in the mean scores on severity of IPV across types of MH problems (p<.05). Women with co-occurring PTSD and depression problems had higher mean scores on severity of physical abuse than did women with depression-only or PTSD-only problem (p<.05). In addition, the co-occurring problems group had significantly higher scores on psychological abuse compared to women with depression-only problems (p<.05). A significant relationship was also found between risk of

lethality and MH problems with more than half of the women within the co-occurring PTSD and depression group (85%) at increased, severe, or extreme danger of lethality. Also, women with co-occurring PTSD and depression problems had significantly higher mean scores on the danger assessment than did women in the depression-only or the neither PTSD nor depression problems group ($p<.05$).

In the multivariate analysis, having severe IPV experiences significantly increased the likelihood of co-occurring of PTSD and depression problems. In the model that excluded risk for lethality (Model 1), severe psychological abuse experiences among African Caribbean women were associated with increased odds of co-occurring PTSD and depression problems. For African American women, the association between IPV and MH problems remained significant in both models – the model that excluded risk for lethality (Model 1), and the model that included risk for lethality variable (Model 3). If there was a unit increase in severity of physical and psychological abuse, the odds that an African American woman had a co-occurring PTSD and depression problem increased by factors of 1.04 and 1.06, respectively. However no significant association was found between sexual abuse and co-occurring PTSD and depression problem (Model 3; Table 2).

In the model that excluded severity of IPV (Model 2), African American women with higher scores on the DA were more likely to report co-occurring PTSD and depression problems than those with lower scores. If there was one unit increase in the risk of lethality, the odds that women would have co-occurring problems multiplied by 1.13 (Model 2). However, after controlling for socio-demographic variables, injuries, and severity of IPV, risk for lethality was not a significant predictor of co-occurring PTSD and depression for any group (Model 3; Table 2).

Effects of Severity of IPV and Risk for Lethality on the Use of MH Resources

In the bivariate analysis, only severity of physical abuse among African Caribbean women was significantly related to the use of MH resources. The independent samples *t*-test showed that African Caribbean women who did not use MH resources to cope with general psychological distress scored significantly higher on severity of physical abuse ($M=5.79$) than the group of women who used MH resources ($M=2.67$). In the multivariate analysis, African Caribbean women with higher scores on physical abuse were less likely to use MH resources to deal with general psychological distress than women with lower physical abuse scores ($OR=0.69$; Table 3).

Severity within types of IPV and risk for lethality did not emerge as significant predictors of the use of MH resources to cope with the abusive relationship for African American and African Caribbean women. For Black women with mixed background, however, having severe physical abuse experiences were significantly related to the use of MH resources to cope with abuse ($OR=1.09$; Table 4).

Effects of MH problems on the Use of MH Resources

In the bivariate analysis, overall, the co-occurring PTSD and depression, PTSD-only, or depression-only groups did not significantly differ from each other on the use of MH resources. However, the co-occurring PTSD and depression group among African American women significantly differed from the other MH groups. More than half of African American abused women with co-occurring PTSD and depression problems (66%) did not use MH resources to cope with their abusive relationships ($p=.01$). In the multivariate analysis, having MH problems was not significantly related to the use of resources among African American, African Caribbean women, and Black women with mixed background.

Discussion

This study examined the specific relationships of severity of IPV (i.e., physical, sexual, and psychological) and risk of lethality with co-occurring PTSD and depression problems. As anticipated, women with more severe types of IPV experiences were more likely to have co-occurring MH problems than women with less severe types of IPV experiences. Specifically, African American women with severe physical and psychological abuse experiences, and high risk for lethality were significantly likely to have co-occurring PTSD and depression problems. However, we did not find an association between sexual abuse and co-occurring PTSD and depression. The results from this study are consistent with previous research, in which severity (Cascardi et al. 1999), and types of IPV (Houry et al., 2006) were found to be related to PTSD and depression problems. For instance, in a study of 569 African American women, being a victim of psychological abuse increased the risk for depression (*OR*=3.14), and being a victim of sexual abuse increased the risk of women experiencing PTSD symptoms (*OR*=4.35) (Houry et al., 2006). Our study supports these earlier studies on the relationship between IPV and PTSD and depression problems. This study, however, is unique in that it examines the association of severity within types of IPV (i.e. physical, sexual and psychological) with co-occurring PTSD and depression problems among an ethnically diverse sample of women of African descent. The characteristics associated with severe IPV experiences such as betrayal of safety and trust (Fowler, & Hill, 2004), uncontrollable, threatening and hostile home environment, hopelessness and helplessness (Lilly, Valdex, & Graham-Bermann, 2011), ongoing threat of physical danger and chronic fear (Jun et al., 2008), may increase the likelihood of both PTSD and depression problems.

We did not find differences between African American and African Caribbean women in the relationship between severity of IPV and use of MH resources for abusive relationships. Severity of IPV, however, was related to increased likelihood of the use of abuse-specific MH resources by Black women with mixed background. Moreover, among African Caribbean women, severity of physical abuse was related to the reduced likelihood of MH resource utilization for general psychological distress. Thus, African American and African Caribbean women with severe abuse experiences who need MH care may be most at risk for underserved MH needs.

More than three-fifth of the women in our sample with MH problems reported not using MH resources. No significant differences were noted between ethnic groups on the use of MH resources for general psychological distress. Some differences, however, were found in the use of MH resources to cope with abusive relationships. African Caribbean women with MH problems were less likely to use resources to cope with abuse, compared to African American and Black women with mixed descent.

When we examined MH resource utilization by women with co-occurring PTSD and depression problems (versus women with PTSD-only or depression-only problems), we found significant differences for African American women. More than half of the African American women with co-occurring PTSD and depression problems (66%) reported not using MH resources. These findings are consistent with research that shows underutilization of services among Black populations with MH problems, irrespective of ethnicity (Williams et al., 2007; Jackson et al., 2007).

This research has several limitations that may have affected the results. First, the study was focused on women of African descent, and therefore limits generalization of our findings to women from other racial/ethnic groups. Second, likely recall bias due to the retrospective nature of the study, and the use of self-report data may have affected the validity of our

findings. Third, the measures used in this study for co-occurring PTSD and depression problems were screening measures and did not diagnose for PTSD or depression. Finally, the study used a cross-sectional design, which limits the argument for temporal conclusions about the relationships examined. However, despite these limitations, the strengths of the present study include its contribution to the literature on IPV experiences, co-occurring PTSD and depression problems, and MH resource utilization comparing an ethnically diverse sample of Black women from the US and the US Virgin Islands.

Implications for Social Work Practice

Severity of IPV (i.e., physical and psychological abuse) was found to place Black women at increased risk for co-occurring MH (i.e., PTSD, depression) problems. These findings have implications for social work practice with diverse populations, such as Black women who present with experiences of IPV and related MH issues. The study reinforces the need to focus on severity and type of IPV experiences in assessment for MH problems. Culturally competent trauma-informed assessments and interventions may help address women's complex needs, and to help achieve their goals of health and well-being. Education must equip social workers with the knowledge and skills they need to address multifaceted needs of abused women with co-occurring problems.

Women with severe IPV experiences and associated co-occurring PTSD and depression problems are likely to need and to seek MH resources in the community. The National Center on Domestic Violence, Trauma and Mental Health (NTTAC) was established in 2005 to ensure that "all survivors of domestic violence and their children who are experiencing abuse-related trauma and/or living with mental illness can access the services that they may need to enhance their safety and well-being" (National Center on Domestic Violence, Trauma, & Mental Health, 2006). Modeled after the Domestic Violence and Mental Health Policy Initiative, an innovative Chicago-based project designed to address the unmet MH needs of domestic violence survivors and their children, which resulted in a collaborative effort of over 75 domestic violence, mental health, substance abuse and social service agencies in the Chicago area, it is expected that NTTAC will follow suit in geographic regions across the US and its territories. While this endeavor is underway, efforts are urgently needed to provide linkages to MH care for women suffering from abuse and adverse MH outcomes. Provisions to provide adequate and effective MH care for abused women, some of whom are uninsured or unemployed, should be a top priority in ethnic minority communities.

Acknowledgments

This research was supported by grants from the National Institute for Minority Health and Health Disparities (NIMHD) of the National Institutes of Health (NIH) (Grant# P20MD002286); National Institute on Drug Abuse K01DA031593 and National Institute on Minority Health and Health Disparities L60MD003701 (support for Jamila K. Stockman); National Institute of Child Health and Human Development (NICHD) (T32-HDO64428; support for Bushra Sabri and Marguerite B. Lucea);

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Soc Work Health Care. Author manuscript; available in PMC 2013 April 17.

Table 1

Descriptive Characteristics of the Sample

	Total Sample (*n*=431)	Co-occurring PTSD and Depression (a) (*n*=78)	Depression-Only (b) (*n*=147)	PTSD-Only (c) (*n*=26)	Neither Depression nor PTSD (d) (*n*=180)	p
Age (M, SD)	28.2 (8.22)	28.6 (7.92)	27.9 (7.41)	28.2 (9.5)	28.3 (8.8)	ns
Race/Ethnicity						
African American (non-Hispanic)	276 (64.3)	48 (62.3)	102 (69.4)	14 (53.8)	112 (62.2)	.00
African Caribbean (non-Hispanic)	78 (18.2)	9 (11.7)	18 (12.2)	5 (19.2)	46 (25.6)	
Black mixed with other races	75 (17.5)	20 (26.0)	27 (18.4)	7 (26.9)	21 (12.2)	
Marital Status n (%)						
Married	60 (13.9)	9 (11.5)	17 (11.6)	4 (15.4)	30 (16.7)	
Single	247 (57.3)	48 (61.5)	92 (62.6)	13 (50.0)	94 (52.3)	ns
Partnered, Unmarried	124 (28.8)	21 (26.9)	38 (25.9)	9 (34.6)	56 (31.1)	
Currently Employed n (%)	214 (49.7)	39 (50)	64 (43.5)	10 (38.5)	101 (56.1)	.08
Education n (%)						
No High School Graduation	83 (19.3)	20 (25.6)	34 (23.1)	3 (11.5)	26 (14.5)	
High School Graduation/GED	166 (38.6)	27 (34.6)	61 (41.5)	11 (42.3)	67 (37.4)	ns
Some College	118 (27.4)	21 (26.9)	36 (24.5)	8 (30.8)	53 (29.6)	
College Graduate	63 (14.7)	10 (12.8)	16 (10.9)	4 (15.4)	33 (18.4)	
Yearly Income n (%)						
Less than $4800	147 (36.0)	31 (42.5)	58 (40.6)	11 (45.8)	47 (28.0)	ns
$4800–14,400	174 (42.6)	28 (38.4)	60 (42.0)	8 (33.3)	78 (46.4)	
$14,401–24,000	63 (15.4)	9 (12.3)	21 (14.7)	3 (12.5)	30 (17.9)	
>$24,000	24 (5.9)	5 (6.8)	4 (2.8)	2 (8.3)	13 (7.7)	
Health insurance n (%)	390 (90.9)	74 (96.1)	129 (87.8)	23 (92.0)	164 (91.1)	ns
Severity of Violence M (SD)						
Physical	6.35 (9.84)	$12.82\ (15.5)_{bcd}$	$6.22\ (7.86)_{a}$	$5.63\ (6.89)_{a}$	$3.77\ (6.84)_{a}$	<.001
Sexual	0.67 (1.87)	$1.54\ (3.05)_{bd}$	$0.68\ (1.74)_{a}$	1.02 (2.33)	$0.23\ (0.81)_{a}$	<.001
Psychological	41.70 (69.7)	$77.86\ (138.34)_{bd}$	$36.68\ (54.2)_{a}$	38.23 (18.8)	$30.62\ (16.59)_{a}$	<.001
Lethality Risk n (%)						
Variable danger	159 (44.4)	9 (15.0)	54 (42.9)	5 (26.3)	91 (59.5)	

	Total Sample (*n*=431)	Co-occurring PTSD and Depression (a) (*n*=78)	Depression-Only (b) (*n*=147)	PTSD-Only (c) (*n*=26)	Neither Depression nor PTSD (d) (*n*=180)	p
Increased danger	82 (22.9)	14 (23.3)	33 (26.2)	5 (26.3)	30 (19.6)	<.001
Severe danger	44 (12.3)	10 (16.7)	16 (12.7)	5 (26.3)	13 (8.5)	
Extreme danger	73 (20.4)	27 (45.0)	23 (18.3)	4 (21.1)	19 (12.4)	
Mean score on DA *M (SD)*	18.80 (77.1)	57.2 (158.6)$_{bd}$	14.94 (58.8)$_{ad}$	12.26 (8.2)$_{d}$	6.75 (8.1)$_{abcd}$	<.001
Ever had injuries n (%)	223 (51.7)	35 (44.9)	79 (53.7)	12 (46.2)	97 (53.9)	ns
Used MH Resources to Cope with General Psychological Distress *n* (%)						
Never used services	250 (62.0)	37 (50.0)	84 (62.7)	14 (60.9)	115 (66.9)	
Currently use services	95 (23.6)	15 (20.3)	29 (21.6)	2 (8.7)	20 (11.6)	
Past use of services	58 (14.4)	22 (29.7)	21 (15.7)	7 (30.4)	37 (21.5)	ns
Used Mental Health Resources to Cope with the Abusive Relationship n (%)	88 (21.7)	24 (32.0)	25 (17.4)	5 (21.7)	34 (20.9)	ns

Note. 1) P values are based on ANOVA and Chi-square tests; ns refers to non-significant (i.e., p>.05); abcd subscripts refer to groups (Group a= Co-occurring PTSD and depression problems; Group b=Depression only; Group c=PTSD-only; d= Group with neither PTSD nor depression), and show which groups were statistically significant from the group with the subscript. These differences were tested using Bonferroni post-hoc test.

Table 2

Multivariate Results: Comorbidity of PTSD and Depression

	African American		African Caribbean		Black mixed with other race/ethnicity	
Independent Variables	***Adjusted[a] OR[b] (95 % C.I.)[c]***	***P***	***Adjusted[a] OR[b] (95 % C.I.)[c]***	***P***	***Adjusted[a] OR[b] (95 % C.I.)***	***P***
Physical	**1.04 (1.00–1.08)**	**.03**	1.37 (0.98–1.90)	.06	1.04 (0.98–1.11)	.66
Sexual	1.03(0.85–1.25)	.72	1.53 (0.42–5.64)	.52	1.06 (0.79–1.43)	.70
Psychological	**1.06(1.03–1.09)**	**.00**	0.98 (0.83–1.15)	.85	1.06 (0.99–1.14)	.12
DA[d] Scores	1.05(0.99–1.11)	.07	1.22 (0.89–1.65)	.20	0.94 (0.88–1.01)	.12

Note

[a]Models were adjusted for ethnicity, age, employment, injuries, education, marital status and income and included random effects for site to site variability

[b]OR=Odds Ratios;

[c]95% CI=95% Confidence Intervals;

[d]DA=Danger Assessment

Table 3

Multivariate Results: Use of Mental Health Resources for General Psychological Distress

	African American		African Caribbean		Black mixed with other race/ethnicity	
Independent Variables	***Adjusted[a] OR[b] (95 % C.I.)[c]***	***P***	***Adjusted[a] OR[b] (95 % C.I.)***	***P***	***Adjusted[a] OR[b] (95 % C.I.)***	***P***
Severity of IPV						
Physical	1.02 (0.99–1.05)	.22	**0.69 (0.51–0.94)**	**.02**	1.06 (0.98–1.14)	.12
Sexual	1.01(0.87–1.19)	.81	0.49(0.17–1.36)	.17	0.92 (0.69–1.24)	.60
Psychological	1.00(0.98–1.03)	.51	1.07(0.99–1.15)	.07	0.96 (0.91–1.01)	.12
Risk for Lethality						
DA[d] Scores	0.99(0.97–1.02)	.97	1.11 (0.99–1.24)	.05	1.03 (0.97–1.09)	.29
Mental Health						
Comorbidity of PTSD and Depression	1.12(0.44–2.88)	.81	24.07 (0.15–3797)	.21	8.01(0.95–67.24)	.05
PTSD-Only	0.38 (0.07–2.16)	.28	1.89(0.05–64.30)	.72	10.27(.62–170.6)	.10
Depression-Only	1.09 (0.54–2.20)	.80	2.51(0.35–17.9)	.35	4.04(.58–28.07)	.16

Note.

[a]Models were adjusted for ethnicity, age, employment, injuries, education, marital status and income and included random effects for site to site variability

[b]OR=Odds Ratios;

[c]95% CI=95% Confidence Intervals;

[d]DA=Danger Assessment

Table 4

Multivariate Results: Use of Mental Health Resources to Cope with the Abusive Relationship

Independent Variables	African American		African Caribbean		Black mixed with other race/ethnicity	
	Adjusted[a] OR[b] (95 % C.I.)[c]	*P*	*Adjusted[a] OR[b] (95 % C.I.)*	*P*	*Adjusted[a] OR[b] (95 % C.I.)*	*P*
Severity of IPV						
Physical	1.00 (0.97–1.03)	.98	0.88 (0.63–1.23)	.46	**1.09 (1.01–1.19)**	**.02**
Sexual	1.04(0.88–1.24)	.58	0.02(.00–2.28)	.11	1.09 (0.75–1.57)	.63
Psychological	1.02(0.99–1.05)	.07	0.95(0.83–1.10)	.52	0.95 (0.89–1.00)	.09
Risk for Lethality						
DA[d] Scores	0.98(0.95–1.00)	.10	0.88 (0.69–1.12)	.32	1.05 (0.98–1.11)	.12
Mental Health						
Comorbidity of PTSD and Depression	1.93 (0.67–5.59)	.22	120.3(.00–4.2)	.53	1.09(0.10–11.45)	.94
PTSD-Only	.00[e]	.99	.00[e]	.99	6.06(0.39–92.03)	.19
Depression-Only	1.36(0.57–3.21)	.48	.00[e]	.99	1.09(0.13–8.98)	.93

Note.

[a]Models were adjusted for ethnicity, age, employment, injuries, education, marital status and income and included random effects for site to site variability

[b]OR=Odds Ratios;

[c]95% CI=95% Confidence Intervals;

[d]DA=Danger Assessment;

[e].00 indicates that odds ratios were not computed due to low group sample sizes.